Intel® Server System SC5650HCBRP Service Guide

Order Number: E81421-002

Revision 1.1

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Important Safety Instructions

Before performing any of the instructions, read all caution and safety statements in this document. See also Intel Server Boards and Server Chassis Safety Information on the Intel® Server Deployment Toolkit 3.0 CD and/or at:

http://support.intel.com/support/motherboards/server/sb/cs-010770.htm

Wichtige Sicherheitshinweise

Lesen Sie zunächst sämtliche Warnund Sicherheitshinweise in diesem Dokument, bevor Sie eine der Anweisungen ausführen. Beachten Sie hierzu auch die Sicherheitshinweise zu Intel-Serverplatinen und Servergehäusen auf der Intel® Server Deployment Toolkit 3.0 CD oder unter:

http://support.intel.com/support/motherboards/server/sb/cs-010770.htm

Consignes de sécurité

Lisez attention toutes les consignes de sécurité et les mises en garde indiquées dans ce document avant de suivre toute instruction. Consultez Intel Server Boards and Server Chassis Safety Information sur le Intel® Server Deployment Toolkit 3.0 CD ou bien rendez-vous sur le site:

http://support.intel.com/support/motherboards/server/sb/cs-010770.htm

Instrucciones de seguridad importantes

Lea todas las declaraciones de seguridad y precaución de este documento antes de realizar cualquiera de las instrucciones. Vea Intel Server Boards and Server Chassis Safety Information en el Intel® Server Deployment Toolkit 3.0 CD y/o en:

http://support.intel.com/support/motherboards/server/sb/cs-010770.htm

重要安全指导

在执行任何指令之前，请阅读本文件中的所有注意事项及安全声明。并参阅 http://support.intel.com/support/motherboards/server/sb/cs-010770.htm 上的 Intel® Server boards and Server Chassis Safety Information （《Intel 服务器主板与服务器机箱安全信息》）

Warnings

Heed safety instructions: Before working with your server product, whether you are using this guide or any other resource as a reference, pay close attention to the safety instructions. You must adhere to the assembly instructions in this guide to ensure and maintain compliance with existing product certifications and approvals. Use only the described, regulated components specified in this guide. Use of other products/components will void the UL listing and other regulatory approvals of the product and will most likely result in noncompliance with product regulations in the region(s) in which the product is sold.

System power on/off: The power button DOES NOT turn off the system AC power. To remove power from the system, you must unplug the AC power cord from the wall outlet. Make sure the AC power cord is unplugged before you open the chassis, add, or remove any components.

Hazardous conditions, devices and cables: Hazardous electrical conditions may be present on power, telephone, and communication cables. Turn off the server and disconnect the power cord, telecommunications systems, networks, and modems attached to the server before opening it. Otherwise, personal injury or equipment damage can result.

Electrostatic discharge (ESD) and ESD protection: ESD can damage disk drives, boards, and other parts. We recommend that you perform all procedures in this chapter only at an ESD workstation. If one is not available, provide some ESD protection by wearing an antistatic wrist strap attached to chassis ground—any unpainted metal surface—on your server when handling parts.

ESD and handling boards: Always handle boards carefully. They can be extremely sensitive to ESD. Hold boards only by their edges. After removing a board from its protective wrapper or from the server, place the board component side up on a grounded, static free surface. Use a conductive foam pad if available but not the board wrapper. Do not slide board over any surface.

Installing or removing jumpers: A jumper is a small plastic encased conductor that slips over two jumper pins. Some jumpers have a small tab on top that you can grip with your fingertips or with a pair of fine needle nosed pliers. If your jumpers do not have such a tab, take care when using needle nosed pliers to remove or install a jumper; grip the narrow sides of the jumper with the pliers, never the wide sides. Gripping the wide sides can damage the contacts inside the jumper, causing intermittent problems with the function controlled by that jumper. Take care to grip with, but not squeeze, the pliers or other tool you use to remove a jumper, or you may bend or break the pins on the board.

Preface

About this Manual

Thank you for purchasing and using the Intel® Server System SC5650HCBRP.

This manual is written for system technicians responsible for troubleshooting, upgrading, and repairing this server system. This document provides a brief overview of the features of system, list of accessories or other components you may need, troubleshooting information, and instructions on how to add and replace components on the Intel® Server System SC5650HCBRP. For the latest version of this manual, refer to: http://support.intel.com/support/motherboards/server/S5520HC/

Manual Organization

Chapter 1 provides a brief overview of the Intel® Server System SC5650HCBRP. In this chapter, you will find a list of the server system features, photos of the product, and product diagrams to help you identify components and their locations.

Chapter 2 provides instructions on using the utilities shipped with the system or that may be required to update the system. This includes how to navigate through the BIOS setup screen, perform a BIOS update, and reset the password or CMOS. Information about the specific BIOS settings and screens is available in the Technical Product Specification. See “Additional Information and Software” for a link to the Technical Product Specification.

Chapter 3 provides instructions on adding and replacing components. Use this chapter for step-by-step instructions and diagrams for installing or replacing components such as the memory, processor, front panel board, and battery, and other components.

Chapter 4 provides troubleshooting information. In this chapter, you will find BIOS error messages and POST code messages. You will also find suggestions for performing troubleshooting activities to identify the source of a problem.

Product Accessories

The Intel® Server System SC5650HCBRP is compatible with the following accessories:

- Intel® SAS Entry RAID Module AXX4SASMOD
- Intel® Integrated RAID Module AXXROMBSASMR
- Intel® RAID Activation Key AXXRAKSW5
- APPT600WHPSU – Secondary redundant 600W power supply module to enable full, hot-swap power redundancy
- AXX25DRVADPTR – drive carrier for installation of 2.5” hard disk drive into 3.5” hot-swap hard disk drive bay
- APP3RACKIT – Rack mounting kit

You may need or want to purchase one or more of the following accessory items for your server:

- Processor
- Memory DIMMs
- Hard drive
- USB floppy drive

- CD-ROM or DVD-ROM drive
- RAID controller
- Operating System

NOTE

SAS add-in adapter or SAS module card is required for the expander backplane assembly kit in the Intel® Server System SC5650HCBRP

For information about which accessories, memory, processors, and third-party hardware were tested and can be used with your board, and for ordering information for Intel products, see: http://support.intel.com/support/motherboards/server/S5520HC/compat.htm

Additional Information and Software

If you need more information about this product or information about the accessories you can use with this server board, use the following resources. These files are available at:

http://support.intel.com/support/motherboards/server/S5520HC/

For this information or software	Use this Document or Software
For in-depth technical information about this product, including BIOS settings and chipset information	***Intel® Server System SC5650HCBRP Technical Product Specification.*** Available at: http://support.intel.com/support/motherboards/server/S5520HC/ See the section on the web page titled, "Technical Specifications".
If you just received this product and you need to assemble your system and install components	***Intel® Server System SC5650HCBRP Quick Start User's Guide in the product box.*** Or visit: http://support.intel.com/support/motherboards/server/S5520HC/ See the section on the web page titled, "Installation and Use".
Accessories or other Intel® server products	***Spares and Configuration Guide.*** Available at: http://support.intel.com/support/motherboards/server/S5520HC/ See the section on the web page titled, "Installation and Use" or using the Server Configurator Tool described in the next box.
To quickly and efficiently select compatible components to design a complete system	***Intel® Server Configurator tool*** Available at: http://serverconfigurator.intel.com/default.aspx
Hardware (peripheral boards, adapter cards, and so on) and operating systems tested with this product Processors tested with this product DIMMs tested with this product Hard Drives tested with this product	***Server Configurator Tool*** Available at: http://serverconfigurator.intel.com/default.aspx
To make sure your system falls	***Power Budget Analysis Tool.***

For this information or software	Use this Document or Software
within the allowed power budget	Available at: http://support.intel.com/support/motherboards/server/S5520HC/ See the section on the web page titled, “Installation and Use”.
For latest drivers, firmware updates (BIOS, BMC, FRUSDR, and ME), and utilities	*Available for download at:* http://support.intel.com/support/motherboards/server/S5520HC/ *Click the “Software and Drivers” link on the left side of the web page*
For software to manage your Intel® server	***Intel System Management Software***. Available at: http://www.intel.com/go/servermanagement

Contents

Figures

Tables

1 Server System Features

This chapter briefly describes the main features of the Intel® Server System SC5650HCBRP. This chapter provides a photograph of the product, list of the server system features, and diagrams showing the location of important components, and connections in the server system.

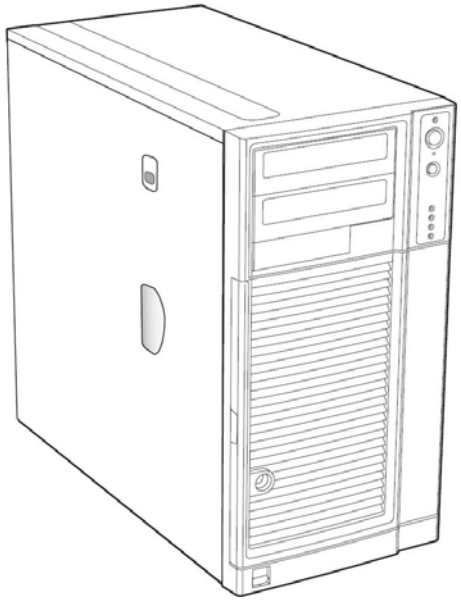


Figure 1. Intel® Server System SC5650HCBRP

Table 1. Server System Features

Feature	Description
Dimensions	▪ Pedestal Configuration: 17.8 inches high, 9.256 inches wide, 19 inches deep ▪ Rack Configuration: 9.256 inches high, 17.6 inches wide, 19 inches deep
Hard Drives	▪ One expander backplane drive bay for up to six hot-swap SAS/SATA drives at 3GB/s, requires SAS add-in adapter or SAS module card accessory ▪ Optional 2.5” drive carrier (AXX25DRVADPTR) to install 2.5” hard disk drive into 3.5” hot-swap hard disk drive bay
Peripherals	▪ Two multi-mount 5.25-inch peripheral bays ▪ One 3.5-inch peripheral bay
Control Panel (dependent on option selected)	▪ Front Control Panel ▪ Intel® Local Control Panel (optional)
LEDs and displays (dependent on option selected)	▪ With Front Control Panel o NIC1 Activity o NIC2 Activity o Power/Sleep o System Status LED
Power Supply	▪ One 600-W PFC power supply is standard ▪ Upgradable to full, hot-swap redundancy by adding a second power supply module.
Cooling	▪ Two 120-mm system fans (rear fan and PCI zone)

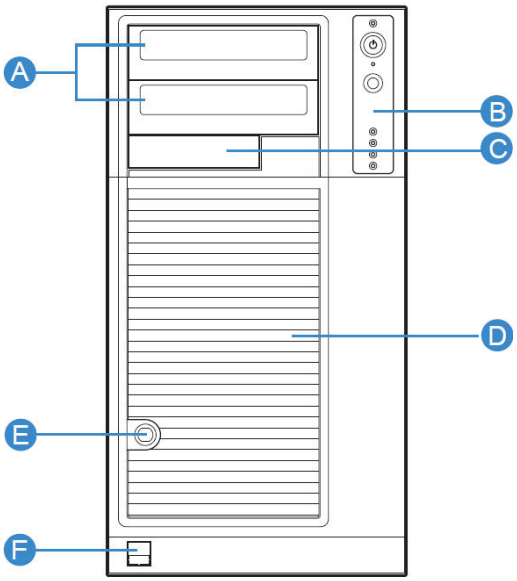
Server System Features

Feature	Description
	▪ One 92-mm system fans (Hard Disk Cage fan) ▪ Active processor heat sink(s) is required
Processors	▪ Up to two Intel® Xeon® Processors 5500 series with Thermal Design Power (TDP) up to 95 W. ▪ Up to two Intel® Xeon® Processors 5600 series with Thermal Design Power (TDP) up to 130 W.
Memory	▪ Six memory channels (three channels per processor socket) with support for 800/1066/1333 MT/s ECC Registered (RDIMM) or ECC Unbuffered (UDIMM) DDR3 memory. o 12 DIMM slots, two DIMM slots per channel ▪ No support for mixing of RDIMMs and UDIMMs. ▪ Mixing memory type, size, speed, and/or rank on this platform has not been validated and is not supported ▪ Mixing memory vendors is not supported on this platform by Intel ▪ Non-ECC memory is not supported and has not been validated in a server environment
Chipset	▪ Intel® S5520 Chipset and Intel® 82801Jx I/O Controller Hub (ICH10R)
Add-in Card Slots	▪ Six expansion slots o One PCI Express* Gen 2 slot (x16 Mechanically, x8 Electrically) o Three PCI Express* Gen 2 x8 slots o One PCI Express* Gen 1 slot (x8 Mechanically, x4 Electrically) shared with SAS Module slot. This PCI Express* Gen 1 slot is not available when the SAS module slot is in use and vice versa o One 32-bit/33 MHz PCI slot, keying for 5 V and Universal PCI add-in card
RAID support	▪ Optional Intel® SAS Entry RAID Module AXX4SASMOD provides Intel® Embedded Server RAID Technology II with SAS RAID 0, 1, 10, and optional RAID 5 support provided by the Intel® RAID Activation Key AXXRAKSW5, or IT/IR RAID with entry hardware RAID 0, 1, 10/1E, and native SAS pass through mode ▪ Optional Intel® Integrated RAID Module SROMBSASMR (AXXROMBSASMR), provides RAID 0, 1, 5, 6 and striping capability for spans 10, 50, and 60
Video Support	▪ Server Engine* LLC Pilot II* with 64 MB DDR2 memory, 8 MB allocated to graphics ▪ Dual video is supported
USB Drive Support	▪ One internal USB port ▪ One internal low-profile USB port for Solid State Drive
I/O control support	▪ External connections: o DB9 serial port A and Serial port B connection o One DH 10 serial port connector (optional) o Two RJ-45 NIC connectors for 10/100/1000 Mb connections: Dual GbE through the Intel® 82575EB Network Connection with Intel® I/O Acceleration Technology 2 support o Four USB 2.0 ports at the back of the system o Two USB 2.0 ports at the front of the system chassis ▪ Internal connections: o One 9-pin USB header supports two USB 2.0 ports o One internal USB port that supports a peripheral, such as a floppy drive o Six SATA connectors at 1.5 Gbps and 3 Gbps

Feature	Description
	o Four SAS connectors at 3 Gbps (via optional SAS module) o One SSI-compliant 24-pin front control panel header
Management support	▪ Integrated IPMI 2.0 compliant Baseboard Management Controller ▪ Support for the Intel® Local Control Panel (optional component sold separately) ▪ Support for Intel® Remote Management Module 3 ▪ Support for Intel® System Management Software ▪ Intel® Light-Guided Diagnostics on field replaceable units

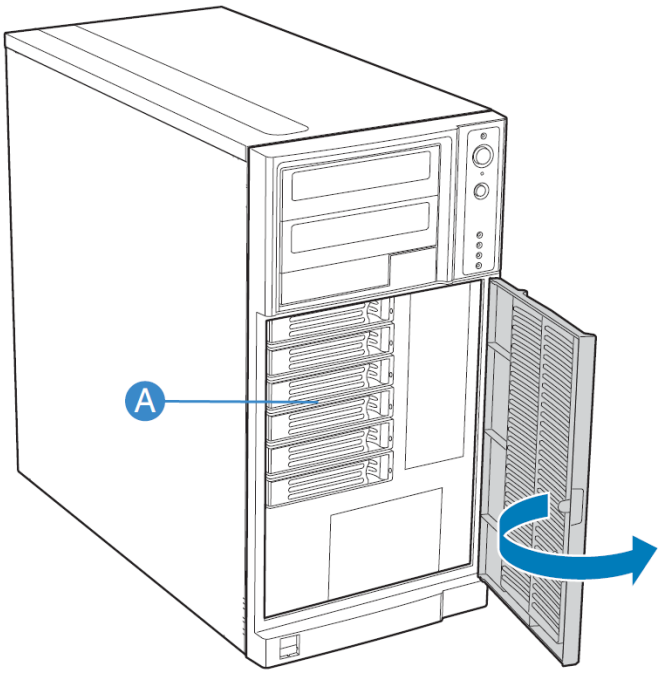
Component Identification

Front View Components



A	5.25-inch Device Drive Bays
B	Front Control Panel
C	3.5-inch Drive Bay Access Door
D	Drive Bay Access Door
E	Door Lock
F	Front Panel USB Ports

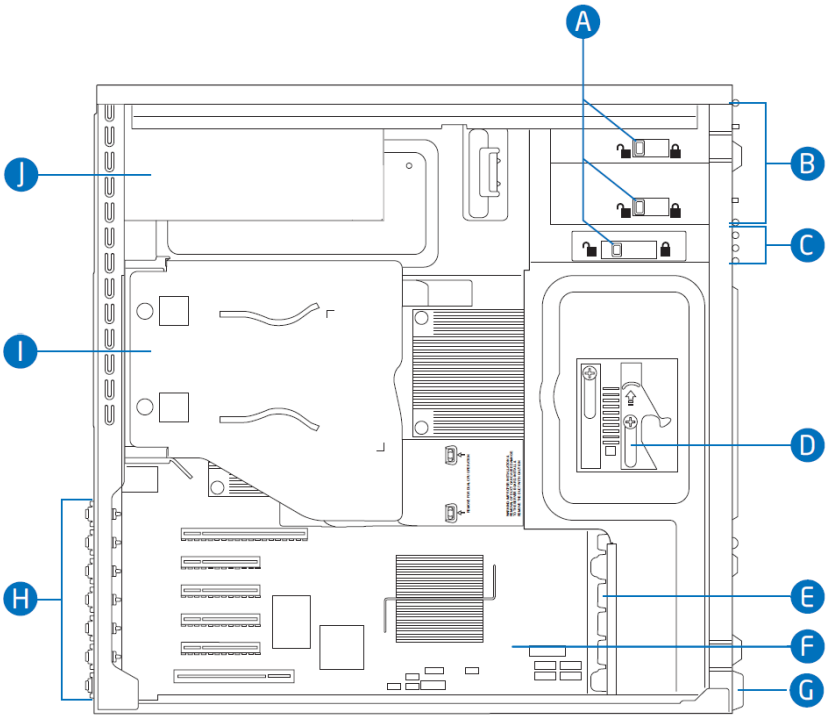
Figure 2. Front View Components (with Front Bezel Assembly)



A	Hot-swap Disk Drive Bay

Figure 3. Front View Components (with Drive Access Door Open)

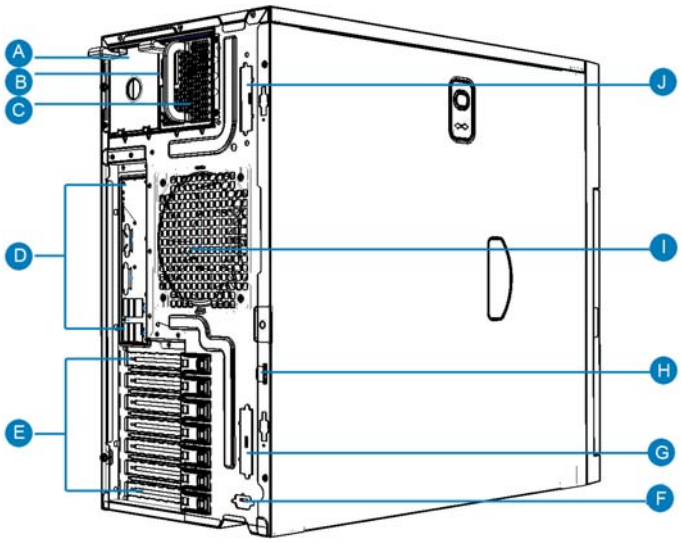
Internal Components



A	Tool-less Device Bay Locks
B	5.25-inch Device Bays
C	3.5-inch Device Bay
D	Drive Cage Retention Mechanism
E	PCI Add-in Card Guide/System Fan Assembly
F	Server Board
G	Front Panel USB Ports
H	Rear Tool-less PCI Retention Mechanisms
I	Fan Duct/System Fan Assembly
J	Power Supply

Figure 4. Internal Components

Back Panel Components

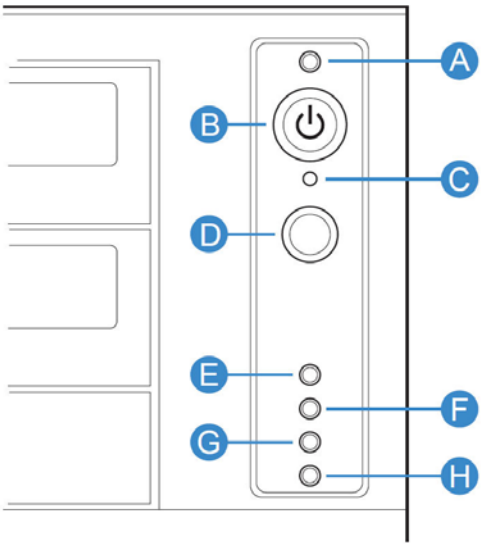


A	Power Supply Blank Filler Panel
B	A/C Power In
C	Power Supply Unit
D	Rear I/O Shield
E	PCI Add-in Card Slots
F	Alternate Serial B Port Knockout
G	External SCSI Port Knockout

H	Location to Install Padlock Loop
I	Rear Chassis Fan Assembly
J	External SCSI Port Knockout

Figure 5. Back Panel Components

Front Control Panel



Callout	Button/LED Name	Color	Condition	Description
A	Power LED	Green	On	Power on
			Off	Power off
B	Power Button	N/A	N/A	Powers the system on or off
C	NMI Button	N/A	N/A	Used to force system halt and dump memory contents to screen or file
D	Reset Button	N/A	N/A	Reboots and initializes the system
E	NIC1 Activity	Green	On	Linked
			Blink	LAN activity
			Off	Idle
F	NIC2 Activity	Green	On	Linked
			Blink	LAN activity
			Off	Idle
G	Hard Drive Activity	Green	Blink	Hard drive activity
H	System Status LED	Green	On	System booted and ready
			Blink	System ready, but degraded: some CPU fault, DIMM killed, and so forth
		Amber	On	Critical alarm: Critical power module failure, critical fan failure, voltage (power supply), voltage, thermal fault, and so forth
			Blink	Non-critical failure: Redundant fan failure, redundant power failure, non-critical power and voltage, and so forth

Callout	Button/LED Name	Color	Condition	Description
		Off	Off	AC Power off;
			Off	Powered Down (DC-off state or S5), and no degraded, non-critical, critical conditions exist*

NOTE

When the server is powered down (transitions to the DC-off state or S5), the BMC is still on standby power and retains the sensor and front panel status LED state established before the power-down event. If the system status is normal when the system is powered down (the LED is in a solid green state), the system status LED will be off.

Figure 6. Front Panel Components

Mechanical Locks

The Intel® Server System SC5650HCBRP chassis support the installation of a padlock loop (see letter “A” in the following figure) at the rear of the chassis. Additionally, the system ships with a two-position mechanical lock (see letter “B”) on the front bezel assembly to prevent access to the hard drives and the interior of the system.

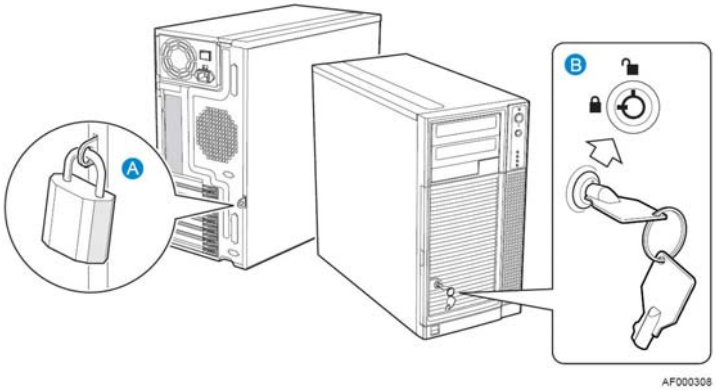


Figure 7. Mechanical Locks

Peripheral Devices

The Intel® Server System SC5650HCBRP provides locations and hardware for installing hard dives, a floppy drive, CD-ROM driver, DVD-ROM drive, or tape drive. You must purchase the drives separately.

NOTE

It is recommended that screws be used to secure large devices if shipping system integrated.

Hard Disk Drives

The Intel® Server System SC5650HCBRP ships with one expander hot-swap hard dive cage capable of supporting up to six 3.5-inch hard drives at 3GB/s. Power requirements for each individual hard drive may limit

the maximum number of drives that can be integrated into the server system. For instructions on installing hard drives, see "Installing Hot Swap Hard Drive".

You may purchase an optional 2.5" carrier kit (AXX25DRVADPTR) to install 2.5-inch hard drives into 3.5-inch hot-swap drive cages.

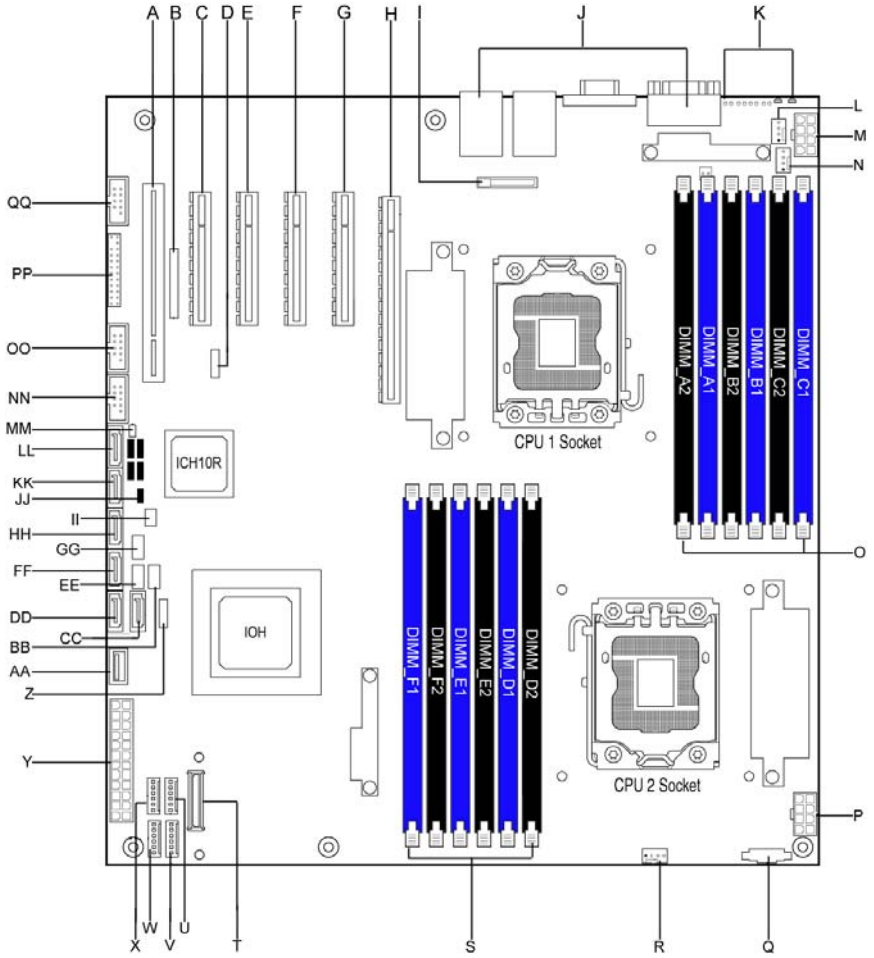
NOTE

The Intel® Server System SC5650HCBRP requires SAS add-in card or SAS module card to support hard drives.

Drive can consume up to 18.4 watts of power each. Drives must be specified to run at a maximum ambient temperature of 45°C.

The Intel® Server System SC5650HCBRP does not support all Serial ATA hard drives. See "Additional Information and Software" for a web link to a list of supported hardware.

Server Board Connector and Component Locations



Callout	Description	Callout	Description
A	Slot 1, 32-bit/33 MHz PCI, Keying for 5V and	W	System Fan 2 Header (6-pin)

Callout	Description	Callout	Description
	Universal		
B	Intel® RMM3 Slot	X	System Fan 1 Header (6-pin)
C	Slot 2, PCI Express* Gen 1 x4 (x8 Mechanically)	Y	Main Power Connector
D	Low-profile USB Solid State Drive Header	Z	LCP/IPMB Header
E	Slot 3, PCI Express* Gen2 x8	AA	Type A USB Port
F	Slot 4, PCI Express* Gen2 x8	BB	SATA SGPIO Header
G	Slot 5, PCI Express* Gen2 x8	CC	SATA Port 0
H	Slot 6, PCI Express* Gen2 x8 (x16 Mechanically)	DD	SATA Port 1
I	Battery	EE	HSBP_B
J	Back Panel I/O Ports	FF	SATA Port 2
K	Diagnostic and Identify LED's	GG	HSBP_A
L	System Fan 5 Header (4-pin)	HH	SATA Port 3
M	Power Connector for Processor 1 and Memory attached to Processor 1	II	SATA Software RAID 5 Key Header
N	Processor 1 Fan Header (4-pin)	JJ	Chassis Intrusion Header
O	DIMM Sockets of Memory Channel A, B, and C	KK	SATA Port 4
P	Power Connector for Processor 2 and Memory attached to Processor 2	LL	SATA Port 5
Q	Auxiliary Power Signal Connector	MM	HDD Activity LED Header (Connect to Add-in Card HDD Activity LED Header)
R	Processor 2 Fan Header (4-pin)	NN	USB Connector (9-pin, for front panel USB ports)
S	DIMM Sockets of Memory Channel D, E, and F	OO	USB Connector (9-pin)
T	SAS Module Slot	PP	Front Control Panel header
U	System Fan 3 Header (6-pin)	QQ	DH-10 Serial B header
V	System Fan 4 Header (6-pin)		

Figure 8. Server Board Connector and Component Locations

Configuration Jumpers

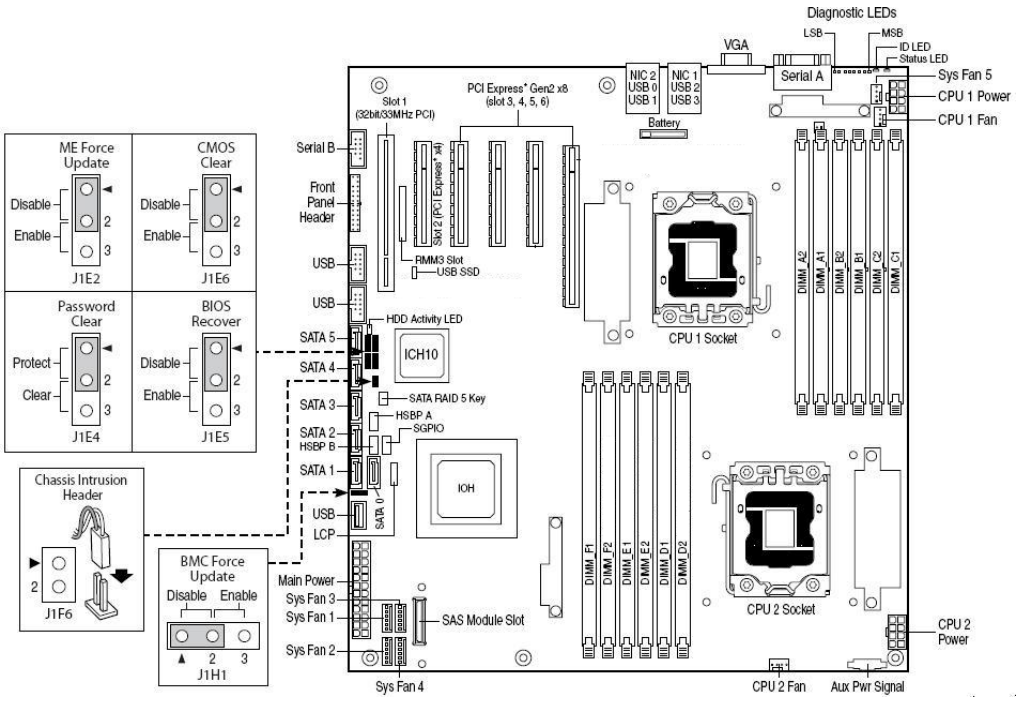


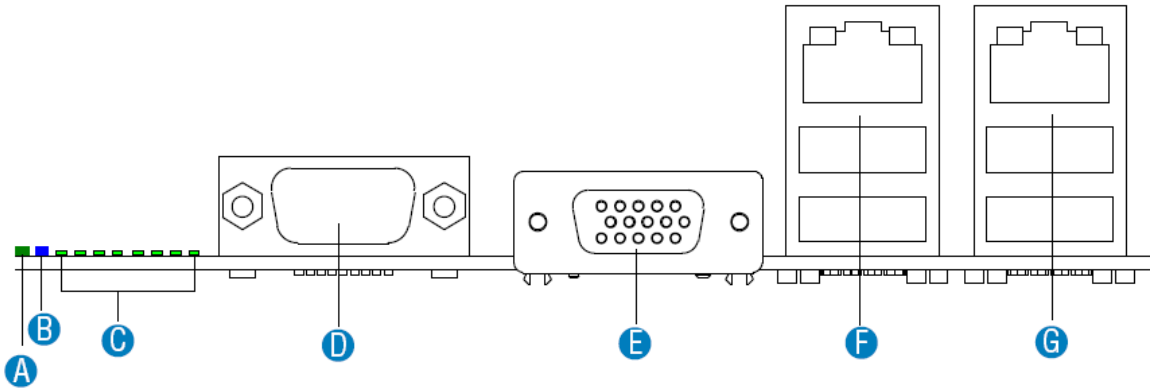
Figure 9. Configuration Jumper Location

Table 2. Configuration Jumpers

Jumper Name	Pins	What happens at system reset…
CMOS Clear (J1E6)	1-2 **(Default)**	Protect CMOS: These pins should have a jumper in place for normal system operation.
	2-3	If pins 2-3 are connected for 5 to 10 seconds with AC power unplugged, the CMOS settings clear on the next reset. These pins should **not** be connected for normal operation.
ME Force Update (J1E2)	1-2 **(Default)**	ME Firmware Force Update Mode – Disabled These pins should have a jumper in place for normal system operation.
	2-3	ME Firmware Force Update Mode – Enabled These pins should **not** be connected for normal operation.
Password Clear (J1E4)	1-2 (**Default)**	Protect Password: These pins should have a jumper in place for normal system operation.
	2-3	To clear administrator and user passwords, power on the system with pins 2-3 connected. The administrator and user passwords clear in 5-10 seconds after power on. These pin should **not** be connected for normal system operation.
BIOS Recover (J1E5)	1-2 **(Default)**	These pins should be connected for normal system operation.
	2-3	The main system BIOS does not boot with pins 2-3 connected. The system only boots from EFI-bootable recovery media with a recovery BIOS image present. These pin should **not** be connected for normal system operation.
BMC Force Update (J1H1)	1-2 **(Default)**	BMC Firmware Force Update Mode – Disabled**.** These pins should have a jumper in place for normal system operation.
	2-3	BMC Firmware Force Update Mode – Enabled.

