Intel® Server System SR1560SF Service Guide

A Guide for Technically Qualified Assemblers of Intel® Identified Subassemblies/ Products

Intel Order Number D92960-004

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Intel server boards contain a number of high-density VLSI and power delivery components that need adequate airflow for cooling. Intel's own chassis are designed and tested to meet the intended thermal requirements of these components when the fully integrated system is used together. It is the responsibility of the system integrator that chooses not to use Intel developed server building blocks to consult vendor datasheets and operating parameters to determine the amount of airflow required for their specific application and environmental conditions. Intel Corporation can not be held responsible if components fail or the server board does not operate correctly when used outside any of their published operating or non-operating limits.

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Preface

About this Manual

Thank you for purchasing and using the Intel® Server System SR1560SF.

This manual is written for system technicians who are responsible for troubleshooting, upgrading, and repairing this server system. This document provides reference information, feature information, and step by step instructions on how to add and replace components on the server system. For the latest version of this manual, see http://support.intel.com/support/motherboards/server/s5400sf.

Manual Organization

Chapter 1 provides a list of reference resources. In this chapter you will find a list of technical documents that give additional details on the Intel® Server System SR1560SF, and the location where they can be found.

Chapter 2 provides a brief overview of the server system. In this chapter, you will find a list of the server system features, illustrations of the product, and product diagrams to help you identify components and their locations.

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 fans, power supply, drives, and other components.

Chapter 4 provides instructions on using the utilities that are shipped with the board or that may be required to update the system. This includes how to navigate through the BIOS Setup screens, how to perform a BIOS update, and how to reset the password or CMOS. Information about the specific BIOS settings and screens is available in the Intel® Server Board S5400SF Technical Product Specification. See "Server System References" for a link to the Intel® Server Board S5400SF Technical Product Specification.

At the back of this manual, you will find technical specifications, regulatory information, "getting help" information, and the warranty.

Product Contents

The Intel® Server System SR1560SF ships with the Intel® Server Board S5400SF. For further information, see the following documents:

- Intel® Server Board S5400SF Technical Product Specification
- Intel® Server System SR1560SF Technical Product Specification

There are two versions of the Intel® Server System SR1560SF: product codes SR1560SF and SR1560SFHS. The contents of each server system are listed below.

Intel® Server System SR1560SF - Product Code SR1560SF Contents

Your Intel® Server System SR1560SF ships with the following items:

- Intel® Server Board S5400SF, installed in the server system
- One 600 W power supply, installed in the server system
- A box of hardware components, referred to below as the "hardware box"
- PCIe* riser card assembly, installed in the server system
- Optical drive tray assembly (tray and interposer board), in hardware box
- Optical drive cable, in hardware box
- Attention document, in the server system product box
- Quick Start User's Guide, in the server system product box
- One 32-6mm flat screw for installing the optical drive component, in the hardware box
- Rack handles, in hardware box
- Slimline peripheral bay filler panel, in the hardware box
- Standard control panel module and cables (I/O and USB), installed in the server system
- Two fixed mount drive trays and drive filler blanks, installed in the server system
- System fan board and fan board I/O cable, installed in the server system
- System fan assembly, including five dual-rotor fans, installed in the server system
- Two SATA cables, in hardware box
- Processor air duct, installed in the server system
- Blue plastic air baffle, installed in the server system
- Intel® Server Deployment Toolkit 2.0 CD
- Intel® System Management Software CD

Intel® Server System SR1560SF Service Guide

Intel® Server System SR1560SF - Product Code SR1560SFHS Contents

Your Intel® Server System SR1560SF ships with the following items:

- Intel® Server Board S5400SF, installed in the server system
- One 600 W power supply, installed in the server system
- A box of hardware components, referred to below as the "hardware box"
- PCIe* riser card assembly, installed in the server system
- Optical drive tray assembly (tray and interposer board), in the hardware box
- Bridge board, in the hardware box
- Optical drive cable, in the hardware box
- Attention document, in the server system product box
- Quick Start User's Guide, in the server system product box
- One 32-6mm flat screw for installing the optical drive component, in the hardware box
- Rack handles, in the hardware box
- Slimline peripheral bay filler panel, in the hardware box
- Standard control panel module and cable, installed in the server system
- Three hot-swap drive trays and drive filler blanks, installed in the server system
- System fan assembly, including five dual-rotor fans, installed in the server system
- Processor air duct, installed in the server system
- Blue plastic air baffle, installed in the server system
- Intel® Server Deployment Toolkit 2.0 CD
- Intel® System Management Software CD

Note: *One of two hot-swap backplane kits must be ordered separately in order to make the system operational. The following kits are available for purchase.*

- Passive hot-swap backplane. Order code: ASR1500PASBP
- Active hot-swap backplane. Order code: ASR1500SASBP

Safety Information

Important Safety Instructions

Read all caution and safety statements in this document before performing any of the instructions. See also Intel Server Boards and Server Chassis Safety Information on the *Intel® Server Deployment Toolkit 2.0 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 2.0 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 2.0 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 2.0 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，请阅读本文档中的所有注意事项及安全声明。 和/或
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 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.

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1 Server System References

If you need more information about this product or information about the accessories that can be used with this server system, use the following resources.

Table 1. Server System References

For this information or software	Use this Document or Software
For in-depth technical information about the server system, including sub-system overviews and mechanical drawings	*Intel® Server System SR1560SF Technical Product Specification* Found at: http://support.intel.com/support/motherboards/server/S5400SF/ and available on the *Intel® Server Deployment Toolkit 2.0 CD.* *Intel® Server Board S5400SF Technical Product Specification* Found at: http://support.intel.com/support/motherboards/server/S5400SF/ and available on the *Intel® Server Deployment Toolkit 2.0 CD.*
For basic BIOS settings and chipset information	*Intel® Server Board S5400SF Technical Product Specification* Found at: http://support.intel.com/support/motherboards/server/S5400SF/
For in-depth BIOS information	*Intel® 5400 Chipset Server Board Family Server BIOS External Product Specification* Found: available to order by contacting your Intel field representative.
For in-depth firmware information on the Baseboard Management Controller (BMC)	*Intel® 5400 Series Chipset-based Server Board Baseboard Management Controller Firmware Core External Product Specification* Found: available to order by contacting your Intel field representative.
For in-depth information on Intel® I/O Acceleration Technology	*Intel® I/O Acceleration Technology Improves Intel Server Platform Network Performance, Reliability, and Efficiency* whitepaper Found: available from your Intel field representative.
If you just received this product and need to install it	*Intel® Integrated Server System SR1560SF Quick Start User's Guide* Found: in the product box and available on the *Intel® Server Deployment Toolkit 2.0 CD.*
Accessories or other Intel server products	Spares and Configuration Guide Found: available from your Intel field representative or on the Server Configurator Tool at http://indigo.intel.com/serverconfiguratortool/default.aspx

Table 1. Server System References

For this information or software	Use this Document or Software
Hardware (peripheral boards, adapter cards) and operating systems that have been tested with this product	Tested Hardware Operating Systems List Found at: http://support.intel.com/support/motherboards/server/S5400SF/
To make sure your system falls within the allowed power budget	Power Budget Tool Found at: http://support.intel.com/support/motherboards/server/S5400SF/
For software to manage your Intel® server	Intel® System Management Software Found: available on the *Intel® System Management Software CD* that ships with your system.
For diagnostics test software	Diagnostics: Platform Confidence Test (PCT) Found at: http://support.intel.com/support/motherboards/server/S5400SF/ and available on the *Intel® Server Deployment Toolkit 2.0 CD.*

2   Server System Features

This chapter briefly describes the main features of the server system. This chapter provides illustrations of the product, a list of the server system features, and diagrams showing the location of important components and connections on the server system.
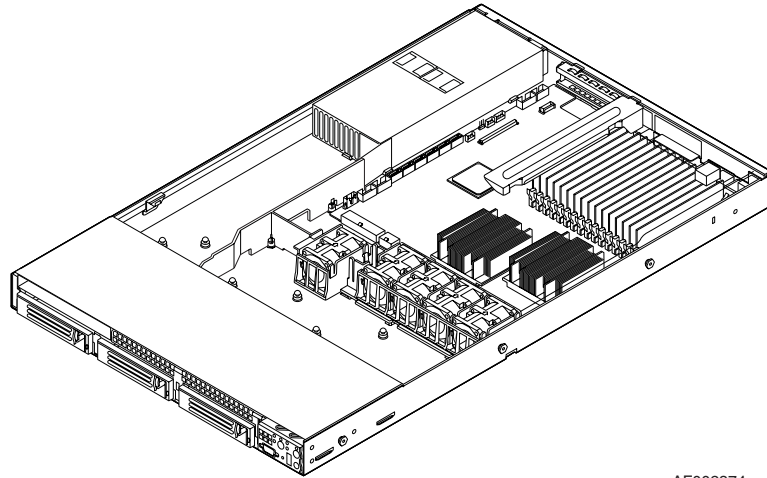
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Figure 1. Intel® Server System SR1560SF

Table 2 summarizes the features of the server system.

Table 2. Intel® Server System SR1560SF Feature Summary

Feature	Description
Dimensions	1.703 inches (43.25 mm) high 16.930 inches (430 mm) wide 27.25 inches (692 mm) deep 31 pounds (14.1 kg) - max chassis weight
Server Board	Intel® Server Board S5400SF
Processor	Support for up to two Multi-Core Intel® Xeon® processors 5000 sequence. For a complete list of supported processors, see: http://support.intel.com/support/motherboards/server/s5400sf/compat.htm
Memory	Sixteen DIMM slots Support for stacked DDR2 667/800 MHz FBDIMM memory
Chipset	Intel® 5400 Chipset, consisting of: - Intel® 5400 Memory Controller Hub (MCH) - Intel® 6321ESB I/O Controller Hub
Peripheral Interfaces	**External connections:** - Stacked PS/2* ports for keyboard and mouse - RJ45 Serial B port - Two RJ45 NIC connectors for 10/100/1000 Mb connections - Two USB 2.0 ports - Optional 4-port external SAS expansion module, OR Optional NIC expansion module with two RJ45 NIC connectors for 10/100/1000 Mbit/sec Ethernet LAN connectivity, OR Optional Infiniband* expansion module **Available Internal connections:** - One DH10 Serial A header - Serial ATA (SATA) 150 connectors with integrated RAID 0/1 support - One ATA-100 44-pin connector for optical drive support - Optional support for SW RAID 5 with enablement key - Optional Intel® Remote Management Module 2 - Optional Intel® Remote Management Module 2 NIC
I/O Control	National Semiconductor* PC87427 controller
Video	On-board ATI* ES1000 video controller with 16 MB DDR SDRAM

Table 2. Intel® Server System SR1560SF Feature Summary

Feature	Description
LAN	Intel® 82563EB dual port controller for 10/100/1000 Mbit/sec Ethernet LAN connectivity
Expansion Capabilities	• One PCI Express* x16 GEN2 add-in card slot

Hard Drive Options	• Fixed drive system:
	  – Two SATA drives
	• Hot-swap drive system:
	  – Three SATA/SAS drives
	• Intel® Embedded Server RAID Technology II with SW RAID levels 0/1/10
	• Optional support for SW RAID 5 with enablement key

Peripherals	• Slimline bay for IDE optical drive • Optional USB floppy drive (product code SR1560SFHS)
Control Panel	• Standard control panel
LEDs and displays	With standard control panel: • NIC1 Activity • NIC2 Activity • Power / Sleep • System Status • System Identification • Hard Drive Activity Internal light guided diagnostics: • Fan Fault • Memory Fault • CPU Fault • 5VSB • System Status • System Identification
Power Supply	Single 600 W power supply
Fans	• Five non-redundant, monitored and controlled system fans • Two non-redundant fans in power supply
USB	• One front panel USB 2.0 port • Two back I/O USB 2.0 ports
System Management	Intel® System Management Software

Cable Routing (Hot-Swap Drive System)

When you add or remove components from your server system, make sure your cables are routed correctly before reinstalling the server system cover. Use caution to make sure no cables or wires are pinched and that the airflow from the fans is not blocked. Use the figures below to determine the correct cable routing for a hot-swap drive system.

(A) Intel® Remote Management Module *(optional)*
(B) Intel® RMM NIC Module *(optional)*
(C) I/O Module *(optional)*
(D) Power Supply
(E) Bridge Board
(F) Backplane Board *(passive shown)*

(G) Power to Server Board *(Aux. - P4)*
(H) Power to Server Board *(Main - P1)*
(I) Power to Server Board *(CPU - P2)*
(J) Power to Backplane Board (P3)
(K) Control Panel USB
(L) Control Panel Data
(M) Fan Power Cables
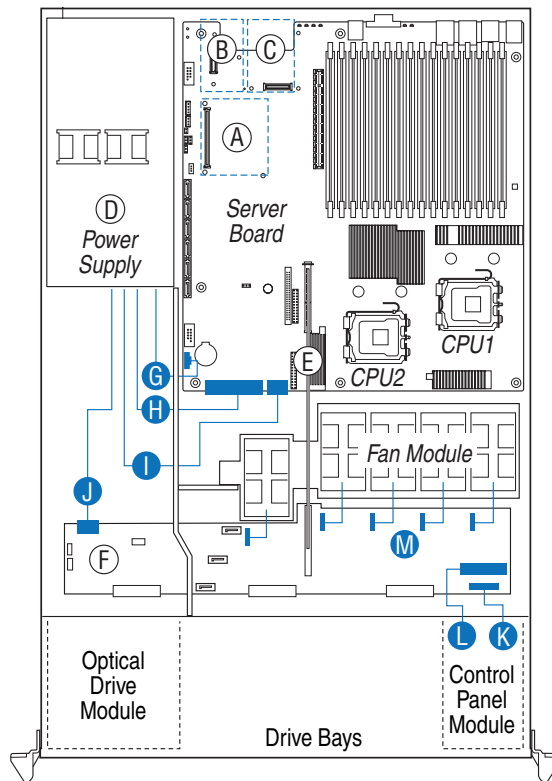
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Figure 2. Cable Routing for Hot-Swap Drive System

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Cable Routing (Fixed Drive System)

When you add or remove components from your server system, make sure your cables are routed correctly before reinstalling the server system cover. Use caution to make sure no cables or wires are pinched and that the airflow from the fans is not blocked. Use the figures below to determine the correct cable routing for a fixed drive system.
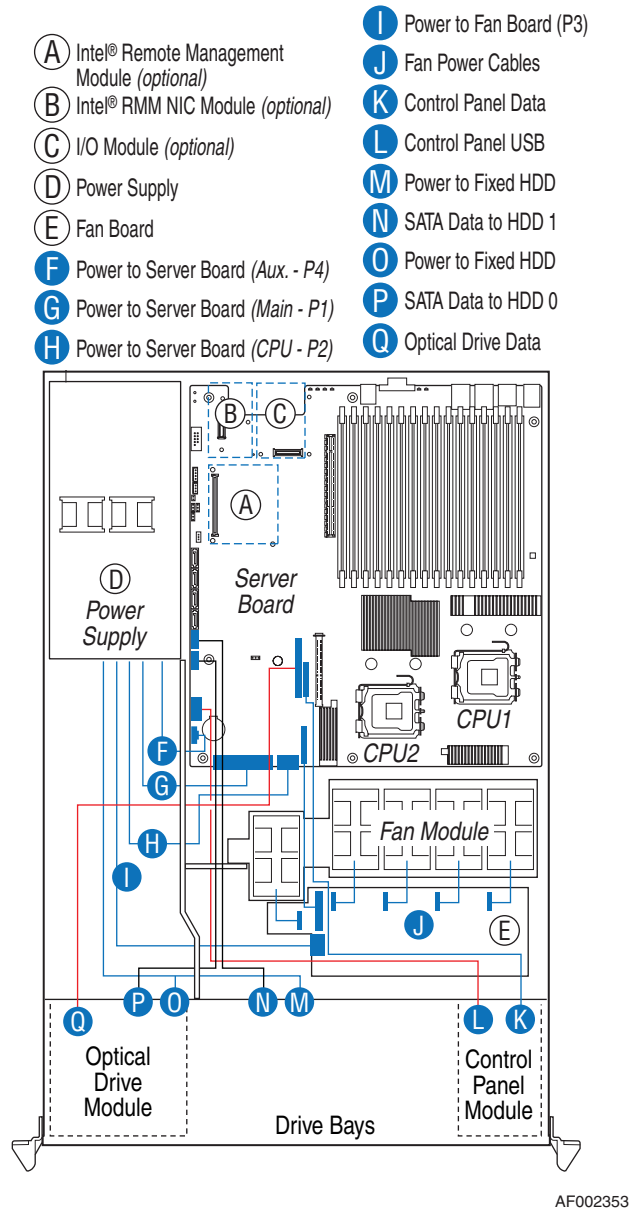
Figure 3. Cable Routing for Fixed Drive System

Chassis Component Identification

This section helps you identify the components of your server system. If you are near the system, you can also use the Quick Reference Label provided on the inside of the chassis cover to assist in identifying components.

