

Intel® Server System SC5650BCDP Service Guide

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

Intel Order Number E80610-001

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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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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 CD* and/or at <http://support.intel.com/support/motherboards/server/sb/cs-010770.htm>.

Wichtige Sicherheitshinweise

Lesen Sie zunächst sämtliche Warnung und 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 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 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 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.

Preface

The Intel® Server System SC5650BCDP ships with the Intel® Server Board S5500BC. For further information, see the the following documents:

- *Intel® Server Board S5500BC Technical Product Specification*
- *Intel® Server System SC5650BCDP Technical Product Specification*

The contents of the server system are listed below:

- Intel® Server Board S5500BC, installed in the server system.
- Standard control panel module and cables (I/O and USB), installed in the server system.
- A box of hardware components, referred to as the "hardware kit".
- Fan cable, installed in the system.
- Chassis intrusion switch, installed in the system.
- Standard control panel module and cables (I/O and USB), installed in the server system.
- Four SATA cables.
- Intel® Server Deployment Toolkit CD
- Intel® System Management Software CD
- Attention document, in the chassis product box.
- *Intel® Server System SC5650BCDP Quick Start User's Guide*, in the system product box.
- Four M3 screws for installing 5.25-in drive component, in the hardware kit.
- Fifteen 6-32 screws for mounting the server board to the chassis, in the hardware kit.
- USB cable
- CA Perchlorate statement

In addition, you may need or want to purchase one or more of the following accessory items for your server:

- Processor, memory DIMMs
- Hard drive
- CD-ROM or DVD-ROM drive
- RAID controller
- Operating system

Preface

For information about which accessories, memory, processors, and third-party hardware were tested and can be used with your server board, and for ordering information for Intel[®] products, see <http://support.intel.com/support/motherboards/server/sc5650bcdp/compat.htm>

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.

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	<p><i>Intel® Server System SC5650BCDP Technical Product Specification</i> can be found at: http://support.intel.com/support/motherboards/server/S5500BC/</p> <p><i>Intel® Server Board S5500BC Technical Product Specification</i> can be found at: http://support.intel.com/support/motherboards/server/S5500BC/</p>
For basic BIOS settings and chipset information	<p><i>Intel® Server Board S5500BC Technical Product Specification</i> can be found at: http://support.intel.com/support/motherboards/server/S5500BC/</p>
If you just received this product and need to install it	<p><i>Intel® Server System SC5650BCDP Quick Start User's Guide</i> in the product box</p>
Accessories or other Intel server products	<p>Spares and Configuration Guide can be found at: http://support.intel.com/support/motherboards/server/S5500BC/</p>
Hardware (peripheral boards, adapter cards) and operating systems that were tested with this product	<p>Tested Hardware and Operating System List can be found at: http://support.intel.com/support/motherboards/server/S5500BC/</p>
Processors that were tested with this product	<p>Supported Processors can be found at: http://support.intel.com/support/motherboards/server/S5500BC/</p>
DIMMs that were tested with this product	<p>Supported Memory can be found at: http://support.intel.com/support/motherboards/server/S5500BC/</p>
To make sure your system falls within the allowed power budget	<p>Power Budget Tool can be found at: http://support.intel.com/support/motherboards/server/S5500BC/</p>
For software to manage your Intel® server	<p>Intel® Server Management Software can be found at: http://support.intel.com/support/motherboards/server/sysgmt/index.htm and on the Intel® Server Management Software CD that ships with your system.</p>

Server System References

For this information or software	Use this Document or Software
For drivers	Driver (for an extensive list of drivers available) Operating System Driver (for operating system drivers) http://support.intel.com/support/motherboards/server/S5500BC/
For firmware and BIOS updates	Firmware Update can be found at: http://support.intel.com/support/motherboards/server/S5500BC/
For diagnostics test software	Diagnostics: Platform Confidence Test (PCT) Found at: http://support.intel.com/support/motherboards/server/S5500BC/ and available on the <i>Intel® Server Deployment Toolkit CD that ships with your system.</i>

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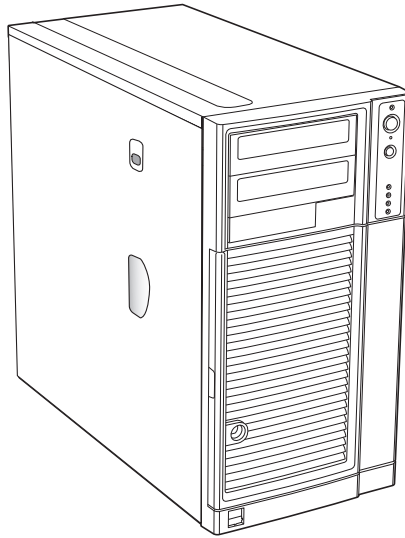
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1 Server System Features

This chapter describes the main features of the Intel® Server System SC5650BCDP. The location of important system components and connections, as well as a description of LED identification, are also presented.



AF000307

Figure 1. Front View of Intel® Server System SC5650BCDP

Table 1 summarizes the features of the Intel® Server System SC5650BCDP.

Table 1. System Feature Set

Feature	Description
Dimensions	17.8 inch (45.2 cm) x 9.256 inch (23.5 cm) x 19 inch (48.3 cm)
Server Board	Intel® Server Board S5500BC
Processor	LGA 1366 sockets supporting up to two Intel® Xeon® processor 5500 series with Intel® QuickPath Interconnect (QPI) and Integrated Memory controllers. <ul style="list-style-type: none">• Supports up to 95 W Thermal Design Power (TDP)• 4.8 GT/s, 5.86 GT/s, and 6.4 GT/s Intel® QuickPath Interconnect (Intel® QPI)• EVRD11.1 For a complete list of supported processors, see: http://support.intel.com/support/motherboards/server/S5500BC/compat.htm
Memory	Eight DDR3 DIMM slots supporting up to 32 GB of DDR3 800/166/1333 MT/s ECC Registered (RDIMM), or ECC Unbuffered (UDIMM) DDR3 memory <ul style="list-style-type: none">• Four memory sockets support CPU_1 and four memory sockets support CPU_2. NOTE: Mixed memory is not tested or supported. Non-ECC memory is not tested and is not recommended for use in a server environment.

Table 1. System Feature Set

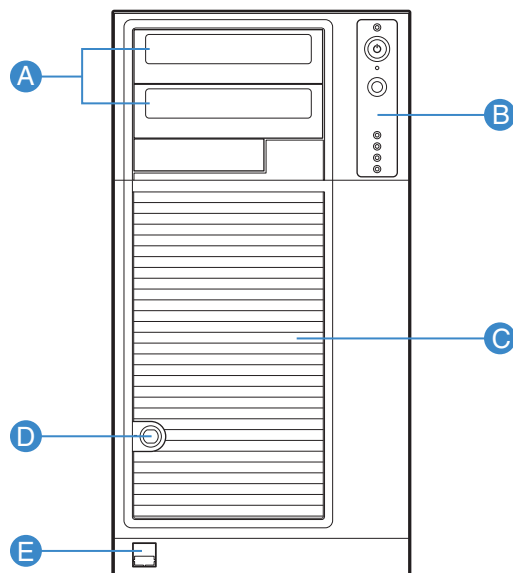
Feature	Description
Chipset	<ul style="list-style-type: none"> • Intel® I/O Hub (IOH) 5500 chipset • Intel® 82801Jx I/O Controller Hub 10 Raid (ICH10R) • ServerEngines* LLC Pilot II BMC controller (Integrated BMC)
Peripheral Interfaces	<p>External connections:</p> <ul style="list-style-type: none"> • DB-15 video connector (back) • RJ-45 serial Port A connector • Two RJ-45 10/100/1000 Mb network connections • Four USB 2.0 connectors (back) • One USB 2.0 connector (front) <p>Internal connections:</p> <ul style="list-style-type: none"> • Two USB 2x5 pin header, each supports two USB 2.0 ports • One DH-10 Serial Port B header • Six Serial ATA (SATA) II connectors • One SSI-EEB compliant front panel header • One SSI-EEB compliant 24-pin main power connector • One SSI-compliant 8-pin CPU power connector • One SSI-compliant 5-pin auxiliary power connector • One 4-Pin SGPIO connector
Add-in PCI, PCI Express* Cards	<ul style="list-style-type: none"> • Slot6: One half-length (6.6 inches) PCI Express* Gen2 x8 connector with X8 link width • Slot7 : One half-length (6.6 inches) PCI Express* Gen2 x8 connector with x8 link width • Slot5 : One half-length (6.6 inches) PCI Express* Gen2 x8 connector with x4 link width • Slot3 : One half-length (6.6 inches) PCI Express* x4 connector with x4 link width • Slot4 : One half-length (6.6 inches) 5V PCI 32 bit / 33 MHz connector
Video	<p>On-board ServerEngines* LLC Pilot II BMC controller</p> <ul style="list-style-type: none"> • Integrated 2D video controller • 64 MB DDR2 667 MHz Memory
LAN	<p>Two 10/100/1000 NICs</p> <ul style="list-style-type: none"> • One 82574LGbE PCI Express* Network Controller connects to the Gen2 x1 interface on the Intel® 5500 IOH chipset. • One 82567 Gigabit Network Connection that connects to the Gigabit LAN Connect Interface / LAN Connect Interface on the Intel® ICH10R. • Two 10/100/1000 Base-TX Interfaces through RJ-45 connectors with integrated magnetics. • Link and Speed LEDs on the RJ-45 Connector.
Hard drive options	<p>Includes one tool-less fixed drive bay for up to six fixed drives</p>
External front connectors	<p>Two USB ports</p>
Peripherals	<ul style="list-style-type: none"> • Two tool-less, multi-mount 5.25-in peripheral bays. • One standard 3.5-in removable media peripheral bay.
Control Panel	<ul style="list-style-type: none"> • LEDs for NIC1, NIC2, HDD activity, power status, and system fault status. • Switches for power, NMI, and reset. • Integrated temperature sensor for fan speed management.