Jumper Name	Pins	What happens at system reset…
		These pins should **not** be connected for normal operation.

Back Panel Features



A. System Status LED
B. ID LED
C. POST Diagnostic LEDs
D. Serial A Port
E. Video
F. NIC 1 (top, default management port), Two USB (bottom)
G. NIC 2 (top), Two USB (bottom)

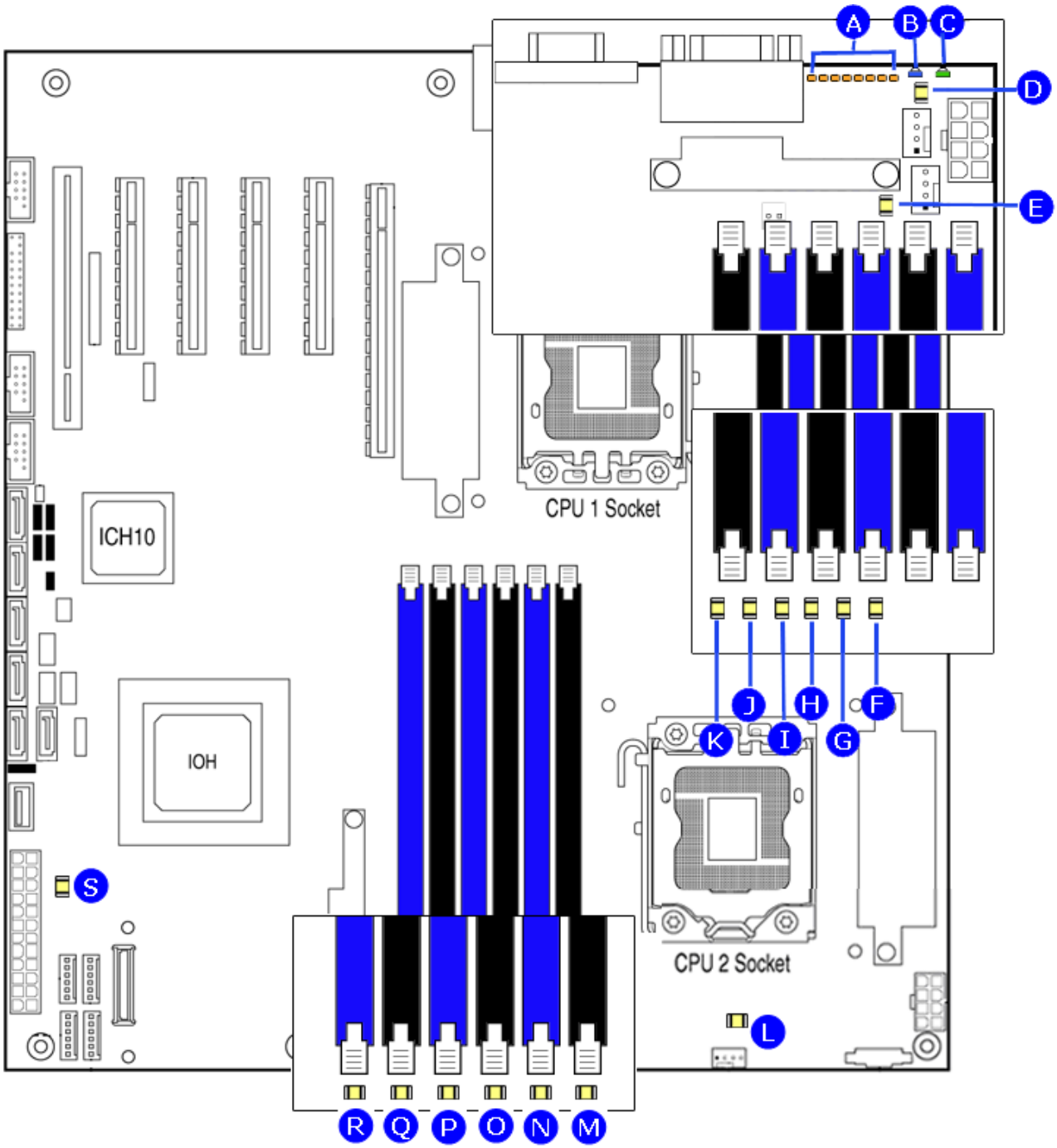
Figure 10. Back Panel Features

The NIC LEDs at the right and left of each NIC provide the following information:

Table 3. NIC LEDs

NIC	LED Color	LED State	Description
NIC 1 and NIC 2 (Gigabit)	Left LED	Off	No network connection
		Blinking Green	Transmit/receive activity
	Right LED	Off	10 Mbps connection (if left LED is on or blinking)
		Solid Green	100 Mbps connection
		Solid Amber	1000 Mbps connection

Intel® Light-Guided Diagnostics



Callout	LED	Functions
A.	POST Diagnostics LEDs	POST Diagnostics LEDs: The sequence of lit POST Diagnostics LEDs is used to identify specific errors that might occur during the boot process. For a description of how to read these LEDs, refer to the appendix of the Technical Product Specification.
B.	ID LED	You can turn this LED on and off by using system management software. This LED is useful when the system is grouped with several systems, such as in a rack, and you need to find the system to perform maintenance on it.
C.	System Status LED	The status LED indicates whether a system is operating correctly, has experienced a minor fault, or a major system error. For details about this LED, refer to the Technical Production Specification.
D.	System fan 5 fault LED	This LED indicates a fault occurred with a fan installed on the Server Board System Fan 5 header. Replace the faulty unit.
E.	Processor 1 fan fault LED	This LED applies only to server systems that use an active heatsink. This LED indicates a fault occurred with the fan installed on the heatsink for processor 1. Replace faulty unit.
F.	DIMM C1 fault LED	This LED indicates a fault occurred with the DIMM installed in socket DIMM_C1. Replace the faulty DIMM.
G.	DIMM C2 fault LED	This LED indicates a fault occurred with the DIMM installed in socket DIMM_C2. Replace the faulty DIMM.
H.	DIMM B1 fault LED	This LED indicates a fault occurred with the DIMM installed in socket DIMM_B1. Replace the faulty DIMM.
I.	DIMM B2 fault LED	This LED indicates a fault occurred with the DIMM installed in socket DIMM_B2. Replace the faulty DIMM.
J.	DIMM A1 fault LED	This LED indicates a fault occurred with the DIMM installed in socket DIMM_A1. Replace the faulty DIMM.
K.	DIMM A2 fault LED	This LED indicates a fault occurred with the DIMM installed in socket DIMM_A2. Replace the faulty DIMM.
L.	Processor 2 fan fault LED	This LED applies only to server systems that use an active heatsink. This LED indicates a fault occurred with a fan installed on the heatsink for processor 2. Replace faulty unit.
M.	DIMM D2 fault LED	This LED indicates a fault occurred with the DIMM installed in socket DIMM_D2. Replace the faulty DIMM.
N.	DIMM D1 fault LED	This LED indicates a fault occurred with the DIMM installed in socket DIMM_D1. Replace the faulty DIMM.
O.	DIMM E2 fault LED	This LED indicates a fault has occurred with the DIMM installed in socket DIMM_E2. Replace the faulty DIMM.
P.	DIMM E1 fault LED	This LED indicates a fault occurred with the DIMM installed in socket DIMM_E1. Replace the faulty DIMM.
Q.	DIMM F2 fault LED	This LED indicates a fault occurred with the DIMM installed in socket DIMM_F2. Replace the faulty DIMM.
R.	DIMM F1 fault LED	This LED indicates a fault occurred with the DIMM installed in socket DIMM_F1. Replace the faulty DIMM.
S.	+5-V Standby LED	This LED is green whenever AC power is applied to the system. You do not need to power on the system for this LED to be on.

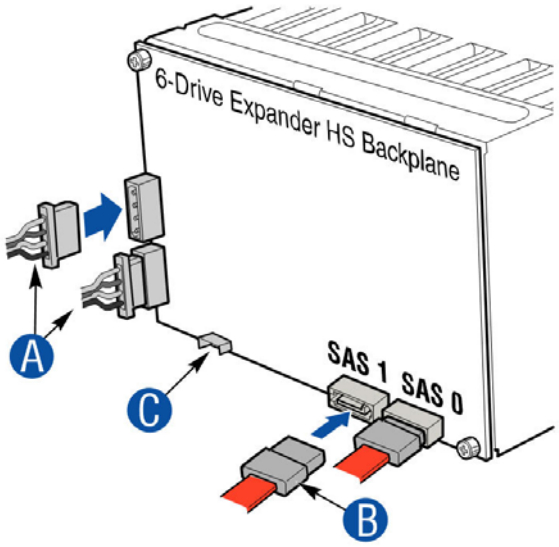
Figure 11. Intel® Light-Guided Diagnostics

Expander Backplane Connector Locations

The Intel® Server System SC5650HCBRP integrates one expander backplane cage supports up to six hot-swap SAS or SATA hard disk drives at 1.5GB/s or 3GB/s.

NOTE

SATA controllers cannot be used with expander backplane. SAS controller add-in card or SAS module card is required to support expander backplane.



A	Power Cable Connectors
B	SAS Data Cable Connectors
C	HSBP_IPMB Connectors

Figure 12. Expander Backplane Connector Locations

Hardware Requirements

To avoid integration difficulties and possible board damage, your system must meet the following requirements outlined. For a list of qualified components, see the links under "Additional Information and Software".

Processor

One or two Intel® Xeon® Processor 5500 series up to 95-W.

One or two Intel® Xeon® Processor 5600 series up to 130-W.

For a list of supported processors, see the links under "Additional Information and Software".

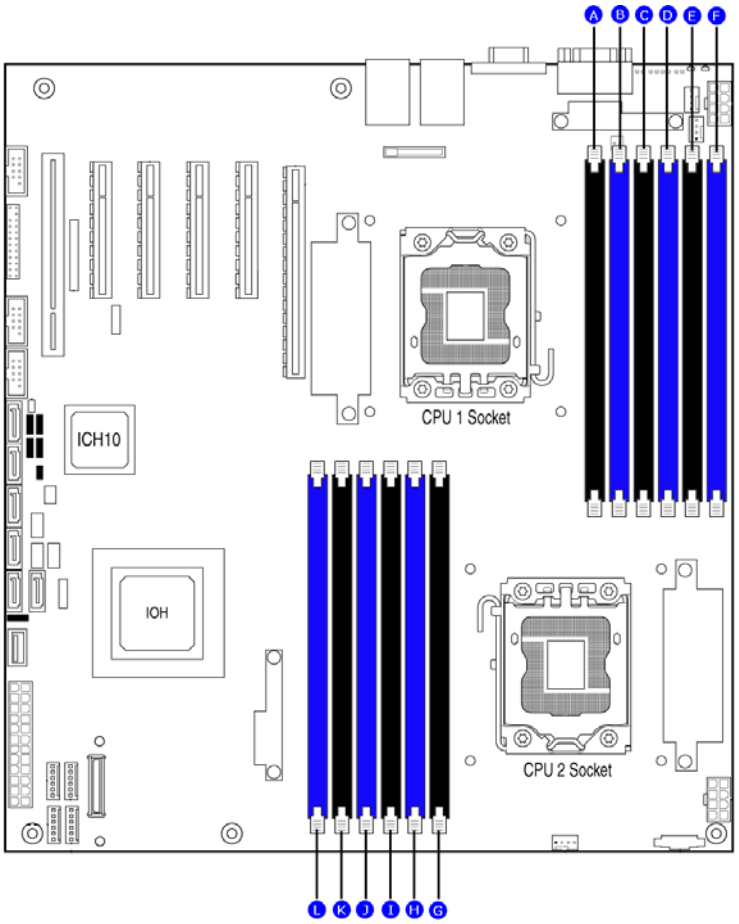
You must populate processors in sequential order. Therefore, you must populate Processor Socket 1 (CPU 1) before processor socket 2 (CPU 2).

For optimum performance, when two processors are installed, both must be the identical revision and have the same core voltage and Intel® QPI/Core speed.

Memory

The Intel® Server System SC5650HCBRP provides 12 DIMM sockets in six channels. Each channel contains two DIMM sockets:

- Channel A contains DIMM sockets A1 and A2
- Channel B contains DIMM sockets B1 and B2
- Channel C contains DIMM sockets C1 and C2
- Channel D contains DIMM sockets D1 and D2
- Channel E contains DIMM sockets E1 and E2
- Channel F contains DIMM sockets F1 and F2



Callout	DIMM Socket	Callout	DIMM Socket
A.	Channel A, DIMM_A2	G.	Channel D, DIMM_D2
B.	Channel A, DIMM_A1 (Blue)	H.	Channel D, DIMM_D1 (Blue)
C.	Channel B, DIMM_B2	I.	Channel E, DIMM_E2

Callout	DIMM Socket	Callout	DIMM Socket
D.	Channel B, DIMM_B1 (Blue)	J.	Channel E, DIMM_E1 (Blue)
E.	Channel C, DIMM_C2	K.	Channel F, DIMM_F2
F.	Channel C, DIMM_C1 (Blue)	L.	Channel F, DIMM_F1 (Blue)

Figure 13. DIMM Sockets

DDR3 DIMMs must meet the following requirements:

- Use only 240-pin DDR3 DIMMs.
- A minimum of one 1 GB DDR3 DIMM is required in DIMM socket DIMM_A1.
- Either registered DDR3 DIMMs (RDIMMs) or ECC unbuffered DDR3 DIMMs (UDIMMs). No mixing of RDIMMs and UDIMMs.
- Mixing memory type, size, speed, and/or rank on this platform has not been validated and is not supported
- Mixing memory vendors is not supported on this platform by Intel
- Non-ECC memory is not supported and has not been validated in a server environment
- DDR3-800, DDR3-1066, or DDR3-1333
- DIMM within a channel must be populated starting with the first slot (blue slot) of the channel: DIMM_A1, DIMM_B1, DIMM_C1, DIMM_D1, DIMM_E1, or DIMM_F1.
- When installing Quad-rank DIMM, you must populate Quad-rank DIMM starting with the first slot (blue slot) of each channel.

For a complete list of supported memory DIMMs, see the links under “Additional Information and Software”.

Channel Population Requirements for Memory RAS Modes

The Intel® Server System SC5650HCBRP supports two memory RAS modes: Independent Channel Mode, and Mirrored Channel Mode. The rules on channel population and channel matching vary by the RAS mode used. Note that the support of RAS modes that require matching DIMM population between channels (Mirroring) and require that ECC DIMMs must be populated.

Independent Channel Mode

You can populate channels in any order in Independent Channel Mode. You can populate all three channels in any order and have no matching requirements. All channels must run at the same interface frequency, but individual channels may run at different DIMM timings (RAS latency, CAS latency, and so on).

Mirrored Channel Mode

In Mirrored Channel Mode, the memory contents are mirrored between Channels A (D) and Channel B (E). As a result of the mirroring, the total physical memory available to the system is half of what is populated. Mirrored Channel Mode requires that Channel A (D) and Channel B (E) must be populated identically. DIMM slot populations within a channel do not have to be identical but the same DIMM slot location across Channel A (D) and Channel B (E) must be populated the same. Channel C (F) is unused in Mirrored Channel Mode.

NOTE

For help with memory population rules, refer to the Intel® Server System SC5650HCBRP Technical Product Specification.

Optional Hardware

Intel® SAS Entry RAID Module AXX4SASMOD

The Intel® Server System SC5650HCBRP provides a SAS module slot (J2J1) for the installation of an optional Intel® SAS Entry RAID Module AXX4SASMOD. Once the optional Intel® SAS Entry RAID Module AXX4SASMOD is present, the x4 PCI Express* links from the ICH10R to PCI Express* Slot 2 (x8 mechanically, x4 electrically) switches to the SAS module slot.

The optional Intel® SAS Entry RAID Module AXX4SASMOD includes a SAS1064e controller that supports x4 PCI Express* link widths and is a single-function PCI Express* end-point device. The SAS controller supports the SAS protocol as described in the Serial Attached SCSI (SAS) Standard, version 1.0, and also supports SAS 1.1 features. A 32-bit external memory bus off the SAS1064e controller provides an interface for Flash ROM and NVSRAM (Non-volatile Static Random Access Memory) devices.

The optional Intel® SAS Entry RAID Module AXX4SASMOD provides four SAS connectors that support up to six hard drives in the Intel® Server System SC5650HCBRP.

The optional Intel® SAS Entry RAID Module AXX4SASMOD also provides a SGPIO (Serial General Purpose Input/Output) connector and a SCSI Enclosure Services (SES) connector for non-expander backplane drive LED control.

NOTE

Neither SGPIO nor SES connections are required in the Intel® Server System SC5650HCBRP for the expander backplane LED control

The PCI Express Gen 1 slot (x8 Mechanically, x4 Electrically) is not available when the Intel® SAS Entry RAID Module AXX4SASMOD is installed and vice versa.*

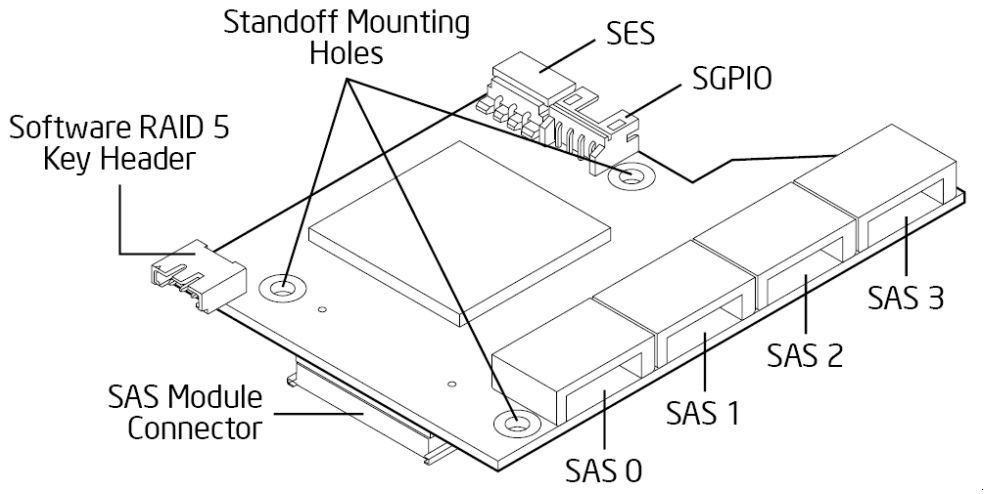


Figure 14. Intel® SAS Entry RAID Module

SAS RAID Support

The BIOS Setup Utility provides drive configuration options on the Advanced | Mass Storage Controller Configuration setup page for the Intel® SAS Entry RAID Module AXX4SASMOD, some of which affect the ability to configure RAID.

The "Intel® SAS Entry RAID Module" option is enabled by default once the Intel® SAS Entry RAID Module AXX4SASMOD is present. When enabled, you can set the "Configure Intel® SAS Entry RAID Module" to either "LSI* Integrated RAID" or "Intel® ESRTII" mode.

IT/IR RAID Mode

Supports entry hardware RAID 0, RAID 1, and RAID10/10E and native SAS pass through mode.

Intel® ESRTII Mode

The Intel® Embedded Server RAID Technology II (Intel® ESRTII) feature provides RAID modes 0, 1, and 10. If RAID 5 is needed with Intel® ESRTII, you must install the optional Intel® RAID Activation Key AXXRAKSW5 accessory. This activation key is placed on the SAS Software RAID 5 connector located on the Intel® SAS Entry RAID Module AXX4SASMOD. For installation instructions, see the documentation included with the SAS Module AXX4SASMOD and the activation key.

When Intel® Embedded Server RAID Technology II is enabled with the SAS Module AXX4SASMOD, enclosure management is provided through the SAS_SGPIO or SES connector on the SAS Module AXX4SASMOD when a cable is attached between this connector and the backplane or I^2C interface.

Intel® Integrated RAID Module SROMBSASMR

The Intel® Integrated RAID Module SROMBSASMR provides four SAS connectors that support up to six hard drives in the Intel® Server System SC5650HCBRP.

The Intel® Integrated RAID Module SROMBSASMR supports full featured SAS/SATA Hardware RAID 0, 1, 5, 6 and striping capability for spans 10, 50, 60 with 128MB embedded cache memory. Optional backup battery (AXXRSBBU3) could be ordered separately.

NOTE

The PCI Express Gen 1 slot (x8 Mechanically, x4 Electrically) is not available when the Intel® Integrated RAID Module SROMBSASMR is installed and vice versa.*

NOTE

For help with navigating the BIOS Setup utility, refer to the Intel® Server System SC5650HCBRP Technical Product Specification.

For information on how to configure RAID, see the RAID software user's guide at:
http://www.intel.com/support/motherboards/server/S5520HC/howto.htm

For information about configure IT/IR RAID, see the IT/IR RAID software user's guide at:
http://www.intel.com/support/motherboards/server/S5520HC/howto.htm

For help with enclosure management cabling, see the Enclosure Management Cabling Guide for Pedestal Systems with Hot-swap Drive Backplanes. This guide is available at:
http://support.intel.com/support/motherboards/server/S5520HC/compat.htm

Intel® RAID Activation Key

You can purchase and install the Intel® RAID Activation Key AXXRAKSW5 to enable Software RAID 5 support on your server board or the Intel® SAS Entry RAID Module AXX4SASMOD.For the Intel® SAS Entry RAID Module AXX4SASMOD, you can install an Intel® RAID Activation Key (AXXRAKSW5) in the SAS RAID 5 key connector of the SAS module card.

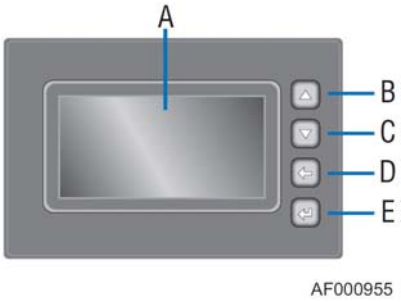
Hard Disk Drives

The Intel® Server System SC5650HCBRP support different hard disk driver options.

- USB or Serial SATA (SATA) Solid State Drives
- Serial SATA (SATA) and Serial Attached SCSI (SAS):
  - Supports for SATA Hard Disk Drive: Six on-board SATA ports at 1.5 Gbps and 3 Gbps.
  - Supports for SAS or SATA Hard Disk Drives: Four SAS ports via optional Intel® SAS Entry RAID Module AXX4SASMOD or Intel® Integrated RAID SROMBSASMR at 1.5 Gbps (SATA) and 3 Gbps (SATA or SAS).

Intel® Local Control Panel

The following figure shows the features available on the Intel® Local Control Panel, which is optional accessory of Intel® Server System SC5650HCBRP.



A	LCD display (variable content)
B	LCD up navigation button
C	LCD down navigation button
D	LCD backup level navigation button
E	LCD command enter button
G	Front Panel USB Ports

Figure 15. Internal Components

Intel® Remote Management Module 3

The Intel® Remote Management Module 3 (Intel® RMM3) plugs into the connector on the server board and acts as a component of the server board, and provides a way to view and operate the server remotely in real-time. Keyboard, video, and mouse control (KVM) is redirected to a managing system. This provides remote control. USB media redirection allows you to use a USB device anywhere on the network as if it was installed on the management server with RMM3 installed. For example, you can insert a CD-ROM disk in a workstation CD-ROM drive and the managed server will view it as its own, local CD-ROM drive.

For installation instructions on installing the Intel® Remote Management Module 3, see the instructions provided with the module.

Rack-Mounted Conversion Kit

Your Intel® Server System SC5650HCBRP can be optionally mounted into a rack. Refer to *Intel® Server Chassis SC5650 Service Guide* for the Rack Mount Kit Installation Instructions.

2 System Utilities

Using the BIOS Setup Utility

This section describes the BIOS Setup Utility options, which you use to change server configuration defaults. You can run the BIOS Setup with or without an operating system present. See “Additional Information and Software” for a link to the Technical Product Specification where you can find details about specific BIOS setup screens.

Starting Setup

You can enter and start BIOS Setup under several conditions:

- When you turn on the server, after POST completes the memory test.
- When you move the CMOS jumper on the server board to the “Clear CMOS” position (enabled).

In the two conditions listed above, after rebooting, you will see this prompt:

Press <F2> to enter SETUP

In a third condition, when CMOS/NVRAM is corrupted, you will see other prompts but not the <F2> prompt:

Warning: CMOS checksum invalid
Warning: CMOS time and date not set

In this condition, the BIOS loads the default values for CMOS and attempts to boot.

If You Cannot Access Setup

If you cannot access the BIOS Setup, you might need to clear the CMOS memory. For instructions on clearing the CMOS, see “Clearing the CMOS”.

Setup Menus

Each BIOS Setup menu page contains a number of features. Except for those features provided only to display automatically configured information, each feature is associated with a value field that contains user-selectable parameters. If they have adequate security rights, a user can change these parameters. If a value cannot be changed for any reason, the feature’s value field is inaccessible.

Table 4 describes the keyboard commands you can use in the BIOS Setup menus.

Table 4. Keyboard Commands

Press	Description
<F1>	Help - Pressing F1 on any menu opens the general Help window.
← ®	The left and right arrow keys are used to move between the major menu pages. The keys have no effect if a submenu or pick list is displayed.
↑	Select Item up - The up arrow is used to select the previous value in a menu item’s option list, or a value field pick list. Pressing the Enter key activates the selected item.
↓	Select Item down - The down arrow is used to select the next value in a menu item’s option list, or a value field pick list. Pressing the Enter key activates the selected item.

F5/-	Change Value - The minus key or the F5 function key is used to change the value of the current item to the previous value. This key scrolls through the values in the associated pick list without displaying the full list.
F6/+	Change Value - The plus key or the F6 function key is used to change the value of the current menu item to the next value. This key scrolls through the values in the associated pick list without displaying the full list. On 106-key Japanese keyboards, the plus key has a different scan code than the plus key on the other keyboard, but it has the same effect.
<Enter>	Execute Command - The Enter key is used to activate submenus when the selected feature is a submenu, or to display a pick list if a selected feature has a value field, or to select a sub-field for multi-valued features like time and date. If a pick list is displayed, the Enter key will undo the pick list, and allow another selection in the parent menu.
<Esc>	Exit - The ESC key provides a mechanism for backing out of any field. This key will undo the pressing of the Enter key. When the ESC key is pressed while editing any field or selecting features of a menu, the parent menu is re-entered. When the ESC key is pressed in any submenu, the parent menu is re-entered. When the ESC key is pressed in any major menu, the exit confirmation window is displayed and the user is asked whether they want to discard their changes.
<F9>	Setup Defaults - Pressing F9 causes the following to display: *Setup Confirmation* *Load default configuration now?* *[Yes] [No]* If “Yes” is selected and the Enter key is pressed, all Setup fields are set to their default values. If “No” is selected and the Enter key is pressed, or if the ESC key is pressed, the user is returned to where they were before F9 was pressed without affecting any existing field values.
<F10>	Save and Exit - Pressing F10 causes the following message to display: *Setup Confirmation* *Save Configuration changes and exit now?* *[Yes] [NO]* If “Yes” is selected and the Enter key is pressed, all changes are saved and Setup is exited. If “No” is selected and the Enter key is pressed, or if the ESC key is pressed, the user is returned to where they were before F10 was pressed without affecting any existing values.

Upgrading the BIOS

The upgrade utility allows you to upgrade the BIOS in flash memory. The code and data in the upgrade file include the following:

- On-board BIOS, including the recovery code, BIOS Setup Utility, and strings
- On-board video BIOS and other option ROMs for devices embedded on the server board
- OEM binary area
- Processor Microcode
- A way to change the BIOS language
- Option ROM of the Intel® Embedded Server RAID Technology II for on-board SATA

Preparing for the Upgrade

The following steps explain how to prepare to upgrade the BIOS and include how to:

- Record the current BIOS settings
- Obtain the upgrade utility
- Prepare a storage media for the utility

NOTE

In the unlikely event a BIOS error occurs during the BIOS update process, you may need to follow a recovery process to return the system to service. See "Recovering the BIOS" for instructions on performing a BIOS recovery.

Recording the Current BIOS Settings

1. Boot the computer and press <F2> when you see the message:
   Press <F2> Key if you want to run SETUP
2. Write down the current settings in the BIOS Setup program or use the "Save and Store System Configuration Utility (SYSCFG)" to save the current settings into a file. See "Additional Information and Software" for a link to the utility and instructions.

NOTE

Do not skip Step 2. You need these settings to configure your computer at the end of the procedure.

Obtaining the Upgrade

Download the BIOS image file to a temporary folder on your hard drive. See "Additional Information and Software" for a link to the update software.

NOTE

Before attempting a BIOS upgrade, review the instructions distributed with the upgrade utility. Review also any release notes in the release notes file that accompanies the new version of the BIOS. The release notes may contain critical information regarding jumper settings, specific fixes, or other information to complete the upgrade.

Updating the BIOS

Follow the instructions in the readme file that came with the BIOS upgrade software package. When the updates complete, remove the storage media from which you performed the upgrade.

CAUTIONS

Do not power down the system during the BIOS update process!

NOTE

You may encounter a CMOS Checksum error or other problem after reboot. If this happens, shut down the system and boot it again. CMOS checksum errors require that you enter Setup, check your settings, save your settings, and exit Setup.

Recovering the BIOS

In the rare event the BIOS becomes damaged, you may need to follow a recovery process to return the system to service. To place the baseboard into recovery mode, move the BIOS Recover jumper (**J1E5**)

located on the baseboard to the recovery position. The BIOS can then execute the recovery instead of the normal BIOS.

NOTE

The BIOS recovery is the mode of last resort; it is used only when the main system BIOS will not come up.

BIOS Recovery Procedure

1. Download the BIOS image file to a temporary folder on your hard drive. See "Additional Information and Software" for a link to the update software.
2. Copy all the files in the BIOS recovery package to the root directory of a USB disk-on-key device.
3. Power off the system.
4. Switch the BIOS recovery jumper (J1E5) to the "enabled" position (**ping 2-3**).

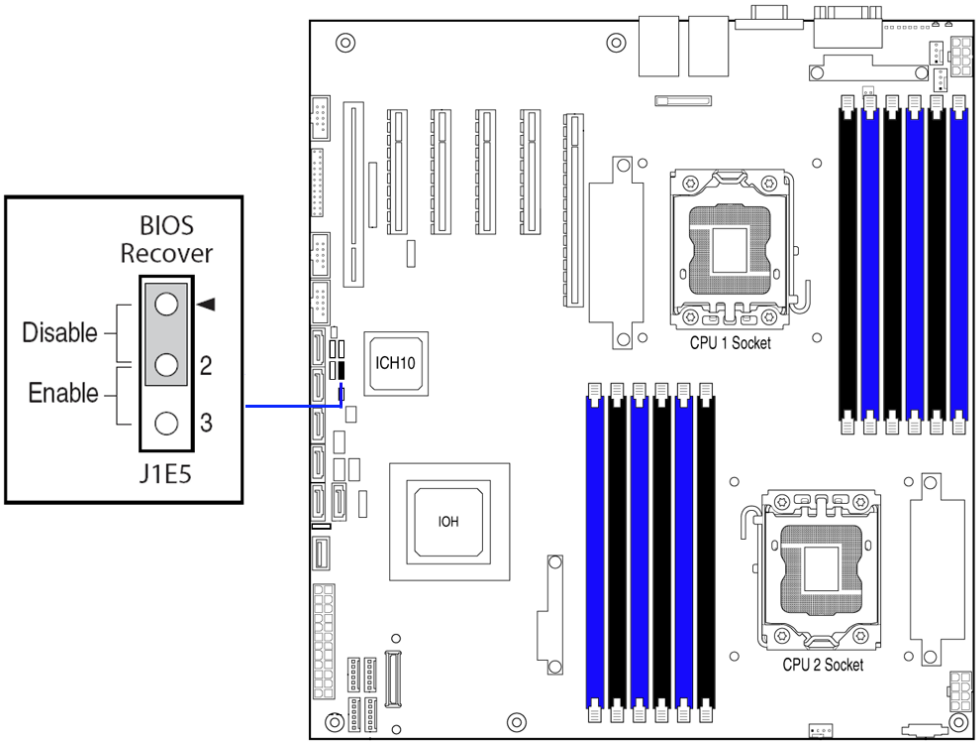


Figure 16. BIOS Recover Jumper

5. Insert the recovery media and confirm all the recovery files in the media.
6. Power on the system.
7. The BIOS POST screen will appear displaying the progress, and the system automatically boots to the EFI SHELL.
8. Startup.nsh file executes automatically, and initiates the BIOS update with the recovery BIOS capsule file. The message of the "BIOS has been updated successfully" displays once the recovery process is complete.
9. Power off the system and revert the BIOS recovery jumper position to the default (pin 1-2).
10. Power on the system.

CAUTION

DO NOT interrupt the BIOS POST during the first boot after recovery!

Clearing the Password

If the user or administrator password(s) is lost or forgotten, moving the password clear jumper into the “clear” position clears both passwords. You must restore the password clear jumper to its original position before you can set a new password(s). The password clear jumper is located on jumper block **J1E4**.

1. Power down the server. Do not disconnect the power cord.
2. Open the chassis.
3. Move the jumper (J1E4) from the default operating position, covering pins 1 and 2, to the password clear position, covering **pins 2 and 3**.