Internal Components
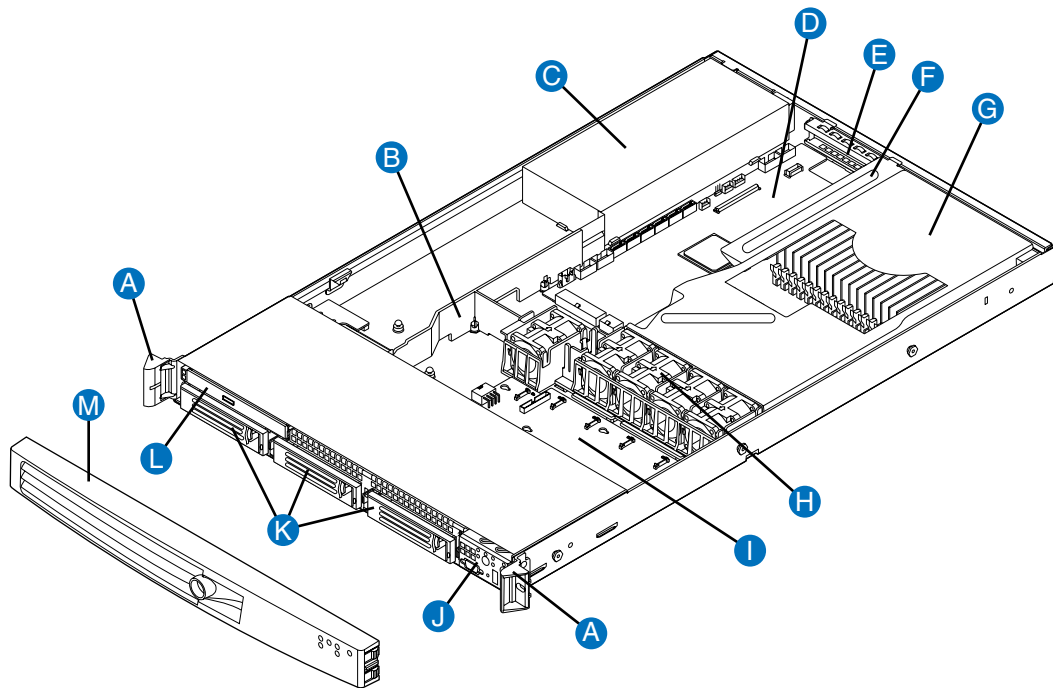
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A.	Rack handles	H.	Fan module
B.	Air baffle	I.	Fan board (fixed drive system) or backplane (hot-swap drive system)
C.	Power supply	J.	Control panel
D.	Server board	K.	Hard drive bays; 2 - fixed drive system, 3 - hot-swap drive system (drives not included)
E.	PCI card bracket (full height)	L.	Slimline Optical Drive Bay (drive not included)
F.	PCI add-in riser assembly	M.	Front bezel (optional)
G.	Processor air duct		

Figure 4. System Components

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Server Board Connector and Component Locations
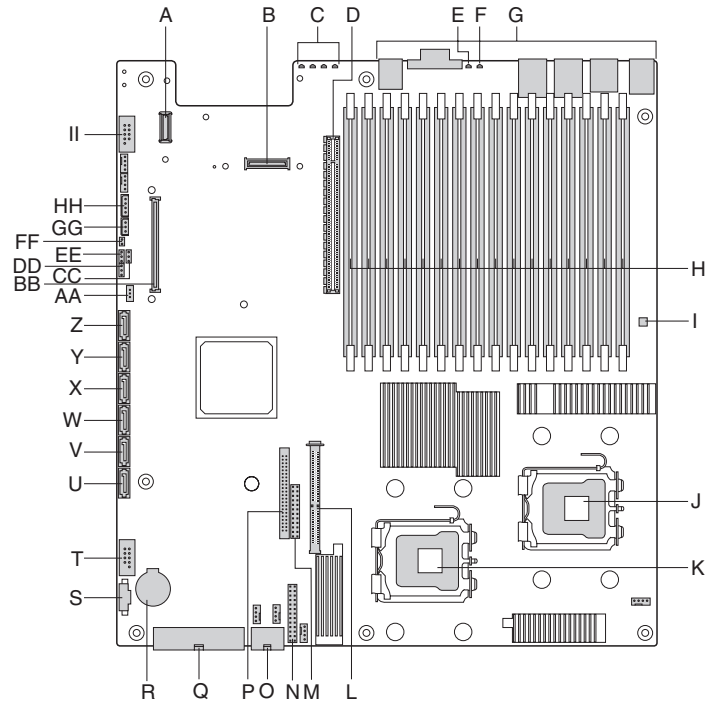
A.	Intel® RMM2 NIC Connector	B.	IO Module Option Connector	C.	POST Code Diagnostic LEDs
D.	PCI Express* Riser Connector (x16 Gen2)	E.	System Identification LED - Blue	F.	Status LED - Green / Amber
G.	External IO Connectors	H.	FBDIMM Memory Sockets	I.	Serial 'B' Port Configuration Jumper
J.	Processor 1 Socket	K.	Processor 2 Socket	L.	Bridge Board Connector
M.	SSI 24-pin Control Panel Header	N.	Fan Board Connector	O.	CPU Power Connector
P.	ATA-100 Optical Drive Connector (Power+IO)	Q.	Main Power Connector	R.	Battery
S.	Power Supply Management Connector	T.	Dual Port USB 2.0 Header	U.	SATA0
V.	SATA1	W.	SATA 2	X.	SATA 3
Y.	SATA 4	Z.	SATA 5	AA.	SATA SW RAID 5 Activation Key Connector
BB.	Intel® Remote Management Module 2 2 Connector	CC.	BMC FRU Update Jumper	DD.	CMOS Clear Jumper
EE.	Password Clear Jumper	FF.	Chassis Intrusion Switch Header	GG.	3-pin IPMB Header
HH.	4-pin IPMB Header	II.	Serial 'A' Header		

Figure 5. Server Board Connector and Component Locations

Configuration Jumpers

BIOS Select

J3H1

1-2: Force Lower Bank

3

2-3: Normal Operation (Default)

3
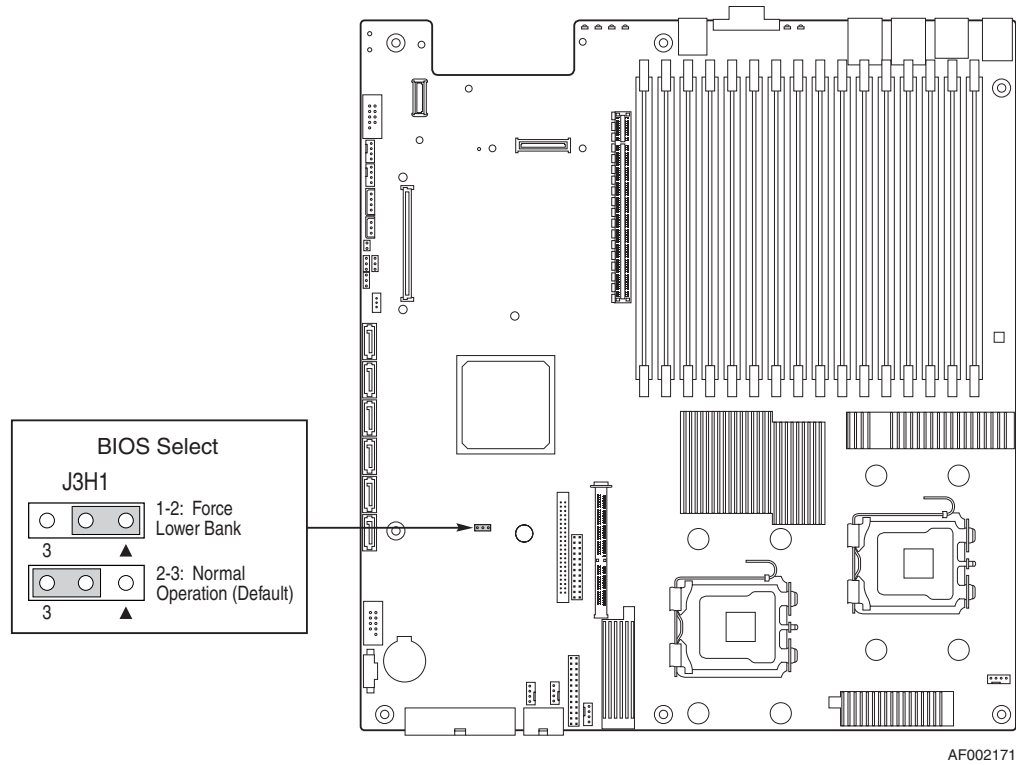
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Jumper Name	Jumper Purpose
BIOS Select	If pins 1-2 are jumpered, the BIOS in the lower bank will be selected on the next reset. These pins should be jumpered on 2-3 for normal operation.

Figure 6. BIOS Select Jumper
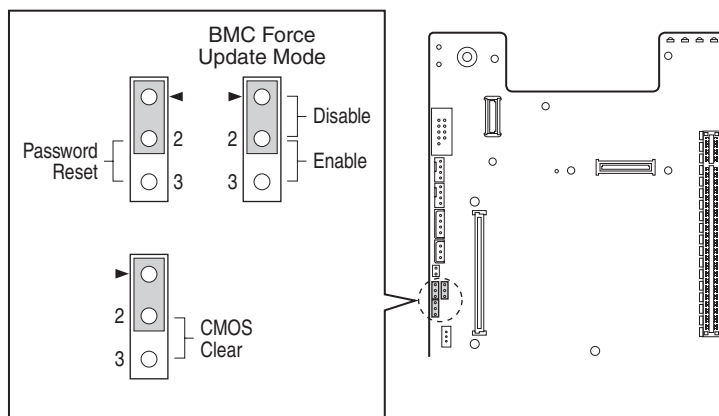
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Jumper Name	Jumper Purpose
CMOS Clear	If pins 2-3 are jumpered, the CMOS settings will be cleared on the next reset. These pins should be jumpered on 1-2 for normal operation. See "Clearing the CMOS" on page -62for complete CMOS clear instructions.
Password Clear	If pins 2-3 are jumpered, administrator and user passwords will be cleared on the next reset. These pins should be jumpered on 1-2 for normal operation. See "Resetting the Password" on page -63 for complete password reset instructions.
BMC Force Update Mode	If pins 2-3 are jumpered, BMC Force Update Mode is enabled. These pins should be jumpered on 1-2 for normal operation.

Figure 7. Recovery Jumpers

Intel® Light Guided Diagnostics

The server board contains numerous LEDs providing the following functions:

- Fault LEDs help identify failed and failing components. The fault LEDs turn on (amber) if there is a memory or processor fault.

- The System Status LED that shows the over all health of the system (green, blinking green, blinking amber, amber).

- POST Code Diagnostic LEDs change color or state (off, green, red, amber) according to the POST sequence.

- The ID LED helps identify the server from among several servers. The ID LED is off by default, and blue when activated by button or software.

- The 5V-STBY LED is always illuminated (green) when AC power is applied.
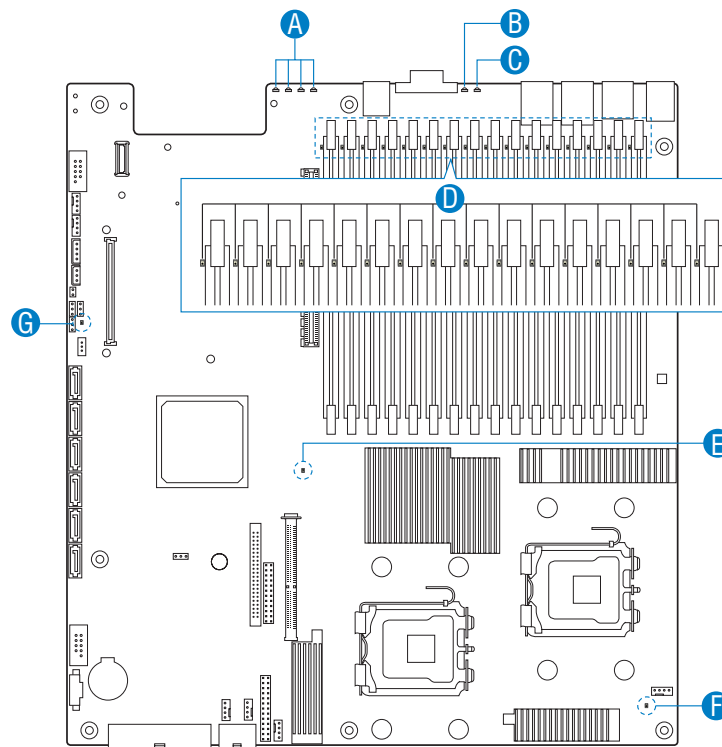
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Figure 8. Light Guided Diagnostic LEDs

A. POST Code Diagnostic LEDs	E. CPU 2 Fault LED
B. ID LED	F. CPU 1 Fault LED
C. Status LED	G. 5VSB LED
D. Memory Fault LEDs	

Back Panel Connectors
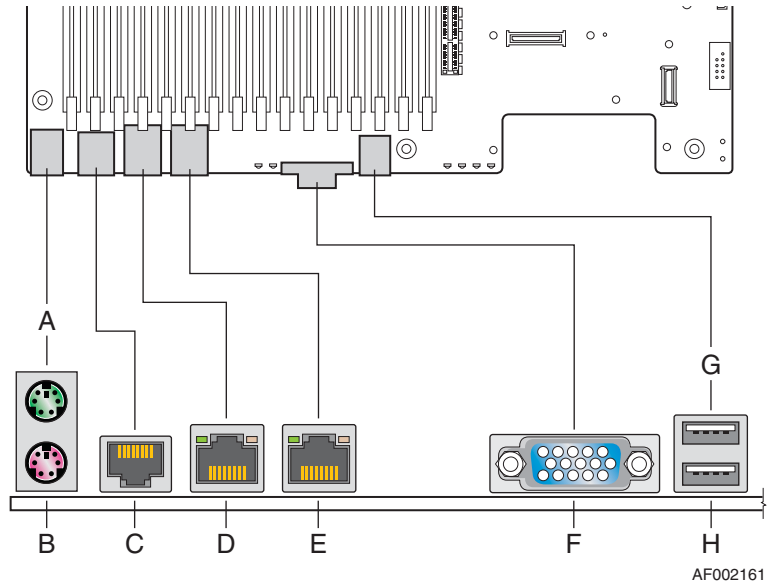
A. Mouse	B. Keyboard
C. Serial Port B (RJ45)	D. NIC 1 (10/100/1000 Mb)
E. NIC 2 (10/100/1000 Mb)	F. Video
G. USB Port 6	H. USB Port 5

Figure 9. Back Panel Connectors

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

Table 3. NIC LED Descriptions

LED	LED State	Description
Left	Off	No network connection
	Solid Amber	Network connection in place
	Blinking Amber	Transmit/receive activity
Right	Off	10 Mbps connection (if left LED is on or blinking)
	Solid Amber	100 Mbps connection
	Solid Green	1000 Mbps connection

SAS/SATA Backplanes

The hot-swap drive system can support either an active SAS backplane (Product Code - ASR1500SASBP) or a passive SAS/SATA backplane (Product Code - ASR1500PASBP). The backplanes provide the platform support for peripheral drives and hot-swap SAS or SATA hard drives. To eliminate several cables, the backplanes are also used as a pathway for signals from the server board to various platform interconnects, including those for the control panel and peripheral drives.

The passive backplane acts as a 'pass-through' for the SAS/SATA data from the drives to the SATA controller on the server board or a SAS/SATA controller add-in card. It provides the physical requirements for the hot-swap capabilities. The active backplane has a built-in SAS controller that does not need communication with the baseboard controller or an add-in card.
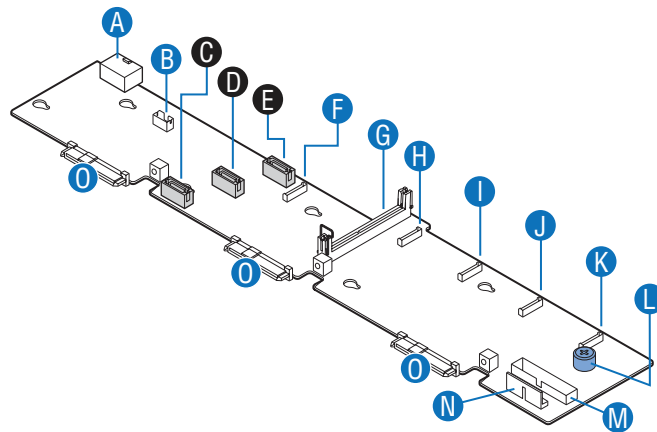
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A.	Backplane power	I.	Fan 3 power
B.	Slimline USB	J.	Fan 2 power
C.	SAS/SATA0 (passive backplane only)	K.	Fan 1 power
D.	SAS/SATA1 (passive backplane only)	L.	Thumbscrew
E.	SAS/SATA2 (passive backplane only)	M.	Control panel data
F.	Fan 5 power	N.	Control panel USB
G.	Bridge board connector	O.	HDD connectors
H.	Fan 4 power		

Figure 10. Active/Passive Backplane Components

RAID Support

The Intel® Server System SR1560SF (product code SR1560SF) provides an embedded SATA controller that supports both 1.5 and 3.0 Gbps data transfer rates. The Intel® Server System SR1560SF (product code SR1560SFHS) provides SAS and SATA support. Both systems can be configured for RAID 0, 1, and 10.

The Intel® Server System SR1560SF can be configured for SW RAID 5 by using the Intel® RAID Activation Key AXXRAKSW5 accessory.

For information on configuring RAID, see the RAID software user's guide that is included on the *Intel® Server Deployment Toolkit 2.0 CD*.

Front of Server System

Standard Control Panel

The diagram below shows the features of the standard control panel.
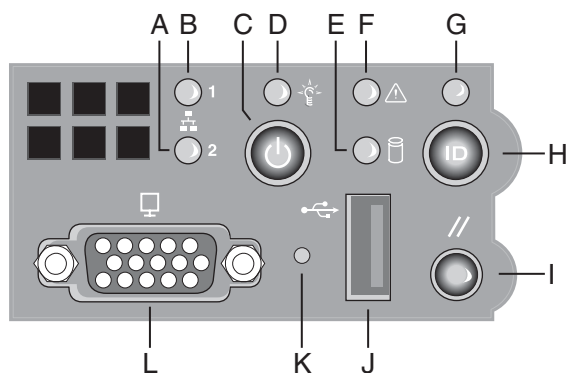
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Callout	Feature	Function
A. B.	NIC 2 Activity LED NIC 1 Activity LED	Continuous green light indicates a link between the system and the network to which it is connected. Blinking green light indicates network activity.
C.	Power/Sleep Button	Powers on/off the system. Puts the system in an ACPI sleep state.
D.	Power/Sleep LED	Continuous green light indicates the system has power applied to it. Blinking green indicates the system is in S1 sleep state. No light indicates the power is off / is in ACPI S4 or S5 state.

Callout	Feature	Function
E.	Hard Disk Drive Activity LED	Random blinking green light indicates hard disk drive activity (SAS or SATA). No light indicates no hard disk drive activity.
F.	System Status LED	Solid green indicates normal operation. Blinking green indicates degraded performance. Solid amber indicates a critical or non-recoverable condition. Blinking amber indicates a non-critical condition. No light indicates POST is running or the system is off.
G.	System Identification LED	Solid blue indicates system identification is active. No light indicates system identification is not activated.
H.	System Identification Button	Turns on/off the system identification LED.
I.	Reset Button	Reboots and initializes the system.
J.	USB 2.0 Port	Allows you to attach a USB component to the front of the chassis.
K.	NMI Button	Puts the server in a halt-state for diagnostic purposes.
L.	Video Port	Allows you to attach a video monitor to the front of the chassis. The front and rear video ports cannot be used at the same time. **NOTE:** Note: the video port option is only available on the hot-swap drive system (product code SR1560SFHS).

Figure 11. Standard Control Panel

Bezels

The optional front bezel provides a snap-on design that allows for maximum airflow through the server system. The bezel fits a system that has the standard control panel installed (with or without a video port). The bezel provides a lock to secure the hard drive and optical drive area. For instructions on installing the front bezel, see "Installing the Front Bezel".