Table 1. System Feature Set

Feature	Description
LEDs and displays	LEDs with standard control panel: <ul style="list-style-type: none"> • NIC1 Activity • NIC2 Activity • Power / Sleep • System Status • Hard Drive Activity Intel® Light-Guided diagnostic LEDs: <ul style="list-style-type: none"> • Fan Fault • DIMM Fault • CPU Fault • 5V-STBY • System State • POST Code Diagnostics
Power Supply	600-W PFC Intel validated PSU with integrated cooling fan.
Fans	<ul style="list-style-type: none"> • One tool-less, 120-mm chassis rear fan. • One tool-less 120-mm PCI fan. • One tool-less 92-mm drive bay fan.
Server Management	On-board ServerEngines* LLC Pilot II Controller <ul style="list-style-type: none"> • Integrated Baseboard Management Controller (Integrated BMC), IPMI 2.0 compliant • Integrated Super I/O on LPC interface Support for Intel® Server Management Software
System Management	Intel® System Management Software

Component Identification

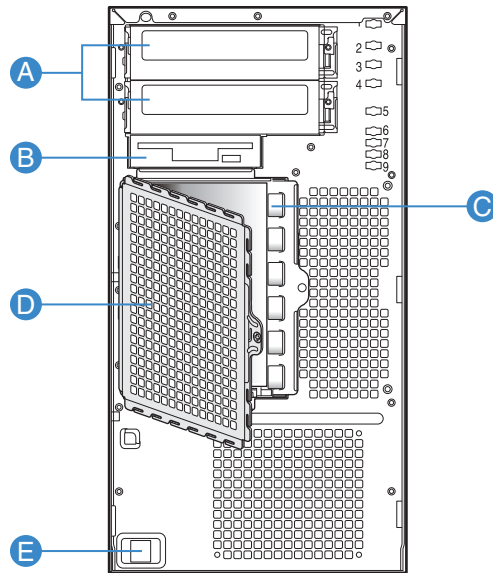
Front View Components



TP02345

- A. 5.25-in Device Drive Bays
- B. Front Panel
- C. Drive Bay Access Door
- D. Door Lock
- E. Front Panel USB Ports

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



TP00882

-
- A. 5.25-in Device Drive Bays

 - B. 3.5-in Device Drive Bay

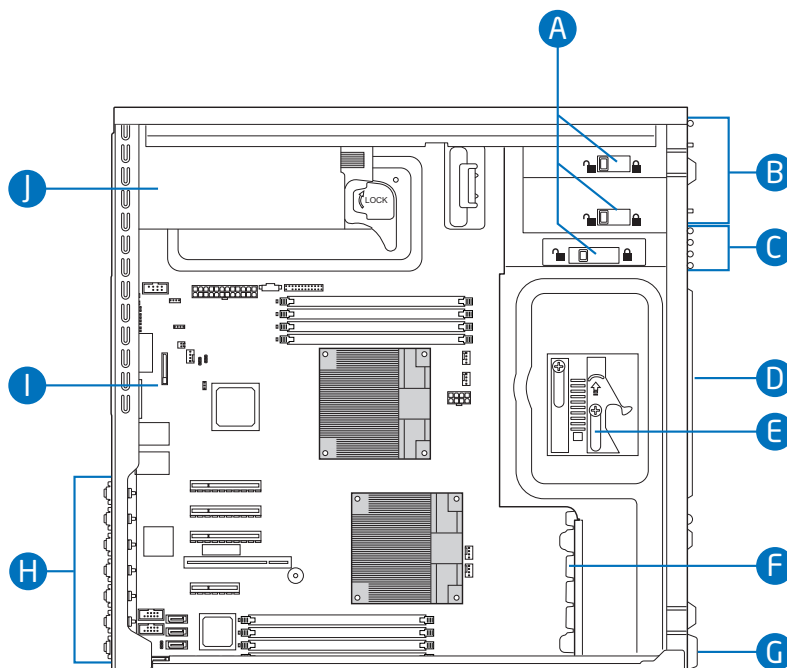
 - C. Hard Drive Cage

 - D. Drive Bay EMI Shield (shown open)

 - E. Front Panel USB Ports
-

Figure 3. Front View Components (without Front Bezel Assembly)

Internal Components



-
- A. Tool-less Device Bay Locks

 - B. 5.25-in Device Bays

 - C. 3.5-in Device Bay

 - D. Drive Bay EMI Shield

 - E. Drive Cage Retention Mechanism

 - F. PCI Add-in Card Guide

 - G. Front Panel USB Ports

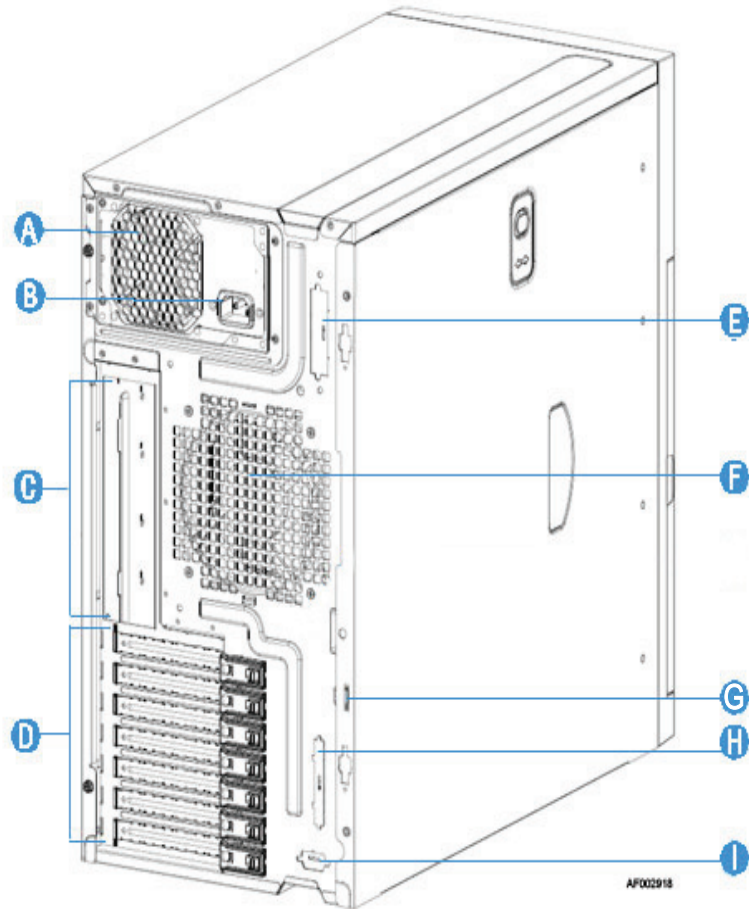
 - H. Rear Tool-less PCI Retention Mechanisms

 - I. Intel® Server Board S5500BC

 - J. Power Supply
-

Figure 4. Internal Components

Back Panel Components



A. Power Supply

NOTE: Fixed Power Supply shown. Your Power Supply may vary depending on chassis configuration purchased

B. A/C Power In

NOTE: Fixed Power Supply shown. Your Power Supply may vary depending on chassis configuration purchased.

C. I/O Shield

NOTE: I/O connectors vary, depending on the server board installed. See your server board documentation for port identification.

D. PCI Add-in Card slots

E. External SCSI knockout

F. System Fan

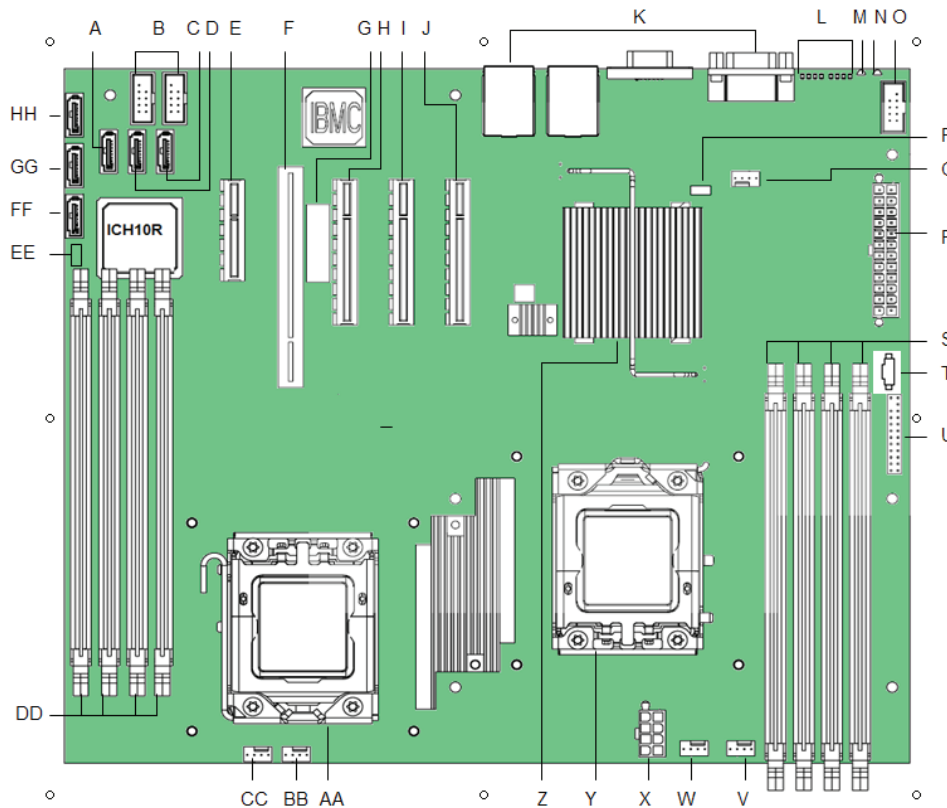
G. Location to install padlock Loop

H. External SCSI knockout

I. Serial B port knockout

Figure 5. Back Panel Components

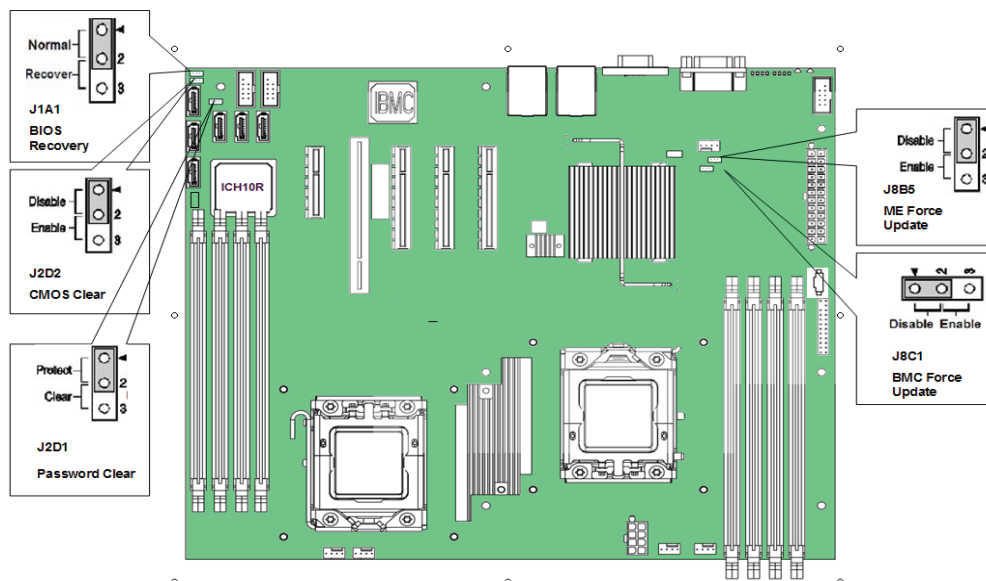
Server Board Connector and Component Locations