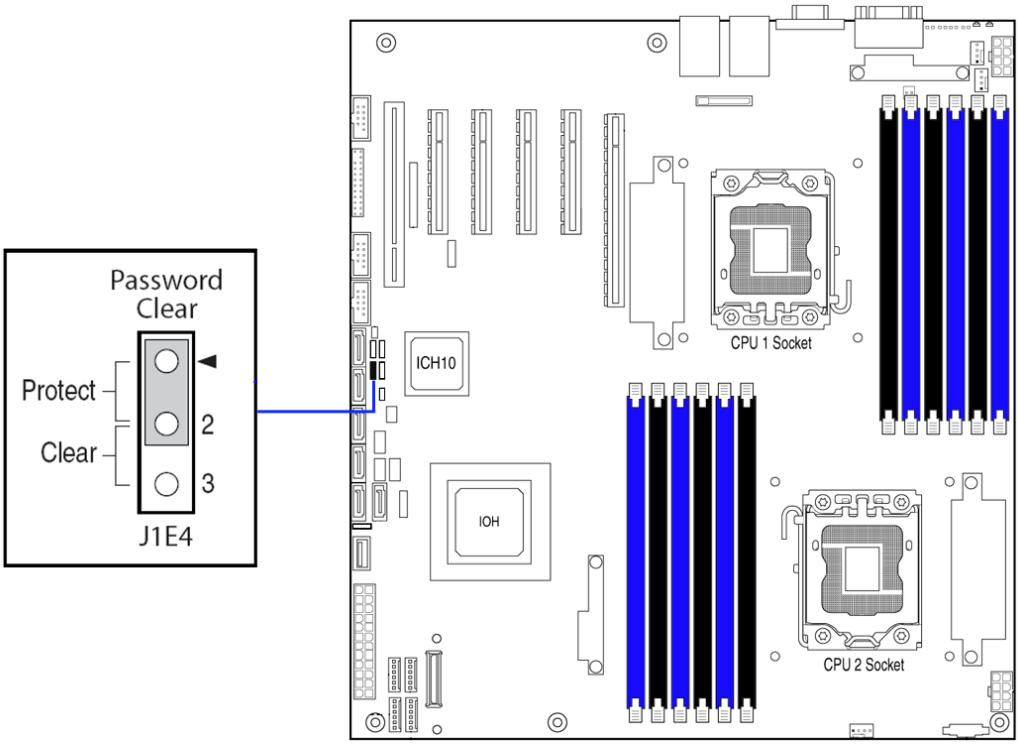


Figure 17. Password Clear Jumper

4. Close the server chassis.
5. Power up the server and then press <F2> to enter the BIOS menu to check if the password is cleared.
6. Power down the server.
7. Open the chassis and move the jumper back to its default position, covering pins 1 and 2.
8. Close the server chassis.
9. Power up the server.

The password is now cleared and you can reset it by going into the BIOS setup.

Clearing the CMOS

If you cannot access the BIOS setup screens, you must use the CMOS Clear jumper to reset the configuration RAM. The CMOS Clear jumper is located on jumper block **J1E6**.

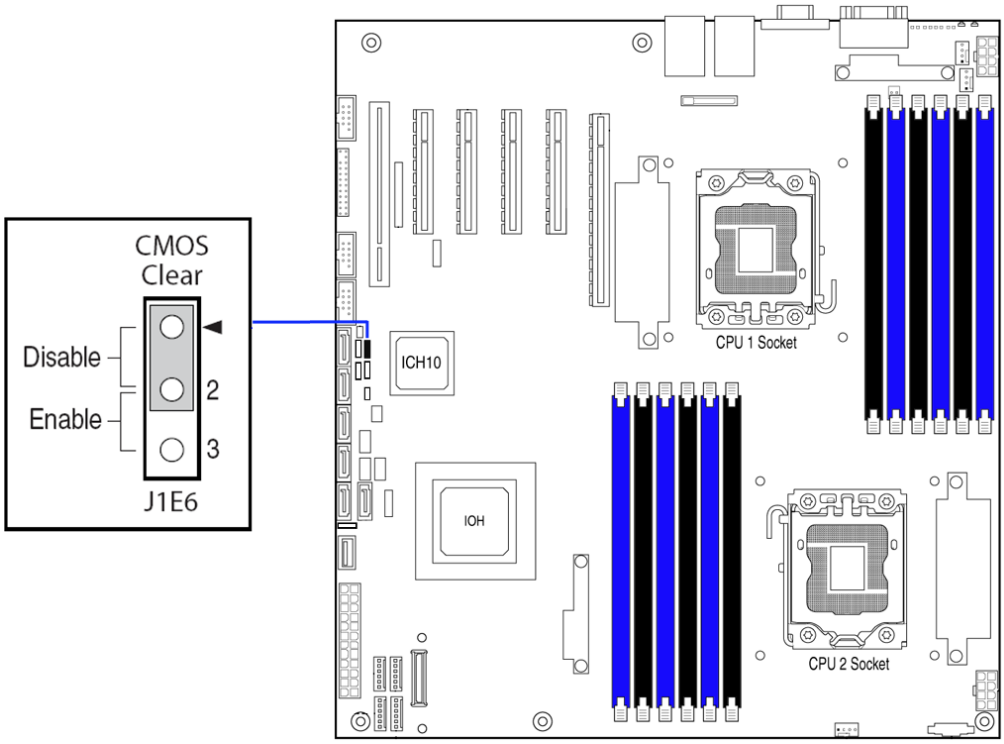


Figure 18. CMOS Clear Jumper

1. Power down the server and unplug the AC power cord.
2. Open the server chassis.
3. Move the jumper (J1E6) from the default operating position (**covering pins 1 and 2**) to the reset/clear position (covering pins 2 and 3).
4. Wait for 5 - 10 seconds.
5. Move the jumper back to default position, covering pins 1 and 2.
6. Close the server chassis and reconnect the AC power cord.
7. Power up the server.

The CMOS is now cleared and you can reset it by going into the BIOS setup.

3 Hardware Installations and Upgrades

This chapter provides instructions for adding and replacing chassis components.

Before You Begin

Before working with your server product, pay close attention to “Appendix B: Safety Information”.

Tools and Supplies Needed

- Phillips* (cross head) screwdriver (#1 bit and #2 bit)
- Needle nosed pliers
- Hex nut driver (6 mm)
- Antistatic wrist strap and conductive foam pad (recommended)

System Reference

All references to the left, right, front, top, and bottom assume the reader is facing the front of the system chassis as it would be positioned for pedestal operation.

Removing and Installing the Left Side Cover

WARNING

This system chassis must be operated with the left side cover installed to ensure proper cooling.

Removing the Left Side Cover

The Intel® Server System SC5650HCBRP must be operated with the left side cover in place to ensure proper cooling. You must remove the left side cover to add or replace components inside of the platform. Before removing the left side cover, power down the server and unplug all peripheral devices and the AC power cable.

NOTE

You may need a non-skid surface or a stop behind the chassis to prevent the chassis from sliding on your work surface.

1. Observe the safety and ESD precautions listed in “Appendix B: Safety Information”.
2. Turn off all peripheral devices connected to the server. Turn off the server.
3. Disconnect the AC power cord(s).

4. If present, remove the two screws (see letter “A” in the following figure). Push in on the latch with your right hand (see letter “B”), and with your left hand, grasp the rear cover clasp and slide the left side cover rearward to remove from chassis (see letter “C”).

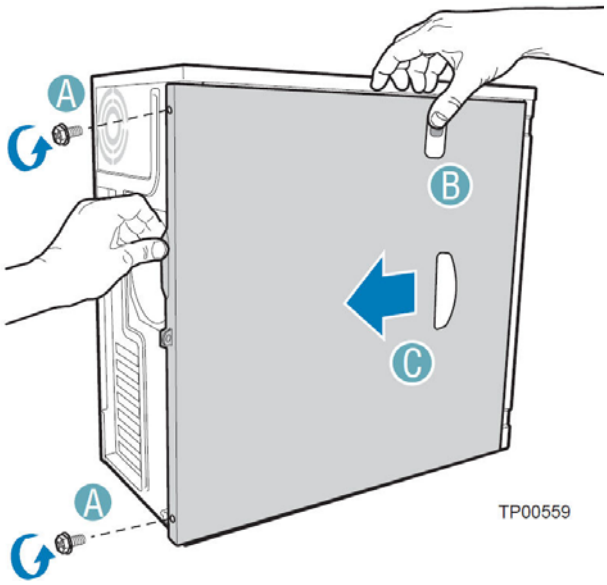


Figure 19. Removing Left Side Cover

Installing the Left Side Cover

1. Observe the safety and ESD precautions listed in “Appendix B: Safety Information”.
2. Slide the left side cover on the chassis and latch securely (see letter “A” in the following figure).
3. (Optional) Replace screws (see letter “B”).
4. Reconnect all peripheral devices and the AC power cord. Power up the server.

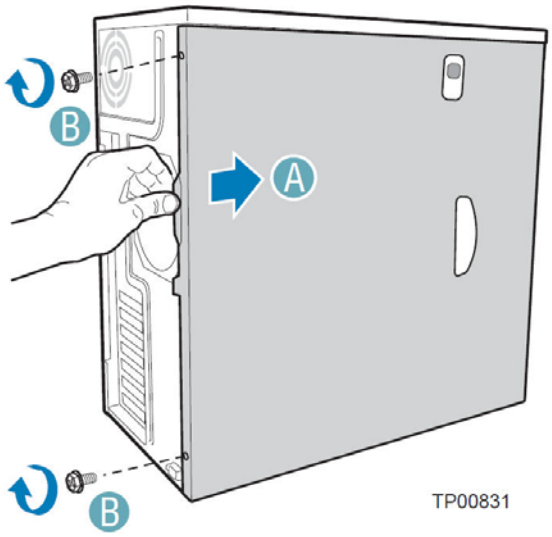


Figure 20. Installing Left Side Cover

Removing and Installing the Right Side Cover

WARNING

This system chassis must be operated with the Right side cover installed to ensure proper cooling.

Removing the Right Side Cover

1. Observe the safety and ESD precautions listed in"Appendix B: Safety Information".
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the left side cover. For instructions, see "Removing the Left Side Cover".
4. If it is installed, remove the front bezel assembly. For instructions, see "Removing the Front Bezel Assembly".
5. Remove the two screws (see letter "A" in the following figure") securing the right side cover to the chassis. Lift the right side cover off the chassis.

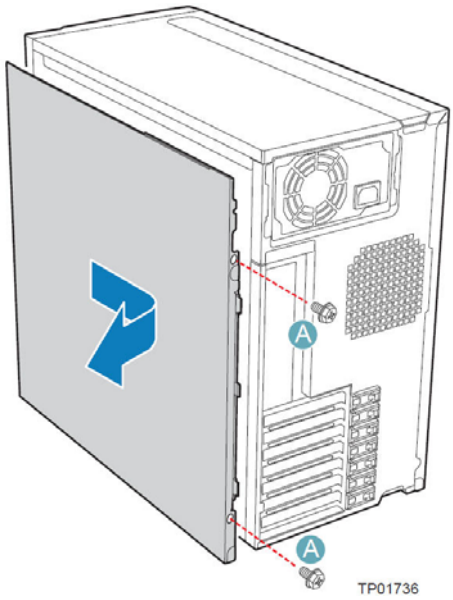


Figure 21. Removing Right Side Cover

Installing the Right Side Cover

1. Observe the safety and ESD precautions listed in "Appendix B: Safety Information".
2. Reinstall the right side cover. Reinstall the two screws.
3. Reinstall the front bezel assembly. For instructions, see "Installing the Front Bezel Assembly".
4. Reinstall the left side cover. For instructions, see "Installing the Left Side Cover"
5. Reconnect all peripheral devices and the AC power cable. Power up the server.

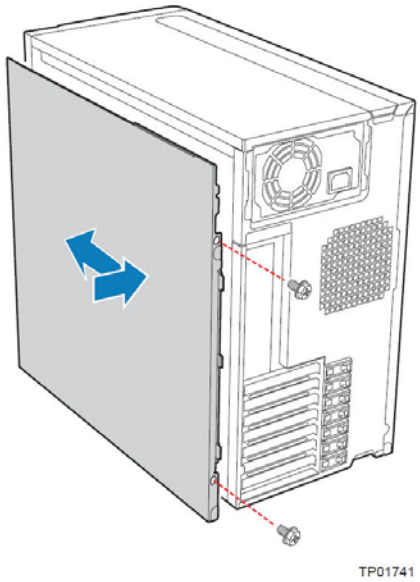


Figure 22. Installing Right Side Cover

Removing and Installing the Front Bezel Assembly

Removing the Front Bezel Assembly

1. Observe the safety and ESD precautions listed in “Appendix B: Safety Information”.
2. Turn off all peripheral devices connected to the server. Turn off the server.
3. Disconnect the AC power cord.
4. Remove the left side cover. For instructions, see “Removing the Left Side Cover”.
5. Disengage the two bezel tabs from the left side of the chassis (see letter “A” in the following figure). Rotate the left side of the front bezel assembly outward slightly (see letter “B”). Disengage the three clips that attach the right side of the front bezel assembly to the chassis and remove (see letter “C”).

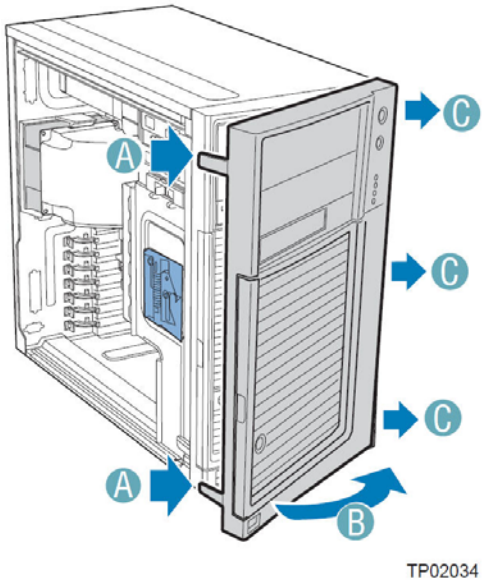


Figure 23. Removing Front Bezel Assembly

Installing the Front Bezel Assembly

1. Observe the safety and ESD precautions listed in “Appendix B: Safety Information”.
2. Line up the three clips on the right side of the front bezel assembly with the corresponding slots on the right side of the chassis (see letter “A” in the following figure). Engage the clips with the slots (see letter “B”). Rotate the left side of the front bezel assembly towards the chassis (see letter “C”). Snap the two bezel tabs into the corresponding recesses at the left edge of the chassis front panel (see letter “D”).
3. Reinstall the left side cover. For instructions, see “Installing the Left Side Cover”.
4. Reconnect all peripheral devices and the AC power cable. Power up the server.

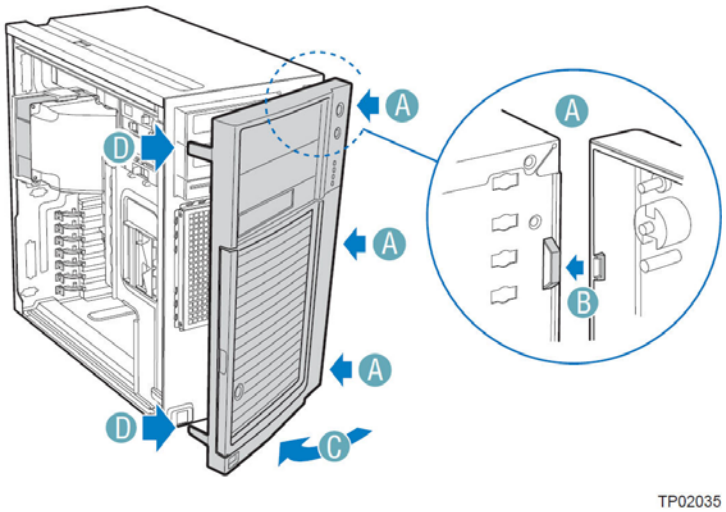


Figure 24. Installing Front Bezel Assembly

Removing and Installing System Fan Duct

WARNING

This system chassis must be operated with the fan duct installed to ensure proper cooling.

Removing the System Fan Duct

1. Observe the safety and ESD precautions listed in “Appendix B: Safety Information”.
2. Power down the server and unplug all peripheral devices and the AC power cable. Remove the left side cover. For instructions, see “Removing the Left Side Cover”.
3. Remove hot swap hard disk cage. For instructions, see “Replacing Hard Disk Cage Fan”.
4. Remove the system fan duct as shown (see letter “A”).

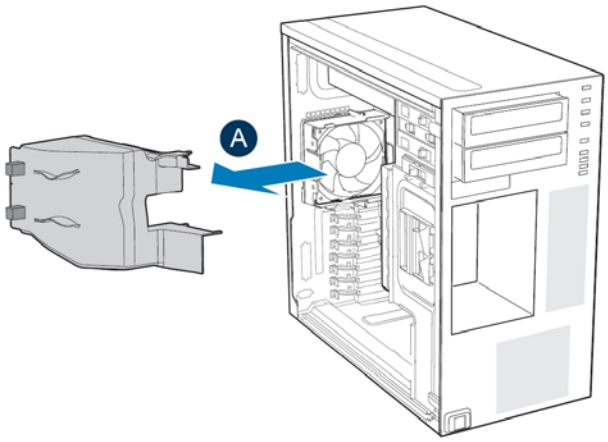


Figure 25. Removing System Fan Duct

Installing the System Fan Duct

1. Observe the safety and ESD precautions listed in “Appendix B: Safety Information”.
2. Align the chassis and fan duct alignment rails as shown (see letter “A”).
3. Install the system fan duct, making sure the latch engages. (see letter “B”).
4. Install hot swap hard disk cage. For instructions, see “Replacing Hard Disk Cage Fan”.
5. Reinstall the left side cover. For instructions, see “Installing the Left Side Cover”.
6. Reconnect all peripheral devices and the AC power cable. Power up the server.

CAUTION

Remove the fan duct inlet filler board for the second processor installation (see letter “C”).

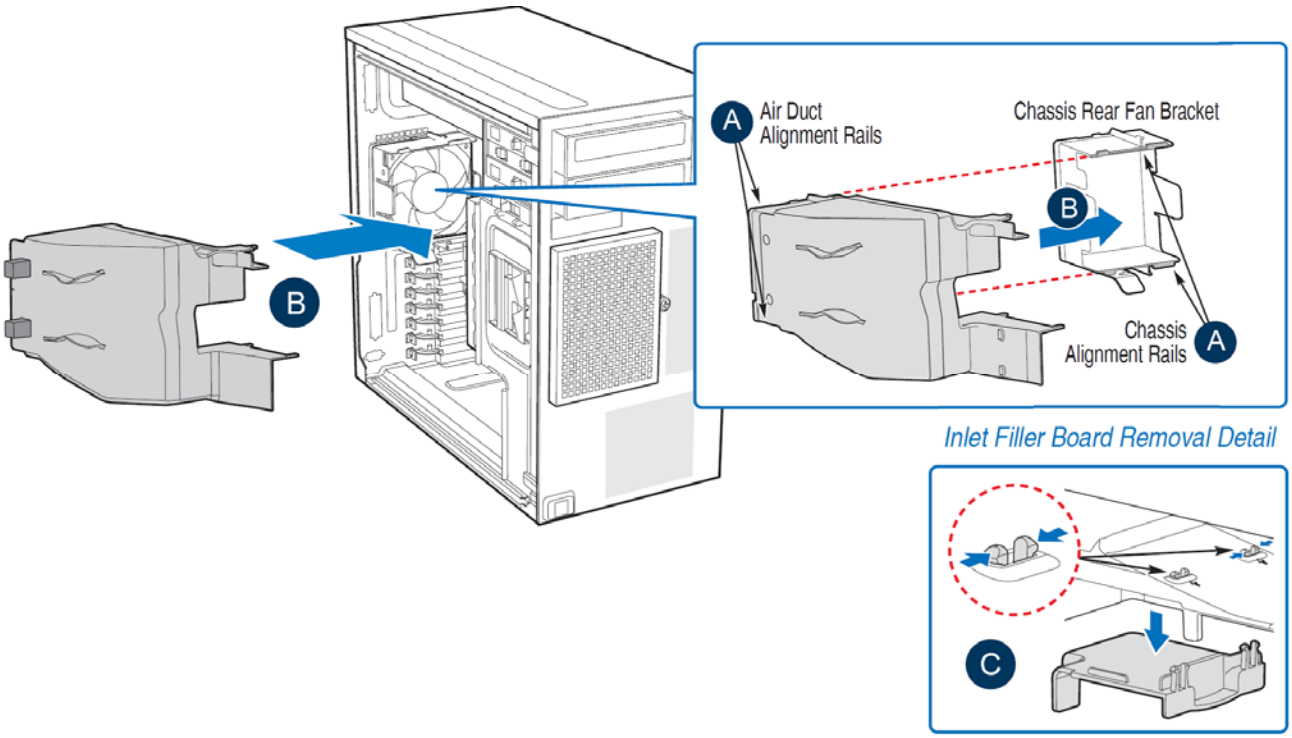


Figure 26. Installing System Fan Duct

Installing and Removing Memory

The silkscreen on the Intel® Server System SC5650HCBRP server board for the DDR3 DIMM sockets displays DIMM_A1, DIMM_A2, DIMM_B1, DIMM_B2, DIMM_C1, DIMM_C2, DIMM_D1, DIMM_D2, DIMM_E1, DIMM_E2, DIMM_F1, and DIMM_F2, starting from the inside of the board. See "Memory" for a discussion on memory installation rules, requirements, and options. See "Additional Information and Software".

Installing DIMMs

To install DIMMs, follow these steps:

1. Observe the safety and ESD precautions at the beginning of this book. For more information, see "Safety Information".
2. Turn off all peripheral devices connected to the server and turn off the server.
3. Disconnect the AC power cord from the server.
4. Remove the server's cover and fan duct, and locate the DIMM sockets. See "Memory".

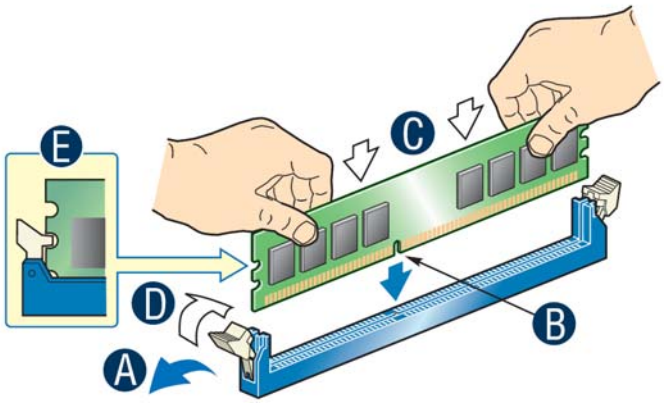


Figure 27 .Installing Memory

5. Make sure the clips at either end of the DIMM socket(s) are pushed outward to the open position (Step “A” in Figure 27).
6. Holding the DIMM by the edges, remove it from its anti-static package.
7. Position the DIMM above the socket. Align the small notch in the bottom edge of the DIMM with the key in the socket (Step “B” in Figure 27).
8. Insert the bottom edge of the DIMM into the socket (Step “C” in Figure 27).
9. When the DIMM is inserted, push down on the top edge of the DIMM until the retaining clips snap into place (Step “D” in Figure 27).
10. Visually check that each latch is fully closed and correctly engaged with each DIMM edge slot (Step “E” in Figure 27).
11. Replace the system fan duct and server’s cover. Reconnect the AC power cord.

Removing DIMMs

To remove a DIMM, follow these steps:

1. Observe the safety and ESD precautions at the beginning of this book. For more information, see “Safety Information”.
2. Turn off all peripheral devices connected to the server, and turn off the server.
3. Remove the AC power cord from the server.
4. Remove the server’s cover and fan duct.
5. Gently spread the retaining clips at each end of the socket. The DIMM lifts from the socket.
6. Holding the DIMM by the edges, lift it from the socket, and store it in an anti-static package.
7. Reinstall and reconnect any parts you removed or disconnected to reach the DIMM sockets.
8. Replace system fan duct, and server’s cover. Reconnect the AC power cord.

Installing or Replacing the Processor

NOTE

Use the following instructions to install or replace a processor instead of using the instructions that came with the processor.

CAUTION

Processor must be appropriate: If you install a processor that is inappropriate for your server, you may damage the server board. See "Additional Information and Software" for a link to the list of compatible processor(s).

ESD and handling processors: Reduce the risk of electrostatic discharge (ESD) damage to the processor by doing the following: (1) Touch the metal chassis before touching the processor or server board. Keep a part of your body in contact with the metal chassis to dissipate the static charge while handling the processor. (2) Avoid moving around unnecessarily.

Installing the Processor

To install a processor, follow these instructions:

NOTE

You must install processors in order. Therefore, you must populate CPU 1 socket to operate the board and to enable CPU 2 socket.

CAUTION

When opening a processor socket, DO NOT touch the gold socket wires.

When unpacking a processor, hold by the edges only to avoid touching the gold contact wires.

1. Observe the safety and ESD precautions at the beginning of this book. See "Safety Information" for more information.
2. Turn off all peripheral devices connected to the server and turn off the server.
3. Disconnect the AC power cord from the server.
4. Remove the server's cover and fan duct
5. Locate the processor socket, push the lever handle down and away from the socket to release it (Step "A" in Figure 28), and rotate the lever open all the way (Step "B" in Figure 28).

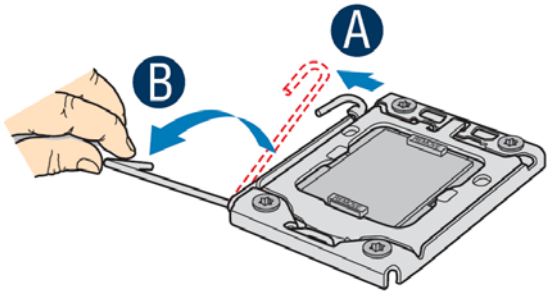


Figure 28. Opening the Processor Socket Lever

6. Open the load plate: push the rear tab with your fingertip to bring the front end of the load plate up slightly (Step "A" in Figure 29), and then open the load plate as shown in Figure 29 (Step "B").

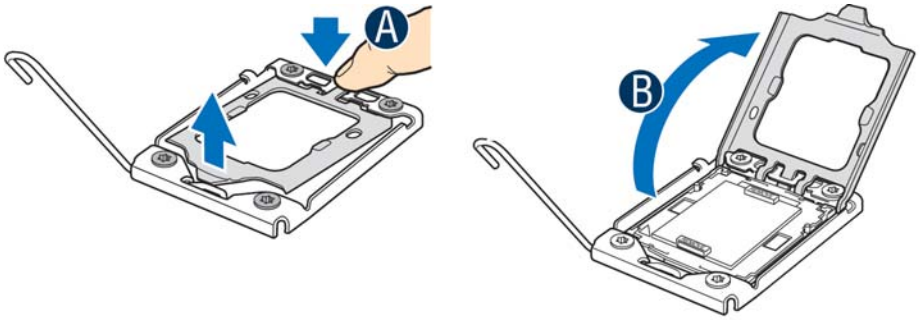


Figure 29. Opening the Processor Socket Load Plate

7. Remove the processor socket protective cover: Grasp the socket protective cover by the two tabs and carefully lift it straight up as shown in Figure 30.
8. Save the protective cover.

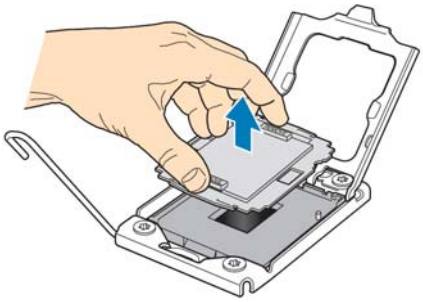


Figure 30. Removing the Processor Socket Protective Cover

⚠ CAUTION

To avoid damage, DO NOT drop the cover onto the socket wires or components.

9. Take the processor out of the box and remove the protective shipping cover as shown in Figure 31.

Figure 31. Remove Processor Protective Cover

10. Orient the processor with the socket so the processor cutouts match the two socket pins and then sit the processor into the socket as shown in Figure 32.

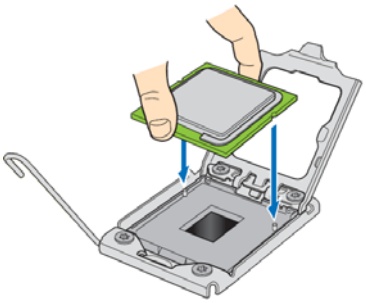


Figure 32. Install the processor

11. Close the load plate and socket lever: Close the load plate all the way as shown in Figure 33 (Step “A”), push down on the load plate (Step “B” in Figure 33), and close the socket lever and ensure the load plate tab engages under the socket lever when fully closed (Step “C” in Figure 33).

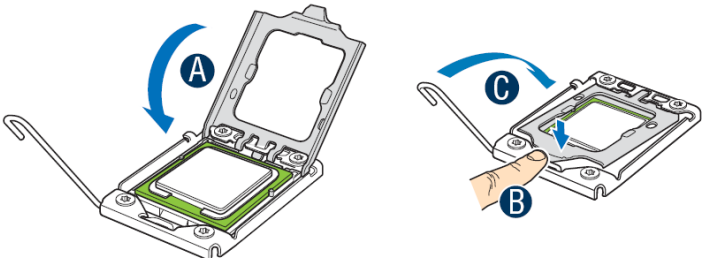


Figure 33. Close Load Plate and Socket Lever

12. Install the heatsink(s). See Installing the Processor Heatsink(s) for instructions.

Replacing the Processor

1. Observe the safety and ESD precautions at the beginning of this book. For more information, see “Safety Information”.
2. Turn off all peripheral devices connected to the server and turn off the server.
3. Disconnect the AC power cord from the server.
4. Remove the server’s cover and fan duct, locate the processor socket.
5. If needed, disconnect the active processor heatsink fan cable from the server board.
6. Loosen the four captive screws on the corner of the heatsink.
7. Twist the heatsink slightly to break the seal between the heatsink and the processor.
8. Lift the heatsink from the processor. If it does not pull up easily, twist the heatsink again. Do not force the heatsink from the processor – doing so could damage the processor.
9. Lift the processor socket lever.
10. Raise the processor socket load plate.
11. Remove the processor.
12. If installing a replacement processor, see “Installing the Processor”.
13. Reinstall and reconnect any parts you removed or disconnected to reach the processor sockets. See the documentation that came with your chassis for instructions on installing chassis components.
14. Replace fan duct, and server’s cover. Reconnect the AC power cord.

Installing the Processor Heatsink(s)

Selecting Processor Heatsink(s)

Each processor requires a heatsink. An active heatsink has a fan attached to the heatsink and a cable that must be connected to the server board. The following table shows the compatible Intel® Thermal Solution with maximum processor power support.

Table 5. Compatible Intel® Thermal Solution

	Intel® Thermal Solution STS100C (w/ fan, active mode)	Intel® Thermal Solution STS100A (Active)
	Compatible	Compatible
Maximum CPU Power support in Intel® Server System SC5650HCBRP	95 W	80 W
Intel® Thermal Solution Product Code	BXSTS100C	BXSTS100A
		

Installing Processor Heatsink(s)

To install processor heatsink(s) in the Intel® Server Chassis, follow these instructions:

1. Observe the safety and ESD precautions at the beginning of this book. For more information, see "Safety Information".
2. Turn off all peripheral devices connected to the server and turn off the server.
3. Disconnect the AC power cord from the server. Remove the server's cover and fan duct, locate the processor socket.
4. If a protective film covers the thermal interface material (TIM) on the underside of the heatsink, remove the protective film. (Step "A" in Figure 34.)

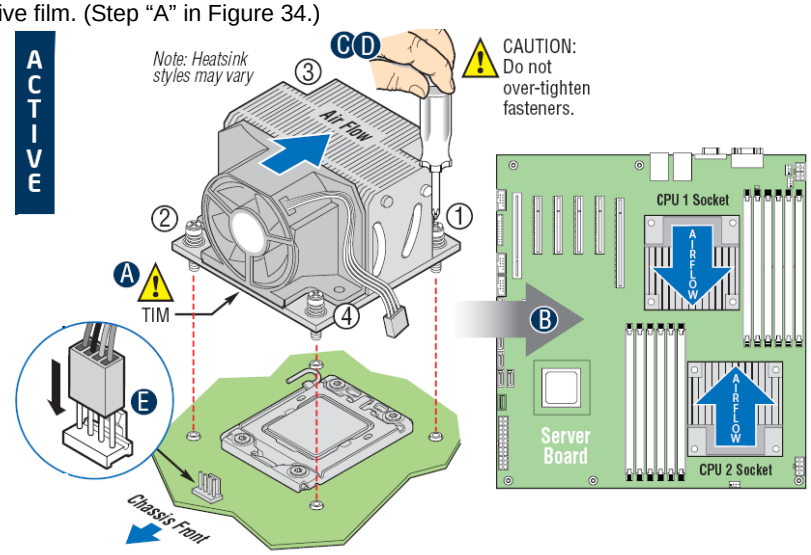
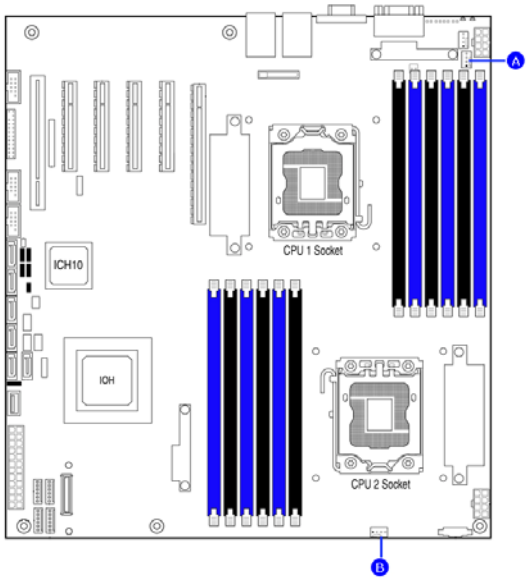


Figure 34. Installing Processor Heatsink(s)

5. Align the active heatsinks in the Intel® Server Chassis SC5650 and Intel® Server Chassis SC5600 (excluding Intel® Server Chassis SC5600LX) to let airflow go through to the center of the board (Step “B” for active heatsink in Figure 34). Align the passive tower heatsinks (FXXRGTHSINK) fins to fit the Intel® Server Chassis SC5600LX air duct (Step “B” for passive heatsink in Figure 34).
6. Using a #2 Philips* screwdriver to tighten each fastener diagonally according to the white-circled numbers in Figure 34. (Step “C” in Figure 34).
7. Securely re-tighten each fastener again in the same order as performed in Step 6. (Step “D” in Figure 34.)



Callout	Processor Fan Connector	Callout	Processor Fan Connector
A.	CPU_1	B.	CPU_2

Figure 35. Locating Active Heatsink Cable Connections

8. Attach an active heatsink fan cable to the server board. (Step “E” in Figure 34). See Figure 35 to locate the processor fan headers.
9. Reinstall and reconnect any parts you removed or disconnected to reach the processor sockets. Refer to the documentation that came with your chassis for instructions on installing chassis components.
10. Replace fan duct, and the server’s cover. Reconnect the AC power cord. Refer to the documentation that came with your chassis for instructions on installing the cover.

Installing or Removing a DVD-ROM or CD-ROM Drive

CAUTION

CD-ROM and DVD-ROM drives are NOT hot-swappable. Before removing or replacing the drive, you must first take the server out of service, turn off all peripheral devices connected to the system, turn off the system by pressing the power button, and unplug the AC power cord from the system or wall outlet.