The order number for the bezel is:

- ADWBEZBLACK: Black bezel for use with the standard control panel.

Rear of Server System
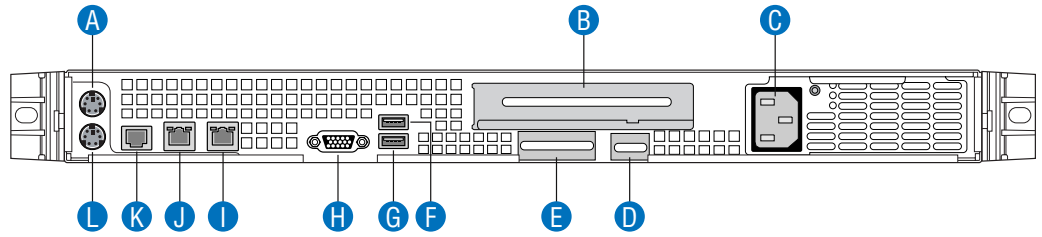
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A.	PS2 mouse connector	G.	USB 5 connector
B.	PCI card bracket (full height)	H.	Video connector
C.	AC Power Receptacle	I.	NIC 2 connector
D.	Management Network Interface (optional)	J.	NIC 1 connector
E.	IO module external connector (optional)	K.	RJ45 serial B port
F.	USB 6 connector	L.	PS2 keyboard connector

Figure 12. Server System Back

Peripheral Devices

The server system provides locations and hardware for installing hard drives, a USB floppy drive, and an optical drive. The drives must be purchased separately. The following figure shows the available options.

.
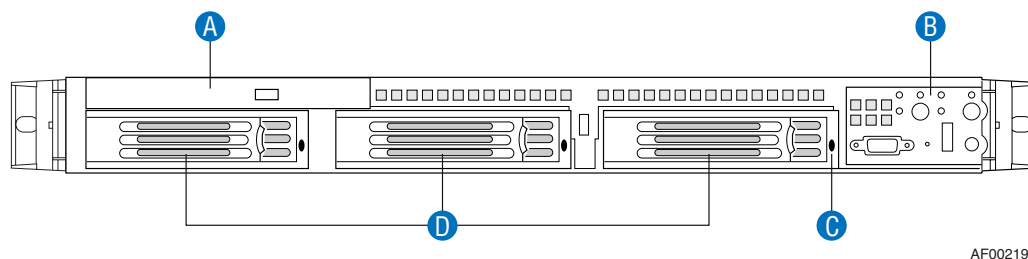
A.	Slimline drive bay (drive not included)
B.	Control panel
C.	Hard drive status LEDs (hot-swap drives only)
D.	Hard drive bays (drives not included)

Figure 13. Optional Peripherals

Hard Disk Drives

The fixed drive server system (product code SR1560SF) ships with three fixed mount drive carriers. However, only the two left drive bays can be populated with SATA hard drives. The third hard drive bay is not used in this system configuration.

The hot-swap drive server system (product code SR1560SFHS) ships with three hot-swap drive carriers for installing three SAS or Serial ATA (SATA) drives.

The leftmost hard drive bay can be used to support a USB Floppy drive in the hot swap drive system. To use the bay for a floppy drive, the AXXFLOPHDDTRAY accessory kit must be used.

Note: *The USB floppy drive kit is supported on the Intel® Server System SR1560SF - (product code SR1560SFHS) only.*

For instructions on installing hard drives, see "Installing and Removing a Fixed Hard Drive" or "Installing and Removing a Hot-swap Hard Drive".

Note: *Drives can consume up to 17 watts of power each. Drives must be specified to run at a maximum ambient temperature of 45C.*

Slimline Optical Drive Carrier

The slimline optical drive carrier is used when installing an optional optical drive. One slimline carrier is included with your server system; the optical drive must be purchased separately.

The slimline optical drive carrier can only be inserted or removed when the system power is turned off. Drives in the optical drive carrier are NOT hot-swappable. For installation instructions on installing an optical drive, see "Installing or Removing a Slimline Optical Drive".

To use one of the drives provided by Intel, use the following order codes:

- Slimline CD-ROM Drive: AXXSCD
- Slimline DVD Drive: AXXDVDROM
- Slimline DVD/CDR Drive: AXXDVDCDR

Rack-Mounted Systems

Your Intel® Server System SR1560SF can be mounted into a rack. Intel provides three options to mount this server into a rack. When installing the chassis into a rack, Intel recommends you install systems from the bottom of the rack to the top. In other words, install the first system in the rack into the bottom position of the rack, the second system in the second position from the bottom, and so on. Instructions for installing your chassis into a rack are included in each rackmount option kit.

3   Hardware Installations and Upgrades

Before You Begin

Before working with your server product, pay close attention to the "Safety Information" at the beginning of this manual.

Note: *Whenever you service the system, you must first power down the server and unplug all peripheral devices and the AC power cord.*

Tools and Supplies Needed

- Phillips* (cross head) screwdrivers (#1 bit and #2 bit)
- Antistatic wrist strap and conductive foam pad (recommended)

System References

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

Removing and Installing the Front Bezel

The front bezel is available as an optional accessory for the Intel® Server System SR1560SF. Bezel product code: ADWBEZBLACK.

Removing the Front Bezel

Unlock the bezel and pull the bezel from the server system.
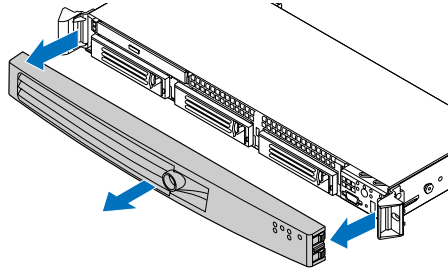
AF002373

Figure 14. Removing the Front Bezel

Installing the Front Bezel

At each end of the bezel, line up the center notch on the bezel with the center guide on the rack handles and push the bezel onto the front of the server system until it clicks into place.
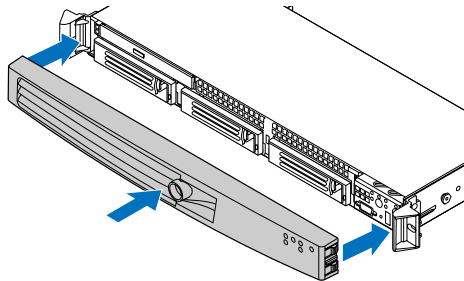
AF002372

Figure 15. Installing the Front Bezel

Removing and Installing the System Cover

Removing the System Cover

The server system must be operated with the system cover in place to ensure proper cooling. You will need to remove the top cover to add or replace components inside of the server.

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Note: *A nonskid surface or a stop behind the server system may be needed to prevent the server system from sliding on your work surface.*

1. Remove the top cover screw (see letter "A").

2. Slide the cover back until it stops and lift the cover upward to remove it (see letter "B").
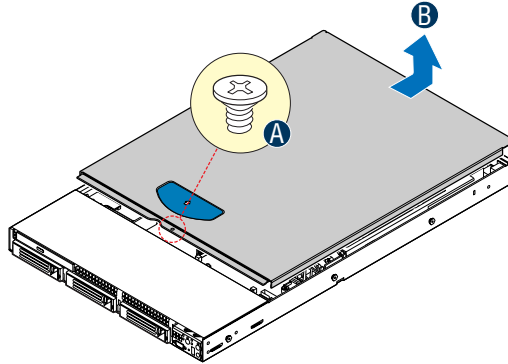
AF002371

Figure 16. Removing the Server System Cover

Installing the System Cover

Place the cover over the server system so that the side edges of the cover sit just inside the server system sidewalls.

1. Slide the cover forward until it clicks into place (see letter "A").

2. Insert the screw at the center of the top cover (see letter "B").
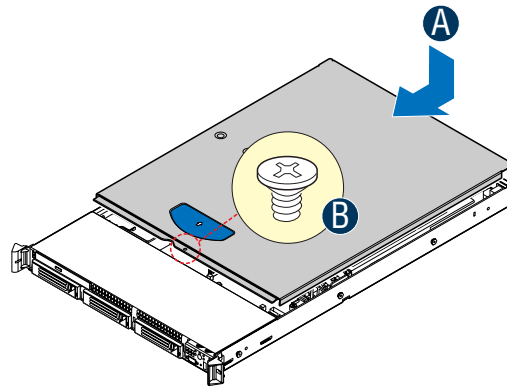
AF002370

Figure 17. Installing the Server System Cover

Removing and Installing the Processor Air Duct

Always operate your server system with the processor air duct in place. The air duct is required for proper airflow within the server system.

Removing the Processor Air Duct

Lift the processor air duct from its location over the two processor sockets.
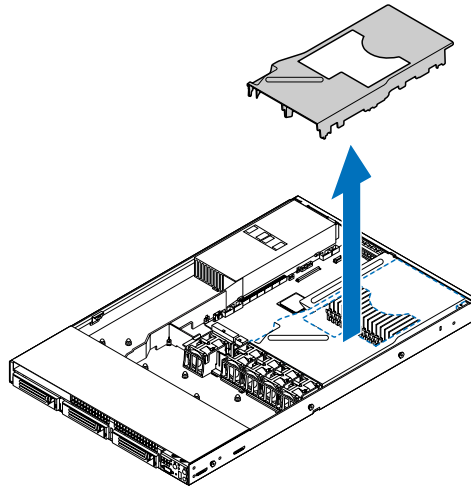
AF002362

Figure 18. Removing the Processor Air Duct

Installing the Processor Air Duct

Turn processor air duct over to reveal underside. If two processors are installed: remove air dam by rocking it back and forth until it snaps off.

Notes: Do not remove the air dam if only one processor is installed.
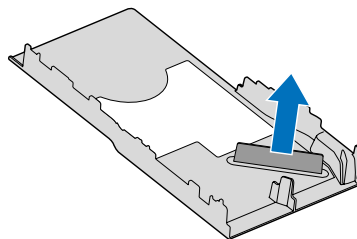
AF002366

Figure 19. Removing the Processor 2 Air Dam (Optional - only if two processors are installed)

Place the processor air duct over the processor sockets. The front edge of the air duct should contact the fan module. Use caution not to pinch or disengage cables that may be near or under the air duct.
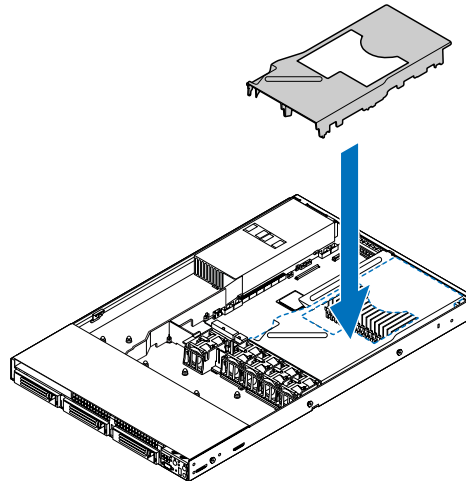
AF002363

Figure 20. Installing the Processor Air Duct

Installing and Removing Memory

The silkscreen on the board for the DIMMs displays DIMM A1, DIMM A2, DIMM A3, DIMM A4, DIMM B1, DIMM B2, DIMM B3, DIMM B4, DIMM C1, DIMM C2, DIMM C3, DIMM C4, DIMM D1, DIMM D2, DIMM D3, and DIMM D4, starting from the center of the board. See "Memory" for a discussion of the memory requirements and options. See "Server System References" for a link to the list of tested DIMMs.

Figure 21 shows the supported DIMM configuration that is recommended because it allows both memory branches from the MCH to operate independently and simultaneously.
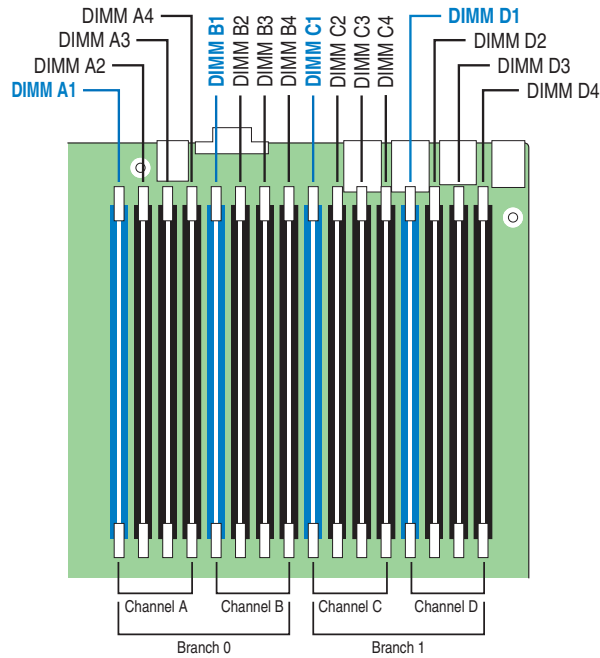
Figure 21. Installing the Initial Four DIMMs

Notes: *The initial four DIMMs installed must be populated in the blue slots: DIMM A1, DIMM B1, DIMM C1, and DIMM D1.*

Thermal requirement note: If x4 FBDIMMs are used, and the FBDIMMs do not have thermal sensors, you must install DIMM Blanks when installing less than 8 FBDIMMs. DIMM Blanks can be ordered through your preferred distributor.

Installing DIMMs

1. Make sure the clips at either end of the DIMM socket(s) are pushed outward to the open position (see letter "A").

2. Holding the DIMM by the edges, remove it from its anti-static package and position the DIMM above the socket. Align the notch on the bottom edge of the DIMM with the key in the DIMM socket. The arrow in the inset in Figure 22 is pointing to the key in the socket (see letter "B").

3. Insert the bottom edge of the DIMM into the socket (see letter "C").

4. When the DIMM is inserted, push down on the top edge of the DIMM until the retaining clips snap into place (see letter "D").

5. Make sure the clips are firmly in place (see letter "E").
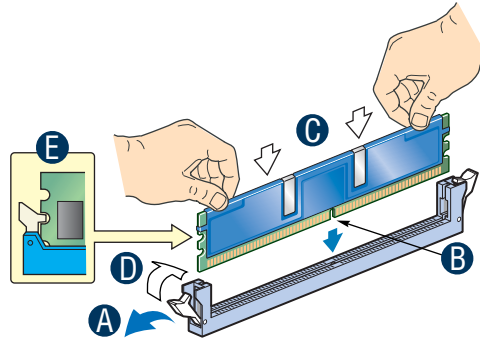
AF002369

Figure 22. Installing the Memory

Removing DIMMs

Gently spread the retaining clips at each end of the socket. Holding the DIMM by the edges, lift it from the socket, and store it in an anti-static package.

Installing or Replacing the Processor

Caution: *Processor must be appropriate: You may damage the server board if you install a processor that is inappropriate for your server. See "Server System References" for a link to the list of compatible processor(s).*

Caution: *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 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

1. Locate the processor socket and raise the socket handle completely (see Figure 23).
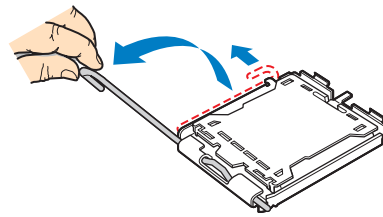
TP02074

Figure 23. Lifting the Processor Socket Handle

2. Raise the CPU load plate (see Figure 24).
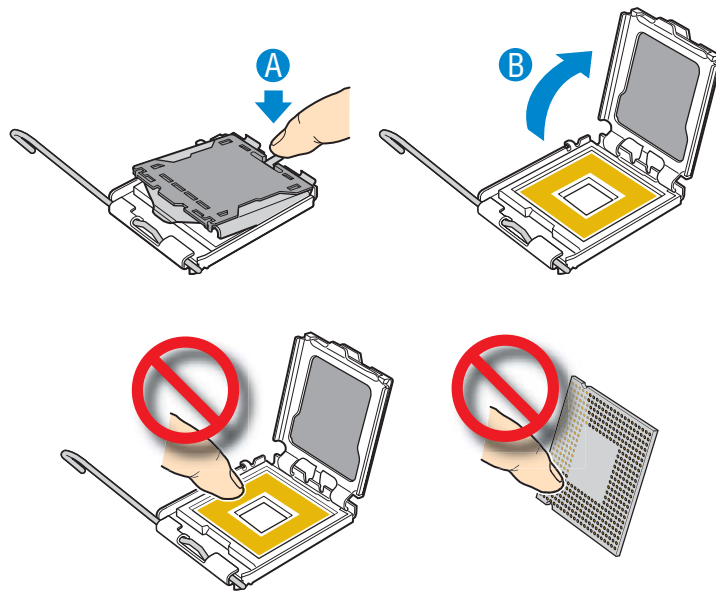
TP02075

Figure 24. Installing the Processor

Note: *Do not touch the socket pins; they are very sensitive and easily damaged.*

3. Line up the alignment marks on the processor and the socket, and insert the processor into the socket.

TP02084
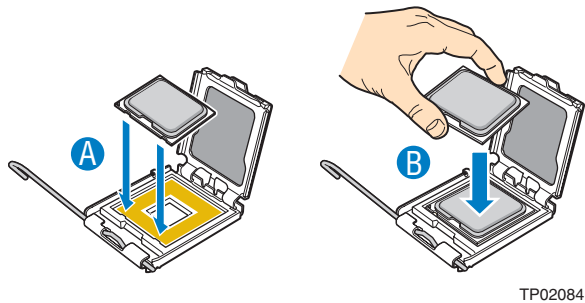
Note: *Make sure the alignment triangle mark and the alignment triangle cutout align correctly.*

4. Remove the protective socket cover (see Figure 25).

Caution: *Protective socket cover needs to be removed for proper cooling of the processor; failure to remove the cover could result in damage to the system.*

Note: *Retain the protective socket cover for use when removing a processor that will not be replaced.*

TP02076
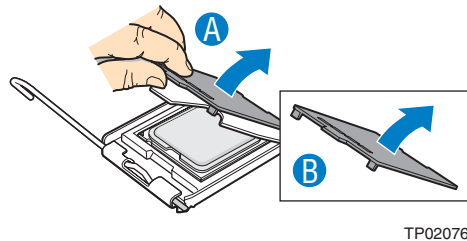
Figure 25. Removing the Socket Cover

5. Lower the CPU load plate and lower the socket lever completely.

Installing the Heat Sink(s)

The heat sink has Thermal Interface Material (TIM) located on the bottom of it. Use caution when you unpack the heat sink so you do not damage the TIM.

Note: *New unused heat sinks have adequate TIM on the bottom. If you are re-using a heat sink from replacing a processor, make sure there is adequate TIM present on the heat sink to support processor cooling.*

1. Set the heat sink over the processor, lining up the four captive screws with the four posts surrounding the processor.