SATA 3	Internal dual port USB2.0 header	SATA 5
SATA 4	Slot 3, PCI Express* x4	Slot 4, 32-bit/33 MHz PCI
Intel® RMM3 slot	Slot 5, PCI Express* x8	Slot 6, PCI Express* x8 (Riser card)
Slot 7, PCI Express* x8	Black panel I / O ports	Diagnostic LEDs
Status LED	ID LED	External Serial B header
SATA Key	System fan 3 header	Main power connector
DIMM sockets off Processor 1 socket (Channel A, B)	Power Supply Auxiliary Connector	SSI 24-pin Front Panel connector
System fan 2 header	CPU 1 fan header	CPU Power Connector
CPU Socket 1	Intel® 5500 Chipset	CPU Socket 2
CPU 2 fan header	System fan 1 header	DIMM sockets off Processor 2 socket (Channel D, E)
SATA SGPIO	SATA 0	SATA 1
SATA 2		

Figure 6. Server Board Connector and Component Locations

Configuration Jumpers



Jumper Name	Pins	What happens at system reset...
J8C1: BMC Force Update	1-2	BMC Firmware Force Update Mode - Disabled (Default)
	2-3	BMC Firmware Force Update Mode - Enabled
J2D1: Password Clear	1-2	These pins should have a jumper in place for normal system operation. (Default)
	2-3	If these pins are jumpered, administrator and user passwords are cleared on the next reset NOTE: These pins should not be jumpered for normal operation.
J2D2: CMOS Clear	1-2	These pins should have a jumper in place for normal system operation (Default)
	2-3	If these pins are jumpered, the CMOS settings are cleared on the next reset NOTE: These pins should not be jumpered for normal operation.

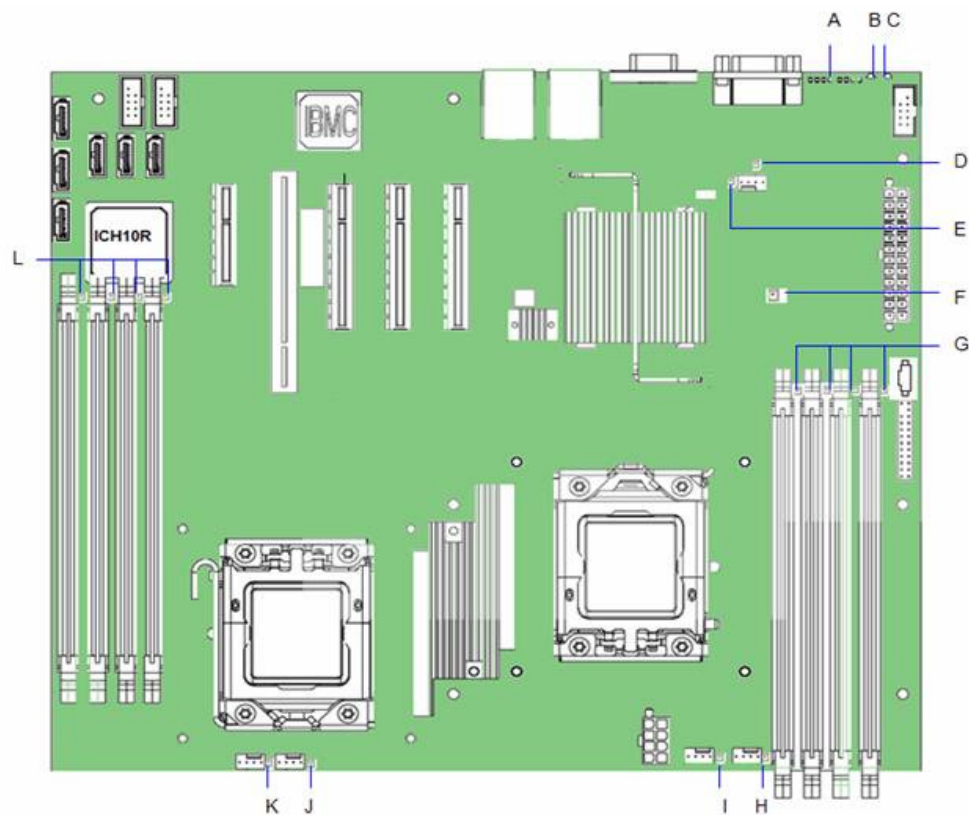
Jumper Name	Pins	What happens at system reset...
J1A1: BIOS Recovery	1-2	These pins should have a jumper in place for normal system operation. (Default)
	2-3	The main system BIOS will not boot with these pins jumpered. NOTE: The system boots from EFI-bootable recovery media with a recovery BIOS image.
J8B5: ME Force Update	1-2	These pins should have a jumper in place for normal system operation (Default)
	2-3	ME force update model

Figure 7. Configuration Jumper Location

Intel® Light Guided Diagnostics

The server system contains numerous LEDs providing the following functions:

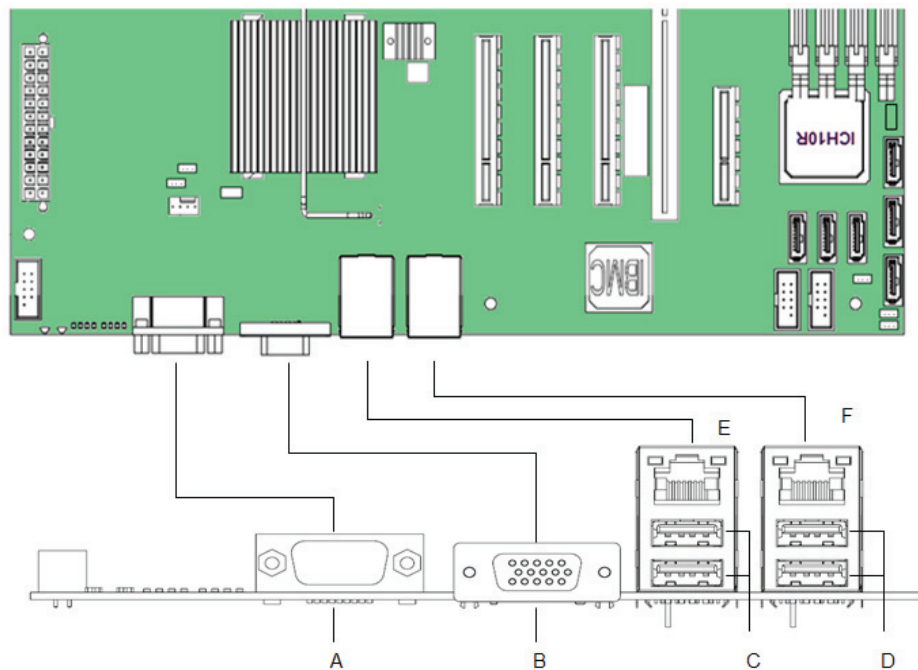
- The System Status LED on the front and back panels (Figure 8) shows the overall health of the system (green, blinking green, blinking amber, and off).
- The System Identification LED on the back panel helps identify the server from among several servers. By default, the ID LED is off, and blue when activated by button or software.
- DIMM Fault LEDs on the server board help identify failed and failing DIMM slots. The DIMM fault LEDs turn on (amber) if there is a DIMM fault.
- POST Code Diagnostic LEDs on the server board change color or state (off, green, red, amber) according to the POST sequence.
- The 5-V STBY LED on the server board is illuminated (green) when AC power is applied.
- Fan Fault LEDs on the server board help identify failed and failing fans. The fan fault LEDs turn on (amber) if there is a fan fault.



A. POST Code Diagnostic LEDs	G. DIMM Fault LED
B. Status LED	H. System Fan 2 Fault LED
C. System ID LED	I. CPU 1 Fan Fault LED
D. HDD LED	J. CPU 2 Fan Fault LED
E. System Fan 3 Fault LED	K. System Fan 1 Fault LED
F. 5 VSB LED	L. DIMM Fault LED

Figure 8. Light Guided Diagnostic LEDs

Back Panel Connectors



A. Serial Port A	B. Video
C. USB Port 6-7	D. USB Port 8-9
E. NIC Port 1	F. NIC Port 2

Figure 9. Back Panel Connectors

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

Table 2. NIC LED Descriptions

LED	LED State	LED State	Description
NIC1/NIC2	Left LED	Off	No network connection
		Solid Amber	Network connection in place
		Blinking Amber	Transmit/receive activity
	Right LED	Off	10 Mbps connection (if left LED is on or blinking)
		Solid Amber	100 Mbps connection
		Solid Green	1000 Mbps connection

RAID Support

The Intel® Server Board S5500BC provides an integrated SATA II host controller that supports independent DMA operation on the six Ports and supports data transfer rates of up to 300 MB/Sec.

The ICH10R provides support for Intel® Matrix Storage Technology, providing both AHCI and integrated RAID functionality. The industry-leading RAID capability provides high-performance RAID 0, 1, 5 and 10 functionality on up to 6 SATA ports.

The BIOS Setup utility provides multiple drive configuration options on the Advanced | Mass Storage Controller Configuration setup page, some of which affect the ability to configure RAID. The “Onboard SATA Controller” option is enabled by default. When this option is enabled, the “SATA Mode” option can be set to ENHANCED mode, COMPATIBILITY mode, AHCI mode or SW RAID mode. The modes affect the configuration as follows:

- ENHANCED mode supports up to 6 SATA ports with IDE Native Mode.
- COMPATIBILITY mode supports up to 4 SATA ports[0/1/2/3] with IDE Legacy mode and 2 SATA ports[4/5] with IDE Native Mode.
- AHCI mode supports all SATA ports using the Advanced Host Controller Interface when the option is enabled.