Installing a DVD-ROM or CD-ROM Drive

1. Observe the safety and ESD precautions listed in “Appendix B: Safety Information”.

2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the left side cover. For instructions, see “Removing the Left Side Cover”.
4. Remove the front bezel assembly. For instructions, see “Removing the Front Bezel Assembly”.
5. Remove the EMI shield from the 5.25-in device drive bay (see letter “A” in the following figure). Move latch to the “unlock” position (see letter “B”).

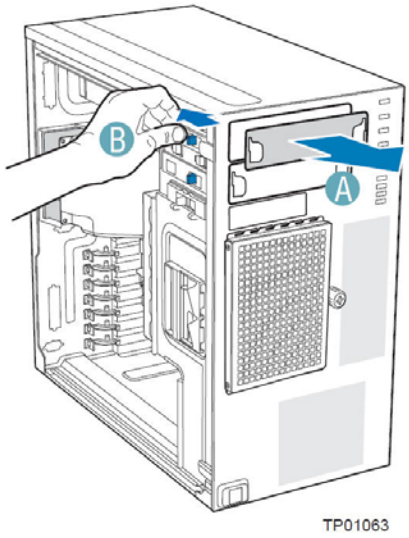


Figure 36. Removing 5.25-inch drive EMI Shield

6. Insert the CD-ROM or DVD-ROM drive into the 5.25-in device drive bay (see letter “C” in the following figure). Line up holes in CD-ROM drive with holes in chassis (see letter “D”). Move latch to the “lock” position (see letter “E”). Connect power (P5 or P6 connector from the power supply. An additional 4-pin IDE male-to SATA 15-point power cables adapter may be needed if the CD-ROM or DVD-ROM does not have a 4-pin power connector.) and data cables to the rear of the CD-ROM or DVD-ROM drive (see letter “F”).

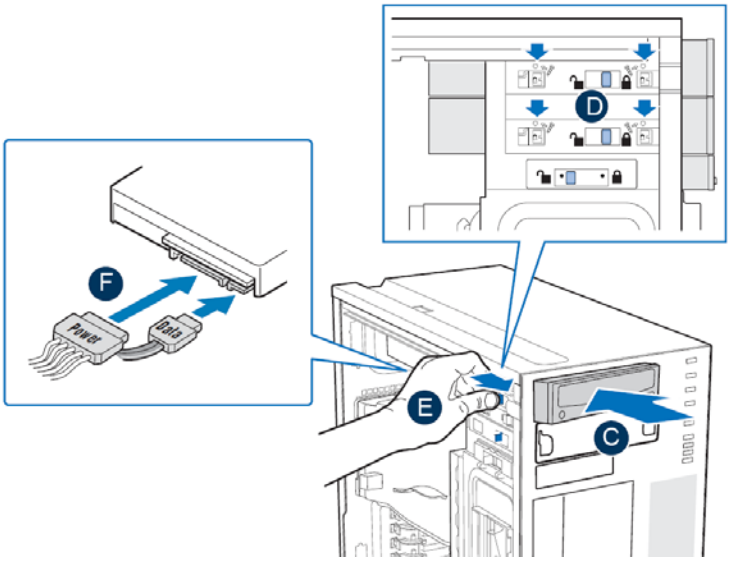


Figure 37. Installing CD-ROM or DVD-ROM Drive (SATA Optical Drive is shown)

7. If necessary, remove the filler panel from the front bezel assembly.

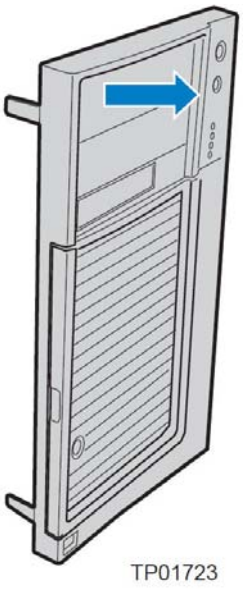


Figure 38. Removing 5.25-inch Device Filler Panel from Front Bezel Assembly

8. Reinstall the front bezel assembly. For instructions, see “Installing the Front Bezel Assembly”.
9. Reinstall the left side cover. For instructions, see “Installing the Left Side Cover”.
10. Reconnect all peripheral devices and the AC power cable(s). Power up the server.

Removing a DVD-ROM or CD-ROM Drive

1. Observe the safety and ESD precautions listed in “Appendix B: Safety Information”.
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the chassis cover. For instructions, see “Removing the Left Side Cover”.
4. Remove the Front Bezel Assembly. For instructions, see “Removing the Front Bezel Assembly”.
5. Disconnect the power and data cables from the rear of the CD-ROM or DVD-ROM drive (see letter “F” in the following figure). Move latch to the “unlock” position (see letter “D”). Slide CD-ROM or DVD-ROM drive out of the Device Drive Bay (see letter “C”).

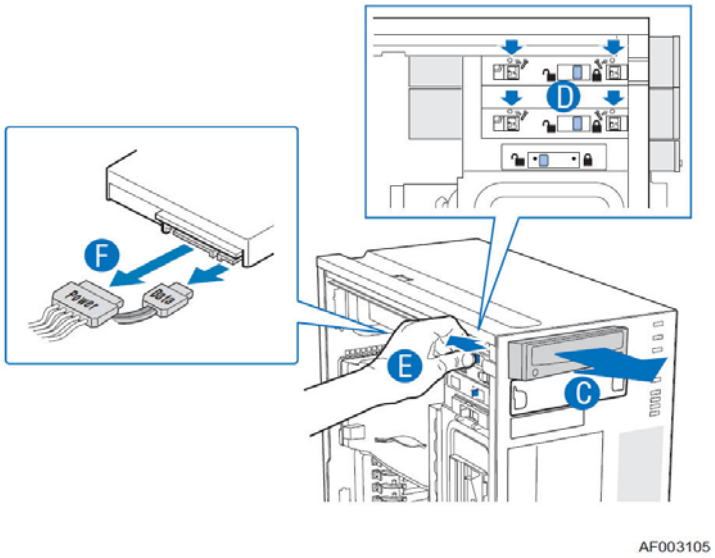


Figure 39. Removing CD-ROM or DVD-ROM Drive (SATA Optical Drive is shown)

6. If reinstalling a new CD-ROM or DVD-ROM drive, see “

7. Installing a DVD-ROM or CD-ROM Drive" for instructions. If not replacing the drive, reinstall the EMI shield and front bezel filler panel, if available.

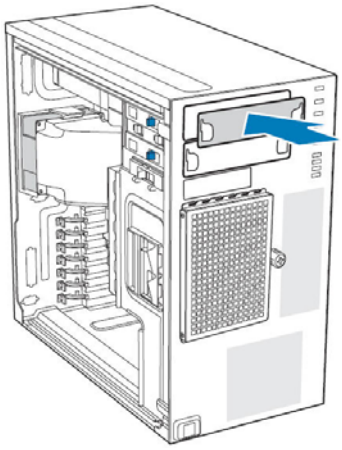


Figure 40. Installing 5.25-inch drive EMI Shield

Installing and Removing PCI Add-in Cards

CAUTION

Do not overload the server board by installing add-in boards that draw excessive current.

PCI add-in boards can be extremely sensitive to electric static discharge (ESD) and always require careful handling. After removing the add-in board from its protective wrapper or from the server board, place it component side up on a grounded, static-free surface or conductive foam pad. Do not slide the add-in board over any surface.

Installing PCI Add-in Cards

NOTE

Before installing any PCI add-in boards, you may want to install an operating system.

1. Observe the safety and ESD precautions listed in, "Appendix B: Safety Information".
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the left side cover. For instructions, see "Removing the Left Side Cover".
4. Open the back panel PCI Add-in Card Retention Device by pressing open from the inside of the chassis.

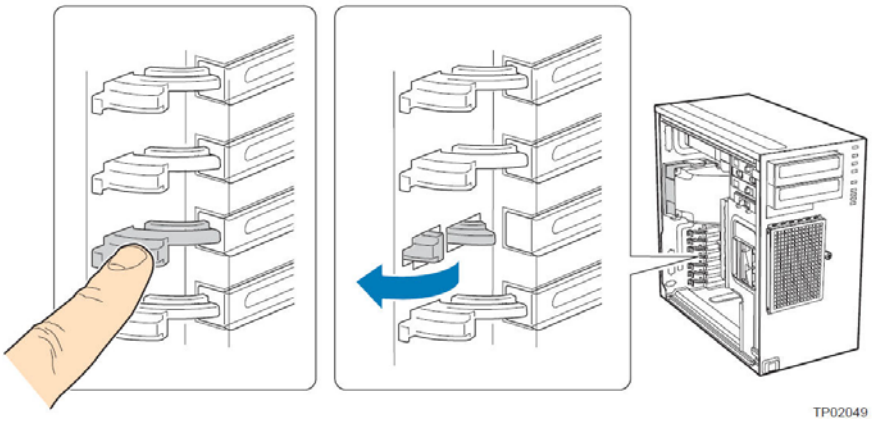


Figure 41. Open PCI Add-in Card Retention Device

5. If it is already not removed, remove the PCI slot shield by pushing the shield out from the inside of the chassis.

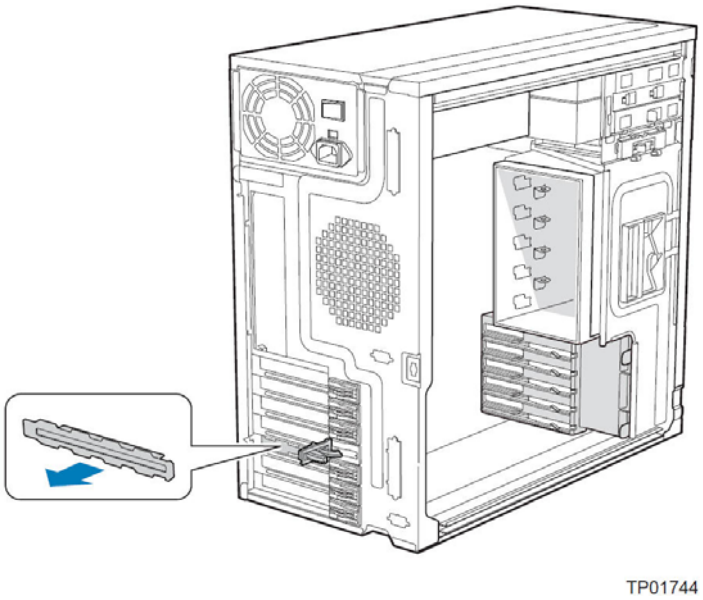


Figure 42. Removing PCI Slot Shield

6. Remove a PCI add-in board from its protective wrapper. Be careful not to touch the components or gold-edge connectors. Place the board on an anti-static surface. Record the type and serial number of the add-in board in your equipment log. Set jumpers or switches on the board according to the manufacturer's instructions.

7. Hold the PCI add-in board by its top edge or upper corners. Firmly press the add-in board into an expansion slot on the server board (see letter "A" in the following figure). Close the back panel PCI Add-in Card Retention Device (see letter "B").

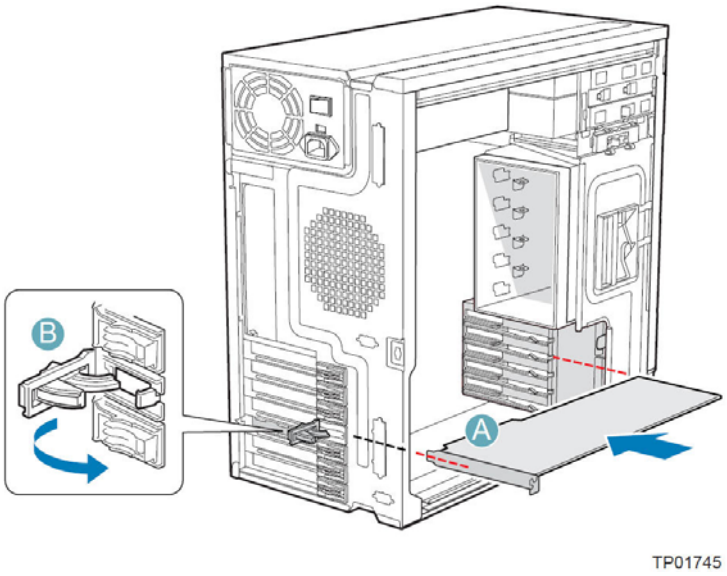


Figure 43. Installing PCI Add-in Card

8. Repeat the previous steps until all PCI add-in boards are installed.
9. Attach cables, if necessary.
10. Reinstall the left side cover. For instructions, see “Installing the Left Side Cover”.
11. Reconnect all peripheral devices and the AC power cable. Power up the server.

Removing PCI Add-in Cards

CAUTION

PCI add-in boards can be extremely sensitive to electric static discharge (ESD) and always require careful handling. After removing the add-in board from its protective wrapper or from the server board, place it component side up on a grounded, static-free surface or conductive foam pad. Do not slide the add-in board over any surface.

1. Observe the safety and ESD precautions listed in “Appendix B: Safety Information”.
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the left side cover. For instructions, see “Removing the Left Side Cover”
4. Open the back panel PCI Add-in Card Retention Device by pressing open from the inside of the chassis.

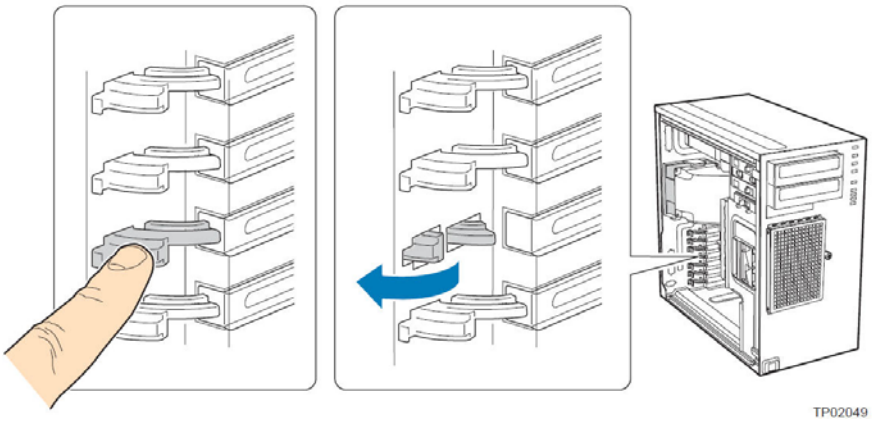


Figure 44. Open PCI Add-in Card Retention Device

5. Disconnect any cables that may be attached to the PCI add-in board that needs to be removed.
6. Firmly grab the PCI add-in board by its top edge or upper corners and remove from the expansion slot on the server board (see letter “A” in the following figure). Place the removed add-in board in an anti-static protective wrapper. Close the back panel PCI Add-in Card Retention Device (see letter “B”).

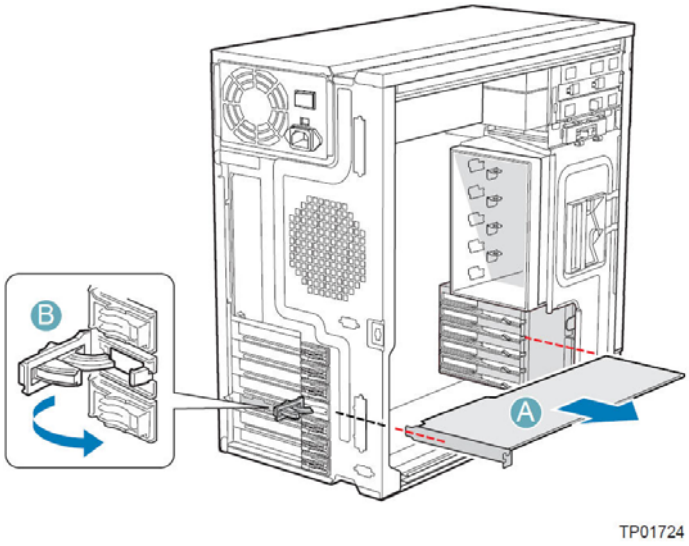


Figure 45. Removing PCI Add-in Card

7. If available, replace the PCI slot shield by pressing the slot shield into the opening on the chassis.

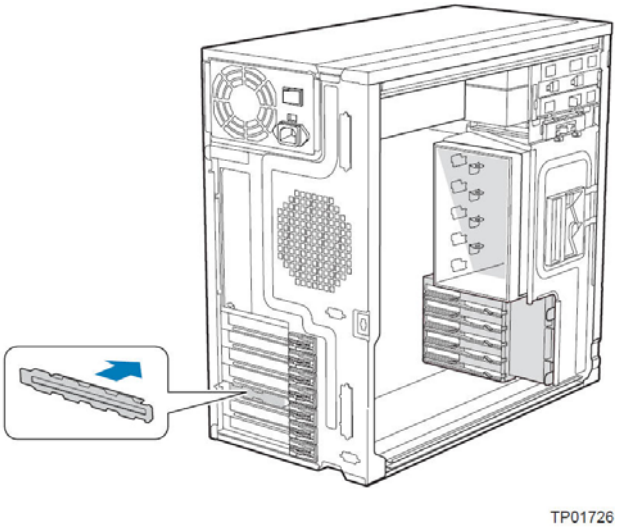


Figure 46. Installing PCI Slot Shield

8. Reinstall the left side cover. For instructions, see "Installing the Left Side Cover".
9. Reconnect all peripheral devices and the AC power cable(s). Power up the server.

Installing Hot Swap Hard Drive

NOTE

The Intel® Server System SC5650HCBRP does not support all hard drives. See "Additional Information and Software" for an Internet link to a list of supported hard drives.

1. Open the drive bay access door.

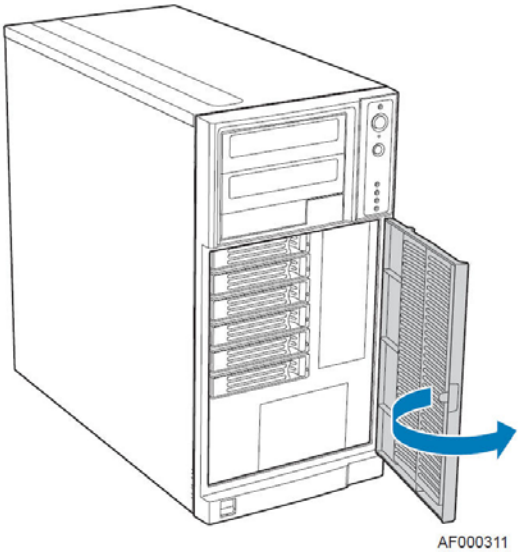


Figure 47. Open Drive Bay Access Door

2. Remove a drive carrier from the hot swap drive cage. Press in on the green latch (see letter “A” in the following figure) at the end of the drive carrier to disengage the drive carrier from the drive cage. Pull out on the black lever (see letter “B”) to push the drive carrier partially out of the drive cage. Slide the drive carrier all the way out of the drive cage.

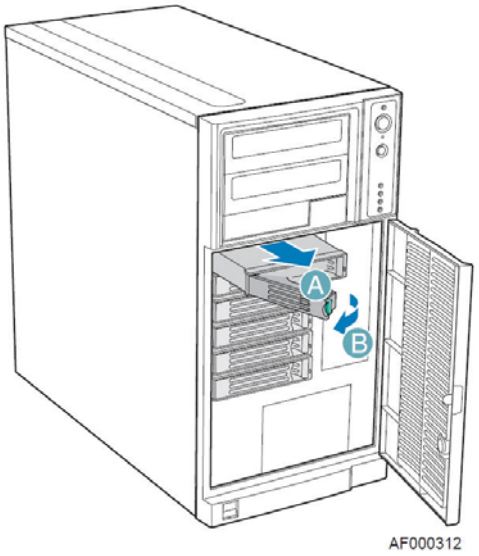


Figure 48. Releasing Drive Carrier from Hot Swap Drive Cage

3. Remove the four screws that attach the plastic retention device to the drive carrier. Two screws are located on each side of the retention device.

NOTE

Store the plastic retention device for future use.

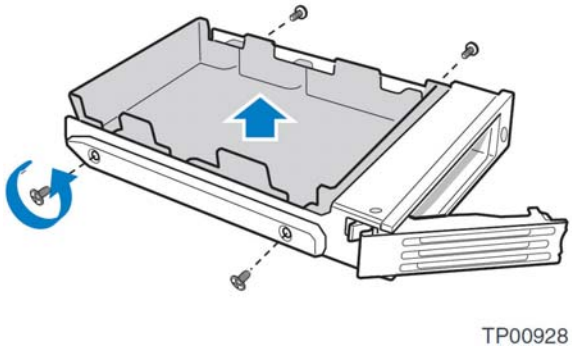


Figure 49. Removing Retention Device from Drive Carrier

4. Remove the hard drive from its wrapper and place it on an anti-static surface.
5. Set any jumpers and/or switches on the drive according to the drive manufacturer's instructions.
6. With the drive circuit-side down, position the connector end of the drive so that it is facing the rear of the drive carrier.
7. Align the holes in the drive to the holes in the drive carrier and attach the drive to the carrier with the screws that were formerly attached to the plastic retention device.

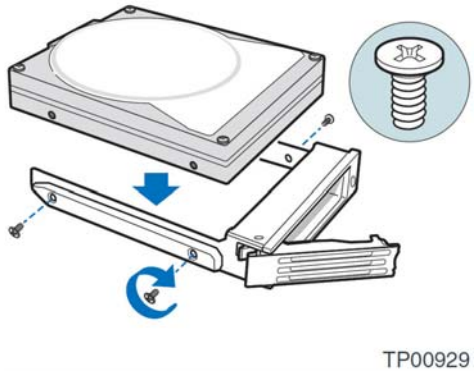


Figure 50. Installing Hard Drive to Drive Carrier

8. With the black lever in the fully open position, insert the drive carrier into the hot swap drive cage. The green latch at the front of the drive carrier must be to the left of the drive cage. Do not push on the black drive carrier lever until the lever begins to close by itself. Once the black drive carrier lever begins to close by itself, push on it to lock the drive carrier into place.

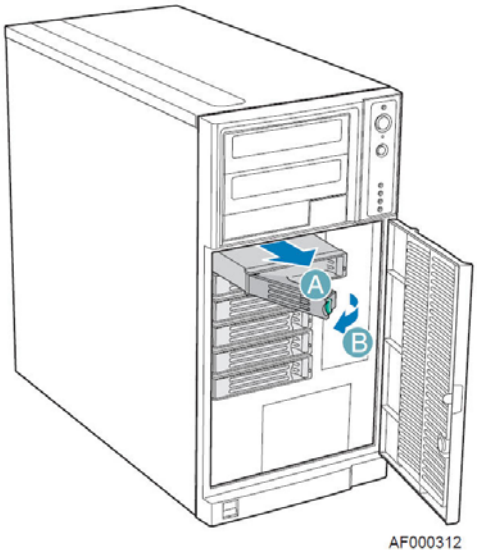


Figure 51. Reinstall Drive Carrier in Hot Swap Drive Cage

9. Close the drive bay access door.

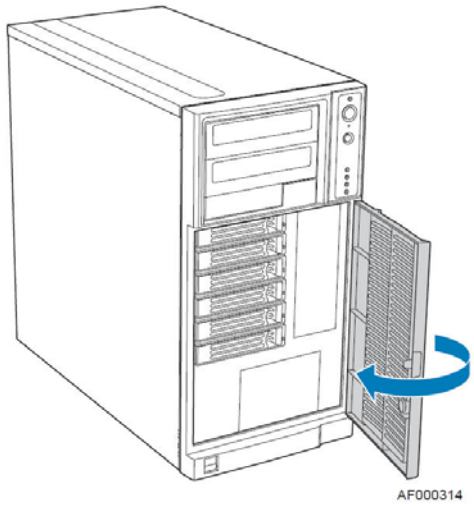


Figure 52. Close Drive Access Door

Replacing the Front Panel Board

Your server system must be operated with a front panel board installed.

⚠ CAUTION

The front panel board is NOT hot-swappable. Before removing or replacing the front panel board, you must first take the server out of service, turn off all peripheral devices connected to the system, turn off the system by pressing the power button, and unplug the AC power cord from the system or wall outlet.

1. Observe the safety and ESD precautions listed in “Appendix B: Safety Information”.
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the left side cover. For instructions, see “Removing the Left Side Cover”.
4. Remove the front bezel assembly if it is installed. For instructions, see “Removing the Front Bezel Assembly”.
5. Remove the two screws (see letter “A” in the following figure”) securing the right side cover to the chassis. Lift the right side cover off the chassis.

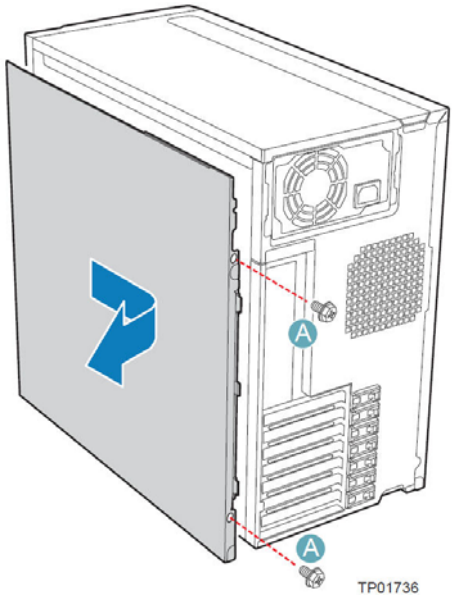


Figure 53. Removing the Right Side Cover from Chassis

6. Remove the three screws securing the front panel board to the chassis.

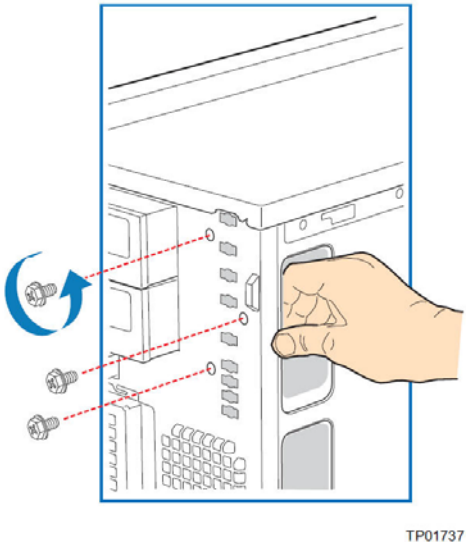


Figure 54. Unattaching Front Panel Board from Chassis

7. Carefully remove the front panel board through the opening in the left side of the chassis (see letter “A” in the following figure). Disconnect the front panel cable (see letter “B”) and the chassis intrusion cable (see letter “C”) from the front panel board.

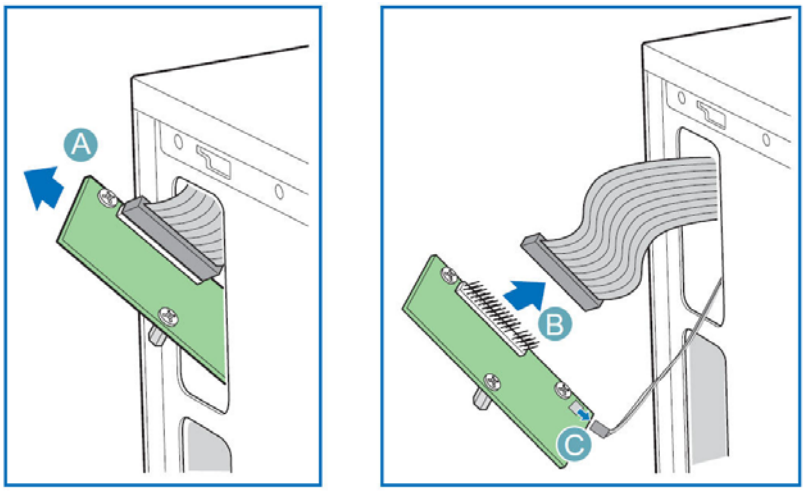


Figure 55. Removing Front Panel Board from Chassis

8. Remove standoffs from the old front panel and install on the new front panel.

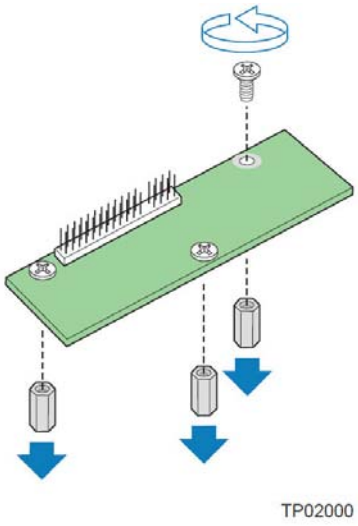


Figure 56. Removing Standoffs from Front Panel Board

9. Attach the front panel cable (see letter “A” in the following figure) and the chassis intrusion cable (see letter “B”) to the new front panel board. Slide the new front panel board through the opening in the left side of chassis (see letter “C”).

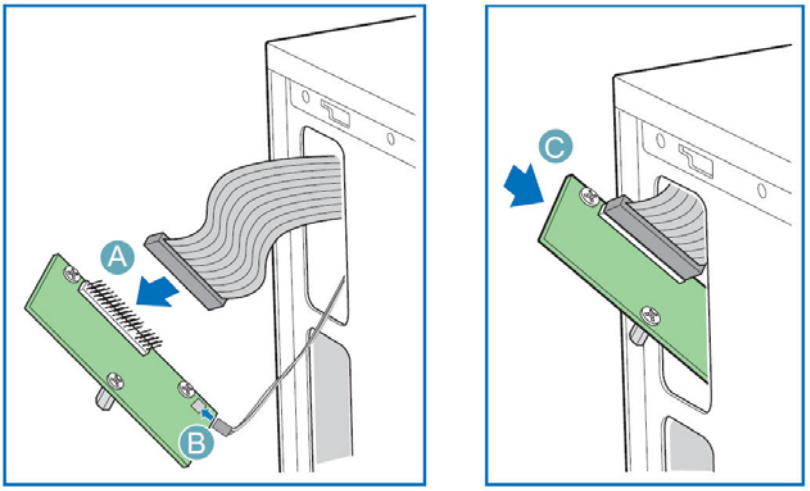


Figure 57. Installing Front Panel Board in Chassis

10. Use one hand to align the front panel board in position inside the chassis. With your other hand, tighten the three screws to secure the front panel board to the front of the chassis.

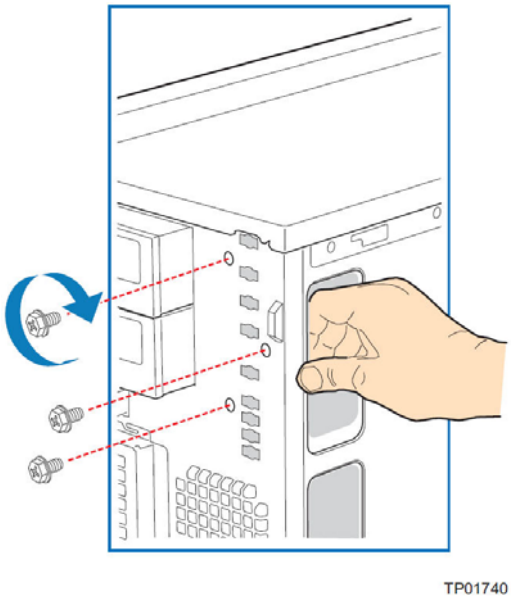


Figure 58. Positioning Front Panel Board in Chassis

11. Reinstall the right side cover. Reinstall the two screws.

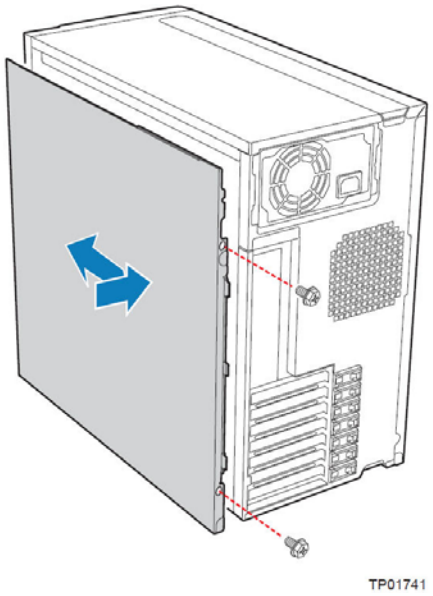


Figure 59. Reinstall Right Side Cover on Chassis

12. Reinstall the front bezel assembly. For instructions, see “Installing the Front Bezel Assembly”.
13. Reinstall the left side cover. For instructions, see “Installing the Left Side Cover”.
14. Reconnect all peripheral devices and the AC power cable. Power up the server.

Replacing Rear System Fan

CAUTIONS

The system fan for the Intel® Server System SC5650HCBRP is NOT hot swappable. Before removing or replacing a fan, you must first take the server out of service, turn off all peripheral devices connected to the system, turn off the system by pressing the power button, and unplug the AC power cord from the system or wall outlet.

1. Observe the safety and ESD precautions listed in “Appendix B: Safety Information”.
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the left side cover. For instructions, see “Removing the Left Side Cover”.
4. Remove the system fan duct. For instructions, see “Removing and Installing System Fan Duct”.
5. Disconnect the fan power cable from the server board (see letter “A” in the following figure). Remove the system fan from its snap-in bracket by pressing the two bracket tabs outward (see letter “B”).

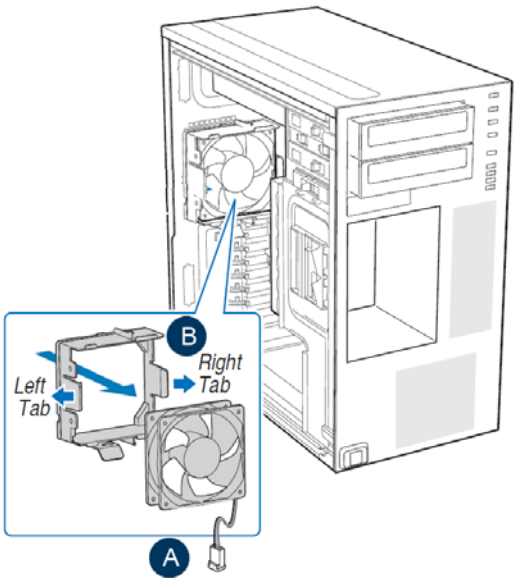


Figure 60. Removing Rear System Fan from Chassis

6. Reconnect the fan cable to the server board System fan 5 header (see letter “A”). Install the new system fan in the snap-in bracket is shown in the following figure (see letter “B”).