2. Loosely screw in the captive screws on the heat sink corners in a diagonal manner. Do no fully tighten one screw before tightening another.

3. Gradually and equally tighten each captive screw until each is firmly tightened.

AF002386
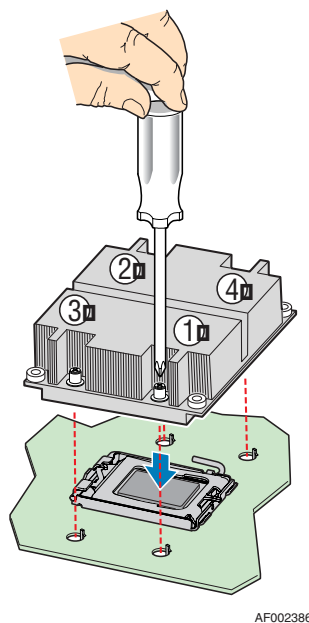
Figure 26. Installing the Heat Sink (1U Passive Heat Sink Shown)

Removing a Processor

1. Loosen the four captive screws on the corners of the heat sink.

2. Twist the heat sink slightly to break the seal between the heat sink and the processor.

3. Lift the heat sink from the processor. If it does not pull up easily, twist the heat sink again. Do not force the heat sink from the processor. Doing so could damage the processor.

4. Lift the processor lever.

5. Raise the CPU load plate.

6. Remove the processor.

Removing and Installing the Small Air Baffle

Some installation processes will require that you remove the small air baffle that is placed behind the hard drive bays, near the front of your server. The steps below describe how to remove and then install the small air baffle. Use these steps only when it is necessary for a component installation process.

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Always operate your server system with the small air baffle in place. The small air baffle is required for proper airflow within the server system.

Removing the Small Air Baffle

Pull up on the air baffle to remove it.
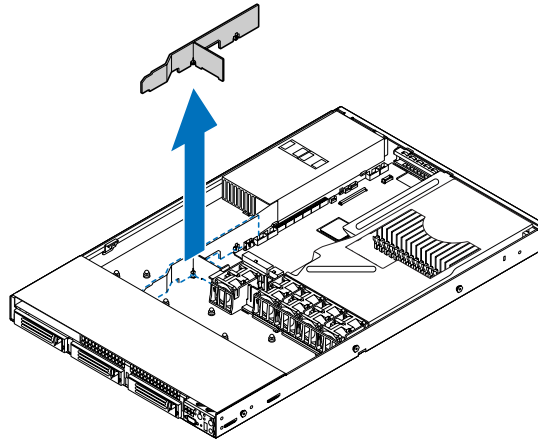
AF002364

Figure 27. Removing the Small Air Baffle

Installing the Small Air Baffle

Lower the baffle into the server system and position baffle over the two stand-off locations. Press into place as shown in the figure below.
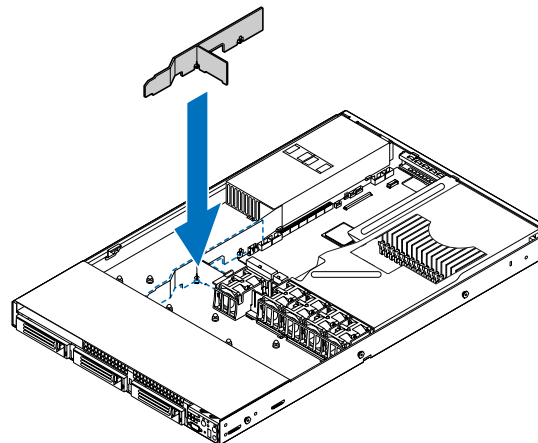
AF002365

Figure 28. Installing the Small Air Baffle

Installing and Removing a Hot-swap Hard Drive

Up to three hot-swap SAS or SATA drives can be installed in the Intel® Server System SR1560SF - product code SR1560SFHS.

Cautions: *If you install less than three drives or devices, the empty drive bays must be occupied by carriers with drive blanks to maintain proper system cooling.*

To avoid possible damage to your server system, use only the drive carriers that came with your system.

Note: *See "Server System References" for an Internet link to a list of supported hardware.*

Installing a SAS or SATA Hot-swap Hard Disk Drive

1. Open the latch at the front of the hard drive carrier (see letter "A").
2. Pull out on the black lever and slide the carrier from the server system (see letter "B").

TP02206
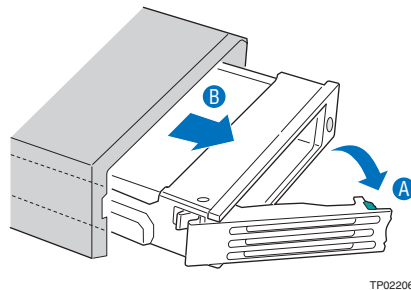
Figure 29. Removing Hot-swap Disk Carrier from the Server System

3. Remove the four screws that attach the plastic retention device or the previously installed hard drive to the drive carrier (see letter "A"). Two screws are at each side of the retention device or the hard drive. Remove the drive blank (see letter "B") and store it for future use.

TP02207
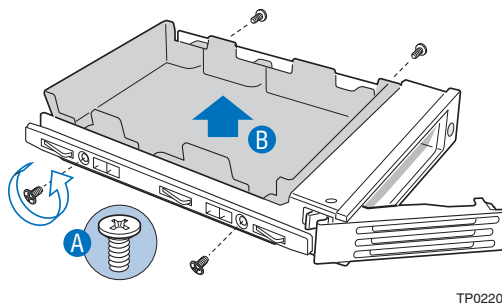
Figure 30. Removing Drive Blank from Drive Carrier

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4. Remove the hard drive from its wrapper and place it on an antistatic 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 it to the carrier with the screws that were attached to the drive blank.
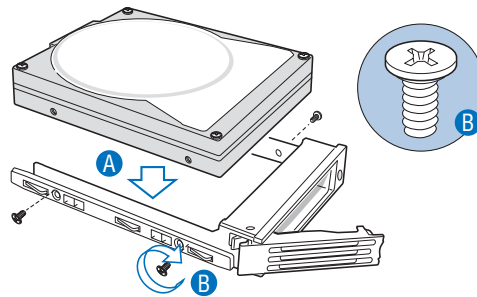
TP02208

Figure 31. Installing Hard Drive into Carrier

8. With the black lever in the fully open position, slide the drive assembly into the server system. The green latch at the front of the drive carrier must be to the right. Do not push on the black drive carrier lever until the lever begins to close by itself.

9. When the black drive carrier lever begins to close by itself, push on it to lock the drive assembly into place.
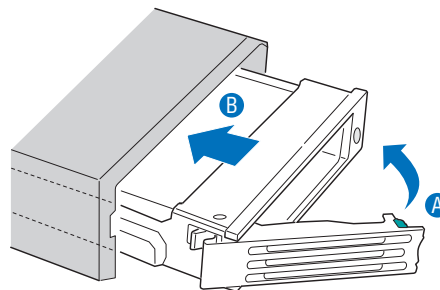
TP02209

Figure 32. Install Drive Assembly into the Server System

Removing a SAS or SATA Hot-swap Hard Disk Drive

1. Press in on the green latch at the front of the hard drive carrier. and pull out on the black lever to slide the carrier from the server system.

2. Remove the four screws that attach the hard drive to the drive carrier. Lift the drive from the carrier and store the drive in an anti-static bag.

3. If you are not installing a new drive, place the drive blank into the drive carrier, using the four screws you removed from the hard drive.

4. With the black lever in the fully open position, slide the drive carrier into the server system. The green latch must be to the right. Do not push on the black lever until the lever begins to close by itself.

Note: *All hard drive carriers must be installed in the server system and populated with either a drive or a drive blank to maintain system thermals.*

5. When the black lever begins to close by itself, push on it to lock the drive carrier into place.

Installing and Removing a Fixed Hard Drive

Cautions: *Fixed mount hard 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.*

Up to two fixed SATA drives can be installed in the Intel® Server System SR1560SF - product code SR1560SF.

Note: *See "Server System References" for an Internet link to a list of supported hardware.*

Note: *The extraction of fixed mount hard drives can only be performed by accessing the drive carrier latch from inside the chassis.*

Installing a Fixed Hard Disk Drive

1. Unlatch drive carrier from drive bay by pressing the latch at the end of the black drive rail and remove the hard drive carrier from the server system.

2. Remove the four screws securing the drive blank in place. Save the screws; you will use them to install the hard drive into the carrier.
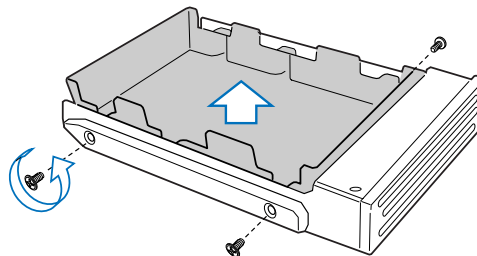
AF002380

Figure 33. Removing the Drive Blank from the Fixed Hard Drive Carrier

3. Install the hard drive into the hard drive carrier using four screws (see the figure below).
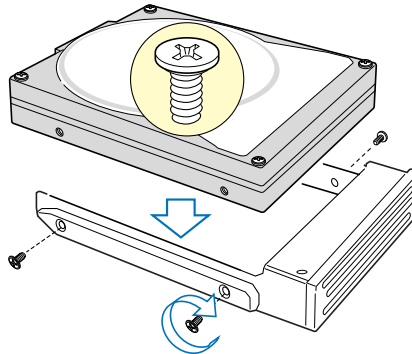
AF002381

Figure 34. Installing Fixed Hard Drive into the Carrier

4. Install the hard drive carrier into the server system until it clicks into place.

Note: *All hard drive carriers must be installed in the server system and populated with either a drive or a drive blank to maintain system thermals.*

5. Connect power to hard drive(s).

6. Connect SATA cables between the hard drive(s) and the server board.

Removing a Fixed Hard Disk Drive

1. Disconnect all cables to the hard drive(s).

2. Unlatch drive carrier from drive bay by pressing the latch at the end of the black drive rail and remove the hard drive carrier(s) from the server system.

3. Remove the four screws that attach the hard drive to the carrier. Remove the drive from the carrier and store the drive in an anti-static bag.
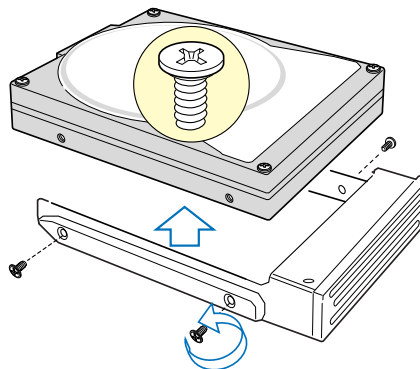
AF002382

Figure 35. Removing Fixed Hard Drive from the Server System

4. If replacing the hard drive, install the replacement drive using the four screws you just removed. For instructions, see "Installing a Fixed Hard Disk Drive".

5. If the hard drive will not be replaced, install a drive blank into the carrier using the four screws you just removed.

6. Install the hard drive carrier into the server system until it clicks into place.

Installing or Removing a Slimline Optical Drive

Cautions: *Slimline optical 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.*

To maintain proper system cooling, the provided filler blank must be installed if you do not install a device at this location.

Installing a Slimline Optical Drive

1. Remove the slimline drive bay filler blank, if installed.

2. Obtain the optical drive, the interposer board, and the drive tray.

3. Screw the interposer board into the carrier.

4. Align the two holes on the left edge of the optical drive and interposer board with the two metal tabs in the tray as shown in the figure below (see letter "A").

5. Slide the optical drive into interposer board (see letter "B") and lower the opposite side of the optical drive into the tray (see letter "C").
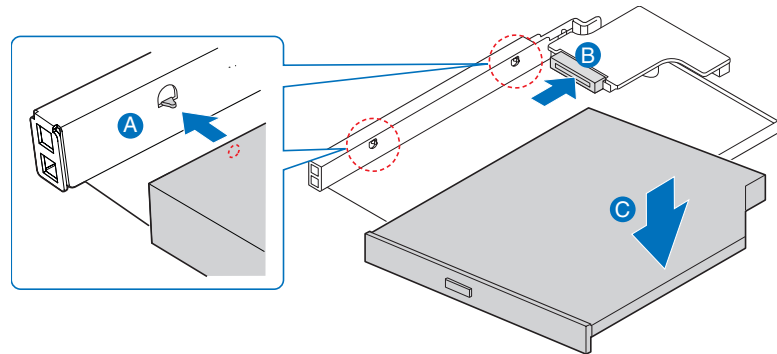
TP02210

Figure 36. Installing an Optical Drive into the Drive Tray

6. Insert the optical drive tray assembly into the server system as shown in the figure below.

AF000355
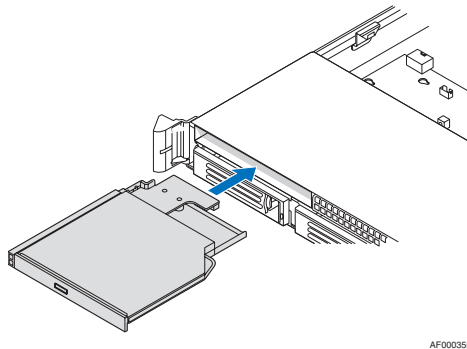
Figure 37. Installing an Optical Drive Assembly into the Server System

7. Verify that the blue release lever on the tray locks into place.
8. Obtain the cable from the hardware box and install the cable to the interposer board and the server board.

Removing a Slimline Optical Drive

1. Press the blue release lever (see letter "A") to unlock the optical drive tray and remove the slimline optical drive tray assembly from the server system (see letter "B").

AF000384
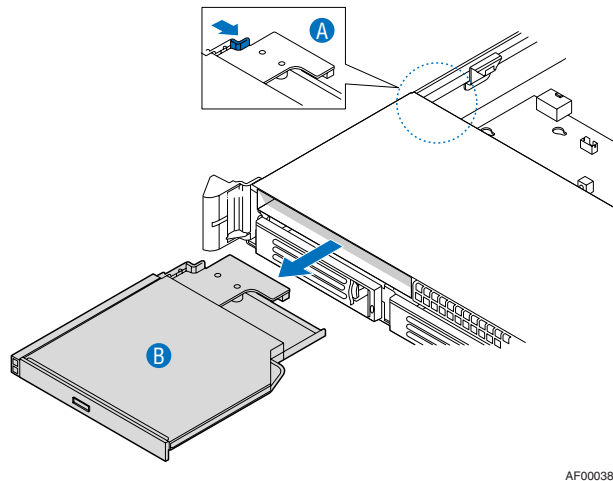
Figure 38. Removing the Slimline Optical Drive Assembly from the Server System

2. Press downward on the side of the tray (see letter "A") and disengage the drive from the two metal tabs on the opposite side of the tray.

3. Slide the optical drive out (see letter "B") and lift up (see letter "C") to remove it from the tray.

AF000152
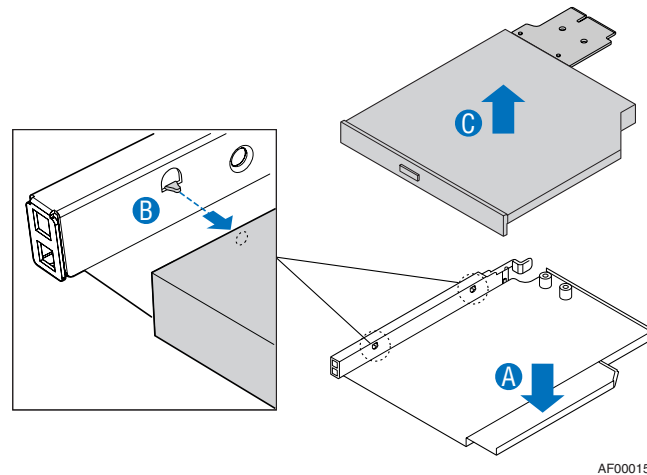
Figure 39. Removing the Slimline Optical Drive from the Tray

Filling Empty Server System Bays

A filler panel or drive blank must be installed into an empty drive bay. To access the drive bays, remove the front bezel if it is installed. For instructions, see "Removing the Front Bezel". With the bezel removed, install the appropriate panel(s), blank, or empty hard drive bay(s) as described below.

- If you do not have an optical drive installed in the slimline bay, install the slimline filler panel.

- Install populated hard drive carriers into any remaining empty hard drive bays.

Installing and Removing the PCI Riser Assembly

Removing the PCI Riser Assembly

1. Disconnect any cables attached to any add-in cards.

2. Grasp the riser assembly and pull up to release it from the system.
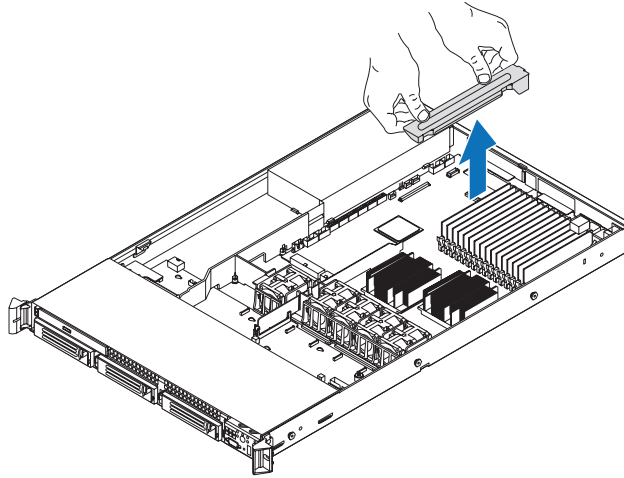
AF002354

Figure 40. Removing PCI Riser Assembly from the Server System

Installing the PCI Riser Assembly

1. Lower the riser assembly into place (see letter "A").

2. Align the two hooks in the riser assembly with the matching slots at the back of the server system (see letter "B").
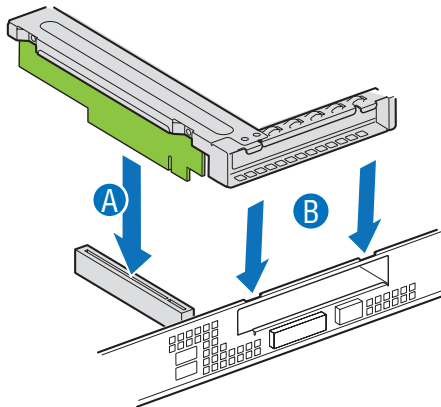
AF002355

Figure 41. Installing PCI Riser Assembly into the Server System

3. Press down uniformly until the two hooks on the rear of the PCI riser assembly engage the server system back panel slots. The riser card will seat into the matching socket on the server board. Ensure that the riser card is fully seated.

4. Connect any cables to add-in cards that require them. See your add-in card documentation for information and add-in card requirements.