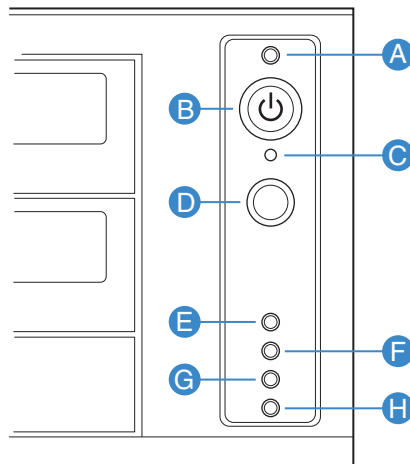
Note: For AHCI capability in EFI, the AHCI legacy Option ROM should be set to “disabled”.

- SW RAID mode supports configuration of SATA ports for RAID via RAID configuration software.

For RAID 0, 1, and 10, enclosure management is provided through the SATA_SGPIO connector on the server board when a cable is attached between this connector on the server board and to the backplane or I2C interface.

If RAID 5 is desired, the optional Intel® RAID Activation Key AXXRAKSW5 can be installed. To enable RAID 5, this activation key is placed on the SATA Key connector that is located at the right side of the server board. For information on how to install the Intel® RAID Activation Key AXXRAKSW5 accessory to enable RAID 5, see the documentation that is included with the accessory kit.

Front Panel



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Callout	Feature ^{1,2}	Function
A.	Power/Sleep LED	Continuous green light indicates the system has power applied to it. Continuous amber light indicates the system is in S1 Sleep state. No light indicates the power is off / or the system is in S4 Sleep state.
B.	Power Button	Powers the system off or on.
C.	NMI Button	Used to force system halt and dump memory contents to screen or file.
D.	Reset Button	Reboots and initializes the system.
E.	NIC 1 Activity LED	Continuous green light indicates a link between system and network.
F.	NIC 2 Activity LED	Blinking green light indicates network activity. No light indicates the NIC is disconnected.
G.	Hard Drive Activity LED	Random blinking green light indicates hard drive activity (SAS/SATA). Continuous amber light indicates a hard drive fault. No light indicates no hard disk drive activity.
H.	Status LED	Solid green indicates system ready (not supported by all server boards). Blinking green indicates processor or memory disabled. Solid amber indicates a critical temperature or voltage fault, or a missing CPU/terminator. Blinking amber indicates a power fault, fan fault, or a non-critical temperature or voltage fault. No light indicates a fatal error during POST.

NOTES:

1. LED status may vary depending on server board integrated.

Figure 10. Front Panel Components

Hardware Requirements

To avoid integration difficulties and possible board damage, your system must meet the requirements outlined below. For a list of qualified components, see the links under [“Server System References”](#).

Processor

The Intel® Server Board S5500BC supports one or two Intel® Xeon® Processor 5500 series with 95W Thermal Design Power (TDP) or less and with a max data transfer rate of 6.4 GT/s. For a complete list of supported processors, see the links under [“Server System References”](#).

Memory

The Intel® Server Board S5500BC supports a DDR3-based memory subsystem. The Intel® Server Board S5500BC supports two DIMMs per channel. The silkscreen on the board for the DIMMs displays DIMM_A1, DIMM_A2, DIMM_B1, DIMM_B2, DIMM_D1, DIMM_D2, DIMM_E1, DIMM_E2. See Figure 11. The minimal memory population possible is DIMM_A1.

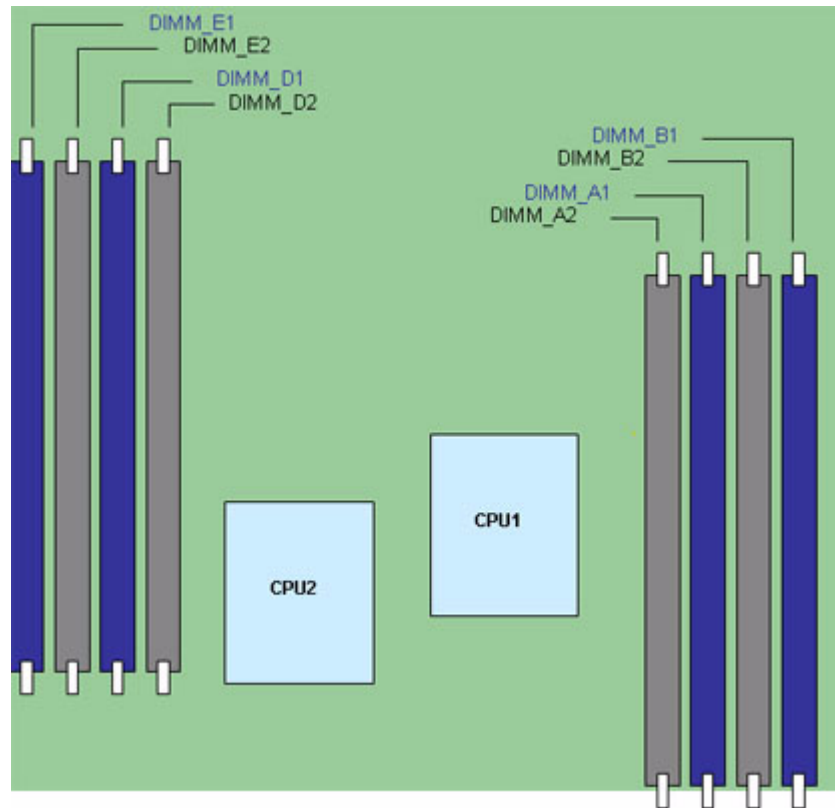


Figure 11. DIMM Configuration Diagram

For two slots per channel configurations, the server board requires DDR3 DIMMs within a channel to be populated starting with the DIMM farthest from the processor. See the following figure (Figure 12).

For a complete list of supported memory DIMMs, see the links under “[Server System References](#)”.

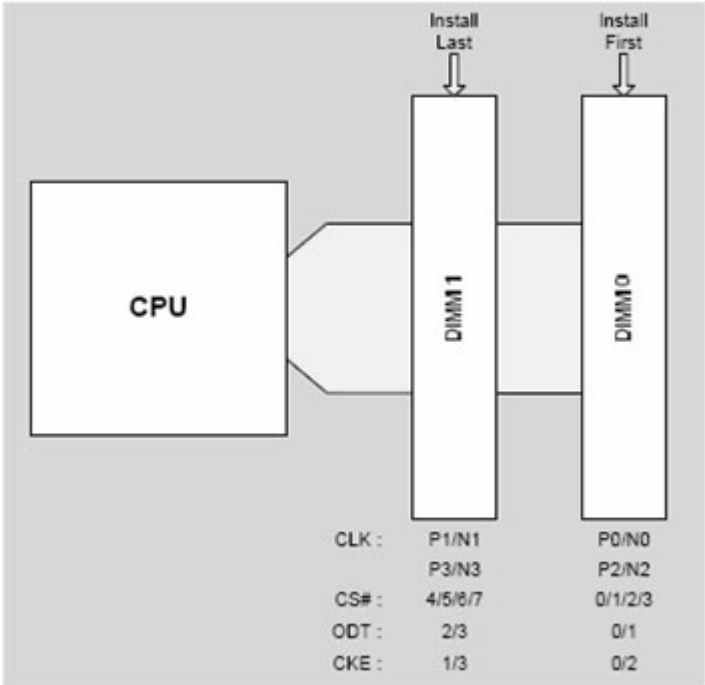


Figure 12. Channel Slots Configuration

The Independent Channel Mode is the default Maximum Performance Mode preferred for Intel® Xeon® Processor 5500 series based platforms. All three channels may be populated in any order and have no matching requirements. All channels must run at the same interface frequency, but individual channels may run at different DIMM timings (RAS latency, CAS latency, and so forth).

Optional Hardware

Intel® RAID Activation Key

If RAID 5 is needed, you can install the optional Intel® RAID Activation Key AXXRAKSW5. To enable RAID 5, this activation key is placed on the SATA Key connector located at the left side of the server board. For information on how to install the Intel® RAID Activation Key AXXRAKSW5 accessory to enable RAID 5, see the documentation that is included with the accessory kit.

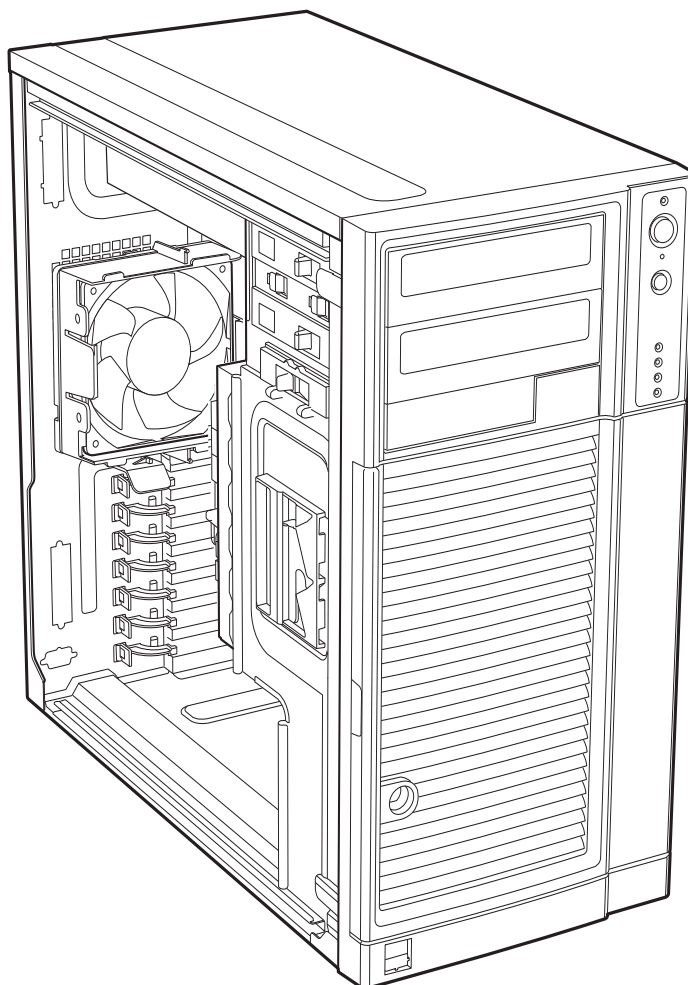
Advanced Management Options

Intel® Remote Management Module 3

The Intel® Remote Management Module 3 plugs into a dedicated connector on the server board and provides additional server management functionality to the server board. This module provides a dedicated web server for viewing server information and remote control of the system. It also provides Remote KVM Redirection and USB Media Redirection allowing USB devices attached to the remote system to be used on the managed server. For instructions on installing the Intel® Remote Management Module 3, see *Intel® Remote Management Module 3 User Guide*.