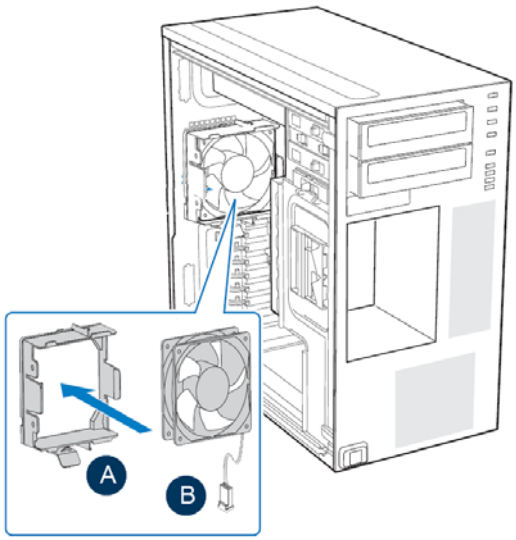


Figure 61. Installing Rear System Fan from Chassis

7. Install the system fan duct. For instructions, see “Removing and Installing System Fan Duct”.
8. Install the left side cover. For instructions, see “Installing the Left Side Cover”.
9. Plug all peripheral devices and the AC power cable into the server. Power up the server.

Replacing Hard Disk Cage Fan

CAUTION

The system fan for the Intel® Server System SC5650HCBRP is NOT hot swappable. Before removing or replacing a fan, you must first take the server out of service, turn off all peripheral devices connected to the system, turn off the system by pressing the power button, and unplug the AC power cord from the system or wall outlet.

1. Observe the safety and ESD precautions listed in, “Appendix B: Safety Information”.
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the left side cover. For instructions, see “Removing the Left Side Cover”.
4. Remove the system fan duct. For instructions, see “Removing and Installing System Fan Duct”.
5. Disconnect all cables from the expander hot swap drive cage.
6. Push the blue plastic release mechanism upward to release the hot swap hard drive cage (see letter “A” in the following figure). Once released, pull the hot swap drive cage from the chassis (see letter “B”).

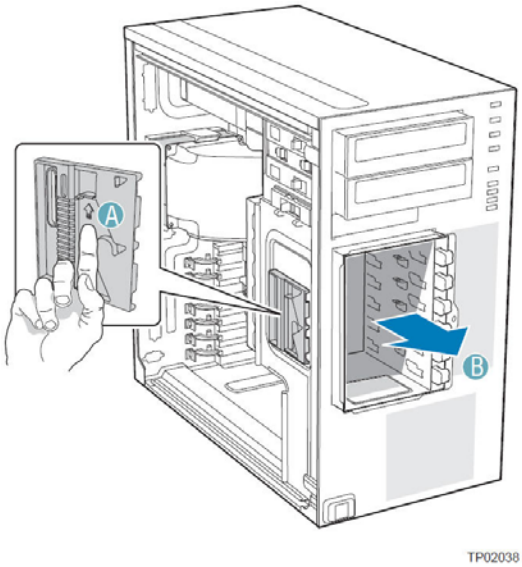


Figure 62. Removing Hot Swap Drive Cage from Chassis

7. Disconnect the fan power cable from the server board. Remove the hard disk cage fan from its snap-in bracket by pressing the bracket tabs outward (see letter “A” and “B”).

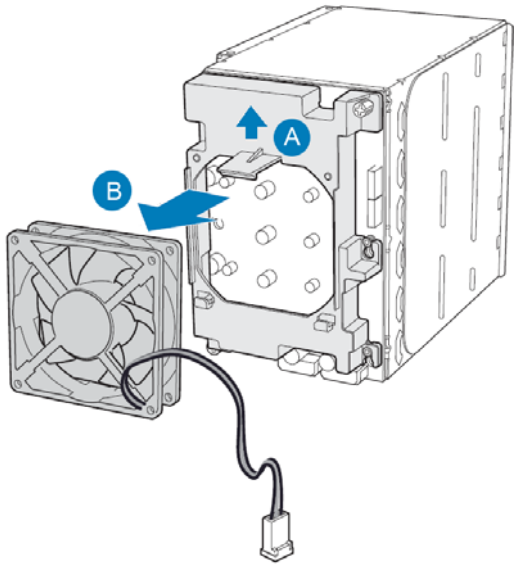


Figure 63. Removing Fan from Hot Swap Drive Cage

8. Install the new system fan in the snap-in bracket is shown in the following figure.

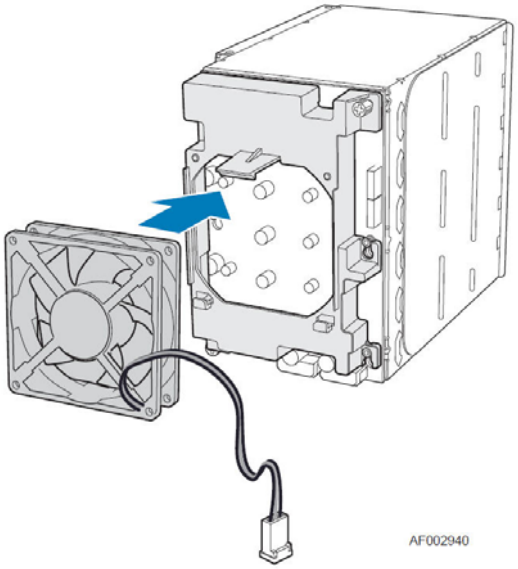


Figure 64. Installing Fan on Hot Swap Drive Cage

9. Slide the drive cage into the drive bay slot on the chassis. You should hear a click when the blue plastic retention mechanism locks into place. Be sure to feed the fan cable through the slot first so it exits through the back of the drive cage. Connect the fan cable to its connector on the server board (System Fan 3 header)

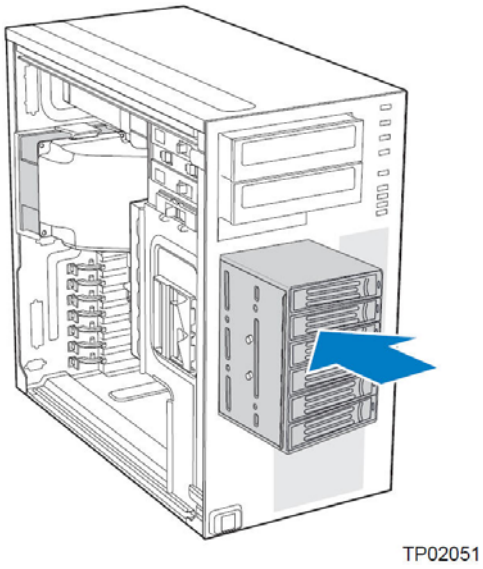


Figure 65. Inserting Hot Swap Drive Cage into Chassis

10. Make the backplane and server board/RAID controller card cable connections. Cable instructions differ depending upon SAS controller device. Refer to the documentation that came with your RAID controller card for instructions on connecting backplane cables to your RAID controller card. Connect HSBP_IPMB cable to Server Board HSPB_A headers.
11. Reinstall system fan duct and chassis left side cover if available.

CAUTIONS

It is critical that you connect the SAS data cables correctly from the SAS backplane to your RAID Controller card. Failure to do so may result in data loss.

The SAS cables are labeled to correspond with the backplane data ports. Make sure to connect the cables correctly to avoid confusion later.

Installing an Additional Power Supply Module

NOTE

This install procedure only applies to a chassis with redundant power supply capability.

WARNING

Hazardous conditions, power supply: Hazardous voltage, current, and energy levels are present inside the power supply. There are no user-serviceable parts inside it; servicing of the power supply should be done only by technically qualified personnel.

1. Observe the safety and ESD precautions listed in “Appendix B: Safety Information”.
2. Insert finger into hole in middle of filler panel and remove filler panel from chassis.

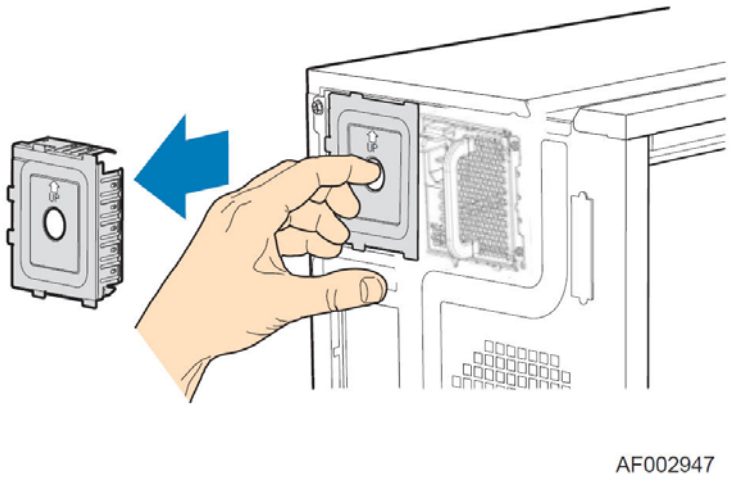


Figure 66. Removing Power Supply Filler Panel

3. Insert new hot swap power supply module until it clicks into place.

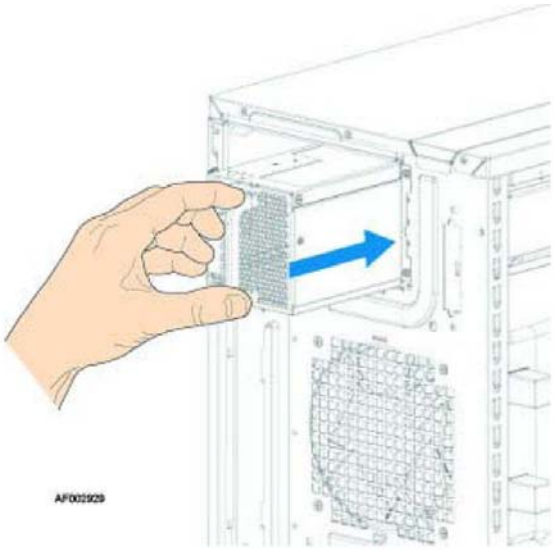


Figure 67. Install Additional Hot Swap Power Supply Module

4. Connect power cable to hot swap power supply.

Replacing a Hot Swap Power Supply Module

WARNING

Hazardous conditions, power supply: Hazardous voltage, current, and energy levels are present inside the power supply. There are no user-serviceable parts inside it; servicing of the power supply should be done only by technically qualified personnel.

1. Observe the safety and ESD precautions listed in “Appendix B: Safety Information”.
2. Remove power cable from defective power supply.

3. Press up on green latch (see letter “A” in the following figure) while pulling on handle (see letter “B”) to remove hot swap power supply from chassis.

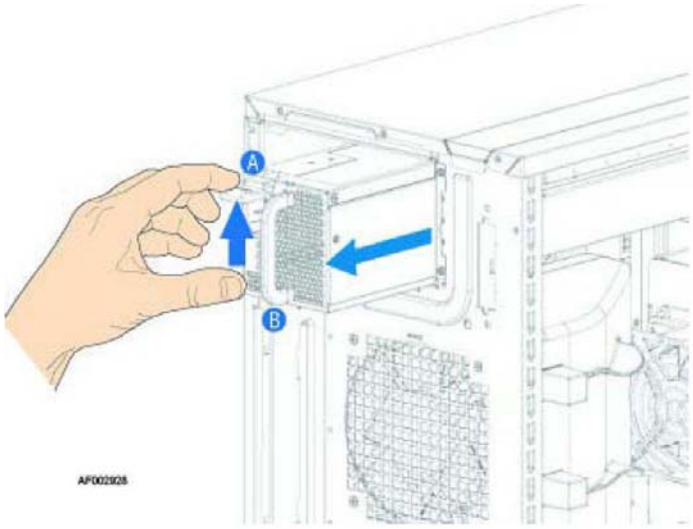


Figure 68. Removing Hot Swap Power Supply Module from Chassis

4. Insert new hot swap power supply module.

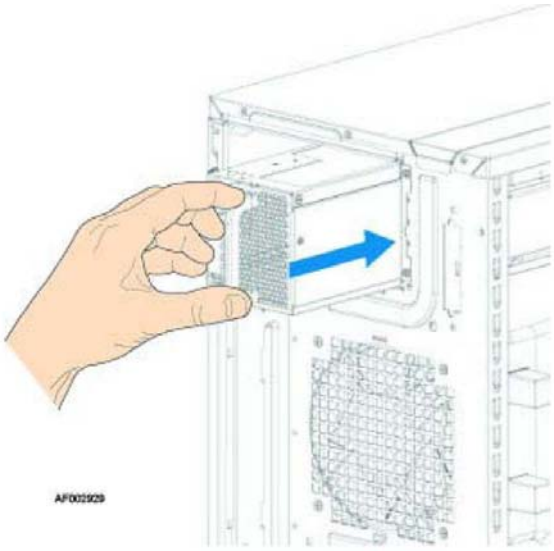


Figure 69. Inserting Power Supply Module into Chassis

5. Connect power cable to replaced hot swap power supply.

Replacing a Hot Swap Power Supply Cage

WARNING

Hazardous conditions, power supply: Hazardous voltage, current, and energy levels are present inside the power supply. There are no user-serviceable parts inside it; servicing of the power supply should be done only by technically qualified personnel.

1. Observe the safety and ESD precautions listed in “Appendix B: Safety Information”.
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the left side cover. For instructions, see “Removing the Left Side Cover”.
4. Press up on green latch (see letter “A”) while pulling on handle to remove hot swap power supply module from chassis.

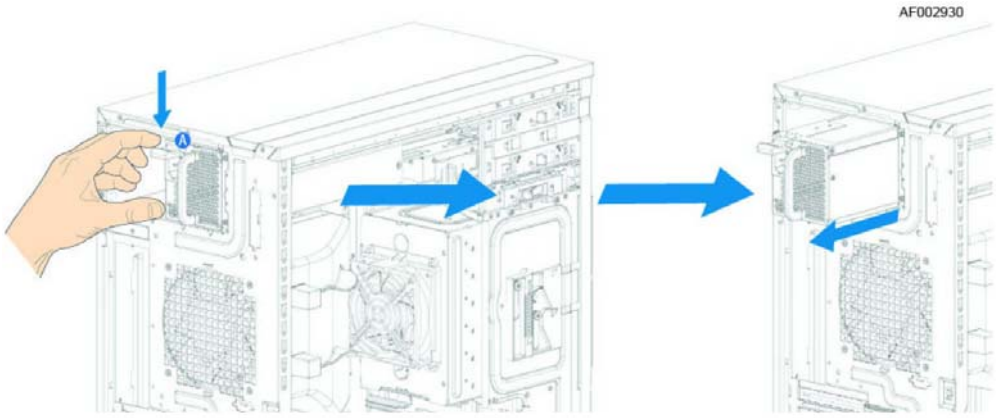


Figure 70. Removing Hot Swap Power Supply Module(s)

5. Remove second (redundant) hot swap power supply module (or filler panel), if one is present.
6. Disconnect all internal power cables from chassis components and server board.
7. Remove two internal screws (see letter “A” in the following figure) securing hot swap power supply cage to chassis.

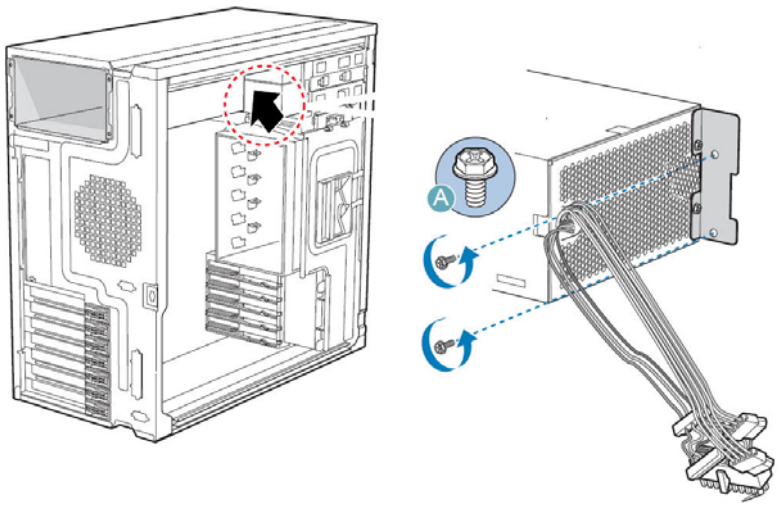


Figure 71. Deattaching Hot Swap Power Supply Cage from Inside of Chassis

8. Remove five external screws securing back of power supply cage to chassis. Slide the power supply cage out of the chassis.

NOTE

You may have to work the power cables through slot openings with your free hand as you remove the power supply cage from the chassis.

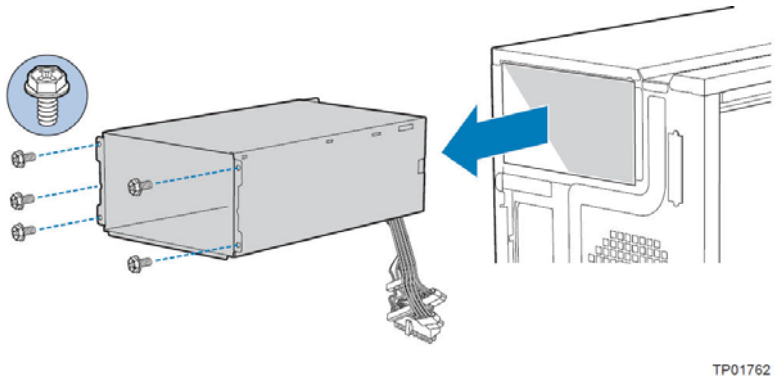


Figure 72. Deattaching Hot Swap Power Supply Cage from Rear of Chassis

9. Remove the two screws (see letter “A” in the following figure) attaching the rear support bracket to the old power supply cage. Remove the rear support bracket (see letter “B”).

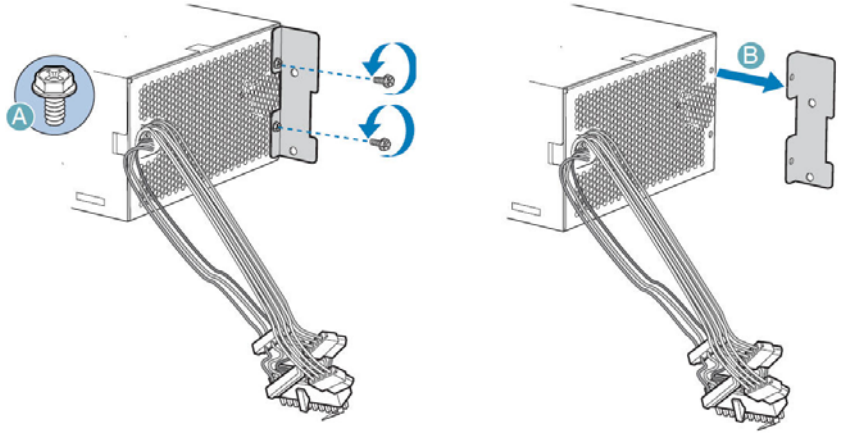


Figure 73. Removing Rear Support Bracket from Hot Swap Power Supply Cage

10. Attach the rear support bracket to the new power supply cage with the two screws removed from the previous step.

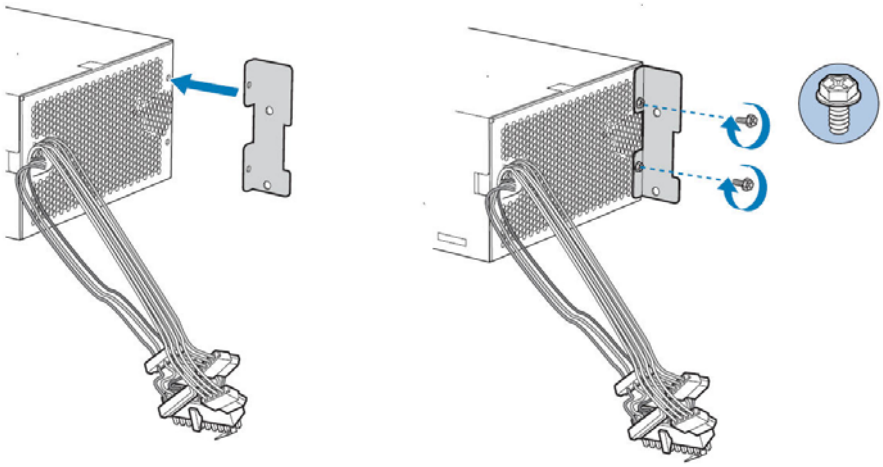


Figure 74. Attaching Rear Support Bracket to Hot Swap Power Supply Cage

11. Insert new hot swap power supply cage into chassis. Secure back of hot swap power supply cage to chassis with five screws.

NOTE

Ensure you route the power supply cables through the power supply opening in the chassis first before inserting the power supply cage.

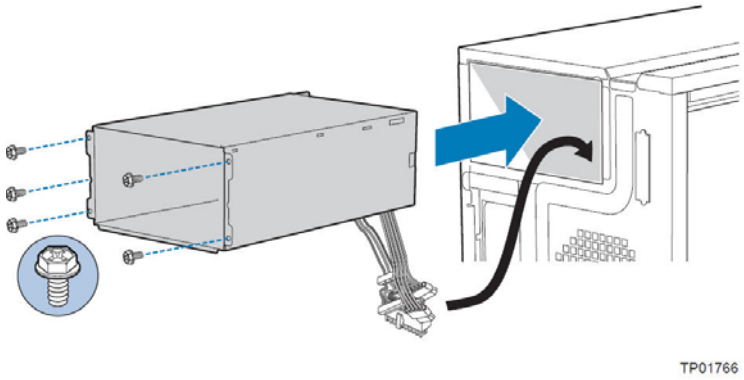


Figure 75. Securing Hot Swap Power Supply Cage to Rear of Chassis

12. Secure the inside panel of the hot swap power supply cage to chassis with two screws.

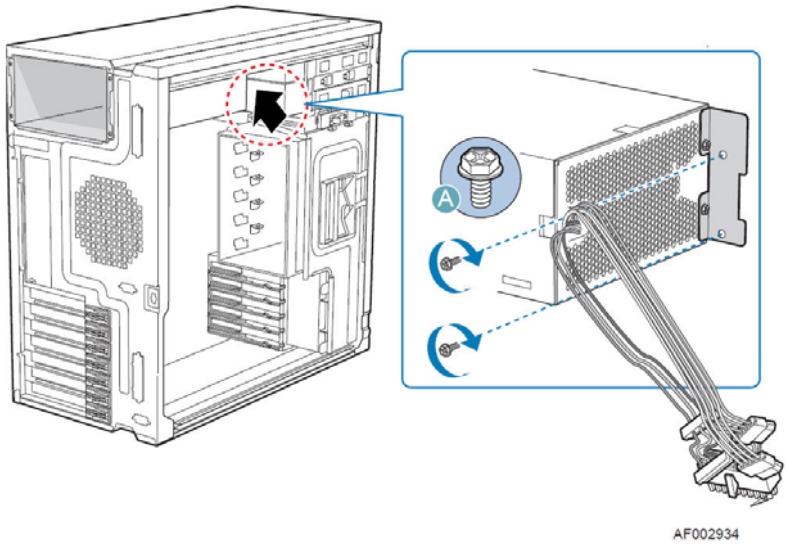


Figure 76. Securing Hot Swap Power Supply Cage to Inside of Chassis

13. Route and connect the P1, P2, P3, and P4 cables to the server board.
14. Route the P5 and P6 cables to the PCI Express* graphic cards.
15. Route the P9 and P10 cables to the 5.25-in. removable media device bays and connect to installed devices.
16. Route the P11, P12, P13, and P14 cables to the hard drive cage and connect power cables to installed devices.
17. Reinstall the hot swap power supply module(s). The power supply module(s) clicks into place when properly seated.

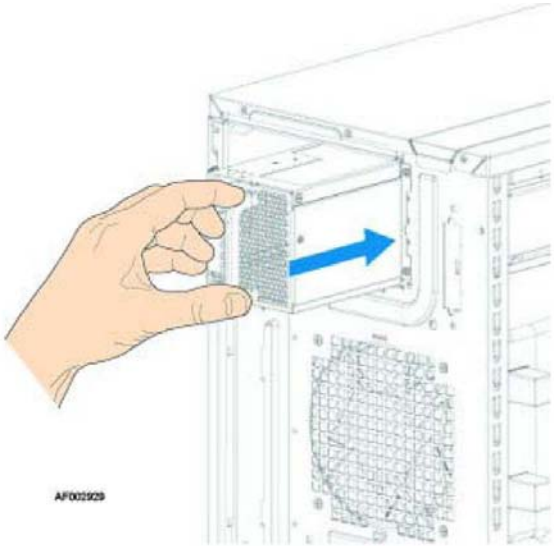


Figure 77. Reinstalling Hot Swap Power Supply Module(s)

18. Install the left side cover. For instructions, see “Installing the Left Side Cover”.
19. Reconnect all peripheral devices and the AC power cable(s) to the server. Power up the server.

Install Rubber Feet for a Pedestal-configured Chassis

NOTE

Do not install feet on your Intel® Server System SC5650HCBRP if it is to be installed in a rack. Only install feet on a pedestal-configured chassis.

1. Observe the safety and ESD precautions listed in “Appendix B: Safety Information”..
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Lay the chassis down on its right side.
4. Insert rubber foot into chassis hole (see letter “A” in the following figure). Secure foot to chassis by inserting a pin through the rubber foot (see letter “B”). Repeat process for remaining feet.

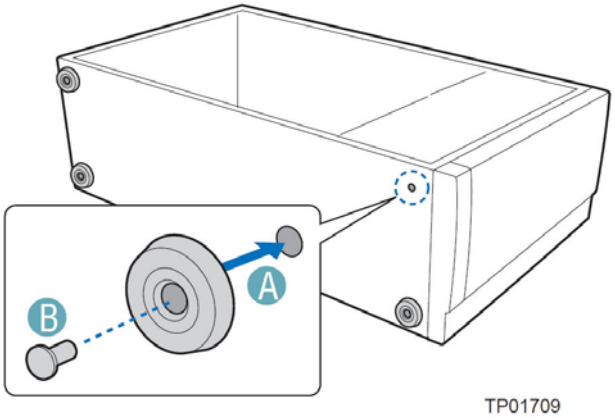


Figure 78. Install Rubber Feet on Pedestal-configured Chassis

5. Put chassis in the upright position.
6. Reconnect all peripheral devices and the AC power cable to the server. Power up the server.

Replacing the CMOS Battery

The lithium CMOS battery on the server board powers the Real-Time Clock (RTC) in the absence of power. When the battery starts to weaken, it loses voltage, and the system settings stored in the CMOS RAM in the RTC (for example, the date and time) may be wrong. For a list of approved devices, contact your customer service representative or dealer.

WARNING

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the equipment manufacturer. Discard used batteries according to manufacturer's instructions.

ADVARSEL!

Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering. Udskiftning må kun ske med batteri af samme fabrikat og type. Levér det brugte batteri tilbage til leverandøren.

ADVARSEL

Lithiumbatteri - Eksplosjonsfare. Ved utskifting benyttes kun batteri som anbefalt av apparatfabrikanten. Brukt batteri returneres apparatleverandøren.

VARNING

Explosionsfara vid felaktigt batteribyte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion.

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

1. Observe the safety and ESD precautions at the beginning of this book. For more information, see “Safety Information”.
2. Turn off all peripheral devices connected to the server and turn off the server.
3. Disconnect the AC power cord from the server.
4. Remove the chassis cover and locate the CMOS battery. Refer to the documentation that came with your chassis for instructions on removing the cover.
5. Use a finger to pull the lever away from the top of the battery until it clears the battery. Use caution so you do not bend the lever.
6. Lift the battery from the socket.

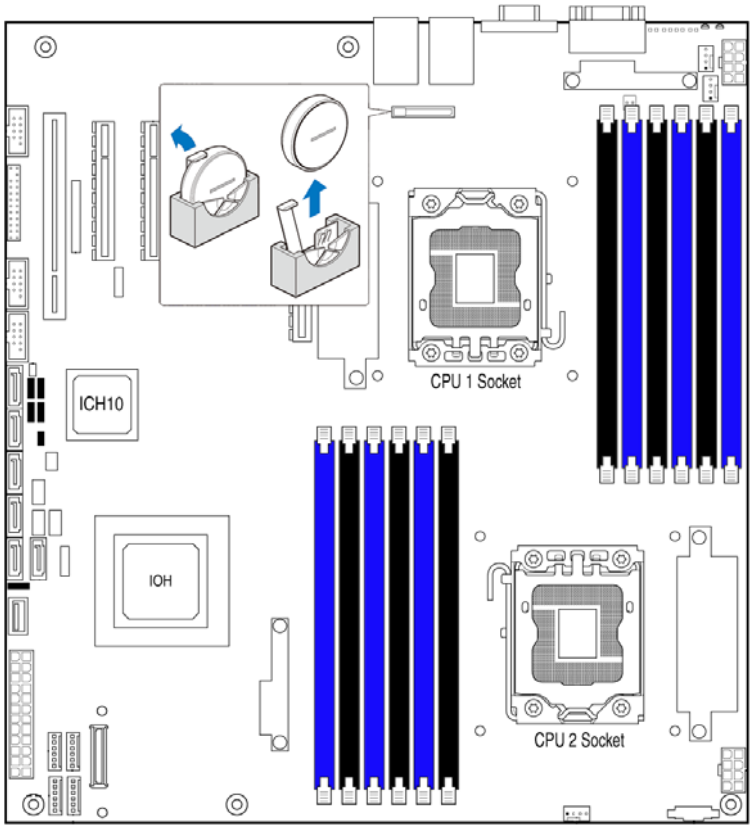


Figure 79. Locating and Removing the CMOS Battery

7. Dispose of the battery according to local ordinance.
8. Remove the new battery from its package.
9. Being careful to observe the correct polarity, insert the battery into the battery socket. The “+” side of the battery must face the lever side of the battery socket, towards the rear USB/NIC ports.
10. Reinstall and reconnect any parts you removed or disconnected to reach the processor sockets. See the documentation that came with your chassis for instructions on installing chassis components.

11. Replace the chassis cover and reconnect the AC power cord. See the documentation that came with your chassis for instructions on installing the cover.
12. Run the BIOS Setup utility to restore the configuration settings to the real-time clock (RTC).

4 Troubleshooting

This chapter helps you identify and solve problems that might occur while using the system.

For any issue, first ensure you are using the latest software. These software updates include updates for the BIOS, Baseboard Management Controller (BMC), FRUSDR, hot-swap controller (HSC), and the Management Engine (ME) firmware. For a link to the software updates, see “Additional Information and Software”. In addition to the server firmware and files, you must also update any drivers used for components installed in your system, such as chipset drivers, video drivers, network drivers, and storage device drivers.

Intel provides a package called the “Platform Confidence Test” that may help with your diagnostics. See “Additional Information and Software” for a link to this software.

If you cannot resolve your server problems on your own, see “Getting Help” for assistance.

Resetting the System

Before going through in-depth troubleshooting, first attempt to perform a reset of your system using one of the following methods.

Table 6. POST Error Beep Codes

To do this:	Press:
Soft boot reset to clear the system memory and reload the operating system.	<Ctrl+Alt+Del>
Clear system memory, restart POST, and reload the operating system.	Reset button
Cold boot reset. Turn the system power off and then on. This halts power to all peripherals, clears system memory, restarts POST, and reloads the operating system.	Power off/on

Problems following Initial System Installation

Problems that occur at initial system startup are usually caused by an incorrect installation or configuration. Hardware failure is a less frequent cause. If the problem you are experiencing is with a specific software application, see “Problems with Newly Installed Application Software”.

First Steps Checklist

1. Is AC power available at the wall outlet?
2. Are the power supplies plugged in? Check the AC cable(s) on the back of the chassis and at the AC source.
3. Are all cables correctly connected and secured?
4. Are the processors fully seated in their sockets on the server board?
5. Are all standoffs in the proper location and not touching any components, causing a potential short?
6. Are all add-in PCI boards fully seated in their slots on the server board?
7. Are all jumper settings on the server board correct?
8. Are all jumpers and switch settings on add-in boards and peripheral devices correct? To check these settings, refer to the manufacturer’s documentation that comes with them. If applicable, ensure there are no conflicts—for example, two add-in boards sharing the same interrupt.
9. Are all peripheral devices installed correctly?
10. If the system has a hard disk drive, is it properly formatted or configured?

11. Are all device drivers properly installed?
12. Are the configuration settings made in the Setup correct?
13. Is the operating system properly loaded? See the operating system documentation.
14. Did you press the system power on/off switch on the front panel to turn the server on (power on light should be lit)?
15. Is the system power cord properly connected to the system and plugged into a NEMA 5-15R outlet for ~100-120 V or a NEMA 6-15R outlet for ~200-240 V?
16. Are all integrated components from the tested components lists? Check the tested memory and chassis lists, and the supported hardware and operating system list. For links to the tested component lists, see "Additional Information and Software".

Hardware Diagnostic Testing

This section provides a more detailed approach to identifying a hardware problem and locating its source.

CAUTION

Turn off devices before disconnecting cables: *Before disconnecting any peripheral cables from the system, turn off the system and any external peripheral devices. Failure to do so can cause permanent damage to the system and/or the peripheral devices.*

1. Turn off the system and all external peripheral devices. Disconnect each device from the system except for the keyboard and the video monitor.
2. Make sure the system power cord is plugged into a properly grounded AC outlet.
3. Make sure your video display monitor and keyboard are correctly connected to the system. Turn on the video monitor. Set its brightness and contrast controls to at least two-thirds of their maximum ranges (see the documentation supplied with your video display monitor).
4. If the operating system normally loads from the hard disk drive, make sure there is no diskette in drive A and no CD-ROM disk in the CD-ROM drive.
5. If the power LED does light, attempt to boot from a floppy diskette or from a CD-ROM disk.
6. Turn on the system. If the power LED does not light, see "Power Light Does Not Light".

Verifying Proper Operation of Key System Lights

As POST determines the system configuration, it tests for the presence of each mass storage device installed in the system. As each device is checked, its activity light should turn on briefly. Check for the following:

1. Does the drive activity light turn on briefly? If not, see "CD-ROM Drive or DVD-ROM Drive Activity Light Does Not Light".
2. If system LEDs are illuminated, see "Intel® Light-Guided Diagnostics" for a description of the lights.

Confirming Loading of the Operating System

Once the system boots up, the operating system prompt displays on the screen. The prompt varies according to the operating system. If the operating system prompt does not display, see "No Characters Appear on Screen".

Specific Problems and Corrective Actions

This section provides possible solutions for these specific problems:

- Power light does not light.
- No characters display on screen.
- Characters on the screen appear distorted or incorrect.
- System cooling fans do not rotate.
- CD-ROM or DVD-ROM drive activity light does not light.
- There are problems with application software.
- The bootable CD-ROM or DVD-ROM is not detected.