Installing and Removing a PCI Add-in Card

The instructions below describe how to install and remove a PCI add-in card.

Installing a PCI Add-in Card

1. Remove the filler panel from the add-in card slot.
2. Insert add-in card until it seats in riser card connector (see letter "A").
3. Screw the add-in card in place (see letter "B").
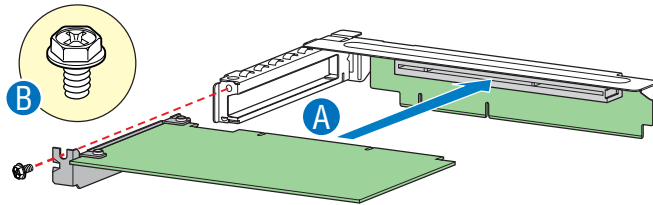
AF002367

Figure 42. Installing a Full Height Add-In Card

Note: *Make sure that all empty add-in card slots have filler panels installed.*

Removing a PCI Add-in Card

1. Remove the screw holding the add-in card in place (see letter "A").
2. Remove the PCI add-in card from the riser card connector (see letter "B").
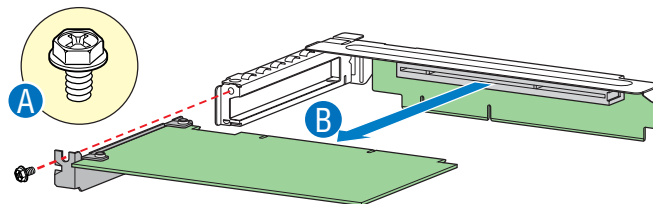
AF002368

Figure 43. Removing a Full Height Add-In Card

Note: *Make sure that all empty add-in card slots have filler panels installed.*

Installing and Removing the I/O Expansion Module(s)

Installing the I/O Expansion Module(s)

1. Squeeze the sides of the I/O expansion module cover to disengage it from the server system back panel and remove it (see letter "A").

2. Attach the standoffs to the server board (see letter "B") and attach the I/O expansion module(s) to the server board (see letter "C").
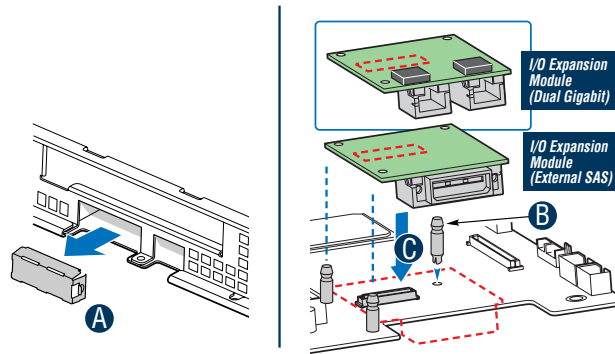
AF002376

Figure 44. Installing the I/O Expansion Module to the Server Board

Removing the I/O Expansion Module(s)

1. Remove the I/O expansion module(s) from the server board (see letter "A").

2. Remove the standoffs from the server board (see letter "B").

3. Install the I/O expansion module cover into the system back panel (see letter "C").
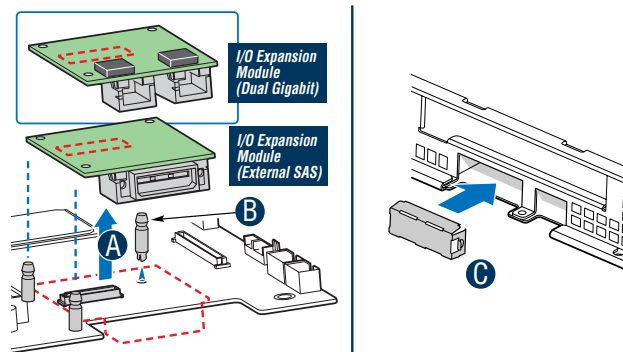
AF002377

Figure 45. Removing the I/O Expansion Module(s) from the Server Board

Installing and Removing the Intel® Remote Management Module 2 and the Intel® RMM 2 NIC

Installing the Intel® RMM2 and Intel® RMM2 NIC

1. Squeeze the sides of the Intel® RMM2 NIC module cover to disengage it from the server system back panel and remove it.

2. Attach the foam gasket to the bottom of the Intel® RMM2 NIC module (see letter "A").

Note: *The Intel® RMM2 NIC module is shown upside down in the first illustration below in order to provide better detail on installing the foam gasket.*

3. Attach the standoffs to the server board (see letter "B" in the figure below) and attach the Intel® RMM2 NIC module to the server board (see letter "C").

4. Insert the standoff into the hole labeled TH4 on the Intel® RMM2 board (see letter "D" in the figure below). The standoff installs on the bottom side of the Intel® RMM2 board.

5. Attach the Intel® RMM2 board to the server board connector and snap the standoff into the matching hole on the server board (see letter "E" in the figure below).
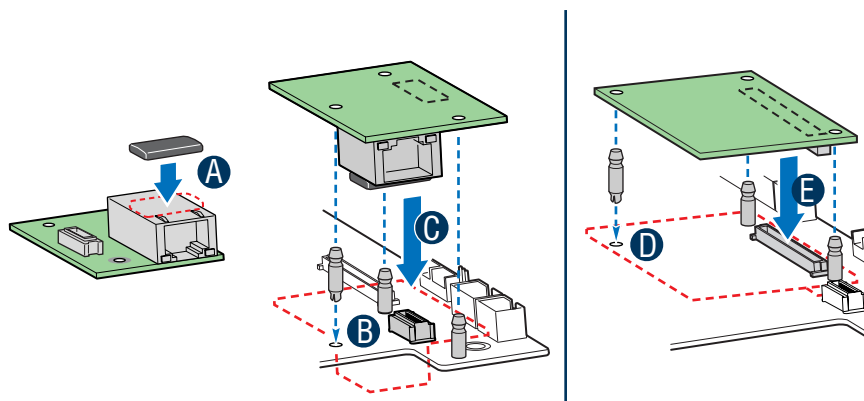
AF002378

Figure 46. Installing the Intel® RMM2 and the Intel® RMM2 NIC Module to the Server System

Removing the Intel® RMM2 and Intel® RMM2 NIC

1. Remove the Intel® RMM2 board (see letter "A") and standoffs (see letter "B") from the server board .

2. Remove the Intel® RMM2 NIC module (see letter "C") and standoffs (see letter "D") from the server board.

3. Install the Intel® RMM2 NIC module cover into the system back panel.
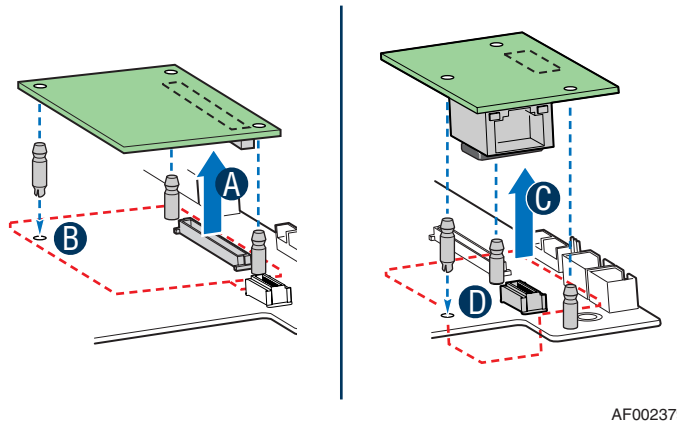
AF002379

Figure 47. Removing the Intel® RMM and the Intel® RMM NIC Module from the Server System

Installing/Replacing the Backplane Board (Hot-swap Drive System Only)

The instructions below describe how to install and replace the backplane board.

Installing the Backplane Board

1. Lower the backplane board into the system (see letter "A") and position the backplane board over the retention pins as shown.

2. Slide the backplane board to the left (see letter "B") to lock it in place and tighten the captive screw (see letter "C").

3. Connect power to the backplane power connector (see letter "D").
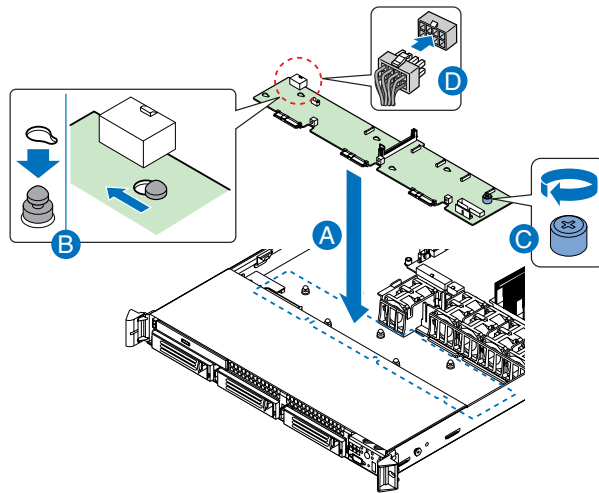
AF002348

Figure 48. Installing the Backplane into the Server System

4. Connect fan, USB, and front panel cables as necessary to the backplane board.

5. Install the bridge board by opening the retention mechanism (see letter "A") and inserting it into the connector on the server board (see letter "B"). Close the retention mechanism to hold the bridge board in place.
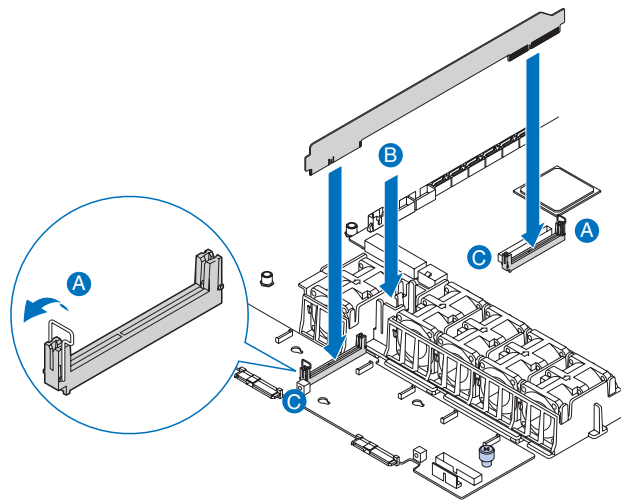
AF000372

Figure 49. Installing the Bridge Board into the Server System

Removing the Backplane Board

1. Disengage hard drives from the backplane board.

1. Disconnect all cables from the backplane board.

2. Remove the bridge board by lifting the retention mechanism from the backplane and the server board (see letter "A"), and lifting straight up (see letter "B").
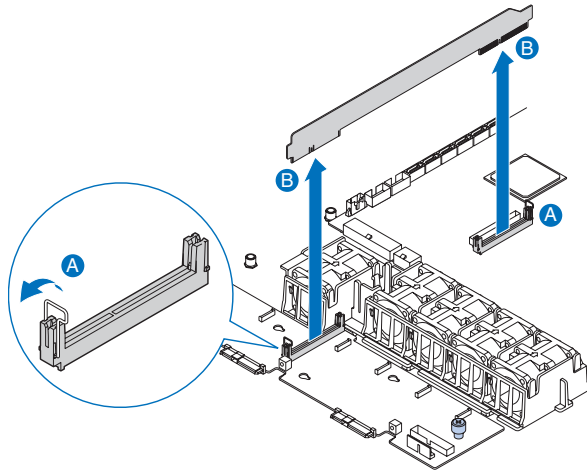
AF000373

Figure 50. Removing the Bridge Board from the Server System

3. Disconnect the power from the backplane board (see letter "A").

4. Loosen the captive screw on the backplane board (see letter "B").

5. Hold the backplane board only by the edges. Slide the backplane board to the right to release it and lift it over the retention pins (see letter "C").

6. Lift the backplane board out of the server system (see letter "D").
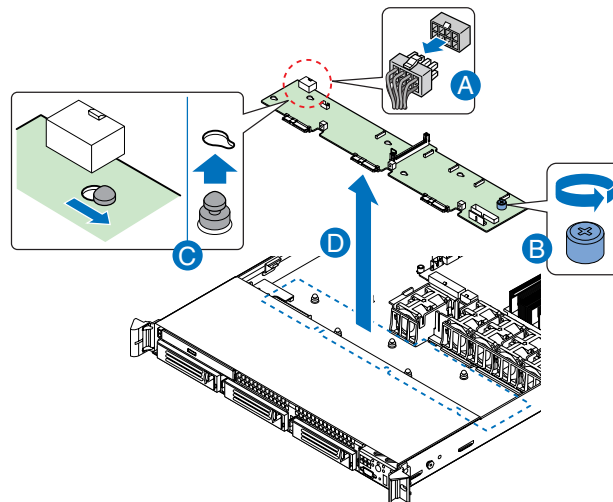
AF002349

Figure 51. Removing the Backplane from the Server System

7. Install a replacement backplane. For instructions, see "Installing the Backplane Board".

8. Install the bridge board (see Figure 49).

Replacing the Fan Board (Fixed Drive System Only)

The instructions below describe how to replace the fan board.

Removing the Fan Board

1. Disconnect all fan cables from the fan board.

2. Disconnect the power from the fan board (see letter "A").

3. Remove the screw from the fan board (see letter "B").

4. Hold the fan board only by the edges. Slide the fan board to the right to release it and lift it over the retention pins (see letter "C").

5. Lift the fan board out of the server system (see letter "D").
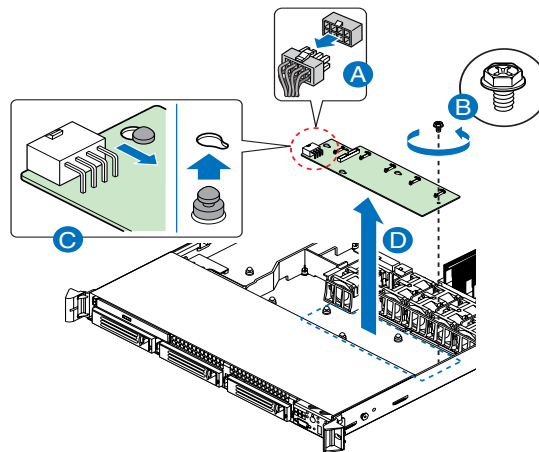
AF002351

Figure 52. Removing the Fan Board from the Server System

6. Install a replacement fan board. For instructions, see "Installing the Fan Board".

Intel® Server System SR1560SF Service Guide

Installing the Fan Board

1. Lower the fan board into the system (see letter "A") and position the fan board over the retention pins as shown.

2. Slide the fan board to the left (see letter "B") to lock it in place and install the screw (see letter "C").

3. Connect power to the fan board power connector (see letter "D").
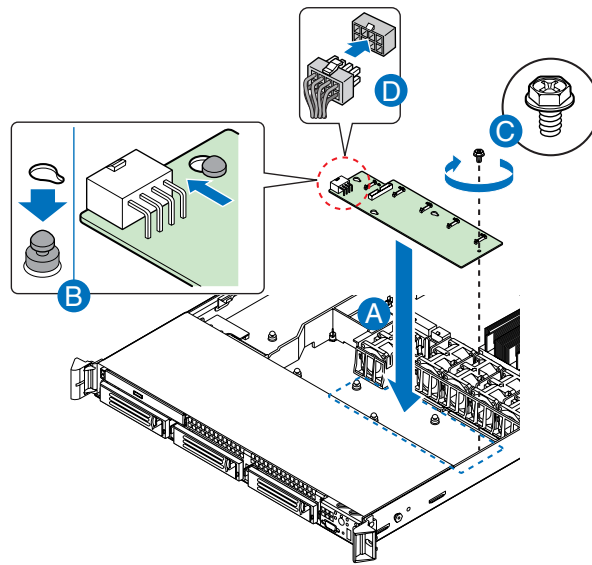
AF002350

Figure 53. Installing the Fan Board into the Server System

4. Connect fan cables to the fan board.

Replacing the Server Board

Removing the Server Board

1. Remove CPU air duct and blue air baffle.

2. If installed, remove memory, processor heat sinks, and processors from the server board.

3. If installed, remove bridge board (hot-swap systems only).

4. If installed, remove the PCI riser assembly.

5. If installed, disconnect all SATA cables from the server board.

6. Remove the system fan assembly.

7. Disconnect all power cables coming from the power supply to the server board.

8. Remove the seven screws from the server board (see letter "A") and lift the server board from the server system (see letter "B").
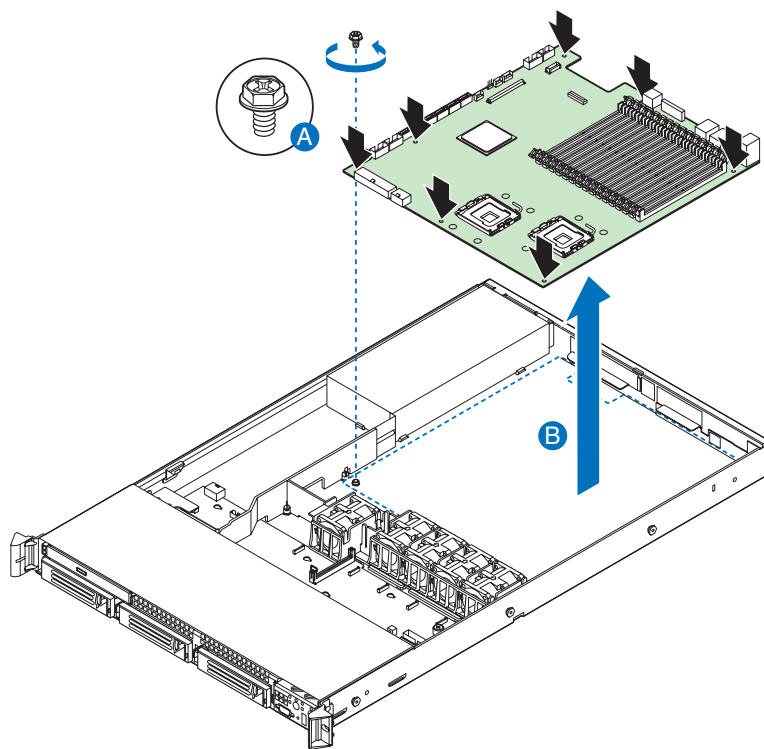
AF002346

Figure 54. Removing the Server Board

9. Install the replacement server board. For instructions, see "Installing the Server Board".

Installing the Server Board

1. Place the server board into the server system as shown in the figure below (see letter "A").

2. Attach the server board with seven screws (see letter "B").
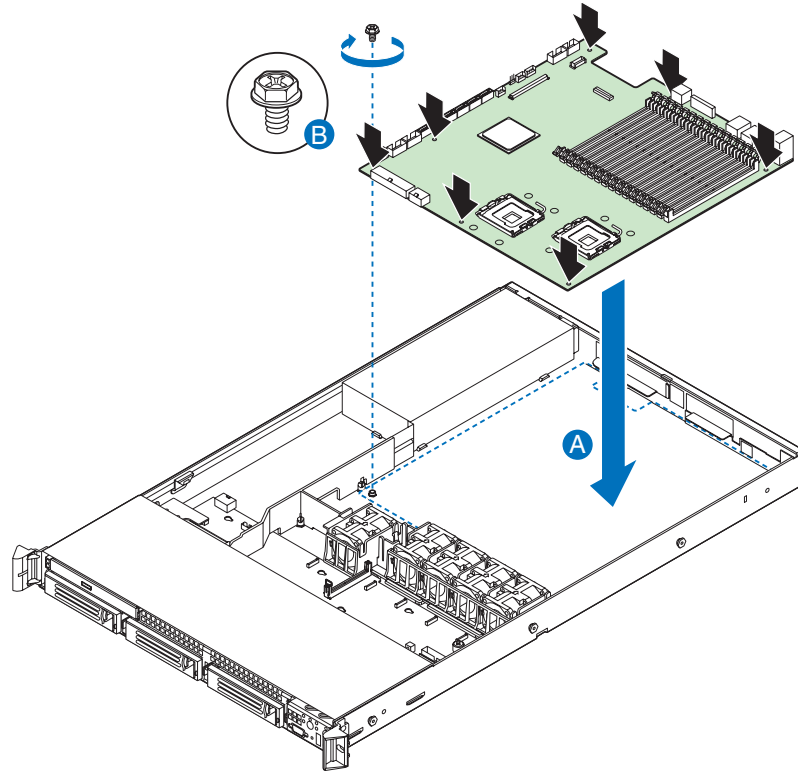
AF002347

Figure 55. Installing the Server Board

3. Re-connect all power cables coming from the power supply to the server board.

4. Install the system fan assembly.

5. Re-connect all SATA cables to the server board.

6. Install the PCI riser assembly.

7. Install the bridge board (hot-swap systems only).

8. Install memory, processor heat sinks, and processors.

9. Install the CPU air duct and blue air baffle.

Replacing the Backup Battery

The lithium battery on the server board powers the RTC for up to 10 years in the absence of power. When the battery starts to weaken, it loses voltage, and the server settings stored in CMOS RAM in the RTC (for example, the date and time) may be wrong. Contact your customer service representative or dealer for a list of approved devices.