Peripheral Devices

The server chassis provides locations and hardware for installing hard drives, a floppy drive, CD-ROM drive, DVD-ROM drive, or tape drive. You must purchase the drives separately. The following figure shows the available options.



NOTE: It is recommended that screws be used to secure large devices if shipping chassis integrated.

Figure 13. Optional Peripheral Devices

Hard Disk Drives

The server chassis ships with one fixed hard drive cage capable of supporting up to six cabled 3.5-in x 1-in hard drives. Power requirements for each individual hard drive may limit the maximum number of drives that can be integrated into the server chassis.

You may purchase an optional hot-swap or SAS/SATA backplane hard drive cage (capable of handling up to six hot-swappable, SATA or SAS hard drives) to replace the fixed hard drive cage. See [Table 3](#) for order code information.

For instructions on installing hard drives, see [“Installing and Removing a Fixed Hard Drive”](#).

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

Note: The Intel® Server System SC5650BCDP does not support all Serial ATA hard drives.

Front Bezel Assembly

The front bezel assembly provides a snap-on design that allows for maximum airflow through the server chassis.

All configurations of the server chassis ship with a two-piece front bezel assembly.

Rack-Mounted Systems

Your Intel® Server System SC5650BCDP can be optionally mounted into a rack. Instructions for installing your chassis into a rack are included with the rail kit.

The order number for the rack mounting kit is APP3RACKIT.

Mechanical Locks

All configurations of the server chassis can support the installation of a padlock loop (see letter “A” in the following figure) at the rear of the chassis. Additionally, the server chassis ships with a two-position mechanical lock (see letter “B”) on the front bezel assembly to prevent access to the hard drives and the interior of the chassis.

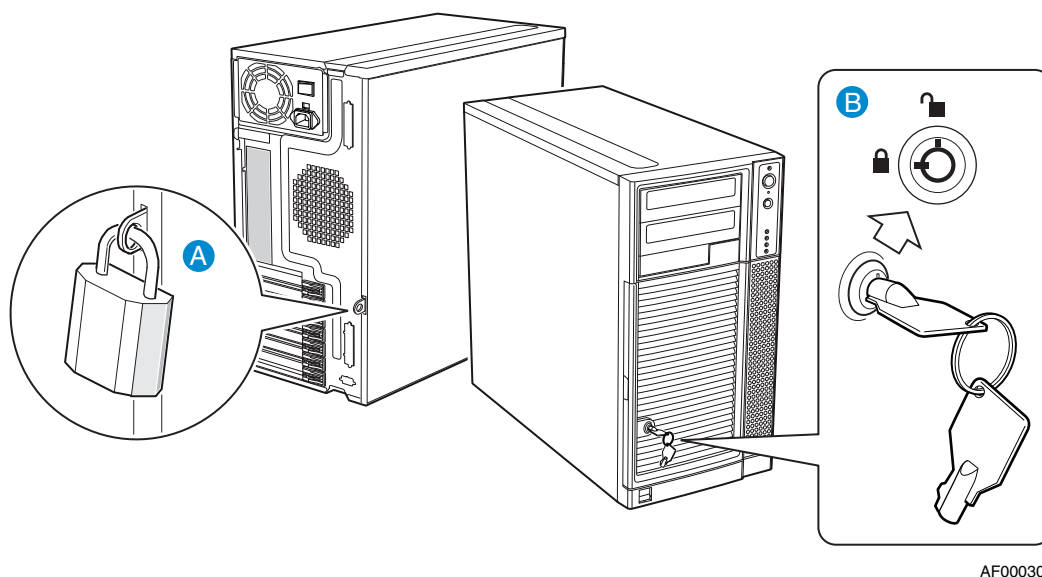


Figure 14. Mechanical Locks

Accessories and Order Codes

For a complete list of spares and accessories available for your chassis, see:

<http://support.intel.com/go/serverbuilder>

Table 3. Accessories and Order Codes

Accessory	Order Code
6-Drive Hot-Swap, Expander SATA/SAS Backplane Assembly Cage Kit	AXX6DRV3GEXP
6-Drive Hot-Swap, Non-Expanded SATA/SAS Backplane Assembly Cage Kit	AXX6DRV3GR
Hot-Swap Drive Cooling and Mounting Kit	APPTHSDBKIT
Hot Swap Conversion Kit	APP3HSDBKIT
Rack Mount Kit	APP3RACKIT

Note: *AXX6DRV3GEXP* should be used with *APP3HSDBKIT*; *AXX6DRV3GR* should be used with *APPTHSDBKIT*.

2 Hardware Installations and Upgrades

This document provides instructions for adding and replacing chassis components. For instructions on replacing components on the server board, such as the processor and memory DIMMs, see the instructions provided with the server board.

Before You Begin

Before working with your server product, review the important safety information listed in [Appendix G, “Safety Information”](#).

Tools and Supplies Needed

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

System References

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

Removing and Installing the Left Side Cover

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

Removing the Left Side Cover

The Intel® Server System SC5650BCDP must be operated with the left side cover in place to ensure proper cooling. You must remove the left side cover to add or replace components inside of the platform. Before removing the left side cover, power down the server and unplug all peripheral devices and the AC power cable.

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

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

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

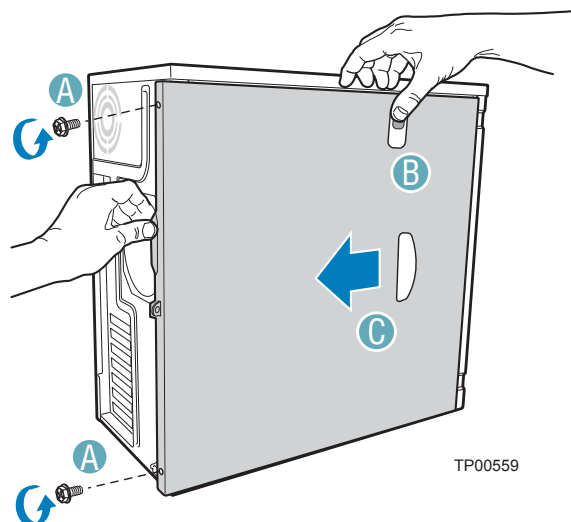


Figure 15. Removing Left Side Cover

Installing the Left Side Cover

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

1. Slide the left side cover on the chassis and latch securely (see letter “A” in the following figure).
2. (Optional) Replace screws (see letter “B”).

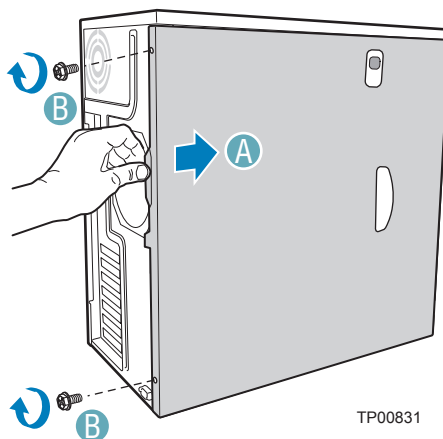


Figure 16. Installing Left Side Cover

3. Reconnect all peripheral devices and the AC power cord. Power up the server.

Removing and Installing the Right Side Cover

Warning: This chassis must be operated with the right side cover installed to ensure proper cooling

Removing the Right Side Cover

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

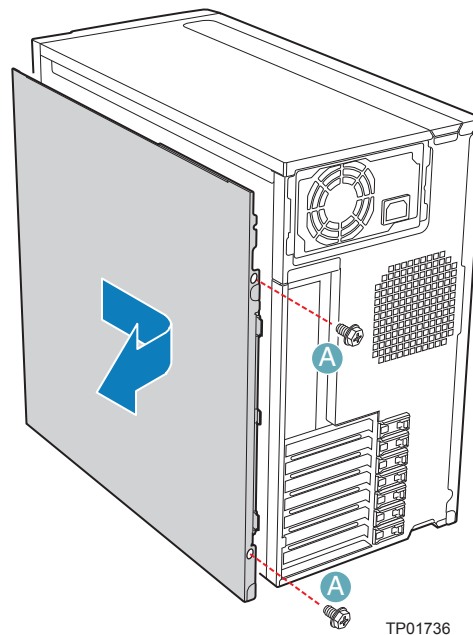
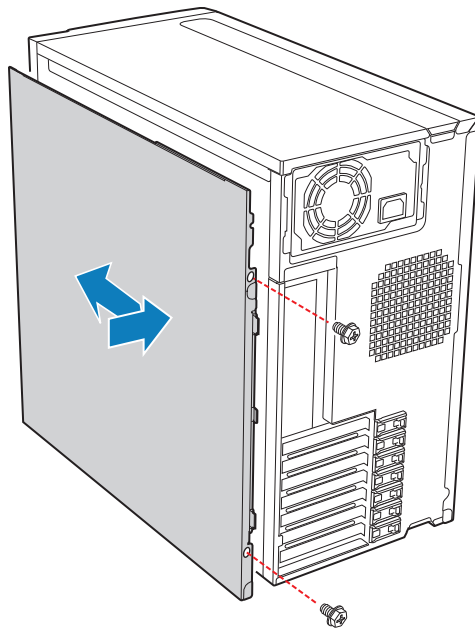


Figure 17. Removing Right Side Cover from Chassis

Installing the Right Side Cover

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

Warning: This chassis must be operated with the right side cover installed to ensure proper cooling.