Try the following solutions in the order given. If you cannot correct the problem, contact your service representative or authorized dealer for help.

Power Light Does Not Light

Check the following:

1. Did you press the power-on button?
2. Is the system operating normally? If so, the power LED might be defective or the cable from the front panel to the server board might be loose.
3. Have you securely plugged the server AC power cord into the power supply?
4. Is the power supply correctly set to 110 V or 235 V, depending on your power output?
5. Will other items plugged into the same power outlet function correctly?
6. Remove all add-in cards and see if the system boots. If successful, add the cards back in one at a time with a reboot between each addition to determine which card might be causing the problem.
7. Make sure the DDR3 memory DIMMs comply with the system requirements.
8. Make sure the DDR3 memory DIMMs were populated according to the system requirements.
9. Remove the DDR3 memory DIMMs and re-seat them.
10. Make sure the processor(s) comply with the system requirements.
11. Make sure the processor(s) were populated according to the system requirements.
12. Remove the processor(s) and re-seat them.
13. Make sure the chassis standoffs are installed only below mounting holes. Misplaced standoffs can contact the pins on the bottom of the server board and cause a short.
14. In a DC-powered system, make sure all DC cables are connected.

No Characters Appear on Screen

Check the following:

1. Is the keyboard functioning? Test it by turning the “Num Lock” function on and off to make sure the Num Lock light is functioning.
2. Is the video monitor plugged in and turned on? If you use a switch box, is it switched to the correct system?

3. Are the brightness and contrast controls on the video monitor properly adjusted?
4. Is the video monitor signal cable properly installed?
5. Does this video monitor work correctly if plugged into a different system?
6. Is the on-board video controller enabled in the BIOS?
7. Remove all add-in cards and see if the video returns. If successful, add the cards back in one at a time with a reboot between each addition.
8. Make sure the DDR3 memory DIMMs comply with the system requirements.
9. Make sure the DDR3 memory DIMMs were populated according to the system requirements.
10. Remove the DDR3 memory DIMMs and re-seat them.
11. Make sure the processor(s) comply with the system requirements.
12. Make sure the processor(s) were populated according to the system requirements.
13. Remove the processor(s) and re-seat them.

If you use an add-in video controller board, do the following:

1. Verify the video works using the on-board video controller.
2. Verify the video controller board is fully seated in the server board connector.
3. Reboot the system for changes to take effect.
4. If there are still no characters on the screen after you reboot the system and POST emits a beep code, write down the beep code you hear. This information is useful for your service representative.
5. If you do not receive a beep code and characters do not display, the video display monitor or video controller may have failed. Contact your service representative or authorized dealer for help.

Characters Are Distorted or Incorrect

Check the following:

1. Are the brightness and contrast controls properly adjusted on the video monitor? See the manufacturer's documentation.
2. Are the video monitor's signal and power cables properly installed?
3. Does this video monitor work correctly if plugged into a different system?

System Cooling Fans Do Not Rotate Properly

If the system cooling fans are not operating properly, it is an indication of possible system component failure.

Check the following:

1. Is the power-on light lit? If not, see "Power Light Does Not Light".
2. If your system has LED lights for the fans, is one or more of these LEDs lit?
3. Are any other front panel LEDs lit?

4. Have any of the fan motors stopped? Use the server management subsystem to check the fan status.
5. Have your fans speeded up in response to an overheating situation?
6. Have your fans speeded up in response to a fan that failed?
7. Are the fan power connectors properly connected to the server board?
8. Is the cable from the front panel board connected to the both the front panel board and to the server board?
9. Are the power supply cables properly connected to the server board?
10. Are there any shorted wires caused by pinched-cables or have power connector plugs been forced into power connector sockets the wrong way?

CD-ROM Drive or DVD-ROM Drive Activity Light Does Not Light

Check the following:

1. Are the CD-ROM/DVD-ROM drive's power and signal cables properly installed?
2. Is the drive properly configured?

Cannot Connect to a Server

1. Make sure the network cable is securely attached to the correct connector at the system back panel.
2. Try a different network cable.
3. Make sure you are using the correct and the current drivers. For a link to the current drivers, see "Additional Information and Software".
4. Make sure the driver is loaded and the protocols are bound.
5. Make sure the hub port is configured for the same duplex mode as the network controller.
6. Make sure the correct networking software is installed.
7. If you are directly connecting two servers (without a hub), you will need a crossover cable.
8. Check the network controller LEDs next to the NIC connectors.

Problems with Network

The server hangs when the drivers are loaded

- Certain drivers may require interrupts that are not shared with other PCI drivers. For these drivers, it may be necessary to alter settings so interrupts are not shared. See the documentation that came with your PCI card(s) for information on changing interrupts.

Diagnostics pass but the connection fails

- Make sure the network cable is securely attached.
- Make sure you specify the correct frame type in your NET.CFG file.

The controller stopped working when an add-in adapter was installed

- Make sure the cable is connected to the port from the on-board network controller.
- Make sure your BIOS is current. For a link to the current version, see “Additional Information and Software”.
- Make sure the other adapter supports shared interrupts. Make sure your operating system supports shared interrupts.
- Try reseating the add-in adapter.

The add-in adapter stopped working without apparent cause

- Try reseating the adapter first; then try a different slot if necessary.
- The network driver files may be corrupt or deleted. Delete and then reinstall the drivers.
- Run the diagnostics.

System Boots when Installing PCI Card

System Server Management features requires full-time “standby” power. This means some parts of the system have power going to them whenever the power cord is plugged in, even if you turned-off the system power with the power button on the front panel. If you install a PCI card with the AC power cord plugged in, a signal may be sent to command the system to boot. Before installing a PCI card, you should always:

- Turn off the server power by using the power button on the front of the system.
- Unplug the AC power cord(s) from the server.

Problems with Newly Installed Application Software

Problems that occur when you run new application software are usually related to the software—not the server hardware. Faulty equipment is unlikely, especially if other software runs correctly.

Check the following:

1. Make sure the system meets the minimum hardware requirements for the software. See the software documentation.
2. Make sure the software is properly installed and configured for the system. See the software documentation.
3. Use only an authorized copy. Unauthorized copies often do not work.
4. If you run the software from a diskette, CD-ROM, or DVD-ROM, try a different diskette.
5. Make sure the correct device drivers are installed.

If the problems persist, contact the software vendor’s customer service representative.

Problems with Application Software that Ran Correctly Earlier

Problems that occur after the system hardware and software have been running correctly sometimes indicate equipment failure. However, they can also be caused by file corruption or changes to the software configuration.

Check the following:

1. If you are running the software from a USB floppy disk, CD-ROM, or DVD-ROM, try a different disk.
2. Check your system with a virus infection.
3. Uninstall and reinstall the software. Make sure all necessary files are installed.
4. If the problems are intermittent, there may be a loose cable, dirt in the keyboard (if keyboard input is incorrect), a marginal power supply, or other random component failures.
5. If you suspect a transient voltage spike, power outage, or brownout might have occurred, reload the software and try running it again. Symptoms of voltage spikes include a flickering video display, unexpected system reboots, and the system not responding to user commands.

NOTE

Random errors in data files: *If you are getting random errors in your data files, they may be getting corrupted by voltage spikes on your power line. If you experience any of the above symptoms that might indicate voltage spikes on the power line, you may want to install a surge suppressor between the power outlet and the system power cord.*

Devices are not Recognized under Device Manager (Microsoft Windows* Operating System)

The Microsoft Windows* operating systems do not include all of the drivers for the Intel® chipsets, on-board NICs, and other components. See “Additional Information and Software” for a link to the current drivers and chipset files.

Hard Drive(s) are not Recognized

Check the following:

1. Make sure the drive is not disabled in the BIOS Setup.
2. Make sure the drive is connected correctly and plugged into the power supply.
3. Make sure the drive is compatible. See “Additional Information and Software” for a link to the tested drives.
4. Make sure you have not exceeded the power budget for the server. See “Additional Information and Software” for a link to software to check your power budget.
5. Verify your SAS or SATA drives are connected to the correct ports on the server board and the chassis backplane. See your chassis documentation for details about backplane connections.
6. If using a RAID configuration with SAS or SATA drives, make sure the RAID card is installed correctly.

Bootable CD-ROM/DVD-ROM Disk Is Not Detected

Check the following:

- Make sure the BIOS is configured to allow the CD-ROM to be the first bootable device.

LED Information

The Intel® Server System SC5650HCBRP includes LEDs that can aid in troubleshooting your system. See "Intel® Light-Guided Diagnostics".

BIOS POST Beep Codes

The following table lists the POST error beep codes. Prior to system video initialization, the BIOS uses these beep codes to inform users of error conditions. Please note that not all error conditions are supported by the BIOS beep codes.

Table 7. BIOS POST Error Beep Codes

Number of Beeps	Reason for the Beeps and Action to Take
3	Memory error. ■ Make sure the DDR3 memory DIMMs comply with the system requirements. ■ Make sure the DDR3 memory DIMMs were populated according to the system requirements. ■ Remove the DDR3 memory DIMMs and re-seat them. ■ Replace the DDR3 Memory DIMMs with known good modules.

The Intel® Server System SC5650HCBRP integrated Baseboard Management Controller (BMC) provides the following additional beep codes:

Table 8. BMC POST Error Beep Codes

Number of Beeps	Reason for the Beeps and Action to Take
1-5-2-1	No CPUs installed or first CPU socket is empty.
1-5-4-2	Power fault: DC power unexpectedly lost (power good dropout).
1-5-4-4	Power control fault (power good assertion timeout).

5 Technical Reference

Power Supply Specification

600-W Hot Swap Power Supply Input Voltage

- 100-127 V at 50/60 Hz; 12 A max.
- 200-240 V at 50/60 Hz; 7 A max.

600-W 1+1 Hot Swap Power Supply Output Voltages

The following table lists the total wattage available from the power subsystem for each voltage. Ensure your loads do not exceed the combined total wattage of 670 W. For information about calculating the power usage for your configuration, see "Calculation Power Usage."

Table 9. 600-W 1+1 Hot Swap Power Supply Output Capability

Voltage	Maximum Current
+ 3.3 V	24 A
+5 V	30 A
+12 V1	16 A
+12 V2	16 A
+12 V3	16 A
+12 V4	16 A
-12 V	0.3 A
+5 VSB	3.0 A

WARNING

Maximum continuous total DC output power should not exceed 570W.

Combined 3.3V and 5V power shall not exceed 170W.

The expansion slots on the server board are rated for no more than 25W for any one slot. The average current usage per slot should not exceed 13W.

System Environmental Specification

Table 10. Environmental Specification

Temperature	Non-operating: -40 ° to 70 °C Operating: 10 ° to 35 °C; derated 0.5 °C for every 1000 ft. (305 m) to a maximum of 10,000 feet
Humidity	Non-operating: 90% relative humidity (non-condensing) at 30 °C.
Shock	Operating: 2.0 g, 11 msec, 1/2 sine Packaged: Operational after an 18-inch free fall.
Acoustic Noise	Base, BRP, and LX configurations - 5.8 BA LWA idle; 6.0 BA LWA typical operating
Electrostatic Discharge (ESD)	Tested to 15 kilovolts (kV); no component damage

Current Usage

Calculation Power Usage

The total combined wattage for your configuration **must be less than the wattage rating for your power supply**. Use the two worksheets in this section to calculate the total used by your configuration. For current and voltage requirements of add-in boards and peripherals, see your vendor documents.

Worksheet, Calculating DC Power Usage

Table 11. Power Usage Worksheet

	Current (maximum) at voltage level					
Device	+3.3 V	+5 V	-5 V	+12 V	-12 V	5 V Standby
Baseboard, Front Panel						
Board and Fans						
Processor(s)						
Memory						
3.5-inch Diskette Drive						
CD-ROM Drive						
Second 5.25-inch Device						
Third 5.25-inch Device						
1st Hard Drive						
2nd Hard Drive						
3rd Hard Drive						
4th Hard Drive						
5th Hard Drive						

6th Hard Drive						
Expansion Board 1						
Expansion Board 2						
Expansion Board 3						
Expansion Board 4						
Expansion Board 5						
Expansion Board 6						
Intel® Remote Management						
Module						
Control Panel						
Total Current						

Worksheet, Total Combined Power Used by the Server

- From the previous worksheet, enter the total current for each column.
- Multiply the voltage by the total current to get the total wattage for each voltage level.

Add the total wattage for each voltage level to arrive at the total combined power usage for the power subsystem.

Table 12. Power Usage Worksheet 2

Voltage level and total current (V X A = W)	Total watts for each voltage level
(+3.3 V) X (_____ A)	_____ W
(+5 V) X (_____ A)	_____ W
(+12 V) X (_____ A)	_____W
(–12 V) X (_____ A)	_____ W
(5 V standby) X (_____ A)	_____ W
Total Combined Wattage	_____ W

⚠ CAUTIONS

Do not exceed a combined power output of 170W for the +5 V and +3.3 V outputs. Exceeding a combined 170W will overload the power subsystem and may cause the power supplies to overheat and malfunction.

Appendix A: Regulatory and Compliance Information

Product Regulatory Compliance

Warning: *To ensure regulatory compliance, you must adhere to the assembly instructions in this guide to ensure and maintain compliance with existing product certifications and approvals. Use only the described, regulated components specified in this guide. Use of other products/components will void the UL listing and other regulatory approvals of the product and will most likely result in noncompliance with product regulations in the region(s) in which the product is sold.*

To help ensure EMC compliance with your local regional rules and regulations, before computer integration, make sure that the chassis, power supply, and other modules have passed EMC testing using a server board with a microprocessor from the same family (or higher) and operating at the same (or higher) speed as the microprocessor used on this server board. The final configuration of your end system product may require additional EMC compliance testing. For more information, please contact your local Intel representative.

This is an FCC Class A device. Integration of it into a Class B chassis does not result in a Class B device.

Product Safety Compliance

This server chassis product, when correctly integrated per this guide, complies with the following safety and electromagnetic compatibility (EMC) regulations.

Intended Application

This product was evaluated as Information Technology Equipment (ITE), which may be installed in offices, schools, computer rooms, and similar commercial type locations. The suitability of this product for other product categories and environments (such as: medical, industrial, telecommunications, NEBS, residential, alarm systems, test equipment, etc.), other than an ITE application, may require further evaluation.

Product Safety Compliance

The server chassis complies with the following product safety requirements:

- UL60950 - CSA 60950 (USA/Canada)
- EN60950 (Europe)
- IEC60950 (International)
- CB Certificate & Report, IEC60950 (report to include all country national deviations) GS License (Germany)
- GOST R 50377-92 - License (Russia)
- Belarus License (Belarus)
- Ukraine License (Ukraine)
- CE - Low Voltage Directive 73/23/EEE (Europe)
- IRAM Certification (Argentina)

Product EMC Compliance - Class A Compliance

This server chassis has been tested and verified to comply with the following electromagnetic compatibility (EMC) regulations when installed in a compatible Intel® host system. For information on compatible host system(s), refer to Intel's Server Builder Web site or contact your local Intel representative.

- FCC /ICES-003 - Emissions (USA/Canada) Verification
- CISPR 22 - Emissions (International)
- EN55022 - Emissions (Europe)
- EN55024 - Immunity (Europe)
- EN61000-3-2 - Harmonics (Europe)
- EN61000-3-3 - Voltage Flicker (Europe)

- CE - EMC Directive 89/336/EEC (Europe)
- VCCI Emissions (Japan)
- AS/NZS 3548 Emissions (Australia/New Zealand)
- BSMI CNS13438 Emissions (Taiwan)
- GOST R 29216-91 Emissions (Russia)
- GOST R 50628-95 Immunity (Russia)
- Belarus License (Belarus)
- Ukraine License (Ukraine)
- RRL MIC Notice No. 1997-41 (EMC) & 1997-42 (EMI) (Korea)

Certifications/Registrations/Declarations

- UL Certification (US/Canada)
- CE Declaration of Conformity (CENELEC Europe)
- FCC/ICES-003 Class A Attestation (USA/Canada)
- VCCI Certification (Japan)
- C-Tick Declaration of Conformity (Australia)
- MED Declaration of Conformity (New Zealand)
- BSMI Certification (Taiwan)
- GOST R Certification/License (Russia)
- Belarus Certification/License (Belarus)
- RRL Certification (Korea)
- IRAM Certification (Argentina)
- Ecology Declaration (International)

Product Regulatory Compliance Markings

This Intel® server chassis product bears the following regulatory marks.

Table 13. Product Regulatory Compliance Markings

Regulatory Compliance	Region	Marking
cULus Listing Marks	USA/Canada	
GS Mark	Germany	 
CE Mark	Europe	
FCC Marking (Class A)	USA	This device complies with Part 15 of the FCC Rules. Operation of this device is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation. Manufactured by Intel Corporation
EMC Marking (Class A)	Canada	CANADA ICES-003 CLASS A CANADA NMB-003 CLASSE A

Regulatory Compliance	Region	Marking
VCCI Marking (Class A)	Japan	この装置は、クラス A 情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。VCCI-A
BSMI Certification Number and Class A Warning	Taiwan	警告使用者： 這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策
GOST R Marking	Russia	
RRL KCC Mark	Korea	방송통신위원회
China Compulsory Certification Mark	China	

Electromagnetic Compatibility Notices

FCC Verification Statement (USA)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
For questions related to the EMC performance of this product, contact:
Intel Corporation
5200 N.E. Elam Young Parkway
Hillsboro, OR 97124-6497
1-800-628-8686
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit other than the one to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment. The customer is responsible for ensuring compliance of the modified product.
Only peripherals (computer input/output devices, terminals, printers, etc.) that comply with FCC Class A or B limits may be attached to this computer product. Operation with noncompliant peripherals is likely to result in interference to radio and TV reception.
All cables used to connect to peripherals must be shielded and grounded. Operation with cables, connected to peripherals that are not shielded and grounded may result in interference to radio and TV reception.

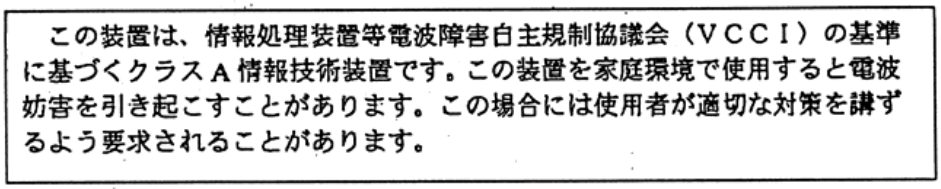
Industry Canada (ICES-003)

Cet appareil numérique respecte les limites bruits radioélectriques applicables aux appareils numériques de Classe A prescrites dans la norme sur le matériel brouilleur:
"Apparelis Numériques", NMB-003 édictee par le Ministre Canadian des Communications.
English translation of the notice above:
This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the interference-causing equipment standard entitled: "Digital Apparatus," ICES-003 of the Canadian Department of Communications.

Europe (CE Declaration of Conformity)

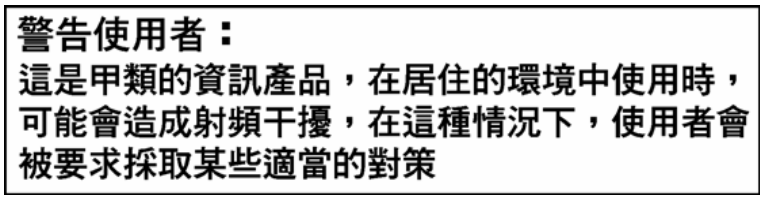
This product has been tested in accordance to, and complies with the Low Voltage Directive (73/23/EEC) and EMC Directive (89/336/EEC). The product has been marked with the CE Mark to illustrate its compliance.

VCCI (Japan)



English translation of the preceding notice:
This is a Class A product based on the standard of the Voluntary Control Council for Interference (VCCI) from Information Technology Equipment. If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.

BSMI (Taiwan)



The BSMI Certification Marking and EMC warning is located on the outside rear area of the product.

Korean Compliance (RRL)

Following is the RRL certification information for Korea.

Regulated Specified Components

To maintain the UL listing and compliance to other regulatory certifications and/or declarations, the following regulated components must be used and conditions adhered to.
Interchanging or use of other components will void the UL listing and other product certifications and approvals.
Updated product information for configurations can be found on the Intel Server Builder Web site at the following URL:

http://channel.intel.com/go/serverbuilder

If you do not have access to Intel's Web address, please contact your local Intel representative.

- **Server Chassis:** (base chassis is provided with power supply and fans) - UL listed.
- **Server board:** you must use an Intel server board - UL recognized.
- **Add-in boards:** must have a printed wiring board flammability rating of minimum
- UL94V-1. Add-in boards containing external power connectors and/or lithium batteries must be UL recognized or UL listed. Any add-in board containing modem telecommunication circuitry must be UL listed. In addition, the modem must have the appropriate telecommunications, safety, and EMC approvals for the region in which it is sold.
- **Peripheral Storage Devices:** must be a UL recognized or UL listed accessory and TUV or VDE licensed. Maximum power rating of any one device is 19 watts. Total server configuration is not to exceed the maximum loading conditions of the power supply.

Restriction of Hazardous Substances (RoHS) Compliance

Intel has a system in place to restrict the use of banned substances in accordance with the European Directive 2002/95/EC. Compliance is based on declaration that materials banned in the RoHS Directive are either (1) below all applicable substance threshold limits or (2) an approved/pending RoHS exemption applies.
Note: *RoHS implementing details are not fully defined and may change.*
Threshold limits and banned substances are noted as follows:

- Quantity limit of 0.1% by mass (1000 PPM) for:
  - Lead
  - Mercury
  - Hexavalent chromium
  - Polybrominated biphenyls diphenyl ethers (PBDE)
- Quantity limit of 0.01% by mass (100 PPM) for:
  - Cadmium

Product Ecology Change (CRoHS)

CRoHS (China RoHS, or Ministry of Information Industry Order #39, "Management Methods for Controlling Pollution by Electronic Information Products."):

- China bans the same substances and limits as noted for EU RoHS; however require product marking and controlled substance information Environmental Friendly Usage Period (EFUP) Marking Is defined in number of years in which controlled listed substances will not leak or chemically deteriorate while in the product. Intel understands the end-seller (entity placing product into market place) is responsible for providing EFUP marking.

- Intel “retail” products are provided with EFUP marking
- For “Business to Business” products, Intel intends to place EFUP marking on product for customer convenience
- EFUP for Intel server products has been determined as 20 years.

Below is an example of EFUP mark applied to Intel server products.

CRoHS Substance Tables:

China CRoHS requires products to be provided with controlled substance information. Intel understands the end-seller (entity placing product into market place) is responsible for providing the controlled substance information. Controlled substance information is required to be in Simplified Chinese. Substance table for this board product is as follows:

关于符合中国《电子信息产品污染控制管理办法》的声明

Management Methods on Control of Pollution from Electronic Information Products (China RoHS declaration)

产品中有毒有害物质的名称及含量

部件名称 (Parts)	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr6+)	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
金属部件 Metal Parts	○	○	○	×	○	○
印刷板组件 Printed Board Assemblies (PBA)	×	○	○	○	○	○

○：表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T 11363-2006 标准规定的限量要求以下。

○：Indicates that this hazardous substance contained in all homogeneous materials of this part is below the limit requirement in SJ/T 11363-2006.

×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T 11363-2006 标准规定的限量要求。

×：Indicates that this hazardous substance contained in at least one of the homogeneous materials of this part is above the limit requirement in SJ/T 11363-2006.

对销售之日的所售产品,本表显示我公司供应链的电子信息产品可能包含这些物质。注意：在所售产品中可能会也可能不会含有所有所列的部件

This table shows where these substances may be found in the supply chain of our electronic information products, as of the date of sale of the enclosed product. Note that some of the component types listed above may or may not be a part of the enclosed product.

China Packaging Recycle Marks (or GB18455-2001)

Intel EPSD has the following ecological compliances:

Cardboard and fiberboard packaging will be marked as recyclable in China.

China Packaging Recycling Marks is required on retail packaging to be marked as recyclable using China's recycling logo. Due to regional variances in mark acceptances, all three marks accepted worldwide will be implemented on Intel's cardboard and fiberboard. Examples of marks are shown below.

CA Perchlorate Warning

CA Lithium Perchlorate Warning (California Code of Regulations, Title 22, Division 4.5, Chapter 33: Best Management Practices for Perchlorate Materials):

The State of California requires a warning to be included for products containing a device using Lithium Perchlorate.

Intel understands CA Lithium Perchlorate require a printed warning to be included with all products containing a Lithium battery, either as an insert, in existing product literature, or as part of the shipping memo wording.

Wording is as follows:

Perchlorate Material - special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate.

This notice is required by California Code of Regulations, Title 22, Division 4.5, Chapter 33: Best Management Practices for Perchlorate Materials. This product/part includes a battery that contains Perchlorate material.

End-of-Life/Product Recycling

Product recycling and end-of-life take-back systems and requirements vary by country.

Contact the retailer or distributor of this product for information about product recycling and/or take-back.

Appendix B: Safety Information

English

Server Safety Information

This document applies to Intel® server boards, Intel® server chassis (pedestal and rackmount), and installed peripherals. To reduce the risk of bodily injury, electrical shock, fire, and equipment damage, read this document and observe all warnings and precautions in this guide before installing or maintaining your Intel® server product.
In the event of a conflict between the information in this document and information provided with the product or on the website for a particular product, the product documentation takes precedence.
Your server should be integrated and serviced only by technically qualified persons.
You must adhere to the guidelines in this guide and the assembly instructions in your server manuals to ensure and maintain compliance with existing product certifications and approvals. Use only the described, regulated components specified in this guide. Use of other products/components will void the UL Listing and other regulatory approvals of the product, and may result in noncompliance with product regulations in the region(s) in which the product is sold.

Safety Warnings and Cautions

To avoid personal injury or property damage, before you begin installing the product, read, observe, and adhere to all of the following safety instructions and information. The following safety symbols may be used throughout the documentation and may be marked on the product and/or the product packaging.

CAUTION	Indicates the presence of a hazard that may cause minor personal injury or property damage if the CAUTION is ignored.
WARNING	Indicates the presence of a hazard that may result in serious personal injury if the WARNING is ignored.
	Indicates potential hazard if indicated information is ignored.
	Indicates shock hazards that result in serious injury or death if safety instructions are not followed.
	Indicates hot components or surfaces.
	Indicates do not touch fan blades, may result in injury.
	Indicates to unplug all AC power cord(s) to disconnect AC power
	Please recycle battery

Intended Application Uses

This product was evaluated as Information Technology Equipment (ITE), which may be installed in offices, schools, computer rooms, and similar commercial type locations. The suitability of this product for other product categories and environments (such as medical, industrial, residential, alarm systems, and test equipment), other than an ITE application, may require further evaluation.

Site Selection

The system is designed to operate in a typical office environment. Choose a site that is:
• Clean, dry, and free of airborne particles (other than normal room dust).
• Well-ventilated and away from sources of heat including direct sunlight and radiators.
• Away from sources of vibration or physical shock.
• Isolated from strong electromagnetic fields produced by electrical devices.
• In regions susceptible to electrical storms, we recommend you plug your system into a surge suppressor and disconnect telecommunication lines to your modem during an electrical storm.
• Provided with a properly grounded wall outlet.
• Provided with sufficient space to access the power supply cord(s), because they serve as the product's main power disconnect.

Equipment Handling Practices

Reduce the risk of personal injury or equipment damage:
• Conform to local occupational health and safety requirements when moving and lifting equipment.
• Use mechanical assistance or other suitable assistance when moving and lifting equipment.
• To reduce the weight for easier handling, remove any easily detachable components.

Power and Electrical Warnings

Caution: *The power button, indicated by the stand-by power marking, DOES NOT completely turn off the system AC power, 5V standby power is active whenever the system is plugged in. To remove power from system, you must unplug the AC power cord from the wall outlet. Your system may use more than one AC power cord. Make sure all AC power cords are unplugged. Make sure the AC power cord(s) is/are unplugged before you open the chassis, or add or remove any non hot-plug components.*
Do not attempt to modify or use an AC power cord if it is not the exact type required. A separate AC cord is required for each system power supply.
Some power supplies in Intel® servers use Neutral Pole Fusing. To avoid risk of shock use caution when working with power supplies that use Neutral Pole Fusing.
The power supply in this product contains no user-serviceable parts. Do not open the power supply. Hazardous voltage, current and energy levels are present inside the power supply. Return to manufacturer for servicing.
When replacing a hot-plug power supply, unplug the power cord to the power supply being replaced before removing it from the server.
To avoid risk of electric shock, turn off the server and disconnect the power cord, telecommunications systems, networks, and modems attached to the server before opening it.

Power Cord Warnings

If an AC power cord was not provided with your product, purchase one that is approved for use in your country.
Caution: *To avoid electrical shock or fire, check the power cord(s) that will be used with the product as follows:*

- *Do not attempt to modify or use the AC power cord(s) if they are not the exact type required to fit into the grounded electrical outlets.*
- *The power cord(s) must meet the following criteria:*
  - *The power cord must have an electrical rating that is greater than that of the electrical current rating marked on the product.*
  - *The power cord must have safety ground pin or contact that is suitable for the electrical outlet.*
  - *The power supply cord(s) is/are the main disconnect device to AC power. The socket outlet(s) must be near the equipment and readily accessible for disconnection.*
  - *The power supply cord(s) must be plugged into socket-outlet(s) that is /are provided with a suitable earth ground.*

System Access Warnings

Caution: *To avoid personal injury or property damage, the following safety instructions apply whenever accessing the inside of the product:*

- *Turn off all peripheral devices connected to this product.*
- *Turn off the system by pressing the power button to off.*

- *Disconnect the AC power by unplugging all AC power cords from the system or wall outlet. Disconnect all cables and telecommunication lines that are connected to the system.*
- *Retain all screws or other fasteners when removing access cover(s). Upon completion of accessing inside the product, refasten access cover with original screws or fasteners.*
- *Do not access the inside of the power supply. There are no serviceable parts in the power supply. Return to manufacturer for servicing.*
- *Power down the server and disconnect all power cords before adding or replacing any non hot-plug component.*
- *When replacing a hot-plug power supply, unplug the power cord to the power supply being replaced before removing the power supply from the server.*

Caution: *If the server has been running, any installed processor(s) and heat sink(s) may be hot. Unless you are adding or removing a hot-plug component, allow the system to cool before opening the covers. To avoid the possibility of coming into contact with hot component(s) during a hot-plug installation, be careful when removing or installing the hot-plug component(s).*

Caution: *To avoid injury do not contact moving fan blades. If your system is supplied with a guard over the fan, do not operate the system without the fan guard in place.*

Rack Mount Warnings

The equipment rack must be anchored to an unmovable support to prevent it from tipping when a server or piece of equipment is extended from it. The equipment rack must be installed according to the rack manufacturer's instructions.

Install equipment in the rack from the bottom up, with the heaviest equipment at the bottom of the rack.

Extend only one piece of equipment from the rack at a time.

You are responsible for installing a main power disconnect for the entire rack unit. This main disconnect must be readily accessible, and it must be labeled as controlling power to the entire unit, not just to the server(s).

To avoid risk of potential electric shock, you must implement a proper safety ground for the rack and each piece of equipment installed in it.

Electrostatic Discharge (ESD)

Caution: *ESD can damage disk drives, boards, and other parts. We recommend that you perform all procedures at an ESD workstation. If one is not available, provide some ESD protection by wearing an antistatic wrist strap attached to chassis ground -- any unpainted metal surface -- on your server when handling parts.*

Always handle boards carefully. They can be extremely sensitive to ESD. Hold boards only by their edges. After removing a board from its protective wrapper or from the server, place the board component side up on a grounded, static free surface. Use a conductive foam pad if available but not the board wrapper. Do not slide board over any surface.

Other Hazards

Battery Replacement

Caution: *There is the danger of explosion if the battery is incorrectly replaced. When replacing the battery, use only the battery recommended by the equipment manufacturer.*

Dispose of batteries according to local ordinances and regulations.

Do not attempt to recharge a battery.

Do not attempt to disassemble, puncture, or otherwise damage a battery.

Cooling and Airflow

Caution: *Carefully route cables as directed to minimize airflow blockage and cooling problems.*

For proper cooling and airflow, operate the system only with the chassis covers installed.

Operating the system without the covers in place can damage system parts. To install the covers:

- *Check first to make sure you have not left loose tools or parts inside the system.*
- *Check that cables, add-in boards, and other components are properly installed.*
- *Attach the covers to the chassis according to the product instructions.*

Laser Peripherals or Devices

Caution: *To avoid risk of radiation exposure and/or personal injury:*

- *Do not open the enclosure of any laser peripheral or device.*
- *Laser peripherals or devices are not user serviceable.*
- *Return to manufacturer for servicing.*

Deutsch

Sicherheitshinweise für den Server

Das vorliegende Dokument bezieht sich auf Intel® Serverplatinen, Intel® Servergehäuse (Standfuß und Rack) sowie installierte Peripheriegeräte. Es enthält Warnungen und Vorsichtsmaßnahmen zur Vermeidung von Gefahren durch Verletzung, Stromschlag, Feuer und Beschädigungen von Geräten. Lesen Sie diese Dokument daher sorgfältig, bevor Sie Ihr Intel® Serverprodukt installieren oder warten.

Bei Widersprüchen zwischen den hier vorliegenden Angaben und den Informationen im Lieferumfang des Produkts oder auf der Website des betreffenden Produkts hat die Produktdokumentation Vorrang.

Die Integration und Wartung des Servers darf nur durch technisch qualifizierte Personen erfolgen.

Um die Einhaltung der vorhandenen Zulassungen und Genehmigungen für das Produkt zu gewährleisten, sind die Richtlinien in diesem Handbuch sowie die Montageanleitungen in den Serverhandbüchern zu beachten. Verwenden Sie nur die beschriebenen, zugelassenen Komponenten, die im vorliegenden Handbuch angegeben werden. Die Verwendung anderer Produkte oder Komponenten führt zum Erlöschen der UL-Zulassung und anderer Genehmigungen für das Produkt. Dadurch kann das Produkt gegen Produktbestimmungen verstoßen, die im Verkaufsland gelten.