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. Locate the battery and insert the tip of a small flat bladed screwdriver, or an equivalent, under the tab in the plastic retainer. Gently push down on the screwdriver to lift the battery.

2. Remove the battery from its socket.
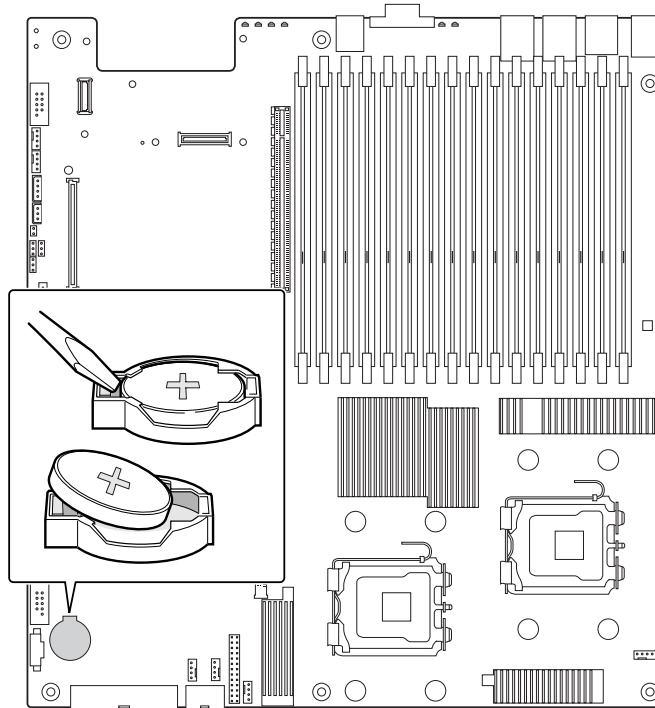
AF002375

Figure 56. Replacing the Backup Battery

3. Dispose of the battery according to local ordinance.

4. Remove the new lithium battery from its package, and, being careful to observe the correct polarity, insert it in the battery socket.

Note: *You will need to run BIOS Setup to restore the system configuration settings to the RTC.*

Replacing the Power Supply

Caution: *The power supply is not hot-swappable. Before removing or replacing the power supply, 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.*

The power supply can be replaced if it fails or if one of the fans that is integrated into it fails. To replace the power supply, use the following instructions.

1. Disconnect all power cables.

2. Lift the power supply to disengage it from the latch (see letter "A") and remove the power supply by sliding it out (see letter "B").
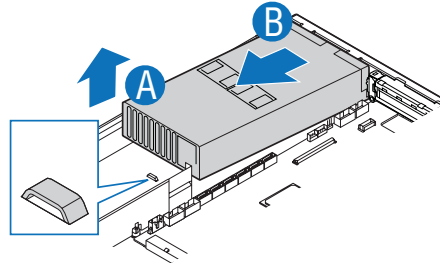
AF002358

Figure 57. Removing Power Supply from the Server System

3. Insert the replacement power supply module (see letter "A") until it clicks into place behind the latch (see letter "B"). Reconnect all power cables.
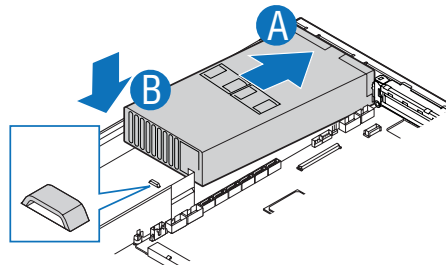
AF002359

Figure 58. Installing Power Supply into the Server System

Replacing the Control Panel Module (Hot-swap Drive System)

Your server must be operated with a control panel installed.

Caution: *The control panel is NOT hot-swappable. Before removing or replacing the control panel, 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. Unplug the front panel and USB cables from the backplane (see letters "A" and "B").

2. Press the latch at the back of the control panel (see letter "C").

3. Slide the control panel out through the front of the server system (see letter "D").
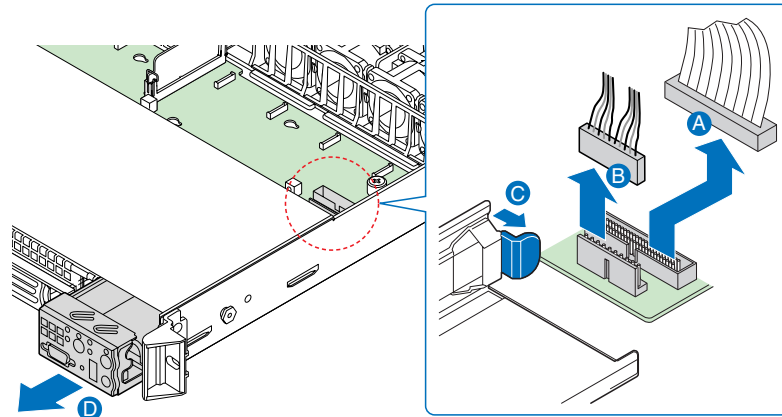
AF002342

Figure 59. Removing the Control Panel Module (Hot-swap Drive System)

4. Slide the replacement control panel into the server system (see letter "A") until it clicks into place.

5. Connect the USB and front panel cables to the connectors on the backplane (see letters "B" and "C").
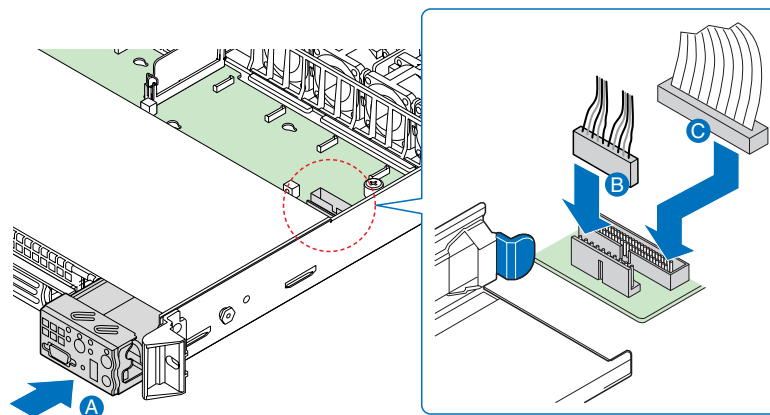
AF002343

Figure 60. Installing Control Panel Module into the Server System (Hot-swap Drive System)

Replacing the Control Panel Module (Fixed Drive System)

Your server must be operated with a control panel installed.

Caution: *The control panel is NOT hot-swappable. Before removing or replacing the control panel, 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. Unplug the USB cable from the server board (see letter "A").

2. Unplug the front panel cable from the server board (see letter "B").

3. Remove the cables from the retaining clip on the fan board (see letter "C").

4. Press the latch at the back of the control panel (see letter "D").

5. Slide the control panel out through the front of the server system (see letter "E").
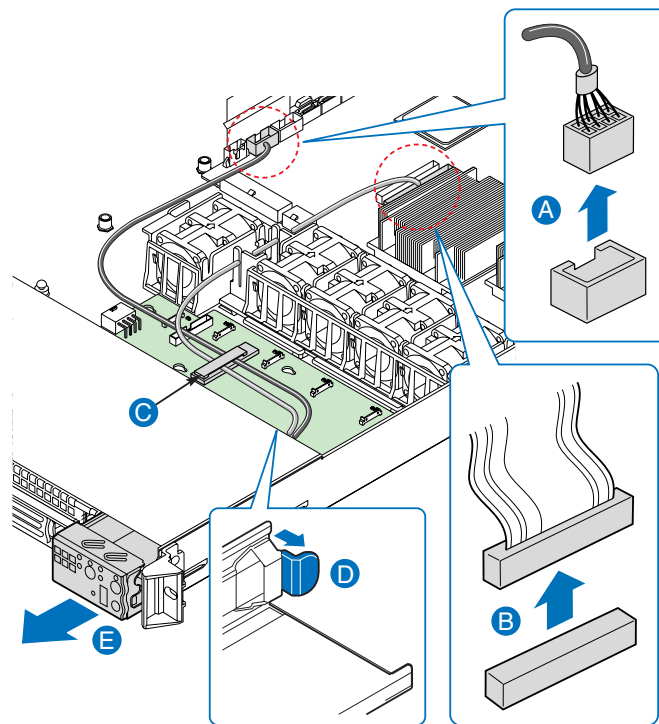
AF002344

Figure 61. Removing the Control Panel Module (Fixed Drive System)

6. Slide the replacement control panel into the server system (see letter "A") until it clicks into place.

7. Route the USB and front panel cables through the retaining clip on the fan board (see letter "B").

8. Connect the front panel cable to the connector on the server board (see letter "C").

9. Connect the USB cable to the connector on the server board (see letter "D").
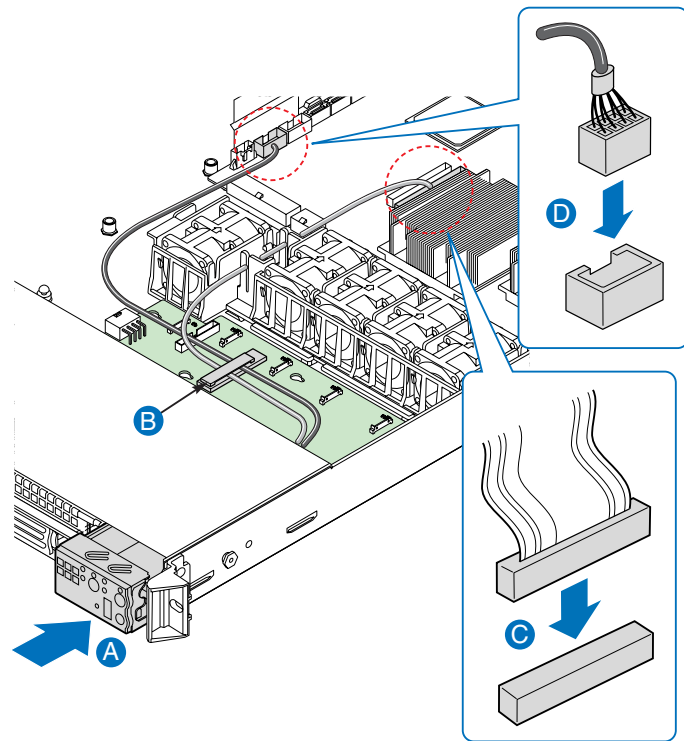
AF002345

Figure 62. Installing Control Panel Module into the Server System (Fixed Drive System)

Replacing a System Fan

Caution: *The system fans operate at extremely fast speeds; the fans are 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.*

Note: *The fans that are integrated into the power supply cannot be replaced separately. If one of the fans in the power supply fails, the power supply must be replaced.*

The system fans at the front of the Intel® Server System SR1560SF can be individually replaced if one of them fails. Use the steps below to replace a fan.

1. Disconnect the fan cable from the backplane or fan board (see letter "A"). Lift the failed fan from the module (see letter "B").
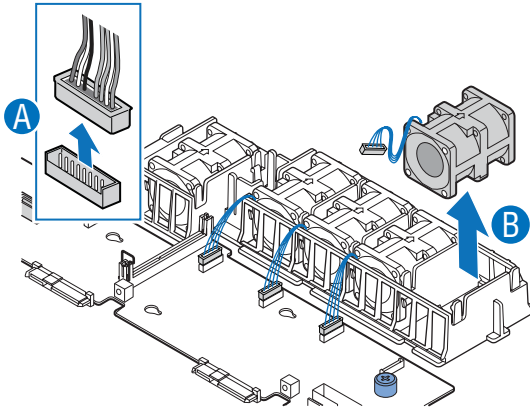
AF002356

Figure 63. Removing a Fan from the Fan Module

2. Position the replacement fan so the connector on the fan is at the right and pointing down.

3. With the fan oriented correctly, insert the fan into the fan module (see letter "A"), and insert the fan cable into the matching connector on the backplane or fan board (see letter "B").
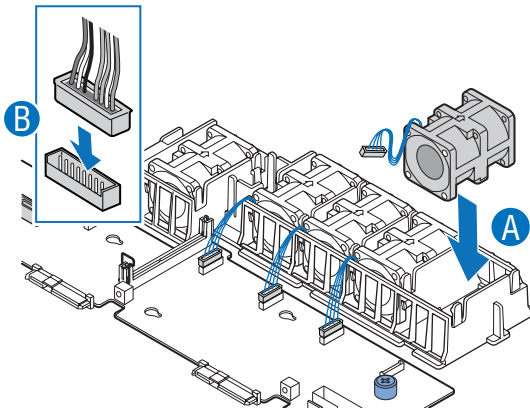
AF002357

Figure 64. Installing a Fan into the Fan Module

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Installing and Removing the Rack Handles

Installing the Rack Handles

Align the rack handle with the two holes on the side of the server system and attach the rack handle with the two screws.

AF000377
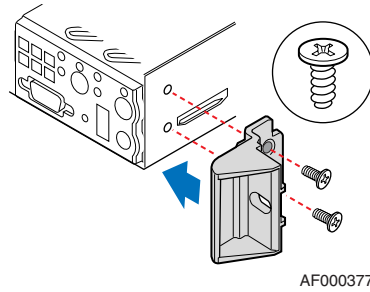
Figure 65. Installing the Rack Handle

Removing the Rack Handles

Remove the two screws holding the rack handle in place, and remove the rack handle from the server system.

AF000378
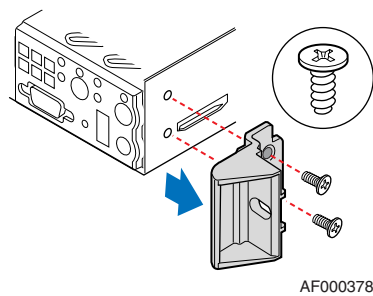
Figure 66. Removing the Rack Handle

4   Server Utilities

Using the BIOS Setup Utility

This section describes the BIOS Setup Utility options, which is used to change server configuration defaults. You can run BIOS Setup with or without an operating system being present. See "Server System References" for a link to the Intel® Server Board S5400SF Technical Product Specification where you will 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 have moved the CMOS jumper on the server board to the "Clear CMOS" position (enabled).

In the two conditions listed above, during the Power On Self Test (POST), you will see this prompt:

```
Press <F2> to enter SETUP
```

In a third condition, when CMOS/NVRAM has been 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 will load default values for CMOS and attempt to boot.

If You Cannot Access Setup

If you are not able to access 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 that are provided only to display automatically configured information, each feature is associated with a value field that contains user-selectable parameters. These parameters can be changed if the user has adequate security rights. If a value cannot be changed for any reason, the feature's value field is inaccessible.

"Setup Menu Key Use" describes the keyboard commands you can use in the BIOS Setup menus.

Table 4. Setup Menu Key Use

Key to Press	Description
<F1>	Pressing <F1> on any menu invokes the general help window.
Left and right arrows	The left and right arrow keys are used to move between the major menu pages. The keys have no affect if a submenu or pick list is displayed.
Up arrow	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.
Down arrow	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> or <->	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> or <+>	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 changes can be discarded.
<F9>	Setup Defaults - Pressing <F9> causes the following to appear: 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.

Table 4. Setup Menu Key Use

Key to Press	Description

<F10>	Save and Exit - Pressing <F10> causes the following message to appear:
	
	               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 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 system 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
- Microcode
- A way to change the BIOS language

Preparing for the Upgrade

The steps below explain how to prepare to upgrade the BIOS, including how to record the current BIOS settings and how to obtain the upgrade utility.

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.

Note: *Do not skip step 2. You will need these settings to configure your server at the end of the procedure.*

Obtaining the Upgrade

Download the BIOS image file to a temporary folder on your hard drive. See "Server System References" for a link to the update software.

Note: *Review the instructions and release notes that are provided in the readme file distributed with the BIOS image file before attempting a BIOS upgrade. The release notes contain critical information regarding jumper settings, specific fixes, or other information to complete the upgrade.*

Upgrading the BIOS

Follow the instructions in the readme file that came with the BIOS upgrade. When the update completes, remove the bootable media from which you performed the upgrade.

Caution: *Do not power down the system during the BIOS update process! Doing so may corrupt the system BIOS.*

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.*

Clearing the CMOS

If you are not able to access the BIOS setup screens, the CMOS Clear jumper will need to be used to reset the configuration RAM.