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Figure 18. Re-installing Right Side Cover on Chassis

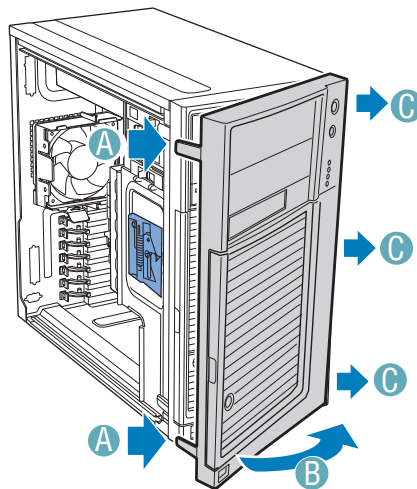
2. Reinstall the front bezel assembly. For instructions, see [“Installing the Front Bezel Assembly”](#).
3. Reinstall the left side cover. For instructions, see [“Installing the Left Side Cover”](#)
4. Reconnect all peripheral devices and the AC power cable. Power up the server.

Removing and Installing the Front Bezel Assembly

All configurations of the Intel® Server System SC5650BCDP ship with a two-piece front bezel assembly.

Removing the Front Bezel Assembly

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

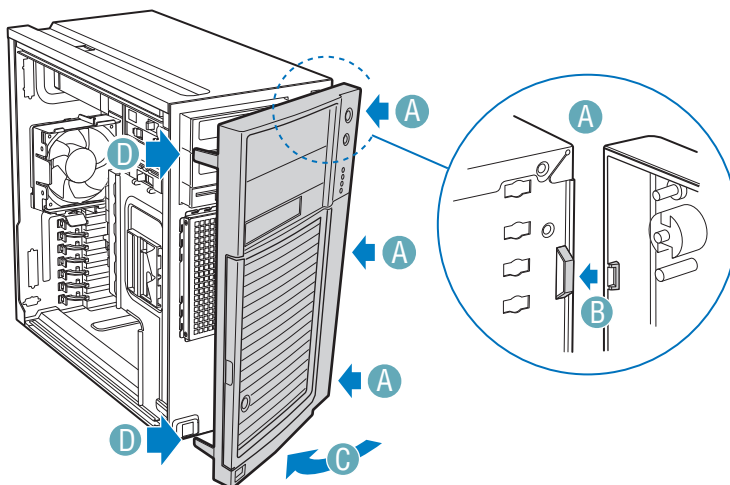


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Figure 19. Removing Front Bezel Assembly

Installing the Front Bezel Assembly

1. Line up the three clips on the right side of the front bezel assembly with the corresponding slots on the right side of the chassis (see letter “A” in the following figure). Engage the clips with the slots (see letter “B”). Rotate the left side of the front bezel assembly towards the chassis (see letter “C”). Snap the two bezel tabs into the corresponding recesses at the left edge of the chassis front panel (see letter “D”).



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Figure 20. Installing the Front Bezel Assembly

2. Reinstall the left side cover. For instructions, see “[Installing the Left Side Cover](#)”.
3. Reconnect all peripheral devices and the AC power cable. Power up the server.

Installing and Removing Memory

The silkscreen on the board for the DIMMs displays DIMM_A1, DIMM_A2, DIMM_B1, and DIMM_B2, DIMM_D1, DIMM_D2, DIMM_E1, DIMM_E2 starting from the inside of the board. DIMM_A1 is the socket in blue closest to the processor 1 socket. For two slots per channel configurations, the server board requires DDR3 DIMMs within a channel to be populated starting with the DIMM farthest from the processor. The DIMM farthest from the processor per channel is blue on the board.

Installing DIMMs

To install DIMMs, follow these steps:

1. Observe the safety and ESD precautions at the beginning of this book. See “[Safety Information](#)” for more information.

2. Turn off all peripheral devices connected to the server and turn off the server.
3. Disconnect the AC power cord from the server.
4. Remove the server's cover and locate the DIMM sockets (see letter "A" to "E" in Figure 21).

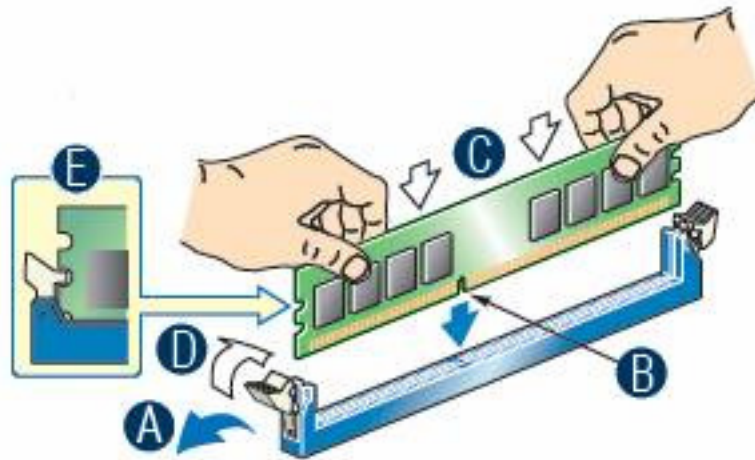


Figure 21. Installing Memory

5. Make sure the clips at either end of the DIMM socket(s) are pushed outward to the open position (see letter "A" in Figure 21).
6. Holding the DIMM by the edges, remove it from its anti-static package.
7. Position the DIMM above the socket. Align the two small notches in the bottom edge of the DIMM with the keys in the socket (see letter "B" in Figure 21).
8. Insert the bottom edge of the DIMM into the socket (see letter "C" in Figure 21).
9. When the DIMM is inserted, push down on the top edge of the DIMM until the retaining clips snap into place (see letter "D" in Figure 21). Make sure the clips are firmly in place (see letter "E" in Figure 21).
10. Replace the server's cover and reconnect the AC power cord.

Removing DIMMs

To remove a DIMM, follow these steps:

1. Observe the safety and ESD precautions at the beginning of this book. See ["Safety Information"](#) for more information.
2. Turn off all peripheral devices connected to the server and turn off the server.
3. Remove the AC power cord from the server.
4. Remove the server's cover.

5. Gently spread the retaining clips at each end of the socket. The DIMM lifts from the socket.
6. Holding the DIMM by the edges, lift it from the socket, and store it in an anti-static package.
7. Reinstall and reconnect any parts you removed or disconnected to reach the DIMM sockets.
8. Replace the server's cover and reconnect the AC power cord.

Installing or Replacing the Processor

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

Caution: Processor must be appropriate: If you install a processor that is inappropriate for your server, you may damage the server board.

ESD and handling processors: Reduce the risk of electrostatic discharge (ESD) damage to the processor by doing the following: (1) Before touching the processor or server board, touch the metal chassis. 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

To install a processor, follow these instructions:

1. Observe the safety and ESD precautions at the beginning of this book. See “[Safety Information](#)” for more information.
2. Turn off all peripheral devices connected to the server and turn off the server.
3. Disconnect the AC power cord from the server.
4. Remove the server's cover. See the document that came with your server chassis for instructions on removing the server's cover.
5. Locate the processor socket and open the socket lever (see Figure 22).

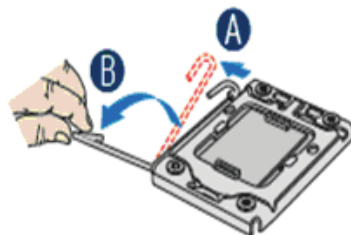


Figure 22. Lifting the Load Lever

6. Open the load plate (see letter “A” in Figure 22 and letter “B” in Figure 23).

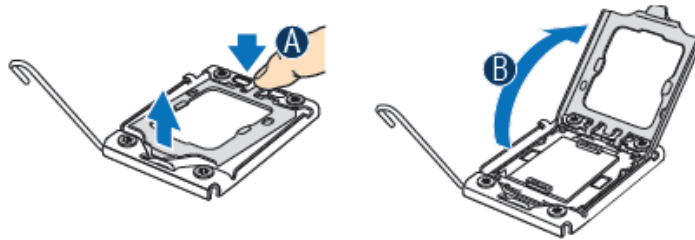


Figure 23. Open the Load Plate

7. Remove the socket protective cover (see Figure 24).

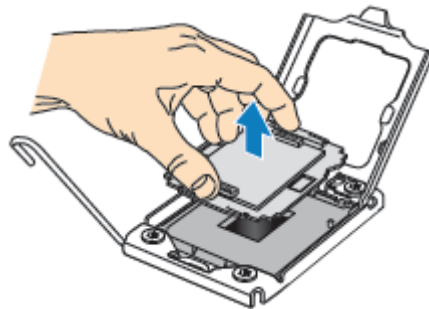


Figure 24. Remove the Socket Protective Cover

8. Take the processor out of the box and remove the protective shipping cover (Figure 25).



Figure 25. Remove the Processor Protective Cover

9. Align the processor cutouts to match the two socket pins, and then insert the processor into the socket as shown in Figure 26.

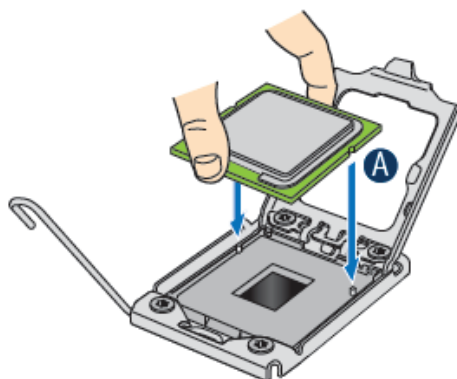


Figure 26. Installing the Processor

10. Close the load plate (see the letter “A” in Figure 27), close the socket lever and ensure the load plate tab engages under the socket lever when fully closed. (See letter “B” and “C” in Figure 27)

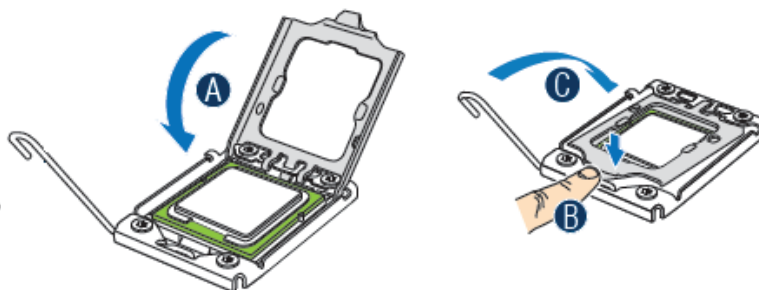


Figure 27. Close the Load Plate and Socket Lever

Note: Make sure the alignment triangle mark and the alignment triangle cutout align correctly. To assist in package orientation and alignment with the socket:

Removing the Heatsink(s)

To remove the heatsink, follow these steps:

1. Loosen the four captive screws on the heatsink corners in a diagonal manner according to the numbers shown in Figure 1 as follows:
 - a. Starting with the screw at location 1, loosen it by giving it two counterclockwise rotations and stop. (IMPORTANT: Do NOT fully loosen.)
 - b. Proceed to the screw at location 2 and loosen it by giving it two rotations and stop.
 - c. Loosen screws at locations 3 and 4 by giving each screw two rotations and then stop.
 - d. Repeat steps 1a through 1c by giving each screw two rotations each time until all screws are loosened.
2. Lift the heatsink from the board.
3. Remove and discard the spacer (see letter "C" in Figure 1).