Sicherheitshinweise und Vorsichtsmaßnahmen

Um Verletzungen und Beschädigungen zu vermeiden, sollten Sie vor dem Beginn der Produktinstallation die nachfolgend aufgeführten Sicherheitshinweise und –informationen sorgfältig lesen und befolgen. In dem vorliegenden Handbuch sowie auf dem Produkt und auf der Verpackung werden folgende Sicherheitssymbole verwendet:

VORSICHT	Weist auf eine Gefahrenquelle hin, die bei Nichtbeachtung des VORSICHTSHINWEISES zu leichteren Verletzungen bzw. Sachbeschädigungen führen kann.
WARNUNG	Weist auf eine Gefahrenquelle hin, die bei Nichtbeachtung der WARNUNG zu ernsten Verletzungen führen kann.
	Weist auf potentielle Gefahr bei Nichtbeachtung der angezeigten Informationen hin.
	Weist auf die Gefahr eines Stromschlags hin, der bei Nichtbeachtung der Sicherheitshinweise zu schweren oder tödlichen Verletzungen führen kann.
	Weist auf Verbrennungsgefahr an heißen Bauteilen bzw. Oberflächen hin.
	Weist darauf hin, daß das Anfassen des Gebläses zu Verletzungen führen kann.
	Bedeutet, alle Netzkabel abzuziehen und das Gerät von der Netzspannung zu trennen.
	Bereiten Sie bitte Batterie auf.

Zielbenutzer der Anwendung

Dieses Produkt wurde in seiner Eigenschaft als IT-Gerät getestet, das in Büros, Schulen, Computerräumen und ähnlichen öffentlichen Räumlichkeiten installiert werden kann. Die Eignung dieses Produkts für andere Einsatzbereiche als IT (z. B. Medizin, Industrie, Alarmsysteme oder Prüfgeräte) kann u. U. weitere Tests erfordern.

Standortauswahl

Das System ist für den Betrieb innerhalb normaler Büroumgebungen geeignet. Wählen Sie einen Standort, der folgenden Kriterien entspricht:

- Sauber, trocken und frei von Partikeln in der Luft (außer dem normalen Raumstaub).
- Gut belüftet, nicht in der Nähe von Wärmequellen und keiner direkten Sonnenbestrahlung ausgesetzt.
- Nicht in der Nähe von Vibrations- oder Erschütterungsquellen.
- Abgeschirmt von starken elektromagnetischen Feldern, die durch elektrische Geräte erzeugt werden.
- In gewittergefährdeten Gebieten sollten Sie das System an einen Überspannungsschutz anschließen und bei einem Gewitter die Telekommunikationskabel zum Modem abziehen.
- Eine ordnungsgemäß geerdete Wandsteckdose muß vorhanden sein.
- Ausreichender Freiraum für den Zugang zu den Netzkabeln, da diese die Hauptvorrichtung zum Trennen des Produkts von der Stromversorgung sind.

Handhabung von Geräten

Beachten Sie zur Vermeidung von Verletzungen oder Beschädigungen an den Geräten die folgenden Hinweise:

- Halten Sie beim Transportieren und Anheben von Geräten die örtlichen Gesundheitsund Sicherheitsvorschriften ein.
- Verwenden Sie mechanische oder andere geeignete Hilfsmittel zum Transportieren oder Anheben von Geräten.
- Entfernen Sie alle Komponenten, die sich leicht abnehmen lassen, um das Gewicht zu reduzieren und die Handhabung zu erleichtern.

Warnungen zu Netzspannung und Elektrizität

Vorsicht: *Durch Betätigen der mit dem Standby-Symbol gekennzeichneten Netztaste wird das System NICHT vollständig vom Netz getrennt. Es sind weiterhin 5 V aktiv, solange das System eingesteckt ist. Um das System vollständig vom Strom zu trennen, muß das Netzkabel aus der Steckdose abgezogen werden. Das System verfügt möglicherweise über mehrere Netzkabel. Vergewissern Sie sich in diesem Fall, daß alle Netzkabel abgezogen sind.*
Wenn Sie Komponenten ein- oder ausbauen möchten, die nicht hot-plug-fähig sind,
stellen Sie sicher, daß zuvor alle Netzkabel abgezogen sind.
Nehmen Sie keine Änderungen am Netzkabel vor, und verwenden Sie kein Kabel, das nicht genau dem geforderten Typ entspricht. Jedes Netzteil im System muß über ein eigenes Netzkabel angeschlossen werden.
Einige Netzteile von Intel Servern verwenden Nullleitersicherungen. Vorsicht ist geboten im Umgang mit Netzteilen, welche Nullleitersicherungen verwenden, um das Risiko eines elektrischen Schlages zu vermeiden
Das Netzteil in diesem Produkt enthält keine Teile, die vom Benutzer gewartet warden können. Öffnen Sie das Netzteil nicht. Im Netzteil bestehen gefährliche Spannungen, Ströme und Energiequellen. Schicken Sie das Gerät für Wartungsarbeiten an den Hersteller zurück.
Wenn Sie ein hot-plug-fähiges Netzteil austauschen, ziehen Sie dessen Netzkabel ab, bevor Sie es aus dem Server ausbauen.
Zur Vermeidung von Stromschlägen schalten Sie den Server aus, und trennen Sie vor dem Öffnen des Geräts das Netzkabel sowie alle an den Server angeschlossene Telekommunikationssysteme, Netzwerke und Modems.

Hinweis für Netzkabel

Wenn kein Netzkabel mit dem Produkt geliefert wurde, kaufen Sie ein Kabel, das für die
Vorsicht: *Prüfen Sie zur Vermeidung von Stromschlag- oder Feuergefahr die mit dem Produkt zu verwendenden Netzkabel wie folgt:*

- *Nehmen Sie keine Änderungen an einem Netzkabel vor, und benutzen sie es nicht, wenn es nicht genau in die geerdeten Netzsteckdosen paßt.*
- *Netzkabel müssen die folgenden Anforderungen erfüllen:*
- *Die Nennbelastbarkeit des Netzkabels muß mindestens so hoch sein wie die am Produkt angegebenen Nennstromaufnahme.*
- *Das Netzkabel muß einen zur Netzsteckdose passenden Schutzkontakt besitzen.*

- *Die Netzkabel sind die Hauptvorrichtung zum Trennen des Geräts vom Stromnetz.*
- *Die Steckdose muß in der Nähe der Anlage angebracht und gut erreichbar sein.*
- *Netzkabel müssen an eine ordnungsgemäß geerdete Steckdose angeschlossen sein.*

Warnhinweise für den Systemzugang

Vorsicht: *Um Verletzungen und Beschädigungen zu vermeiden, sollten Sie vor Arbeiten im Produktinneren folgende Sicherheitsanweisungen beachten:*

- *Schalten Sie alle am Produkt angeschlossenen Peripheriegeräte aus.*
- *Schalten Sie das System mit dem Netzschalter aus.*
- *Trennen Sie das Gerät von der Stromquelle, indem Sie alle Netzkabel vom System bzw. aus der Steckdose ziehen.*
- *Ziehen Sie alle Kabel und alle an das System angeschlossenen Telekommunikationsleitungen ab.*
- *Bewahren Sie alle Schrauben und anderen Befestigungselemente gut auf, nachdem Sie die Gehäuseabdeckung entfernt haben. Wenn Sie Ihre Arbeiten im Systeminneren beendet haben, befestigen Sie die Gehäuseabdeckung mit den Originalschrauben bzw.-befestigungselementen.*
- *Führen Sie keine Arbeiten im Netzteil aus. Das Netzteil enthält keine für den Benutzer wartungsbedürftigen Teile. Schicken Sie das Gerät für Wartungsarbeiten an den Hersteller zurück.*
- *Schalten Sie den Server aus, und ziehen Sie alle Netzkabel ab, bevor Sie Komponenten ein- oder ausbauen, die nicht hot-plug-fähig sind.*
- *Wenn Sie ein hot-plug-fähiges Netzteil austauschen, ziehen Sie dessen Netzkabel ab, bevor Sie es aus dem Server ausbauen.*

Vorsicht: *War Ihr Server in Betrieb, können die installierten Prozessoren und Kühlkörper heiß sein. Sofern Sie keine Hot-Plug-Komponenten ein- oder ausbauen, warten Sie mit dem Abnehmen der Abdeckungen, bis das System abgekühlt ist. Gehen Sie beim Aus- oder Einbauen von Hot-Plug-Komponenten sorgfältig vor, um nicht mit heißen Komponenten in Berührung zu kommen.*

Vorsicht: *Berühren Sie nicht die rotierenden Lüfterflügel, um Verletzungen zu vermeiden. Falls Ihr System mit eine Lüfterabdeckung besitzt, darf es nicht ohne diese Abdeckung betrieben werden.*

Warnhinweise für Racks

Das Geräte-Rack muß auf einer geeigneten, festen Unterlage verankert werden, um ein Umkippen zu vermeiden, wenn ein Server oder andere Geräte herausgezogen werden. Bei der Installation des Racks müssen die Anweisungen des Rack-Herstellers beachtet werden.

Gehen Sie bei der Installation von Geräten im Rack immer von unten nach oben vor, und bauen Sie das schwerste Gerät an der untersten Position im Rack ein. Ziehen Sie jeweils immer nur ein Gerät aus dem Rack heraus.

Sie müssen für die gesamte Rack-Einheit einen Netztrennschalter einrichten. Dieser Netztrennschalter muß leicht zugänglich sein und über eine Kennzeichnung verfügen, die besagt, daß er die Stromzufuhr zur gesamten Einheit steuert und nicht nur zu den Servern.

Zur Vermeidung von Stromschlaggefahr müssen das Rack selbst und alle darin eingebauten Geräte ordnungsgemäß geerdet sein.

Elektrostatische Entladungen (ESD)

Vorsicht: *Elektrostatische Entladungen können zur Beschädigung von Festplatten, Platinen und anderen Komponenten führen. Daher sollten Sie alle Arbeiten an einer ESD-Workstation ausführen. Steht ein solcher Arbeitsplatz nicht zur Verfügung, erzielen Sie einen gewissen Schutz vor elektrostatischen Entladungen durch Tragen einer Antistatik-Manschette, die Sie während der Arbeit zur Erdung an einem beliebigen unlackierten Metallteil des Computergehäuses befestigen.*

Gehen Sei bei der Handhabung von Platinen immer mit größter Vorsicht vor. Sie können äußerst empfindlich gegenüber elektrostatischer Entladung sein. Halten Sie Platinen nur an den Kanten fest. Legen Sie die Platinen nach dem Auspacken aus der Schutzhülle oder nach dem Ausbau aus dem Server mit der Bauelementseite nach oben auf eine geerdete, statisch entladene Unterlage.Verwenden Sie dazu, sofern verfügbar, eine leitfahige Schaumstoffunterlage, aber niche die Schutzhülle der Platine. Ziehen Sie die Platine nicht über eine Fläche.

Andere Gefahren

Batterieaustausch

Vorsicht: *Wird die Batterie unsachgemäß ausgetauscht, besteht Explosionsgefahr. Verwenden Sie als Ersatz nur die vom Gerätehersteller empfohlene Batterie.*
Beachten Sie bei der Entsorgung von Batterien die gültigen Bestimmungen.
Versuchen Sie nicht, eine Batterie aufzuladen.
Versuchen Sie nicht, eine Batterie zu öffnen oder sonstwie zu beschädigen.

Kühlung und Luftstrom

Vorsicht: *Verlegen Sie Kabel sorgfältig entsprechend der Anleitung, um Störungen des Luftstroms und Kühlungsprobleme zu vermeiden.*
Zur Gewährleistung des ordnungsgemäßen Kühlungs- und Luftstromverhaltens darf das System nur mit angebrachten Gehäuseabdeckungen betrieben werden. Die Inbetriebnahme des Systems ohne Abdeckung kann zur Beschädigung von Systemkomponenten führen. So bringen Sie die Abdeckung wieder an:

- Vergewissern Sie sich zunächst, daß Sie keine Werkzeuge oder Teile im Gehäuse vergessen haben.
- Prüfen Sie, ob Kabel, Erweiterungskarten sowie weitere Komponenten ordnungsgemäß angebracht sind.
- Befestigen Sie die Abdeckungen am Gehäuse des Produkts, wie in dessen Anleitung beschrieben.

Laser-Peripheriegeräte oder -Komponenten

Vorsicht: *Beachten Sie zur Vermeidung von Strahlung und Verletzungen die folgenden Hinweise:*

- *Öffnen Sie keinesfalls das Gehäuse von Laser-Peripheriegeräten oder Laser-Komponenten.*
- *Laser-Peripheriegeräte oder -Komponenten besitzen keine für den Benutzer wartungsbedürftigen Teile.*
- *Schicken Sie das Gerät für Wartungsarbeiten an den Hersteller zurück.*

Français

Consignes de sécurité sur le serveur

Ce document s'applique aux cartes serveur Intel®, au châssis de serveur Intel® (sur pieds et sur rack) et aux périphériques installés. Pour réduire les risques de dommages corporels, d'électrocution, d'incendie et de dommages matériels, lisez ce document et respectez tous les avertissements et précautions mentionnés dans ce guide avant d'installer ou de mettre à jour votre produit serveur Intel®.
En cas de conflit entre les informations fournies dans ce document et celles livrées avec le produit ou publiées sur le site Web pour un produit particulier, la documentation du produit prime.
Votre serveur doit être intégré et entretenu uniquement par des techniciens qualifiés.
Vous devez suivre les informations de ce guide et les instructions d'assemblage des manuels de serveur pour vérifier et maintenir la conformité avec les certifications et approbations de produit existantes. Utilisez uniquement les composants décrits et réglementés spécifiés dans ce guide. L'utilisation d'autres produits/composants annulera la liste UL et les autres approbations réglementaires du produit, et le produit peut ne pas être conforme aux autres lois et réglementations locales applicables au produit.

Sécurité: avertissements et mises en garde

Pour éviter de vous blesser ou d'endommager votre équipement, lisez et respectez toutes les informations et consignes de sécurité avant de commencer l'installation du produit. Les symboles de sécurité suivants peuvent être utilisés tout au long de cette documentation et peuvent figurer sur le produit ou sur son emballage.

ATTENTION	Indique la présence d'un risque pouvant entraîner des blessures physiques mineures ou endommager légèrement le matériel si la mise en garde n'est pas prise en compte.
AVERTISSEMENT	Indique la présence d'un risque pouvant entraîner des blessures corporelles graves si l'avertissement n'est pas pris en compte.
⚠	Indique un risque potentiel si les informations signalées ne sont pas prises en compte.

	Indique des risques d'électrocution pouvant entraîner des blessures corporelles graves ou mortelles si les consignes de sécurité ne sont pas respectées.
	Signale des composants ou des surfaces soumis à des températures élevées.
	Indique de ne pas toucher aux pales de ventilateur, car cela peut entraîner des blessures.
	Indique de débrancher tous les cordons d'alimentation secteur pour déconnecter l'alimentation.
	Veuillez réutiliser la batterie

Domaines d'utilisation prévus

Ce produit a été testé comme équipement informatique (ITE) et peut être installé dans des bureaux, des écoles, des salles informatiques et des endroits commerciaux similaires. L'utilisation du présent produit dans des catégories et environnements de produits et domaines d'application (par exemple, le domaine médical, industriel, résidentiel, les systèmes d'alarme et les appareils de contrôle) autres qu'ITE doit faire l'objet d'évaluations supplémentaires.

Sélection d'un emplacement

Le système est conçu pour fonctionner dans un environnement standard de bureau. Choisissez un emplacement respectant les conditions suivantes:

- Propre, sec et exempt de particules en suspension (autres que la poussière normale d'une pièce).
- Bien ventilé et à l'écart des sources de chaleur telles que la lumière directe du soleil et les radiateurs.
- À l'écart des sources de vibration ou des chocs physiques.
- Isolé des champs électromagnétiques importants produits par des appareils électriques.
- Dans les régions sujettes aux orages magnétiques, nous vous recommandons de brancher votre système à un suppresseur de surtension et de déconnecter les lignes de télécommunication de votre modem pendant les orages.
- Équipé d'une prise murale reliée à la terre.
- Équipé d'un espace suffisant pour accéder aux cordons d'alimentation secteur, car ils servent de disjoncteur principal d'alimentation du produit.

Pratiques de manipulation de l'équipement

Réduisez le risque de dommages personnels ou matériels :

- Conformez-vous aux exigences de médecine du travail et de sécurité lorsque vous déplacez et soulevez le matériel.
- Utilisez l'assistance mécanique ou toute autre assistance appropriée lorsque vous déplacez et soulevez le matériel.
- Pour réduire le poids en vue de faciliter la manipulation, retirez tout composant amovible.

Alimentation et avertissements en matière d'électricité

Attention: *Le bouton d'alimentation, indiqué par le symbole de mise en veille, NE COUPE PAS complètement l'alimentation secteur du système car le courant de veille 5 V reste actif lorsque le système est sous tension. Pour couper l'alimentation du système, vous devez débrancher le cordon d'alimentation secteur de la prise murale. Votre système peut utiliser plusieurs cordons d'alimentation secteur. Assurez-vous que tous les cordons d'alimentation sont débranchés. Vous devez les débrancher avant d'ouvrir le châssis, d'ajouter ou de supprimer un composant non connectable à chaud.*
Les alimentations de certains serveurs Intel sont munies de doubles fusibles pôle/neutre: veuillez observer les précautions d'usage afin d'éviter tout risque d'eléctrocution.
N'essayez pas de modifier ou d'utiliser un cordon d'alimentation secteur s'il ne s'agit pas du type exact requis. Un cordon secteur est requis pour chaque alimentation système.

Le bloc d'alimentation de ce produit ne contient aucun composant réparable par l'utilisateur. N'ouvrez pas le bloc d'alimentation. L'intérieur de celui-ci est soumis à des niveaux dangereux de tension, de courant et d'énergie. Renvoyez-le au fabricant en cas de problème.
Lorsque vous remplacez un bloc d'alimentation à chaud, débranchez le cordon du bloc d'alimentation en cours de remplacement avant de le retirer du serveur.
Pour éviter tout risque d'électrocution, mettez le système hors tension et débranchez les cordons d'alimentation ainsi que les systèmes de télécommunication, réseaux et modems reliés au système avant d'ouvrir ce dernier.

Avertissements sur le cordon d'alimentation

Si aucun cordon d'alimentation secteur n'a été fourni avec votre produit, vous devez vous en procurer un qui soit approuvé pour une utilisation dans votre pays.
Attention: *Pour éviter tout risque d'électrocution ou d'incendie, vérifiez les cordons d'alimentation qui seront utilisés avec le produit comme suit:*

- *N'essayez pas d'utiliser ou de modifier les cordons d'alimentation en CA s'ils ne correspondent pas exactement au type requis pour les prises électriques reliées à la terre.*
- *Les cordons d'alimentation doivent répondre aux critères suivants:*
- *Le cordon d'alimentation doit supporter une intensité supérieure à celle indiquée sur le produit.*
- *Le cordon d'alimentation doit posséder une broche ou un contact de mise à la terre approprié à la prise électrique.*
- *Les cordons d'alimentation électrique représentent le principal dispositif de déconnexion raccordé à l'alimentation secteur. Les prises de courant doivent se trouver à proximité de l'équipement et être facilement accessibles pour une déconnexion.*
- *Les cordons d'alimentation doivent être branchés sur des prises électriques correctement reliées à la terre.*

Avertissements sur l'accès au système

Attention: *Pour éviter de vous blesser ou d'endommager votre équipement, les consignes de sécurité suivantes s'appliquent chaque fois que vous accédez à l'intérieur du produit:*

- *Mettez hors tension tous les périphériques connectés à ce produit.*
- *Éteignez le système en appuyant sur le bouton d'alimentation.*
- *Déconnectez l'alimentation secteur en débranchant tous les cordons d'alimentation secteur du système ou de la prise murale.*
- *Déconnectez l'ensemble des câbles et lignes de télécommunication qui sont connectés au système.*
- *Mettez toutes les vis ou autres attaches de côté lorsque vous retirez les panneaux d'accès. Une fois que vous avez terminé d'accéder à l'intérieur du produit, refixez le panneau d'accès avec les vis ou attaches d'origine.*
- *N'essayez pas d'accéder à l'intérieur du bloc d'alimentation. Il ne contient aucune pièce réparable. Renvoyez-le au fabricant en cas de problème.*
- *Mettez le serveur hors tension et débranchez tous les cordons d'alimentation avantd'ajouter ou de remplacer tout composant non connectable à chaud.*
- *Lorsque vous remplacez le bloc d'alimentation à chaud, débranchez le cordon du bloc d'alimentation en cours de remplacement avant de retirer le bloc du serveur.*

Attention: *Si le serveur a été utilisé, les processeurs et dissipateurs de chaleur installés peuvent être chauds. À moins que vous n'ajoutiez ou ne retiriez un composant connectable à chaud, laissez le système refroidir avant d'ouvrir les panneaux. Pour éviter tout risque d'entrer en contact avec un composant chaud lors d'une installation à chaud, prenez toutes les précautions nécessaires lorsque vous retirez ou installez des composants connectables à chaud.*
Attention: *Pour éviter de vous blesser, ne touchez pas les pales de ventilateur en mouvement. Si votre système est fourni avec une protection sur le ventilateur, ne mettez pas le système en route sans la protection en place.*

Avertissements sur le montage en rack

Le rack doit être fixé à un support inamovible pour éviter qu'il ne bascule lors de l'extension d'un serveur ou d'un élément de l'équipement. Le rack doit être installé conformément aux instructions du fabricant.
Installez les équipements dans le rack en partant du bas, en plaçant le plus lourd en bas du rack.
N'étendez qu'un seul élément de l'équipement à partir du rack à la fois.
Vous êtes responsable de l'installation d'un disjoncteur principal d'alimentation pour la totalité du rack. Ce disjoncteur principal doit être rapidement accessible et doit être étiqueté comme contrôlant toute l'unité, et pas uniquement le ou les serveurs.

Pour éviter tout risque d'électrocution, le rack et chaque élément de l'équipement installé dans le rack doivent être correctement reliés à la terre.

Décharges électrostatiques (ESD)

Attention: *Les décharges électrostatiques (ESD) peuvent endommager les lecteurs de disque dur, les cartes et d'autres pièces. Il est fortement conseillé d'effectuer l'ensemble des procédures décrites à un poste de travail protégé contre les ESD. Au cas où aucun poste de ce type ne serait disponible, protégez-vous contre les ESD en portant un bracelet antistatique relié à la masse du châssis (n'importe quelle surface métallique non peinte) de votre serveur lorsque que vous manipulez les pièces.*
Manipulez toujours les cartes avec précaution. Elles peuvent être extrêmement sensibles aux ESD. Ne tenez les cartes que par leurs bords. Après avoir retiré une carte de son emballage de protection ou du serveur, placez-la sur une surface reliée à la terre, exempte de charge statique, composants orientés vers le haut. Utilisez si possible un tapi de mousse conducteru, mais pas l'emballage de la carte. Veillez à ce que la carte ne glisse sur aucune surface.

Autres risques

Remplacement de la pile

Attention: *Il existe un risque d'explosion si la pile n'est pas correctement remplacée. Lors du remplacement de la pile, utilisez uniquement celle recommandée par le fabricant du matériel.*
Mettez la pile au rebut en vous conformant aux réglementations locales.
N'essayez pas de recharger une pile.
N'essayez pas de démonter, de percer ou d'endommager la pile d'une quelconque façon.

Refroidissement et ventilation

Attention: *Routez les câbles avec précaution comme indiqué pour minimiser les blocages de circulation d'air et les problèmes de refroidissement.*
Afin de permettre une ventilation et un refroidissement corrects, ne mettez le système en marche que lorsque les panneaux du châssis sont en place. L'utilisation du système sans les panneaux peut endommager les composants système. Pour installer les panneaux :

- Vérifiez tout d'abord que vous n'avez pas oublié d'outils ou de composants détachés à l'intérieur du système.
- Vérifiez que les câbles, les cartes d'extension et les autres composants sont correctement installés.
- Fixez les panneaux au châssis en suivant les instructions du produit.

Périphériques laser

Attention: *Pour éviter tout risque d'exposition aux rayonnements et/ou de dommage personnel:*

- *N'ouvrez pas l'enceinte d'un périphérique laser.*
- *Les périphériques laser ne sont pas réparables par l'utilisateur.*
- *Retournez-les au fabricant en cas de problème.*

Español

Información de seguridad del servidor

Este documento se aplica a las tarjetas de servidor de Intel®, las carcasas de servidor de Intel® (montaje en bastidor y en pedestal) y los dispositivos periféricos. Para reducir el riesgo de daños corporales, descargas eléctricas, fuego y en el equipo, lea este documento y preste atención a todos las advertencias y precauciones de esta guía antes de instalar o mantener el producto de servidor de Intel®.
En el caso de que haya diferencias entre la información para un producto en particular contenida en este documento y la información proporcionada con dicho producto o en el sitio Web, la documentación del producto es la que prevalece.
Sólo personal técnico cualificado debe montar y prestar los servicios para el servidor.
Debe ceñirse a las directrices de esta guía y a las instrucciones de montaje de los manuales del servidor para asegurar y mantener el cumplimiento con las certificaciones y homologaciones existentes de los productos. Utilice sólo los componentes descritos y homologados que se especifican en esta guía. El uso de otros productos o

componentes anulará la homologación UL y otras certificaciones oficiales del producto, pudiendo dejar de ser compatible con las normativas locales de los países en los que se comercializa.

Advertencias y precauciones sobre seguridad

Para reducir la posibilidad de que se produzcan lesiones personales o daños en la propiedad, antes de empezar a instalar el producto, lea, observe y cumpla toda la información e instrucciones de seguridad siguientes. Puede que se utilicen los siguientes símbolos de seguridad en la documentación y es posible que aparezcan en el producto o en su embalaje.

PRECAUCIÓN	Indica la existencia de un riesgo que podría causar lesiones personales o daños en la propiedad leves si no se tiene en cuenta la PRECAUCIÓN.
ADVERTENCIA	Indica la existencia de un riesgo que podría causar lesiones personales graves si no se tiene en cuenta la ADVERTENCIA.
	Indica un riesgo potencial si no se tiene en cuenta la información indicada.
	Indica riesgo de descargas eléctricas que podrían causar lesiones graves o la muerte si no se siguen las instrucciones de seguridad.
	Indica componentes o superficies calientes.
	Indica que no se deben tocar las aspas de los ventiladores, ya que de lo contrario se podrían producir lesiones.
	Indica que es necesario desenchufar los cables de alimentación de CA para desconectar la alimentación de CA
	Recicle por favor la batería

Aplicaciones y usos previstos

Este producto ha sido evaluado como equipo de tecnología informática (ITE) que puede instalarse en oficinas, escuelas, salas de equipos informáticos o lugares de ámbito comercial similares. Es posible que sea necesario llevar a cabo una evaluación adicional para comprobar si este producto es apropiado para otras categorías de productos y entornos además de las aplicaciones informáticas (por ejemplo, soluciones médicas, industriales, residenciales, sistemas de alarma y equipos de pruebas).

Selección de la ubicación

El sistema se ha diseñado para funcionar en un entorno normal de oficinas. Seleccione una ubicación que esté:

- Limpia, seca y libre de macropartículas en suspensión en el aire (que no sean el polvo habitual de la habitación).
- Bien ventilada y alejada de fuentes de calor, incluida la luz solar directa y los radiadores.
- Alejada de fuentes de vibración o de golpes físicos.
- Aislada de campos electromagnéticos producidos por dispositivos eléctricos.
- En zonas propensas a tormentas eléctricas, se recomienda que conecte el servidor a un supresor de sobretensiones y desconecte las líneas de telecomunicaciones al módem durante una tormenta eléctrica.
- Provista de una toma de corriente alterna correctamente conectada a tierra.
- Provista de espacio suficiente para acceder a los cables de la fuente de alimentación ya que constituyen la desconexión principal de la alimentación.

Manipulación del equipo

Reduzca el riesgo de daños personales o en el equipo:

- Respete los requisitos de sanidad y seguridad laborales de su país cuando traslade y levante el equipo.
- Utilice medios mecánicos u otros que sean adecuados al trasladar o levantar el equipo.

- Para que el peso sea menor para manipularlo con más facilidad, extraiga los componentes que sean de fácil extracción.

Advertencias de alimentación y eléctricas

Precaución: *El botón de encendido, indicado con la marca del modo de reposo o stand-by, NO DESCONECTA completamente la alimentación de CA del sistema, ya que el modo de reposo de 5 V sigue activo mientras el sistema está enchufado. Para desconectar el sistema debe desenchufar el cable de alimentación de CA de la toma de la pared. Puede usar más de un cable de alimentación de CA con el sistema. Asegúrese de que todos los cables de alimentación de CA están desenchufados. Asegúrese de que los cables de alimentación de CA estén desenchufado antes de abrir la carcasa, agregar o extraer cualquier componente que no es de conexión en funcionamiento.*
Algunas fuentes de alimentación de electricidad de los servidores de Intel utilizan el polo neutral del fuselaje. Para evitar riesgos de choques electricos use precauciónes al trabajar con las fuentes de alimentación que utilizan el polo neutral de fuselaje.
No intente modificar ni utilizar un cable de alimentación de CA si no es del tipo exacto requerido. Se necesita un cable de CA para cada fuente de alimentación del sistema.
La fuente de alimentación de este producto no contiene piezas que puedan ser reparadas por el usuario. No abra la fuente de alimentación. Dentro de la fuente de alimentación puede haber niveles de tensión, corriente y energía peligrosos. Devuélvala al fabricante para repararla.
Al reemplazar una fuente de alimentación de conexión en funcionamiento, desenchufe el cable de alimentación de la fuente de alimentación que va a reemplazar antes de extraerla del servidor.
Para evitar el riesgo de descargas eléctricas, antes de abrir el servidor, apáguelo, desconecte el cable de alimentación, los sistemas de telecomunicaciones, las redes y los módems conectados al mismo.

Advertencias sobre el cable de alimentación

Si no se ha proporcionado con el producto ningún cable de alimentación de CA, adquiera alguno cuyo uso esté aprobado en su país.
Precaución: *Para evitar descargas eléctricas o fuego, revise los cables de alimentación que usará con el producto tal y como se describe a continuación:*

- *No intente modificar ni utilizar los cables de alimentación de CA si no son exactamente del modelo especificado para ajustarse a las tomas de corriente conectadas a tierra*
- *Los cables de alimentación deben reunir los siguientes requisitos:*
- *El cable de alimentación debe disponer de una capacidad nominal de corriente eléctrica mayor que la capacidad especificada en el producto.*
- *El cable de alimentación debe disponer de una patilla o contacto de conexión a tierra que sea apto para la toma de corriente.*
- *Los cables de la fuente de alimentación son los dispositivos de desconexión principales a la corriente alterna. El enchufe o enchufes de zócalo deben encontrarse cerca del equipo y el acceso a ellos debe poderse efectuar de forma inmediata con el fin de desconectarlos.*
- *Los cables de la fuente de alimentación deben estar conectados a los enchufes con una toma de tierra adecuada.*

Advertencias el acceso al sistema

Precaución: *Para evitar lesiones personales o daños en la propiedad, se aplican las siguientes instrucciones de seguridad siempre que se acceda al interior del producto:*

- *Apague todos los dispositivos periféricos conectados a este producto.*
- *Pulse el botón de alimentación para apagar el sistema.*
- *Desconecte la alimentación de CA desenchufando los cables de alimentación de CA del sistema o de la toma de corriente alterna.*
- *Desconecte todos los cables y líneas de telecomunicación que estén conectados al sistema.*
- *Guarde todos los tornillos o elementos de fijación cuando retire las cubiertas de acceso. Cuando termine de operar en el interior del producto, vuelva a colocar los tornillos o los elementos de fijación originales de la cubierta de acceso.*
- *No acceda al interior de la fuente de alimentación. No hay elementos en la fuente de alimentación que usted pueda reparar y utilizar. Devuélvala al fabricante para repararla.*
- *Apague el servidor y desconecte todos los cables de alimentación antes de agregar o reemplazar cualquier componente que no es de conexión en funcionamiento.*

- *Al reemplazar una fuente de alimentación de conexión en funcionamiento, desenchufe el cable de alimentación de la fuente de alimentación que va a reemplazar antes de extraerla del servidor.*

Precaución: *Si el servidor se ha estado ejecutando, los procesadores y disipadores de calor estarán recalentados. A no ser que esté instalando o extrayendo un componente de conexión en funcionamiento, deje que el sistema se enfríe antes de abrir las cubiertas. Para que no llegue a tocar los componentes que estén calientes cuando esté realizando una instalación de conexión en funcionamiento, tenga cuidado al extraer o instalar los componentes de conexión en funcionamiento.*

Precaución: *Para evitar posibles daños, no toque las aspas en movimiento de los ventiladores. Si el sistema se le ha suministrado con una protección para el ventilador, asegúrese de que cuando esté funcionando el sistema la protección esté en su sitio.*

Advertencias sobre el montaje en bastidor

El bastidor del equipo se debe sujetar con un soporte fijo para evitar que se caiga cuando se extraiga un servidor o una pieza del mismo. El bastidor del equipo debe instalarse siguiendo las instrucciones del fabricante del bastidor.
Instale el equipo en el bastidor comenzando desde la parte de abajo, con el equipo más pesado en la parte inferior del bastidor.
Extraiga las piezas del equipo del bastidor de una a una.
El usuario es el responsable de la instalación de un dispositivo de desconexión de la alimentación principal para toda la unidad del bastidor. El acceso a este dispositivo de desconexión deberá ser de fácil acceso y deberán incluirse indicaciones que lo identifiquen como el control de alimentación eléctrica de toda la unidad, no sólo de los servidores.
Para evitar el riesgo de descargas eléctricas, deberá instalar una conexión a tierra apropiada para el bastidor y para cada pieza del equipo instalada en el mismo.

Descarga electrostática (ESD)

Precaución: *Las descargas electrostáticas pueden dañar las unidades de disco, las tarjetas y otros componentes. Recomendamos que realice todos los procedimientos en una estación de trabajo protegida contra descargas electrostáticas. En caso de que no haya una disponible, protéjase de alguna forma contras las descargas llevando un brazalete antiestático conectado a la toma de tierra de la carcasa (cualquier superficie de metal que no esté pintada) del servidor cuando manipule las piezas.*
Manipule siempre las tarjetas con el máximo cuidado. Pueden ser sumamente sensibles a las descargas electrostáticas. Sujételas sólo por los bordes. Una vez extraída la tarjeta de su envoltorio de protección o del servidor, colóquela con el lado de los componentes hacia arriba sobre una superficie con toma de tiearra y sin carga estática. Utilice unaalmohadilla de espuma conductora si dispone de ella, pero nunca el envoltorio de la tarjeta. No deslice la tarjeta sobre ninguna superficie.

Sustitución de la batería

Precaución: *Existe el peligro de explosión si la batería no se reemplaza correctamente. Al reemplazar la batería, utilice sólo la batería recomendada por el fabricante del equipo.*
Deseche las baterías respetando la normativa local.
No intente recargar la batería.
No intente desmontar, pinchar o causar cualquier otro desperfecto a una batería.