1. Power down the system; do not disconnect the AC power.

2. Open the server.

3. Move the jumper from the normal operation position, CMOS Protect at pins 1 and 2, to the CMOS Clear Force Erase position, covering pins 2 and 3.

AF002170
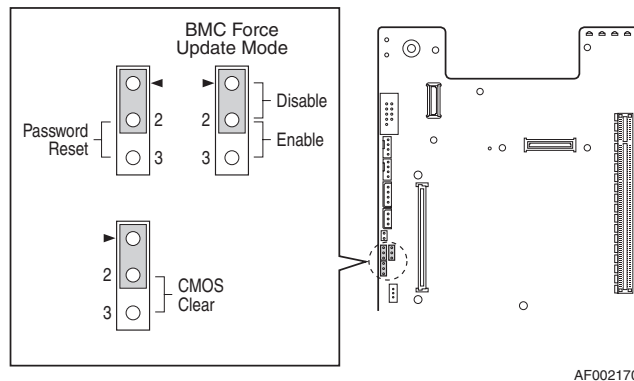
Figure 67. Clear CMOS Jumper

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4. Wait five seconds.

5. Return the CMOS Clear jumper to the CMOS Protect location, covering pins 1 and 2.

6. Close the server chassis.

7. Power up the system.

8. The CMOS is now cleared and can be reset by going into the BIOS setup.

Resetting the Password

If the user or administrator password(s) is lost or forgotten, moving the password reset jumper into the "clear" position clears both passwords. The password reset jumper must be restored to its original position before a new password(s) can be set.

1. Power down the system; do not disconnect the AC power.

2. Open the server system.

3. Move the jumper from the normal operation position, Password Clear Protect, at pins 1 and 2 to the Password Clear Erase position, covering pins 2 and 3.
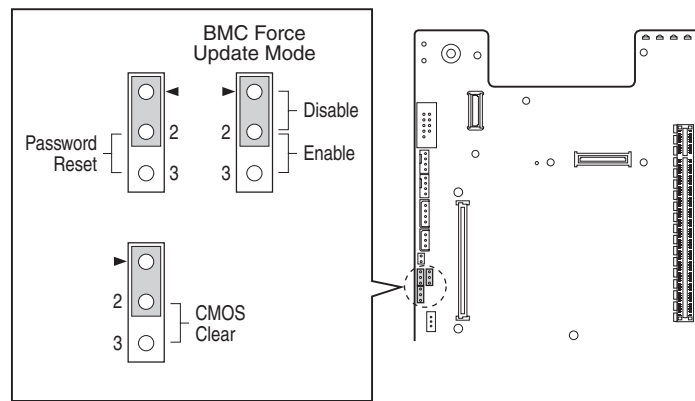
Figure 68. Password Reset Jumper

4. Wait five seconds.

5. Return the Password Reset jumper to the Password Clear Protect position, covering pins 1 and 2.

6. Close the server system.

7. Power up the server.

8. The password is now cleared and can be reset by going into BIOS setup.

Appendix A: Technical Reference

600W Single Power Supply Input Voltages

- 100-127V at 50/60 Hz; 8.55 A max.
- 200-240V at 50/60 Hz; 4.3 A max.

System Environmental Specifications

Table 5. System Environmental Specifications

Temperature	
Non-operating	-40 ° to +70 °C.
Operating	10° C to 35° C (50° F to 90° F) with the maximum rate of change not to exceed 10° C per hour
Humidity	
Non-operating	90% relative humidity (non-condensing) at 28 °C.
Shock	
Operating	2.0 g, 11 msec, 1/2 sine
Unpackaged	Trapezoidal, 25 g, velocity change 136 inches/sec (40 lbs to > 80 lbs)
Packaged	Non-palletized free fall at a height of 24 inches (40 lbs to > 80 lbs)
Acoustic noise	Sound Pressure: 55 dBA (rack mount) in an idle state at typical office ambient temperature. (23 +/- degrees C) Sound Power: 7.0 BA in an idle state at typical office ambient temperature. (23 +/- 2 degrees C).
Electrostatic discharge (ESD)	+/-15kV except I/O port +/-8KV, per Intel Environmental Test Specification.

Appendix B: Intel® Server Issue Report Form

Note: *An on-line / automatic submission version of this form is available at http://support.intel.com/support/motherboards/server/s5400sf/. For the fastest service, please submit your form via the Internet.*

Date Submitted: _____

Company Name: _____

Contact Name: _____

Email Address: _____

Intel Server Product: _____

Priority (Critical, Hot, High, Low): _____

Brief Problem Description. Provide a brief description below. See the last page for space to include a detailed problem description.

_____

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Board / Chassis Information

Baseboard Revision - PBA#: _____

Baseboard Serial Number: _____

Chassis Model: _____

CPU1 Speed/Stepping/Spec: _____

CPU2 Speed/Stepping/Spec: _____

System BIOS Version: _____

HSC Firmware Version: _____

DIMM Configuration

DIMM A1 MB and Vendor / part number: _____

DIMM A2 MB and Vendor / part number: _____

DIMM A3 MB and Vendor / part number: _____

DIMM A4 MB and Vendor / part number: _____

DIMM B1 MB and Vendor / part number: _____

DIMM B2 MB and Vendor / part number: _____

DIMM B3 MB and Vendor / part number: _____

DIMM B4 MB and Vendor / part number: _____

DIMM C1 MB and Vendor / part number: _____

DIMM C2 MB and Vendor / part number: _____

DIMM C3 MB and Vendor / part number: _____

DIMM C4 MB and Vendor / part number: _____

DIMM D1 MB and Vendor / part number: _____

DIMM D2 MB and Vendor / part number: _____

DIMM D3 MB and Vendor / part number: _____

DIMM D4 MB and Vendor / part number: _____

Operating System Information

Operating System:_____

Version: _____

Service Pack:_____

Add-in Card, Peripheral, Video, NIC

Check each box below as applicable, and provide the requested information.

Peripheral Card or Peripheral Description Driver Revision IRQ # I/O Base Address NIC

Peripheral	Description	Driver Revision	IRQ	I/O Base Address	FW Revision
PCIe* Gen2					
Riser Card Slot					
Video					
On-board Video					
Add-in Video					
NIC					
On-Board NIC1					
On-Board NIC2					

Hard Drive Information

Drive Type (SATA/SAS)	Make/Model	Hot-swap or Fixed	IRQ	FW Revision

Management Information

On-Board Platform Instrumentation only _____

Intel® Remote Management Module _____

Complete Problem Description

In the space below, provide a complete description of the steps used to reproduce the problem or a complete description of where the problem can be found. Please also include any details on troubleshooting already done.

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Appendix C: LED Decoder

During the system boot process, BIOS executes a number of platform configuration processes, each of which is assigned a specific hex POST code number. As each configuration routine is started, BIOS will display the given POST code to the POST Code Diagnostic LEDs found on the back edge of the server board. To assist in troubleshooting a system hang during the POST process, the Diagnostic LEDs can be used to identify the last POST process to be executed.

Each POST code will be represented by a combination of colors from the four LEDs. The LEDs are capable of displaying three colors: green, red, and amber. The POST codes are divided into two nibbles, an upper nibble and a lower nibble. Each bit in the upper nibble is represented by a red LED and each bit in the lower nibble is represented by a green LED. If both bits are set in the upper and lower nibbles then both red and green LEDs are lit, resulting in an amber color. If both bits are clear, then the LED is off.

In the below example, BIOS sends a value of ACh to the diagnostic LED decoder. The LEDs are decoded as follows:

- red bits = 1010b = Ah
- green bits = 1100b = Ch

Since the red bits correspond to the upper nibble and the green bits correspond to the lower nibble, the two are concatenated to be ACh.

Table 6. POST Progress Code LED Example

	8h		4h		2h		1h	
LEDs	**Red**	**Green**	**Red**	**Green**	**Red**	**Green**	**Red**	**Green**
ACh	1	1	0	1	1	0	0	0
Result	Amber		Green		Red		Off	
	MSB						LSB	
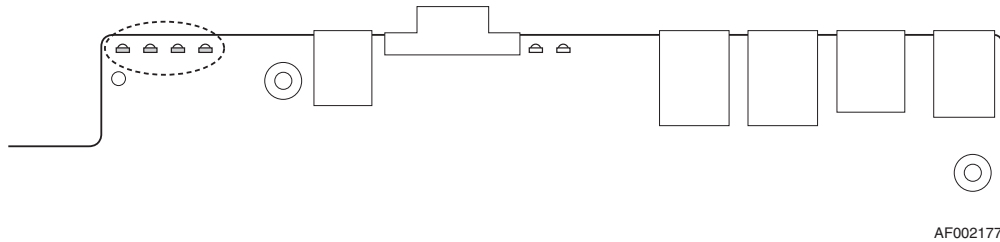
AF002177

Figure 69. Diagnostic LED Placement Diagram

Table 7. Diagnostic LED POST Code Decoder

Checkpoint	Diagnostic LED Decoder				Description
	G=Green, R=Red, A=Amber				
	MSB			LSB	
Host Processor					
0x10h	OFF	OFF	OFF	R	Power-on initialization of the host processor (bootstrap processor)
0x11h	OFF	OFF	OFF	A	Host processor cache initialization (including AP)
0x12h	OFF	OFF	G	R	Starting application processor initialization
0x13h	OFF	OFF	G	A	SMM initialization
Chipset					
0x21h	OFF	OFF	R	G	Initializing a chipset component
Memory					
0x22h	OFF	OFF	A	OFF	Reading configuration data from memory (SPD on DIMM)
0x23h	OFF	OFF	A	G	Detecting presence of memory
0x24h	OFF	G	R	OFF	Programming timing parameters in the memory controller
0x25h	OFF	G	R	G	Configuring memory parameters in the memory controller
0x26h	OFF	G	A	OFF	Optimizing memory controller settings
0x27h	OFF	G	A	G	Initializing memory, such as ECC init
0x28h	G	OFF	R	OFF	Testing memory

Table 7. Diagnostic LED POST Code Decoder

PCI Bus					
0x50h	OFF	R	OFF	R	Enumerating PCI busses
0x51h	OFF	R	OFF	A	Allocating resources to PCI busses
0x52h	OFF	R	G	R	Hot Plug PCI controller initialization
0x53h	OFF	R	G	A	Reserved for PCI bus
0x54h	OFF	A	OFF	R	Reserved for PCI bus
0x55h	OFF	A	OFF	A	Reserved for PCI bus
0x56h	OFF	A	G	R	Reserved for PCI bus
0x57h	OFF	A	G	A	Reserved for PCI bus
USB					
0x58h	G	R	OFF	R	Resetting USB bus
0x59h	G	R	OFF	A	Reserved for USB devices
ATA / ATAPI / SATA					
0x5Ah	G	R	G	R	Resetting PATA / SATA bus and all devices
0x5Bh	G	R	G	A	Reserved for ATA
SMBUS					
0x5Ch	G	A	OFF	R	Resetting SMBUS
0x5Dh	G	A	OFF	A	Reserved for SMBUS
Local Console					
0x70h	OFF	R	R	R	Resetting the video controller (VGA)
0x71h	OFF	R	R	A	Disabling the video controller (VGA)
0x72h	OFF	R	A	R	Enabling the video controller (VGA)
Remote Console					
0x78h	G	R	R	R	Resetting the console controller
0x79h	G	R	R	A	Disabling the console controller
0x7Ah	G	R	A	R	Enabling the console controller
Keyboard (PS2 or USB)					
0x90h	R	OFF	OFF	R	Resetting the keyboard
0x91h	R	OFF	OFF	A	Disabling the keyboard
0x92h	R	OFF	G	R	Detecting the presence of the keyboard
0x93h	R	OFF	G	A	Enabling the keyboard

Table 7. Diagnostic LED POST Code Decoder

0x94h	R	G	OFF	R	Clearing keyboard input buffer
0x95h	R	G	OFF	A	Instructing keyboard controller to run Self Test (PS2 only)
Mouse (PS2 or USB)					
0x98h	A	OFF	OFF	R	Resetting the mouse
0x99h	A	OFF	OFF	A	Detecting the mouse
0x9Ah	A	OFF	G	R	Detecting the presence of mouse
0x9Bh	A	OFF	G	A	Enabling the mouse
Fixed Media					
0xB0h	R	OFF	R	R	Resetting fixed media device
0xB1h	R	OFF	R	A	Disabling fixed media device
0xB2h	R	OFF	A	R	Detecting presence of a fixed media device (IDE hard drive detection, etc.)
0xB3h	R	OFF	A	A	Enabling / configuring a fixed media device
Removable Media					
0xB8h	A	OFF	R	R	Resetting removable media device
0xB9h	A	OFF	R	A	Disabling removable media device
0xBAh	A	OFF	A	R	Detecting presence of a removable media device (IDE CDROM detection, etc.)
0xBCh	A	G	R	R	Enabling / configuring a removable media device
Boot Device Selection					
0xD0	R	R	OFF	R	Trying boot device selection
0xD1	R	R	OFF	A	Trying boot device selection
0xD2	R	R	G	R	Trying boot device selection
0xD3	R	R	G	A	Trying boot device selection
0xD4	R	A	OFF	R	Trying boot device selection
0xD5	R	A	OFF	A	Trying boot device selection
0xD6	R	A	G	R	Trying boot device selection
0xD7	R	A	G	A	Trying boot device selection
0xD8	A	R	OFF	R	Trying boot device selection
0xD9	A	R	OFF	A	Trying boot device selection
0XDA	A	R	G	R	Trying boot device selection
0xDB	A	R	G	A	Trying boot device selection

Table 7. Diagnostic LED POST Code Decoder

0xDC	A	A	OFF	R	Trying boot device selection
0xDE	A	A	G	R	Trying boot device selection
0xDF	A	A	G	A	Trying boot device selection
Pre-EFI Initialization (PEI) Core					
0xE0h	R	R	R	OFF	Started dispatching early initialization modules (PEIM)
0xE2h	R	R	A	OFF	Initial memory found, configured, and installed correctly
0xE1h	R	R	R	G	Reserved for initialization module use (PEIM)
0xE3h	R	R	A	G	Reserved for initialization module use (PEIM)
Driver Execution Environment (DXE) Core					
0xE4h	R	A	R	OFF	Entered EFI driver execution phase (DXE)
0xE5h	R	A	R	G	Started dispatching drivers
0xE6h	R	A	A	OFF	Started connecting drivers
DXE Drivers					
0xE7h	R	A	A	G	Waiting for user input
0xE8h	A	R	R	OFF	Checking password
0xE9h	A	R	R	G	Entering BIOS setup
0xEAh	A	R	A	OFF	Flash Update
0xEEh	A	A	A	OFF	Calling Int 19. One beep unless silent boot is enabled.
0xEFh	A	A	A	G	Unrecoverable boot failure / S3 resume failure
Runtime Phase / EFI Operating System Boot					
0xF4h	R	A	R	R	Entering Sleep state
0xF5h	R	A	R	A	Exiting Sleep state
0xF8h	A	R	R	R	Operating system has requested EFI to close boot services (ExitBootServices ( ) has been called)
0xF9h	A	R	R	A	Operating system has switched to virtual address mode (SetVirtualAddressMap ( ) has been called)
0xFAh	A	R	A	R	Operating system has requested the system to reset (ResetSystem () has been called)
Pre-EFI Initialization Module (PEIM) / Recovery					
0x30h	OFF	OFF	R	R	Crisis recovery has been initiated because of a user request

Table 7. Diagnostic LED POST Code Decoder

0x31h	OFF	OFF	R	A	Crisis recovery has been initiated by software (corrupt flash)
0x34h	OFF	G	R	R	Loading crisis recovery capsule
0x35h	OFF	G	R	A	Handing off control to the crisis recovery capsule
0x3Fh	G	G	A	A	Unable to complete crisis recovery.

Appendix D: Getting Help

World Wide Web

http://support.intel.com/support/motherboards/server/s5400sf/.

Telephone

All calls are billed per incident, levied in local currency at the applicable credit card exchange rate plus applicable taxes. (Intel reserves the right to change the pricing for telephone support at any time without notice).

Before calling, fill out an "Intel® Server Issue Report Form". A sample form is provided on the following pages. However, for the fastest service, please submit your form via the Internet.

For an updated support contact list, see http://www.intel.com/support/9089.htm/

U.S. and Canada

916-377-7000

Europe

Belgium 02 714 3182

Denmark ... 38 487077

Finland 9 693 79297

France........ 01 41 918529

Germany ... 069 9509 6099

Holland...... 020 487 4562

Italy............ 02 696 33276

Norway 23 1620 50

Spain.......... 91 377 8166

Sweden....... 08 445 1251

UK............. 870 6072439

In Asia-Pacific region

Australia.... 1800 649931

Cambodia.. 63 2 636 9797 (via Philippines)

China .... 800 820 1100 (toll-free)

.... 8 621 33104691 (not toll-free)

Hong Kong 852 2 844 4456

India.......... 0006517 2 68303634 (manual toll-free. You need an IDD-equipped telephone)

Indonesia ... 803 65 7249

Korea 822 767 2595

Malaysia 1 800 80 1390

Myanmar... 63 2 636 9796 (via Philippines)

New Zealand 0800 444 365

Pakistan..... 632 63684 15 (IDD via Philippines)

Philippines 1 800 1 651 0117

Singapore .. 65 6213-1311

Taiwan 2 2545-1640

Thailand 1 800 631 0003

Vietnam ..... 632 6368416 (IDD via Philippines)

Japan

Domestic.... 0120 868686

Outside country   81 298 47 0800

Latin America

Argentina .. Contact AT&T USA at 0-800 222 1288. Once connected, dial 800 843 4481

Brazil 001-916 377 0180

Chile

> **Easter Island**. .... Contact AT&T USA at 800 800 311. Once connected, dial 800 843 4481
> **Mainland and Juan** .. Contact AT&T USA at 800 225 288. Once connected, dial 800 843 4481

Colombia ... Contact AT&T USA at 01 800 911 0010. Once connected, dial 800 843 4481

Costa Rica . Contact AT&T USA at 0 800 0 114 114. Once connected, dial 800 843 4481

Ecuador

        (Andimate) .... Contact AT&T USA at 1 999 119. Once connected, dial 800 843 4481

        (Pacifictel) ..... Contact AT&T USA at 1 800 225 528. Once connected, dial 800 843 4481

Guatemala . Contact AT&T USA at 99 99 190. Once connected, dial 800 843 4481

Mexico .... Contact AT&T USA at 001 800 462 628 4240. Once connected, dial 800 843 4481

Miami 1 800 621 8423

Panama ...... Contact AT&T USA at 00 800 001 0109. Once connected, dial 800 843 4481

Paraguay ... 001 916 377 0114

Peru 001 916 377 0114

Uruguay 001 916 377 0114

Venezuela ... Contact AT&T USA at 0 800 2255 288. Once connected, dial 800 843 4481

Appendix E: 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 server system, 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 system 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 Regulatory Compliance References

The following table references Server Chassis Compliance and markings that may appear on the product. Markings below are typical markings however, may vary or be different based on how certification is obtained.