Note: The system is shipped with a spacer installed between the heatsink and the processor socket to protect the socket protective cover. You must remove and discard this spacer before installing the processor.

Installing the Retention Mechanism(s) and Heatsink(s)

You must install the processor before installing the heatsink. For instructions, refer to the User/Service Guide for your server. For instructions on replacing a processor, refer to the next section, [“Replacing a Processor”](#).

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

Note: New unused heatsinks have adequate TIM on the bottom. If you are reusing a heatsink from replacing a processor, make sure there is adequate TIM present on the heatsink to support processor cooling.

To install the heatsink, follow these steps:

1. Remove the protective film on the TIM if present.
2. Orient the heatsink over the processor as shown in Figure 1. You must position the heatsink fins as shown to provide correct airflow through the system.
3. Set the heatsink over the processor, lining up the four captive screws with the four posts surrounding the processor.
4. Loosely screw in the captive screws on the heatsink corners in a diagonal manner according to the numbers shown in Figure 1 as follows:

- a. Starting with the screw at location 1, engage the screw threads by giving it two clockwise rotations and stop. (IMPORTANT: Do NOT fully tighten.)
 - b. Proceed to the screw at location 2 and engage the screw threads by giving it two rotations and stop.
 - c. Engage screws at locations 3 and 4 by giving each screw two rotations and then stop.
 - d. Repeat steps 4a through 4c by giving each screw two rotations each time until all screws are lightly tightened upto a maximum of 8 inch-lbs torque.
5. Attach fan power cable to server board as shown.

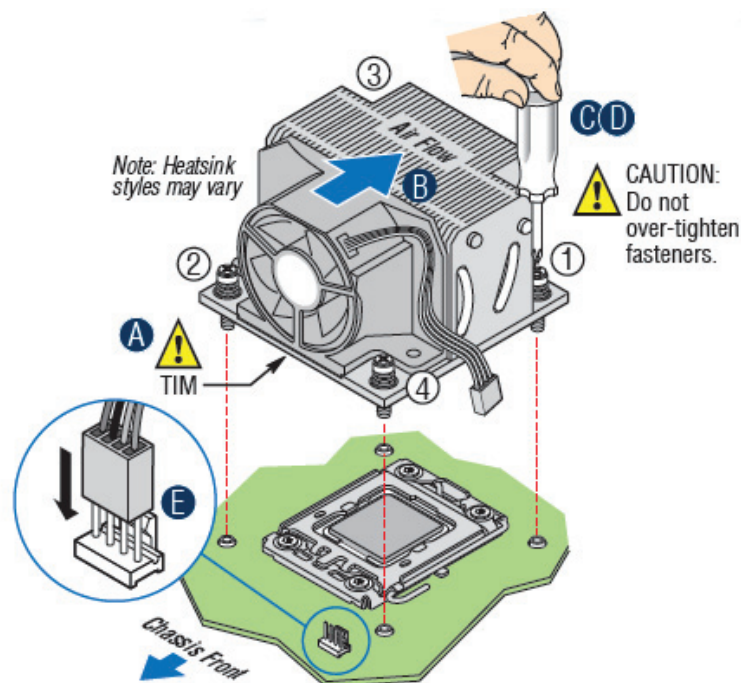


Figure 28. 2U Reference Heatsink Assembly

6. Reinstall and reconnect any parts you removed or disconnected to reach the processor sockets.
7. Replace the server's cover and reconnect the AC power cord. Refer to the documentation that came with your server chassis for instructions on installing the server's cover.

Replacing a Processor

1. Observe the safety and ESD precautions at the beginning of this book. See “[Safety Information](#)” for more information.
2. Turn off all peripheral devices connected to the server and turn off the server.

3. Remove the AC power cord from the server.
4. Remove the server's cover.
5. Unplug the processor fan cable from the server board.
6. Loosen the four captive screws on the corners of the heatsink.
7. Twist the heatsink slightly to break the seal between the heatsink and the processor.
8. Lift the heatsink from the processor. If it does not pull up easily, twist the heatsink again. Do not force the heatsink from the processor—doing so could damage the processor.
9. Lift the processor lever.
10. Raise the CPU load plate.
11. Remove the processor.

If installing a replacement processor, see [“Installing the Processor”](#). Otherwise, install the protective socket cover over the empty processor socket and reinstall the chassis cover.

Installing and Removing a Fixed Hard Drive

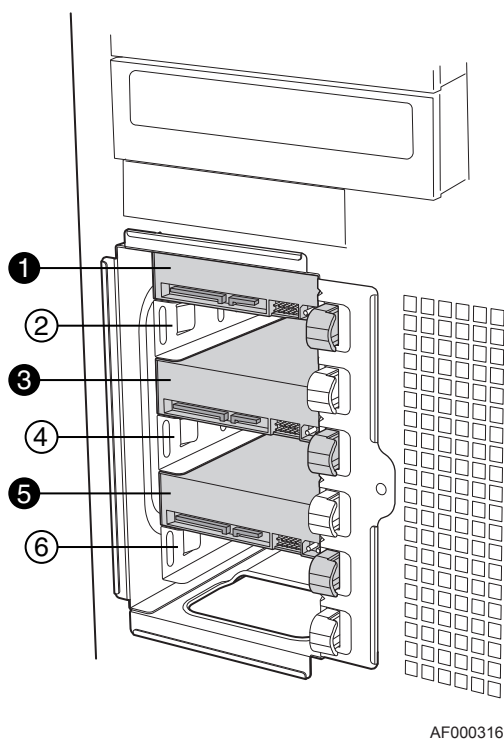
You can install up to six fixed hard drives in the fixed hard drive cage that ships with the Intel® Server System SC5650BCDP. Power requirements for each individual hard drive may limit the maximum number of drives that can be integrated into the server chassis.

Note: The Intel® Server System SC5650BCDP does not support all hard drives.

Installing a Fixed Hard Drive

Caution: Fixed 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.

Warning: You MUST populate drive bay slots 1, 3, and 5 first. Failure to do so could result in thermal issues within the chassis.

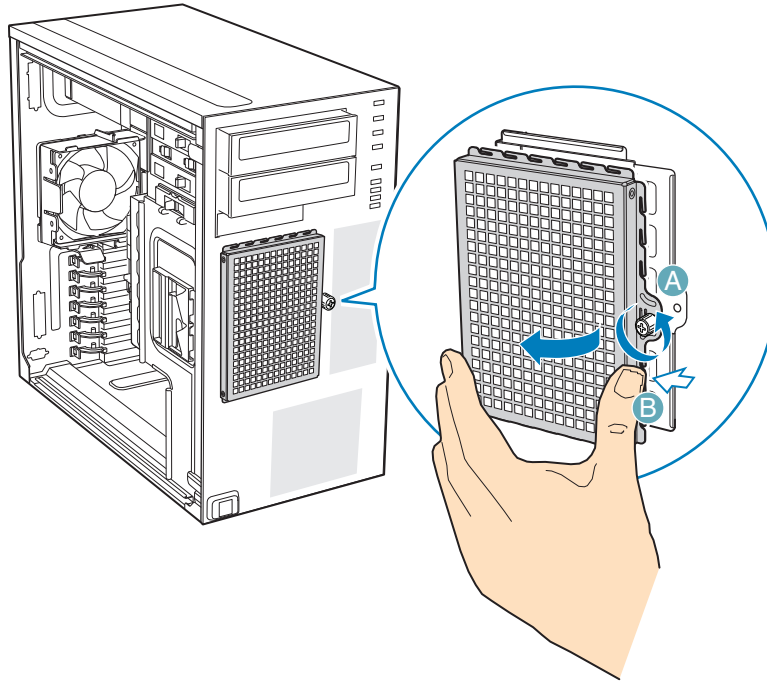


Note: SAS/SATA drives illustrated.

Figure 29. Drive Bay Slot Order

1. Observe the safety and ESD precautions listed in [Appendix G, “Safety Information”](#).
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the left side cover. For instructions, see [“Removing the Left Side Cover”](#).

4. Remove the front bezel assembly. For instructions, see [“Removing the Front Bezel Assembly”](#).
5. Loosen thumb screw and remove the drive cage EMI shield (see letter “A” in the following figure).



TP01869

Figure 30. Removing Drive Cage EMI Shield from Chassis

6. Remove any PCI add-in boards that use the PCI card guide. For instructions, see [“Removing PCI Add-in Boards”](#).

7. Remove the PCI card guide by pressing in on the blue tabs (see letter “A” in the following figure) and pulling the PCI card guide outward (see letter “B”).

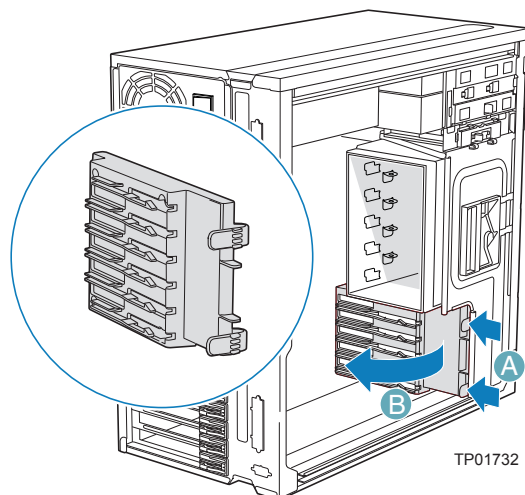


Figure 31. Removing PCI Card Guide

8. Route the required power cables (connectors P7-P10 for DP/BRP/WS, P6-P8 and P10-P12 for UP) from behind the PCI card guide through the cable routing area at the bottom of the fixed drive cage.