Enfriamiento y circulación de aire

Precaución: *El tendido de los cables debe realizarse cuidadosamente tal y como se le indica para reducir al mínimo los problemas de obstrucción de la ventilación y de refrigeración.*
Para conseguir una refrigeración y corriente de aire adecuadas, compruebe que cuando sistema esté funcionando, las cubiertas de la carcasa están instaladas. Si utiliza el sistema sin las cubiertas, podría dañar sus componentes.
Para instalar las cubiertas:

- *Compruebe primero que no ha dejado herramientas o piezas sueltas dentro del sistema.*
- *Compruebe que los cables, tarjetas adicionales y otros componentes están instalados correctamente.*
- *Sujete las cubiertas a la carcasa siguiendo las instrucciones del producto.*

Periféricos o dispositivos láser

Precaución: *Para evitar el riesgo de la exposición a radiaciones o de daños personales:*

- *No abra la caja de ningún periférico o dispositivo láser*

- *Los periféricos o dispositivos láser no pueden ser reparados por el usuario*
- *Haga que el fabricante los repare.*

简体中文

服务器安全信息

本文档适用于 Intel® 服务器主板、Intel®
服务器机箱（基座和机架固定件）和已安装的外设。为减少人身伤害、电击、火灾以及设备毁坏的危险，请在安装或维护 Intel®
服务器产品之前阅读本文档并遵循本指南中的所有警告和预防措施。
如果本文档中的信息与特定产品的随附信息或 Web
站点信息之间存在不一致，请以产品文档为准。
服务器须由合格的技术人员进行集成和维护。
必须遵守本指南的规定和服务器手册的装配指导，以确保符合现有的产品认证和审批。仅使用本指南中描述和规定的指定组件。使用其他产品/组件将使产品的 UL 认证和其他管理审批无效，并可能导致产品不符合销售地的产品法规。

安全警告与注意事项

为避免人身伤害与财产损失，安装本产品之前，请阅读以下所有安全指导和信息。
下面所列的安全符号可能在整个文档中使用并可能标注于产品和 /
或产品包装之上。

注意

注意	表示如果无视此项轻微人身伤害或财产损失的危险
警告	表示如果无视此严重人身伤害的危险
	表示如果无视所示信息，即存在潜在的危险
	表示如果不遵守安全指导，存在可导致严重伤害或死亡的电击危险
	表示灼热组件或表面
	表示请勿触摸风机叶片，否则可能致伤
	表示拔下所有交流电线，断开交流电源

预期应用使用

根据评估，本产品为信息技术设备
(ITE)，可安装在办公室、学校、计算机房和类似的商业场所。本产品对于非 ITE 应用的其他产品种类和环境（如医疗、工业、住宅、报警系统和测试设备）的适用性尚有待进一步的评估。

场地选择

本系统专为在典型办公环境运行而设计。请选择符合以下条件的地点：

- 清洁、干燥，无气载微粒（而非一般的室内尘埃）。
- 通风良好，远离热源（包括直接日晒和散热器）。
- 远离振动源或物理震动。
- 与电气设备产生的强大电磁场隔离。

. 在易受闪电袭击的地区，我们建议将系统插入电涌抑制器并在闪电期间断开通信线路与调制解调器之间的连接。
. 提供正确接地的墙壁插座。
. 提供足够的空间，以便拿取电源供应线，因为这是本产品的主要电源断开器。

设备操作规范

减少人身伤害或设备受损的危险：
. 移举设备时遵守当地的职业健康与安全要求。
. 借助机械手段或其他合适的手段移举设备。
. 拆除一切易分离组件，以降低重量并方便操作。

电源与电气警告

注意事项
电源按钮（如待机电源标记所示）并不能完全关闭系统的交流电源，只要系统已接通电源，就存在 5V
待机电源。要从系统切断电源，须从墙壁电源插座中拔下交流电线。您的系统可能不止使用一根交流电线。请确保所有的交流电线都已拔下。打开机箱或增加或去除任何热插拔组件之前，确保交流电线已拔下。
若非所需的确切类型，请勿尝试修改或使用交流电线。系统的每个电源供应设备都需要一根单独的交流电线。
本产品的电源供应设备包含非用户维修部件。请勿打开电源供应设备。电源供应设备包含非常危险的电压级、电流级和能量级。请与生产商联系维修事宜。
替换热插拔电源供应设备时，请先拔下需替换的电源供应设备上的电源线，再将其从服务器上移除。

为避免电击，请在打开服务器之前，关闭服务器并断开服务器上连接的电源线、电信系统、网络和调制解调器。

电源线警告

如果产品未提供交流电线，请购买一根您所在国家批准使用的交流电线。
注意事项
为避免电击或火灾危险，请按如下所述对产品所用的电源线进行检查：
. 若非所需的符合接地插座的确切类型，请勿尝试修改或使用交流电线
. 电源线须符合以下标准：
. 电源线的电气额定值须大于产品上标注的电流额定值。
. 电源线须拥有适合插座的安全接地插头或触点。
. 电源线为交流电源的主要断开设备。插座须靠近设备并可随时断开。
. 电源线须插入所提供的拥有合适接地的插座。

系统使用警告

注意事项
为避免人身伤害或财产损失，无论何时检查产品内部，以下安全指导都适用：
. 关闭所有与本产品相连的外设。
. 按下电源按钮至关闭状态，关闭系统。

. 从系统或墙壁插座上拔下所有交流电线，断开交流电源。
. 断开与系统相连的所有线缆和通信线路。
. 卸除舱口盖时，保留所有螺钉及其他紧固件。完成产品内部检查之后，请用螺钉或紧固件重新固定舱口盖。
. 请勿打开电源供应设备。电源供应设备内没有可维修部件。请与生产商联系维修事宜.
. 增加或替换任何非热插拔组件之前，请关闭服务器电源并断开所有电源线。
. 替换热插拔电源供应设备时，请先拔下需替换的电源供应设备上的电源线，然后再从服务器上移除电源供应设备。

注意事项

如果服务器一直在运行，任何已安装的处理器和吸热设备都可能很热。除非要增加或移除热插拔组件，否则请待系统冷却后再开盖。为避免在热插拔组件安装过程中接触灼热组件，移除或安装热插拔组件时务须小心。

注意事项

为避免受伤，请勿触摸运转的风机叶片。如果系统的风机上配有防护装置，请勿卸下风机防护装置运行系统。

机架固定件警告

设备的机架须固定在稳固的支座上，以防从中安装服务器或设备时倒塌。须按照机架生产商提供的安装说明进行安装。
从下往上将设备安装在机架上，最重的设备安装在机架的最底层。
一次只从机架上安装一件设备。
您须负责安装整个机架装置的主要电源断开设备。此主要断开设备须随时可用，且须标明为控制整个装置（而不仅限于服务器）的电源。
为避免潜在的电击危险，须对机架及其上所安装的每一件设备实行正确的安全接地。

静电放电（ESD）

注意事项

ESD 会损坏磁盘驱动器、主板及其他部件。我们建议您执行 ESD 工作站的所有步骤。如果没有 ESD 工作站，则采取一些静电放电保护措施，操作部件时，戴上与服务器上的机箱接地或任何未喷漆金属表面连接的防静电腕带。
操作主板时始终保持小心。它们可能对 ESD 非常敏感。拿持主板时只接触边缘。从保护包装中或从服务器上取出主板后，请将主板组件侧面朝上放置在无静电的接地表面上。请使用导电泡沫垫（若有），不要使用主板包装。请勿将主板在任何表面上滑动。

其他危险

替换电池

注意事项

不正确替换电池可能导致爆炸危险。替换电池时，请只使用设备生产商推荐使用的电池。
请按当地法规处置电池。
请勿对电池充电。
请勿拆卸、刺穿或以其他方式损坏电池。

冷却和气流

注意事项

按照说明小心布置线缆，尽量减少气流阻塞和冷却问题。
为保证适当的冷却和气流，运行系统时请确保机箱盖已安装。未安装机箱盖即运行系统可能导致系统部件受损。安装机箱盖的步骤如下：

- 首先检查并确保系统内没有遗留的未固定工具或部件。
- 检查线缆、内插板和其他组件已正确安装。
- 按产品说明安装机箱盖。

激光外设或激光设备

注意事项

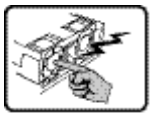
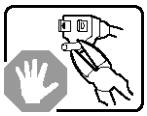
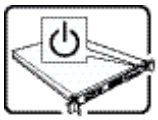
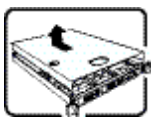
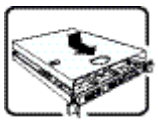
为避免幅射暴露和/或人身伤害：

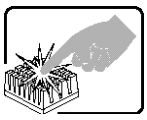
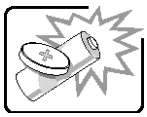
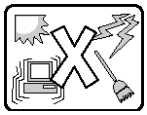
- 请勿打开任何激光外设或激光设备的外壳
- 激光外设或激光设备为非用户维修设备

请与生产商联系维修事宜

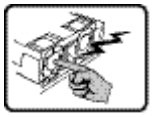
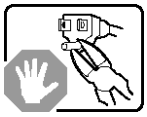
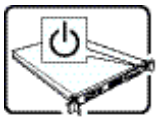
Appendix C: Installation/Assembly Safety Instructions

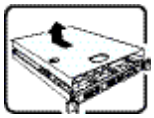
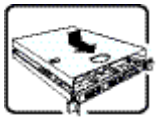
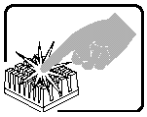
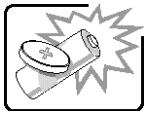
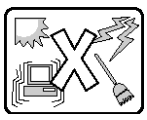
English

	The power supply in this product contains no user-serviceable parts. Refer servicing only to qualified personnel.
	Do not attempt to modify or use the supplied AC power cord if it is not the exact type required. A product with more than one power supply will have a separate AC power cord for each supply.
	The power button on the system does not turn off system AC power. To remove AC power from the system, you must unplug each AC power cord from the wall outlet or power supply. The power cord(s) is considered the disconnect device to the main (AC) power. The socket outlet that the system plugs into shall be installed near the equipment and shall be easily accessible.
	**SAFETY STEPS:** Whenever you remove the chassis covers to access the inside of the system, follow these steps: 1. Turn off all peripheral devices connected to the system. 2. Turn off the system by pressing the power button. 3. Unplug all AC power cords from the system or from wall outlets. 4. Label and disconnect all cables connected to I/O connectors or ports on the back of the system. 5. Provide some electrostatic discharge (ESD) protection by wearing an antistatic wrist strap attached to chassis ground of the system-any unpainted metal surface-when handling components. 6. Do not operate the system with the chassis covers removed.
	After you have completed the six SAFETY steps above, you can remove the system covers. To do this: 1. Unlock and remove the padlock from the back of the system if a padlock has been installed. 2. Remove and save all screws from the covers. 3. Remove the cover(s).
	For proper cooling and airflow, always reinstall the chassis covers before turning on the system. Operating the system without the covers in place can damage system parts. To install the covers: 1. Check first to make sure you have not left loose tools or parts inside the system. 2. Check that cables, add-in boards, and other components are properly installed. 3. Attach the covers to the chassis with the screws removed earlier, and tighten them firmly. 4. Insert and lock the padlock to the system to prevent unauthorized access inside the system. 5. Connect all external cables and the AC power cord(s) to the system.

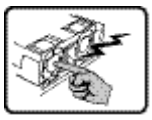
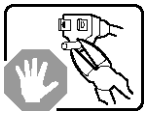
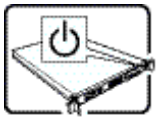
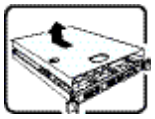
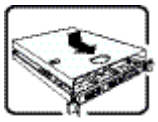
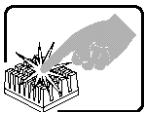
	A microprocessor and heat sink may be hot if the system has been running. Also, there may be sharp pins and edges on some board and chassis parts. Contact should be made with care. Consider wearing protective gloves.
	Danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the equipment manufacturer. Dispose of used batteries according to manufacturer's instructions.
	The system is designed to operate in a typical office environment. Choose a site that is: • Clean and free of airborne particles (other than normal room dust). • Well ventilated and away from sources of heat including direct sunlight. • Away from sources of vibration or physical shock. • Isolated from strong electromagnetic fields produced by electrical devices. • In regions that are susceptible to electrical storms, we recommend you plug your system into a surge suppressor and disconnect telecommunication lines to your modem during an electrical storm. • Provided with a properly grounded wall outlet. • Provided with sufficient space to access the power supply cord(s), because they serve as the product's main power disconnect.

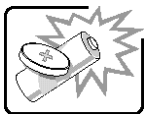
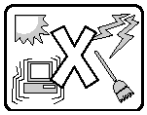
Deutsch

	Benutzer können am Netzgerät dieses Produkts keine Reparaturen vornehmen. Das Produkt enthält möglicherweise mehrere Netzgeräte. Wartungsarbeiten müssen von qualifizierten Technikern ausgeführt werden.
	Versuchen Sie nicht, das mitgelieferte Netzkabel zu ändern oder zu verwenden, wenn es sich nicht genau um den erforderlichen Typ handelt. Ein Produkt mit mehreren Netzgeräten hat für jedes Netzgerät ein eigenes Netzkabel.
	Der Wechselstrom des Systems wird durch den Ein-/Aus-Schalter für Gleichstrom nicht ausgeschaltet. Ziehen Sie jedes Wechselstrom-Netzkabel aus der Steckdose bzw. dem Netzgerät, um den Stromanschluß des Systems zu unterbrechen.
	SICHERHEISMASSNAHMEN: Immer wenn Sie die Gehäuseabdeckung abnehmen um an das Systeminnere zu gelangen, sollten Sie folgende Schritte beachten: 1. Schalten Sie alle an Ihr System angeschlossenen Peripheriegeräte aus. 2. Schalten Sie das System mit dem Hauptschalter aus. 3. Ziehen Sie den Stromanschlußstecker Ihres Systems aus der Steckdose. 4. Auf der Rückseite des Systems beschriften und ziehen Sie alle Anschlußkabel von den I/O Anschlüssen oder Ports ab. 5. Tragen Sie ein geerdetes Antistatik Gelenkband, um elektrostatische Ladungen (ESD) über blanke Metallstellen bei der Handhabung der Komponenten zu vermeiden. 6. Schalten Sie das System niemals ohne ordnungsgemäß montiertes Gehäuse ein.

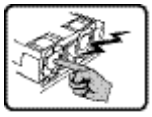
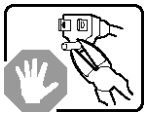
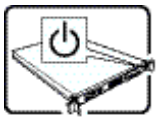
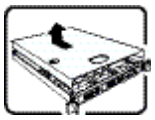
	SICHERHEISMASSNAHMEN: Immer wenn Sie die Gehäuseabdeckung abnehmen um an das Systeminnere zu gelangen, sollten Sie folgende Schritte beachten: 1. Schalten Sie alle an Ihr System angeschlossenen Peripheriegeräte aus. 2. Schalten Sie das System mit dem Hauptschalter aus. 3. Ziehen Sie den Stromanschlußstecker Ihres Systems aus der Steckdose. 4. Auf der Rückseite des Systems beschriften und ziehen Sie alle Anschlußkabel von den I/O Anschlüssen oder Ports ab. 5. Tragen Sie ein geerdetes Antistatik Gelenkband, um elektrostatische Ladungen (ESD) über blanke Metallstellen bei der Handhabung der Komponenten zu vermeiden. 6. Schalten Sie das System niemals ohne ordnungsgemäß montiertes Gehäuse ein.
	Zur ordnungsgemäßen Kühlung und Lüftung muß die Gehäuseabdeckung immer wieder vor dem Einschalten installiert werden. Ein Betrieb des Systems ohne angebrachte Abdeckung kann Ihrem System oder Teile darin beschädigen. Um die Abdeckung wieder anzubringen: 1. Vergewissern Sie sich, daß Sie keine Werkzeuge oder Teile im Innern des Systems zurückgelassen haben. 2. Überprüfen Sie alle Kabel, Zusatzkarten und andere Komponenten auf ordnungsgemäßen Sitz und Installation. 3. Bringen Sie die Abdeckungen wieder am Gehäuse an, indem Sie die zuvor gelösten Schrauben wieder anbringen. Ziehen Sie diese gut an. 4. Bringen Sie die Verschlußeinrichtung (Padlock) wieder an und schließen Sie diese, um ein unerlaubtes Öffnen des Systems zu verhindern. 5. Schließen Sie alle externen Kabel und den AC Stromanschlußstecker Ihres Systems wieder an.
	Der Mikroprozessor und der Kühler sind möglicherweise erhitzt, wenn das System in Betrieb ist. Außerdem können einige Platinen und Gehäuseteile scharfe Spitzen und Kanten aufweisen. Arbeiten an Platinen und Gehäuse sollten vorsichtig ausgeführt werden. Sie sollten Schutzhandschuhe tragen.
	Bei falschem Einsetzen einer neuen Batterie besteht Explosionsgefahr. Die Batterie darf nur durch denselben oder einen entsprechenden, vom Hersteller empfohlenen Batterietyp ersetzt werden. Entsorgen Sie verbrauchte Batterien den Anweisungen des Herstellers entsprechend.
	Das System wurde für den Betrieb in einer normalen Büroumgebung entwickelt. Der Standort sollte: • "sauber und staubfrei sein (Hausstaub ausgenommen); • "gut gelüftet und keinen Heizquellen ausgesetzt sein (einschließlich direkter Sonneneinstrahlung); • "keinen Erschütterungen ausgesetzt sein; • "keine starken, von elektrischen Geräten erzeugten elektromagnetischen Felder aufweisen; • "in Regionen, in denen elektrische Stürme auftreten, mit einem Überspannungsschutzgerät verbunden sein; während eines elektrischen Sturms sollte keine Verbindung der Telekommunikationsleitungen mit dem Modem bestehen; • "mit einer geerdeten Wechselstromsteckdose ausgerüstet sein; • "über ausreichend Platz verfügen, um Zugang zu den Netzkabeln zu gewährleisten, da der Stromanschluß des Produkts hauptsächlich über die Kabel unterbrochen wird

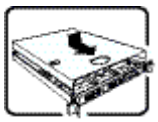
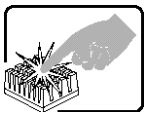
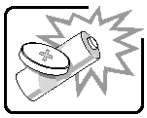
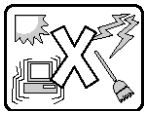
Français

	Le bloc d'alimentation de ce produit ne contient aucune pièce pouvant être réparée par l'utilisateur. Ce produit peut contenir plus d'un bloc d'alimentation. Veuillez contacter un technicien qualifié en cas de problème.
	Ne pas essayer d'utiliser ni modifier le câble d'alimentation CA fourni, s'il ne correspond pas exactement au type requis. Le nombre de câbles d'alimentation CA fournis correspond au nombre de blocs d'alimentation du produit
	Notez que le commutateur CC de mise sous tension /hors tension du panneau avant n'éteint pas l'alimentation CA du système. Pour mettre le système hors tension, vous devez débrancher chaque câble d'alimentation de sa prise.
	CONSIGNES DE SÉCURITÉ -Lorsque vous ouvrez le boîtier pour accéder à l'intérieur du système, suivez les consignes suivantes: 1. Mettez hors tension tous les périphériques connectés au système. 2. Mettez le système hors tension en mettant l'interrupteur général en position OFF (bouton-poussoir). 3. Débranchez tous les cordons d'alimentation c.a. du système et des prises murales. 4. Identifiez et débranchez tous les câbles reliés aux connecteurs d'E-S ou aux accès derrière le système. 5. Pour prévenir les décharges électrostatiques lorsque vous touchez aux composants, portez une bande antistatique pour poignet et reliez-la à la masse du système (toute surface métallique non peinte du boîtier). 6. Ne faites pas fonctionner le système tandis que le boîtier est ouvert.
	Une fois TOUTES les étapes précédentes accomplies, vous pouvez retirer les panneaux du système. Procédez comme suit: 1. Si un cadenas a été installé sur à l'arrière du système, déverrouillez-le et retirez-le. 2. Retirez toutes les vis des panneaux et mettez-les dans un endroit sûr. 3. Retirez les panneaux.
	Afin de permettre le refroidissement et l'aération du système, réinstallez toujours les panneaux du boîtier avant de mettre le système sous tension. Le fonctionnement du système en l'absence des panneaux risque d'endommager ses pièces. Pour installer les panneaux, procédez comme suit: 1. Assurez-vous de ne pas avoir oublié d'outils ou de pièces démontées dans le système. 2. Assurez-vous que les câbles, les cartes d'extension et les autres composants sont bien installés. 3. Revissez solidement les panneaux du boîtier avec les vis retirées plus tôt. 4. Remettez le cadenas en place et verrouillez-le afin de prévenir tout accès non autorisé à l'intérieur du système. 5. Rebranchez tous les cordons d'alimentation c. a. et câbles externes au système.
	Le microprocesseur et le dissipateur de chaleur peuvent être chauds si le système a été sous tension. Faites également attention aux broches aiguës des cartes et aux bords tranchants du capot. Nous vous recommandons l'usage de gants de protection.

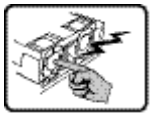
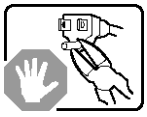
	Danger d'explosion si la batterie n'est pas remontée correctement. Remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le fabricant. Disposez des piles usées selon les instructions du fabricant.
	Le système a été conçu pour fonctionner dans un cadre de travail normal. L'emplacement choisi doit être: • "Propre et dépourvu de poussière en suspension (sauf la poussière normale). • "Bien aéré et loin des sources de chaleur, y compris du soleil direct. • "A l'abri des chocs et des sources de vibrations. • "Isolé de forts champs électromagnétiques géenérés par des appareils électriques. • "Dans les régions sujettes aux orages magnétiques il est recomandé de brancher votre système à un supresseur de surtension, et de débrancher toutes les lignes de télécommunications de votre modem durant un orage. • "Muni d'une prise murale correctement mise à la terre. • "Suffisamment spacieux pour vous permettre d'accéder aux câbles d'alimentation (ceux-ci étant le seul moyen de mettre le système hors tension).

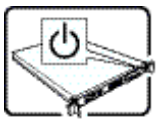
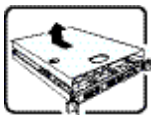
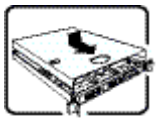
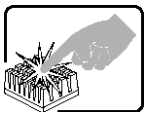
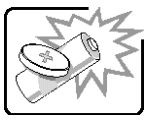
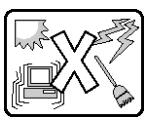
Español

	El usuario debe abstenerse de manipular los componentes de la fuente de alimentación de este producto, cuya reparación debe dejarse exclusivamente en manos de personal técnico especializado. Puede que este producto disponga de más de una fuente de alimentación
	No intente modificar ni usar el cable de alimentación de corriente alterna, si no corresponde exactamente con el tipo requerido. El número de cables suministrados se corresponden con el número de fuentes de alimentación de corriente alterna que tenga el producto
	Nótese que el interruptor activado/desactivado en el panel frontal no desconecta la corriente alterna del sistema. Para desconectarla, deberá desenchufar todos los cables de corriente alterna de la pared o desconectar la fuente de alimentación.
	INSTRUCCIONES DE SEGURIDAD: Cuando extraiga la tapa del chasis para acceder al interior del sistema, siga las siguientes instrucciones: 1. Apague todos los dispositivos periféricos conectados al sistema. 2. Apague el sistema presionando el interruptor encendido/ apagado. 3. Desconecte todos los cables de alimentación CA del sistema o de las tomas de corriente alterna. 4. Identifique y desconecte todos los cables enchufados a los conectores E/S o a los puertos situados en la parte posterior del sistema. 5. Cuando manipule los componentes, es importante protegerse contra la descarga electrostática (ESD). Puede hacerlo si utiliza una muñequera antiestática sujetada a la toma de tierra del chasis - o a cualquier tipo de superficie de metal sin pintar. 6. No ponga en marcha el sistema si se han extraído las tapas del chasis.
	Después de completar las seis instrucciones de SEGURIDAD mencionadas, ya puede extraer las tapas del sistema. Para ello: 1. Desbloquee y extraiga el bloqueo de seguridad de la parte posterior del sistema, si se ha instalado uno.

	2. Extraiga y guarde todos los tornillos de las tapas.Extraiga las tapas.
	Para obtener un enfriamiento y un flujo de aire adecuados, reinstale siempre las tapas del chasis antes de poner en marcha el sistema. Si pone en funcionamiento el sistema sin las tapas bien colocadas puede dañar los componentes del sistema. Para instalar las tapas: 1. Asegúrese primero de no haber dejado herramientas o componentes sueltos dentro del sistema. 2. Compruebe que los cables, las placas adicionales y otros componentes se hayan instalado correctamente. 3. Incorpore las tapas al chasis mediante los tornillos extraídos anteriormente, tensándolos firmemente. 4. Inserte el bloqueo de seguridad en el sistema y bloquéelo para impedir que pueda accederse al mismo sin autorización. 5. Conecte todos los cables externos y los cables de alimentación CA al sistema.
	Si el sistema ha estado en funcionamiento, el microprocesador y el disipador de calor pueden estar aún calientes. También conviene tener en cuenta que en el chasis o en el tablero puede haber piezas cortantes o punzantes. Por ello, se recomienda precaución y el uso de guantes protectores.
	Existe peligro de explosión si la pila no se cambia de forma adecuada. Utilice solamente pilas iguales o del mismo tipo que las recomendadas por el fabricante del equipo. Para deshacerse de las pilas usadas, siga igualmente las instrucciones del fabricante.
	El sistema está diseñado para funcionar en un entorno de trabajo normal. Escoja un lugar: • "Limpio y libre de partículas en suspensión (salvo el polvo normal). • "Bien ventilado y alejado de fuentes de calor, incluida la luz solar directa. • "Alejado de fuentes de vibración. • "Aislado de campos electromagnéticos fuertes producidos por dispositivos eléctricos. • "En regiones con frecuentes tormentas eléctricas, se recomienda conectar su sistema a un eliminador de sobrevoltage y desconectar el módem de las líneas de telecomunicación durante las tormentas. • "Provisto de una toma de tierra correctamente instalada. • "Provisto de espacio suficiente como para acceder a los cables de alimentación, ya que éstos hacen de medio principal de desconexión del sistema.

Italiano

	Rivolgersi ad un tecnico specializzato per la riparazione dei componenti dell'alimentazione di questo prodotto. È possibile che il prodotto disponga di più fonti di alimentazione.
	Non modificare o utilizzare il cavo di alimentazione in c.a. fornito dal produttore, se non corrisponde esattamente al tipo richiesto. Ad ogni fonte di alimentazione corrisponde un cavo di alimentazione in c.a. separato.

	L'interruttore attivato/disattivato nel pannello anteriore non interrompe l'alimentazione in c.a. del sistema. Per interromperla, è necessario scollegare tutti i cavi di alimentazione in c.a. dalle prese a muro o dall'alimentazione di corrente.
	PASSI DI SICUREZZA: Qualora si rimuovano le coperture del telaio per accedere all'interno del sistema, seguire i seguenti passi: 1. Spegnere tutti i dispositivi periferici collegati al sistema. 2. Spegnere il sistema, usando il pulsante spento/acceso dell'interruttore del sistema. 3. Togliere tutte le spine dei cavi del sistema dalle prese elettriche. 4. Identificare e sconnettere tutti i cavi attaccati ai collegamenti I/O od alle prese installate sul retro del sistema. 5. Qualora si tocchino i componenti, proteggersi dallo scarico elettrostatico (SES), portando un cinghia anti-statica da polso che è attaccata alla presa a terra del telaio del sistema - qualsiasi superficie non dipinta. 6. Non far operare il sistema quando il telaio è senza le coperture.
	Dopo aver seguito i sei passi di SICUREZZA sopracitati, togliere le coperture del telaio del sistema come seque: 1. Aprire e rimuovere il lucchetto dal retro del sistema qualora ve ne fosse uno installato. 2. Togliere e mettere in un posto sicuro tutte le viti delle coperture. 3. Togliere le coperture.
	Per il giusto flusso dell'aria e raffreddamento del sistema, rimettere sempre le coperture del telaio prima di riaccendere il sistema. Operare il sistema senza le coperture al loro proprio posto potrebbe danneggiare i componenti del sistema. Per rimettere le coperture del telaio: 1. Controllare prima che non si siano lasciati degli attrezzi o dei componenti dentro il sistema. 2. Controllare che i cavi, dei supporti aggiuntivi ed altri componenti siano stati installati appropriatamente. 3. Attaccare le coperture al telaio con le viti tolte in precedenza e avvitarle strettamente. 4. Inserire e chiudere a chiave il lucchetto sul retro del sistema per impedire l'accesso non autorizzato al sistema. 5. Ricollegare tutti i cavi esterni e le prolunghe AC del sistema.
	Se il sistema è stato a lungo in funzione, il microprocessore e il dissipatore di calore potrebbero essere surriscaldati. Fare attenzione alla presenza di piedini appuntiti e parti taglienti sulle schede e sul telaio. È consigliabile l'uso di guanti di protezione.
	Esiste il pericolo di un esplosione se la pila non viene sostituita in modo corretto. Utilizzare solo pile uguali o di tipo equivalente a quelle consigliate dal produttore. Per disfarsi delle pile usate, seguire le istruzioni del produttore.
	Il sistema è progettato per funzionare in un ambiente di lavoro tipo. Scegliere una postazione che sia: • "Pulita e libera da particelle in sospensione (a parte la normale polvere presente nell'ambiente). • "Ben ventilata e lontana da fonti di calore, compresa la luce solare diretta. • "Al riparo da urti e lontana da fonti di vibrazione. • "Isolata dai forti campi magnetici prodotti da dispositivi elettrici. • "In aree soggette a temporali, è consigliabile collegare il sistema ad un limitatore di corrente. In caso di temporali, scollegare le linee di comunicazione dal modem.

	• "Dotata di una presa a muro correttamente installata. • "Dotata di spazio sufficiente ad accedere ai cavi di alimentazione, i quali rappresentano il mezzo principale di scollegamento del sistema.

Appendix D: Getting Help

World Wide Web

http://support.intel.com/support/motherboards/server/S5520HC/

If you encounter an issue with your server platform, please follow these steps to obtain support on your product.

1. Get connected to our support web page for 24x7 support when you need it to get the latest and most complete technical support information on all Intel Enterprise Server and Storage Platforms. Information available at the support site includes:
   - Latest BIOS, firmware, drivers, and utilities
   - Product documentation, installation and quick start guides
   - Full product specifications, technical advisories and errata
   - Compatibility documentation for memory, hardware add-in cards, chassis support matrix, and operating systems
   - Server and chassis accessory parts list for ordering upgrades or spare parts
   - A searchable knowledgebase to search for product information throughout the support site
2. Send an email to Intel's technical support center using the following online form if you still cannot obtain a solution to your issue.
3. Lastly, you can contact an Intel support representative using one of the following support phone numbers. Charges may apply. Intel customer support suggests filling out the issue report form to better service the issue.

   Intel now offers Channel Program members around-the-clock 24x7 technical phone support+ on Intel® server boards, server chassis, server RAID controller cards, and Intel® Server Management.

Warranty Information

Connect to Intel's website to obtain warranty information.

+ Requires login to the reseller site to obtain the 24x7 Number.

Intel® Server Issue Report Form

Issue Report Form (Rev 3.5)

NOTE: Filling out this form completely is required for any escalation.

Customer Contact Information:

Customer Support Case#:

Intel® Server Board or System:

(Example: S5520HCBRP)

Server Chassis:

(Example SC5600. If third-party chassis used, indicate make and model.)

Base Board Information: (You can find some information by accessing the BIOS and going through the Server Management menu -> System Information.)

Baseboard PBA/TA/AA # (Example: 123456-789):

- You can find this on the white sticker label on the baseboard.

System BIOS Version:

Intel® Remote Management Module Firmware Version (if applicable):

Intel® Management Module BMC Revision (if applicable):

BMC/mBMC Version:

FRU/SDR Version:

HSC Version:

Has the latest BIOS been tried? (Yes/No):

Has the latest BMC/mBMC been tried? (Yes/No):

Has the latest IMM BMC been tried? (Yes/No):

Has the latest RMM Firmware been tried? (Yes/No):

Has the latest FRU/SDR been tried? (Yes/No):

Has the latest HSC been tried? (Yes/No):

Processor information:

	Type	Speed	sSpec	Thermal Solution
Processor 1				
Processor 2				
Processor 3				
Processor 4				

Thermal solution (Heatsink) examples:

(1U, Passive with air ducting, Active w/fan, and so on)

Memory:

Manufacturer	Part Number	DRAM Part Number	On Intel tested list?

Add-in adapters (Example: NICs, Management Adapters, Serial Expansion Cards, PCI Express* Adapters, RAID Controllers, SCSI Controllers, and so on):

Type	Slot	Manufacturer	Model	Firmware

Other third part hardware (Example: Example: KVM, Chassis, and so on):

Description/Use	Manufacturer	Model	Firmware

Storage Devices (Example: SCSI, SATA, SAS, USB, Tape, and so on):

Manufacturer	Model	Type	Size	Firmware	In Hot Swap Bay?

Operating System Information (Example: Red Hat* Enterprise Linux, Microsoft Windows* Server 2003, Service pack 1, OEM CD):

Manufacturer:

Version:

Language version (English, Arabic, Chinese (Simplified)):

Service Pack Level or Kernel Revision:

Distribution (OEM/Retail):

Intel® RAID Controller: (Example SRCU42E)

RAID controller part number (PBA number):

RAID controller firmware version:

Has the latest RAID firmware been tried? (Yes/No):

RAID driver version:

Has the latest RAID driver been tried? (Yes/No):

RAID volumes configuration (disks and RAID level):

RAID volume use (Boot device/Data Volume):

Is BBU (Battery Backup Unit) installed? (Yes/No):

BBU part number:

Detailed description of issue:

Troubleshooting tried:

Steps to replicate the issue:

Issue impact statements:

Do you have any potential Intel system, or component purchases that this issue is holding up? If yes, please provide a brief description below.

Do you have systems already purchased that are not being delivered to your customers because of this issue? If yes, please provide a brief description below.

Have you returned systems or components to your place of purchase because of this issue? If yes, please provide a brief description below.

*All other brands and names are property of their respective owners.