Note: Certifications Emissions requirements are to Class A.

Table 8. Product Regulatory Compliance Markings

Compliance Regional Description	Compliance Reference	Compliance Reference Marking Example
Australia / New Zealand	AS/NZS 3548 (Emissions)	N232
Argentina	IRAM Certification (Safety)	
Belarus	Belarus Certification	None Required
Canada / USA	CSA 60950 - UL 60950 (Safety)	
Canada / USA	Industry Canada ICES-003 (Emissions)	CANADA ICES-003 CLASS A CANADA NMB-003 CLASSE A
	FCC CFR 47, Part 15 (Emissions)	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

Table 8. Product Regulatory Compliance Markings

Compliance Regional Description	Compliance Reference	Compliance Reference Marking Example
CENELEC Europe	Low Voltage Directive 93/68/EEC; EMC Directive 89/336/EEC EN55022 (Emissions) EN55024 (Immunity) EN61000-3-2 (Harmonics) EN61000-3-3 (Voltage Flicker) CE Declaration of Conformity	
Germany	GS Certification - EN60950	
International	CB Certification - IEC60950 CISPR 22 / CISPR 24	None Required
Japan	VCCI Certification	
Korea	RRL Certification MIC Notice No. 1997-41 (EMC) & 1997-42 (EMI)	

Table 8. Product Regulatory Compliance Markings

Compliance Regional Description	Compliance Reference	Compliance Reference Marking Example
Russia	GOST-R Certification GOST R 29216-91 (Emissions) GOST R 50628-95 (Immunity)	
Ukraine	Ukraine Certification	None Required
Taiwan	BSMI CNS13438	R33025 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

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)

この装置は、情報処理装置等電波障害白主規制協議会（ＶＣＣＩ）の基準に基づくクラス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。

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)

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

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.

1. 기기의 명칭(모델명) :
2. 인증번호 :
3. 인증받은 자의 상호 :
4. 제조년월일:
5. 제조자/제조국가 :

English translation of the notice above:
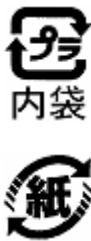
1. Type of Equipment (Model Name): On License and Product
2. Certification No.: On RRL certificate. Obtain certificate from local Intel representative
3. Name of Certification Recipient: Intel Corporation
4. Date of Manufacturer: Refer to date code on product
5. Manufacturer/Nation: Intel Corporation/Refer to country of origin marked on product

Product Ecology Compliance

Intel has a system in place to restrict the use of banned substances in accordance with world wide product ecology regulatory requirements. The following is Intel's product ecology compliance criteria.

Table 9. Product Ecology Compliance Markings

Compliance Regional Description	Compliance Reference	Compliance Reference Marking Example
California	California Code of Regulations, Title 22, Division 4.5; Chapter 33: Best Management Practices for Perchlorate Materials.	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 which contains Perchlorate material.
China	**China RoHS** Administrative Measures on the Control of Pollution Caused by Electronic Information Products" (EIP) #39. Referred to as China RoHS. Mark requires to be applied to retail products only. Mark used is the Environmental Friendly Use Period (EFUP). Number represents years.	
	China Recycling (GB18455-2001) Mark requires to be applied to be retail product only. Marking applied to bulk packaging and single packages. Not applied to internal packaging such as plastics, foams, etc.	
Intel Internal Specification	All materials, parts and subassemblies must not contain restricted materials as defined in Intel's Environmental Product Content Specification of Suppliers and Outsourced Manufacturers - http://supplier.intel.com/ehs/environmental.htm	None Required
Europe	**Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/ EC -** Mark applied to system level products only.	

Compliance Regional Description	Compliance Reference	Compliance Reference Marking Example
Europe	**European Directive 2002/95/EC -** Restriction of Hazardous Substances (RoHS). Threshold limits and banned substances are noted below. Quantity limit of 0.1% by mass (1000 PPM) for: Lead, Mercury, Hexavalent Chromium, Polybrominated Biphenyls Diphenyl Ethers (PBB/PBDE) Quantity limit of 0.01% by mass (100 PPM) for: Cadmium	None Required.
Germany	**German Green Dot** Applied to Retail Packaging Only for Boxed Boards	
Intel Internal Specification	All materials, parts and subassemblies must not contain restricted materials as defined in Intel's Environmental Product Content Specification of Suppliers and Outsourced Manufacturers - http://supplier.intel.com/ehs/environmental.htm.	None Required
International	**ISO11469 -** Plastic parts weighing >25gm are intended to be marked with per ISO11469.	>PC/ABS<
	Recycling Markings - Fiberboard (FB) and Cardboard (CB) are marked with international recycling marks. Applied to outer bulk packaging and single package.	
Japan	**Japan Recycling** Applied to Retail Packaging Only for Boxed Boards	

Other Markings

Table 10. Other Markings

Compliance Description	Compliance Reference	Compliance Reference Marking Example
Stand-by Power	Stand-by Power Warnings Applied to product if stand-by power switch is used.	
Multiple Power Cords	Multiple Power Cords Warnings Applied to product if more than one power cord is used.	English: This unit has more than one power supply cord. To reduce the risk of electrical shock, disconnect (2) two power supply cords before servicing. Simplified Chinese 注意： 本设备包括多条电源系统电缆。 为避免遭受电击， 在进行维修之前应断开两（2） 条电源系统电缆 Traditional Chinese 注意： 本設備包括多條電源系統電纜。 為避免遭受電擊， 在進行維修之前應斷開兩（2） 條電源系統電纜 German: Dieses Geräte hat mehr als ein Stromkabel. Um eine Gefahr des elektrischen Schlages zu verringern trennen sie beide (2) Stromkabeln bevor Instandhaltung

Compliance Description	Compliance Reference	Compliance Reference Marking Example
Ground Connection	Ground Connection Warnings	Line1 : "WARNING:" Swedish on line2: "Apparaten skall anslutas till jordat uttag, när den ansluts till ett nätverk." Finnish on line 3: "Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan." English on line 4: "Connect only to a properly earth grounded outlet."

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. Total server configuration is not to exceed the maximum loading conditions of the power supply.

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 F: Warranty

Limited Warranty for Intel® Chassis Subassembly Products

Intel warrants that the Products (defined herein as the Intel® chassis subassembly and all of its various components and software delivered with or as part of the Products) to be delivered hereunder, if properly used and installed, will be free from defects in material and workmanship and will substantially conform to Intel's publicly available specifications for a period of three (3) years after the date the Product was purchased from an Intel authorized distributor. Software of any kind delivered with or as part of products is expressly provided "as is" unless specifically provided for otherwise in any software license accompanying the software.

If any Product furnished by Intel which is the subject of this Limited Warranty fails during the warranty period for reasons covered by this Limited Warranty, Intel, at its option, will:

- REPAIR the Product by means of hardware and/or software; OR
- REPLACE the Product with another Product; OR
- REFUND the then-current value of the Product if Intel is unable to repair or replace the Product.

If such Product is defective, transportation charges for the return of Product to buyer within the USA will be paid by Intel. For all other locations, the warranty excludes all costs of shipping, customs clearance, and other related charges. Intel will have a reasonable time to make repairs or to replace Product or to refund the then-current value of the Product.

In no event will Intel be liable for any other costs associated with the replacement or repair of Product, including labor, installation or other costs incurred by buyer and in particular, any costs relating to the removal or replacement of any product soldered or otherwise permanently affixed to any printed circuit board.

This Limited Warranty, and any implied warranties that may exist under state law, apply only to the original purchaser of the Product.

Extent of Limited Warranty

Intel does not warrant that Products to be delivered hereunder, whether delivered stand-alone or integrated with other Products, including without limitation semiconductor components, will be free from design defects or errors known as "errata." Current characterized errata are available upon request.

This Limited Warranty does not cover damages due to external causes, including accident, problems with electrical power, usage not in accordance with product instructions, misuse, neglect, alteration, repair, improper installation, or improper testing.

Warranty Limitations and Exclusions

These warranties replace all other warranties, expressed or implied including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Intel makes no expressed warranties beyond those stated here. Intel disclaims all other warranties, expressed or implied including, without limitation, implied warranties of merchantability and fitness for a particular purpose. Some jurisdictions do not allow the exclusion of implied warranties, so this limitation may not apply.

All expressed and implied warranties are limited in duration to the limited warranty period. No warranties apply after that period. Some jurisdictions do not allow limitations on how long an implied warranty lasts, so this limitation may not apply to you.

Limitations of Liability

Intel's responsibility under this, or any other warranty, implied or expressed, is limited to repair, replacement, or refund, as set forth above. These remedies are the sole and exclusive remedies for any breach of warranty. Intel is not responsible for direct, special, incidental, or consequential damages resulting from any breach of warranty under another legal theory including, but not limited to, lost profits, downtime, goodwill, damage to or replacement of equipment and property, and any costs of recovering, reprogramming, or reproducing any program or data stored in or used with a system containing this product. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

This limited warranty gives you specific legal rights, and you may also have other rights that vary from jurisdiction to jurisdiction.

Any and all disputes arising under or related to this Limited Warranty shall be adjudicated in the following forums and governed by the following laws: for the United States of America, Canada, North America, and South America, the forum shall be Santa Clara, California, USA, and the applicable law shall be that of the State of California, USA; for the Asia Pacific region, the forum shall be Singapore and the applicable law shall be that of Singapore; for Europe and the rest of the world, the forum shall be London and the applicable law shall be that of the United Kingdom.

In the event of any conflict between the English language version and any other translated version(s) of this Limited Warranty, the English language version shall control.

How to Obtain Warranty Service

To obtain warranty service for this Product, you may contact Intel or your authorized distributor.

- North America and Latin America To obtain warranty repair for the product, please go to the following Web site to obtain instructions: http://support.intel.com/support/motherboards/draform.htm

- In Europe and in Asia Contact your original authorized distributor for warranty service.

Any replacement Product is warranted under this written warranty and is subject to the same limitations and exclusions for the remainder of the original warranty period.

Telephone Support

If you cannot find the information you need on Intel's World Wide Web site (http://www.intel.com/), call your local distributor or an Intel Customer Support representative. See "Getting Help" for telephone numbers.
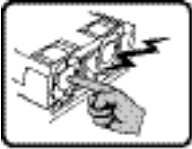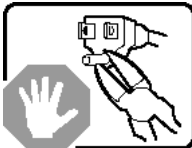
Returning a Defective Product
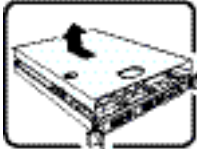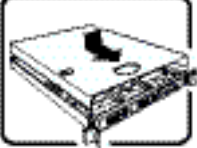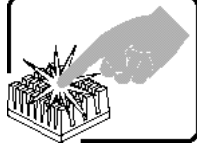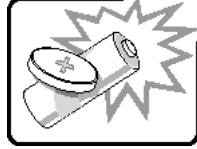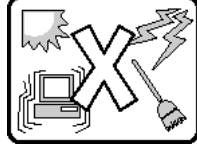
Before returning any product, call your authorized dealer/distribution authority.

Appendix G: Installation/Assembly Safety Instructions
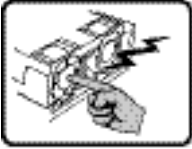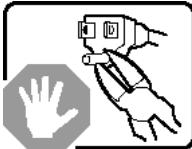
English
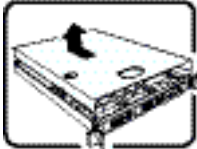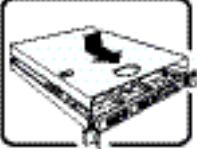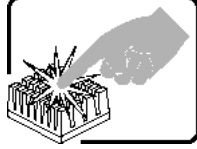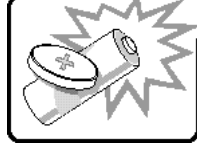
	The power supply in this product contains no user-serviceable parts. Refer servicing only to qualified personnel.
	Do not attempt to modify or use the supplied AC power cord if it is not the exact type required. A product with more than one power supply will have a separate AC power cord for each supply.
	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 suppresser 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.

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	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.
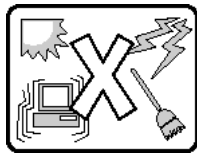
	Das System wurde für den Betrieb in einer normalen Büroumgebung entwickelt. Der Standort sollte:
	• "sauber und staubfrei sein (Hausstaub ausgenommen);
	• "gut gelüftet und keinen Heizquellen ausgesetzt sein (einschließlich direkter Sonneneinstrahlung);
	• "keinen Erschütterungen ausgesetzt sein;
	• "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
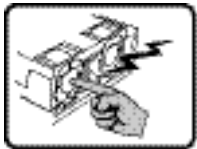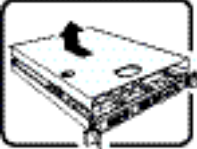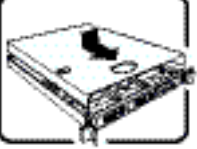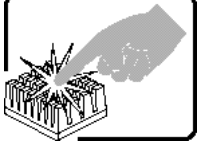
	Le bloc d'alimentation de ce produit ne contient aucune pièce pouvant être réparée par l'utilisateur. Ce produit peut contenir plus d'un bloc d'alimentation. Veuillez contacter un technicien qualifié en cas de problème.
	Ne pas essayer d'utiliser ni modifier le câble d'alimentation CA fourni, s'il ne 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.
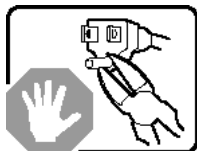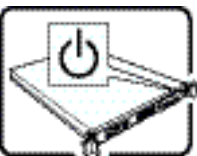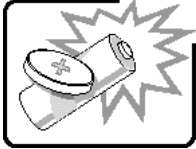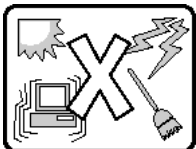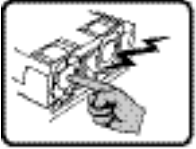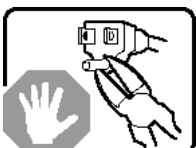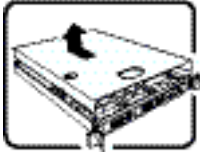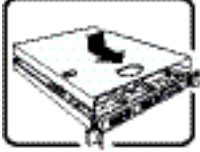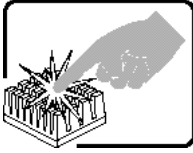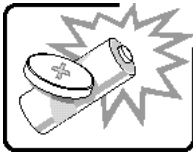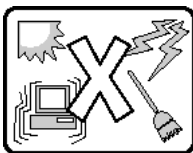
	CONSIGNES DE SÉCURITÉ -Lorsque vous ouvrez le boîtier pour accéder à l'intérieur du système, suivez les consignes suivantes: 1. Mettez hors tension tous les périphériques connectés au système. 2. Mettez le système hors tension en mettant l'interrupteur général en position OFF (bouton-poussoir). 3. Débranchez 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
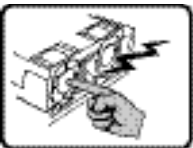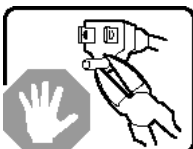
	El usuario debe abstenerse de manipular los componentes de la fuente de alimentación de este producto, cuya reparación debe dejarse exclusivamente en manos de personal técnico especializado. Puede que este producto disponga de más de una fuente de alimentación
	No intente modificar ni usar el cable de 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.
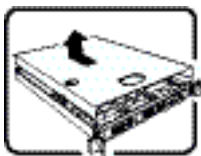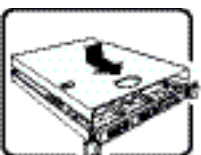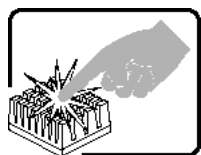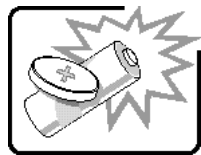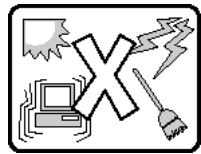
	Si el sistema ha estado en funcionamiento, el microprocesador y el disipador de calor pueden estar aún calientes. También conviene tener en cuenta que en el chasis o en el tablero puede haber piezas cortantes o punzantes. Por ello, se recomienda precaución y el uso de guantes protectores.
	Existe peligro 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 sobrevoltaje 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.

Chinese

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 H: Safety Information

English

Server Safety Information

This document applies to Intel® Server Boards, Intel® Server Chassis (pedestal and rack-mount) 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 that are susceptible to electrical storms, we recommend you plug your system into a surge suppresser 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, a proper safety ground must be implemented 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 have 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 Gesundheits- und 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

Caution: *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 werden 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

Caution: *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.*

Intel® Server System SR1560SF Service Guide

Warnhinweise für den Systemzugang

Caution: 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.

Caution: 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.

Caution: 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)

Caution: *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 Sie 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 leitfähige Schaumstoffunterlage, aber nicht die Schutzhülle der Platine. Ziehen Sie die Platine nicht über eine Fläche.

Andere Gefahren

Batterieaustausch

Caution: *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

Caution: *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

Caution: *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 securite 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.

Séurité: 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.
AVERTISSEMEN T	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 matiére d'électricité
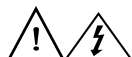
Attention: Le bouton d'alimentation, indiqué par le symbole de mise en veille, NE COUPE PAS complètement l'alimentation secteur du système car le courant de veille 5 V reste actif lorsque le système est sous tension. Pour couper l'alimentation du système, vous devez débrancher le cordon d'alimentation 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.
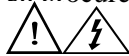
Attention: *Pour éviter tout risque d'électrocution ou d'incendie, vérifiez les cordons d'alimentation qui seront utilisés avec le produit comme suit :*

- *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'accés au systéme

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 avant d'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 tapis de mousse conducteur, 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

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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).

Seleccién 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.

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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.*

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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)

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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 tierra y sin carga estática. Utilice una almohadilla de espuma conductora si dispone de ella, pero nunca el envoltorio de la tarjeta. No deslice la tarjeta sobre ninguna superficie.

Otros riesgos

Sustitución de la batería

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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

$\triangle\!\!\!!$

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	表示如果无视此"注意事项"，存在可能引起轻微人身伤害或财产损失的危险。
警告	表示如果无视此"警告"，存在可能引起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**

为避免辐射暴露和 / 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