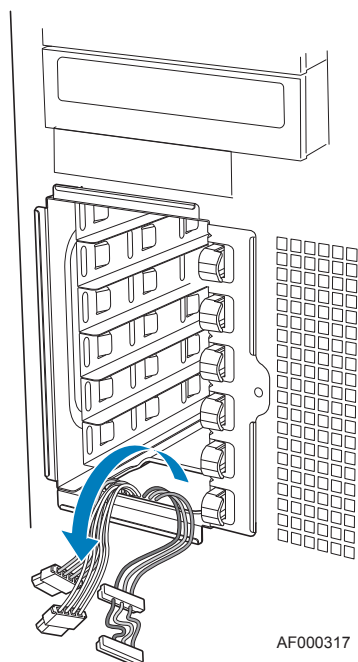
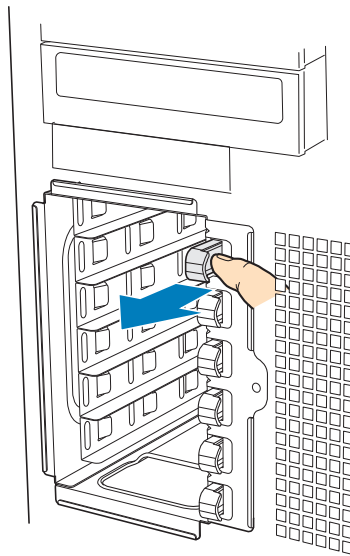


Figure 32. Routing Hard Drive Power Cables

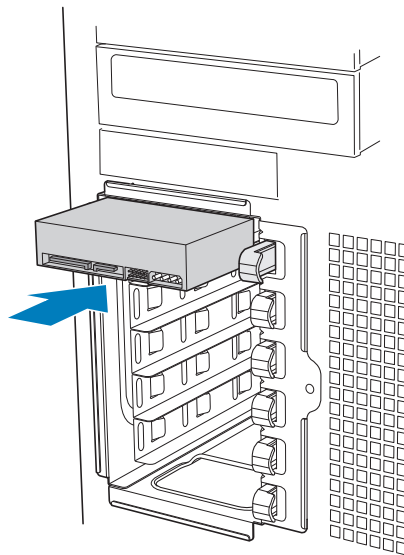
9. Pull the drive latch forward to unlatch the drive locking assembly for the drive bay you want to install a hard drive in.



AF000318

Figure 33. Unlatching Drive Latch

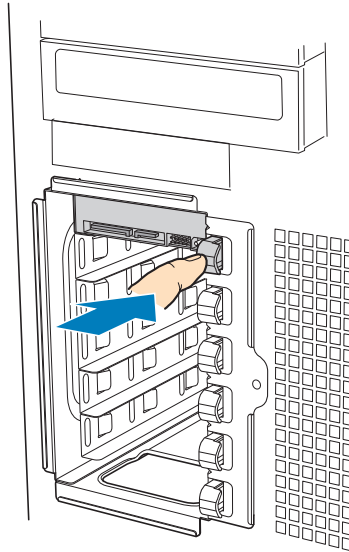
10. Insert fixed hard drive into drive bay and push until it stops. Ensure the power and data connector end of the hard drive are facing forward.



AF000319

Figure 34. Inserting Hard Drive into Drive Cage

11. Push drive latch in to lock hard drive into drive bay.

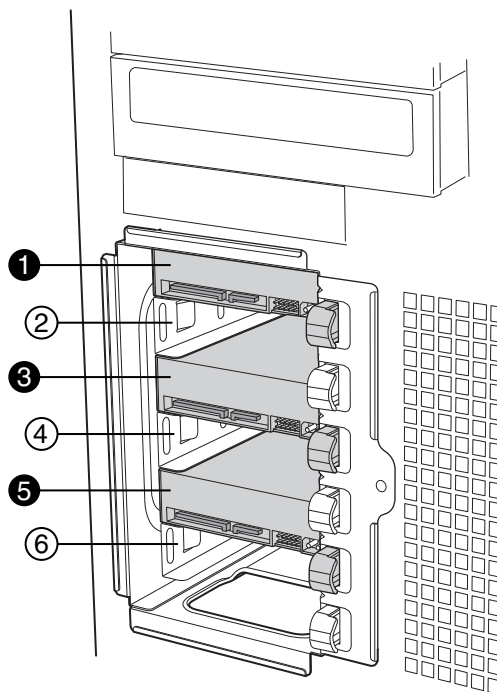


AF000320

Figure 35. Latching Drive Latch

12. Install additional drives as necessary.

Warning: You *MUST* populate drive bay slots 1, 3, and 5 first. Failure to do so could result in thermal issues within the chassis.



AF000316

Figure 36. Drive Bay Slot Order

13. Install power (see letter “A” in the following figure) and data (see letter “B”) cables to each of the installed drives. The cables route through the oval opening at the bottom of the fixed drive cage.

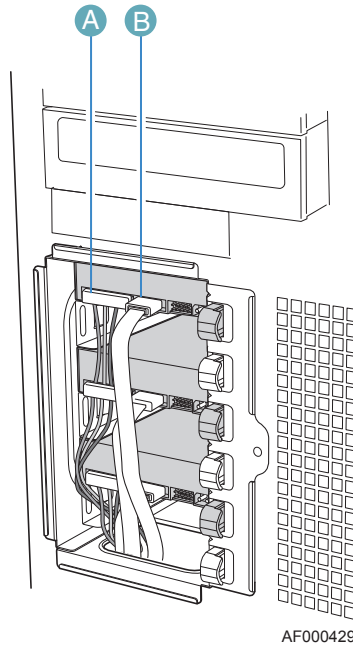


Figure 37. Cabling a Fixed Hard Drive

14. Re-attach the drive cage EMI shield to the chassis and tighten the thumb screw.

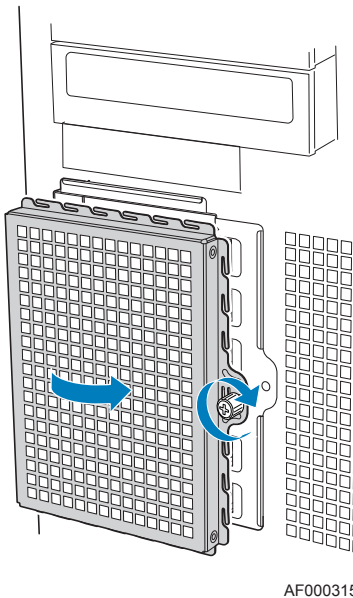
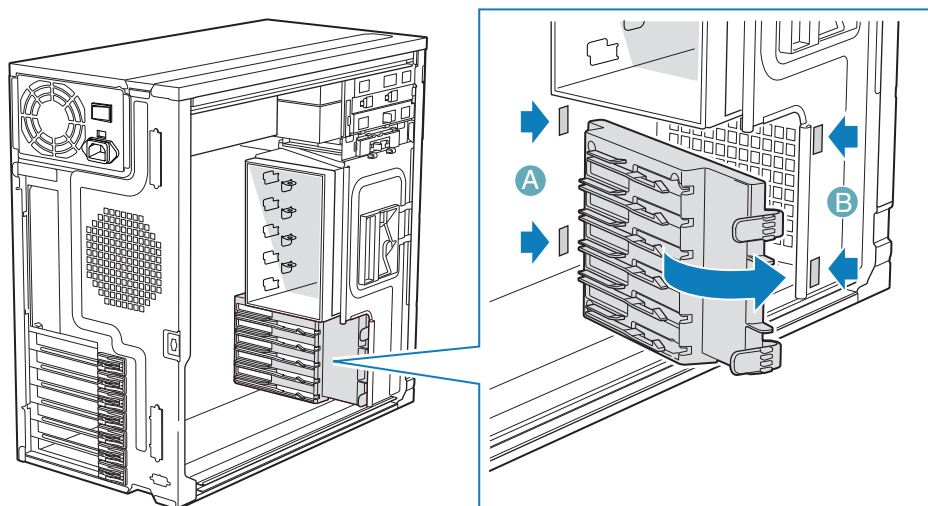


Figure 38. Re-installing Drive Cage EMI Shield

15. Re-install the PCI card guide. Insert tabs on the left side of PCI card guide into slots in chassis (see letter “A” in the following figure). Swing PCI card guide into chassis until right-side blue tabs snap into place (see letter “B”).



TP01735

Figure 39. Re-installing PCI Card Guide

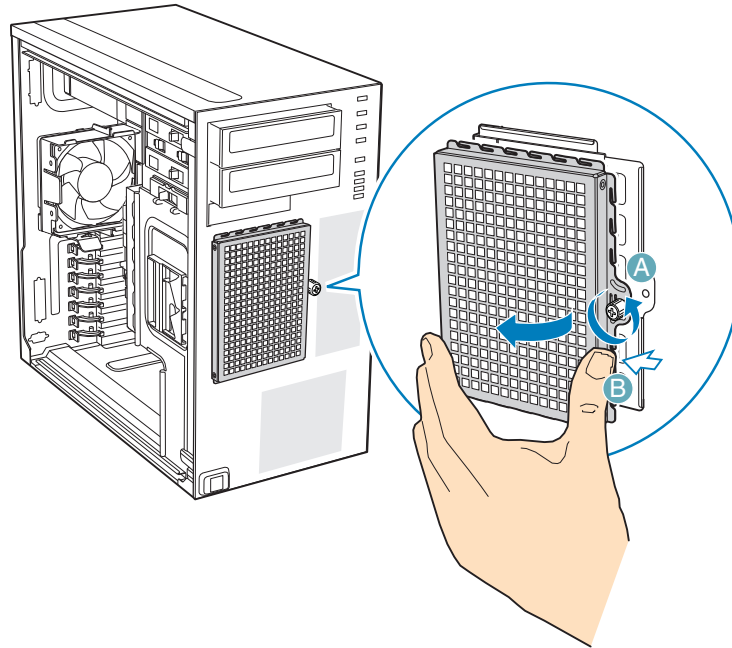
16. Re-install any PCI add-in cards that were removed. For instructions, see “[Installing PCI Add-in Boards](#)”.
17. Re-install the front bezel assembly. For instructions, see “[Installing the Front Bezel Assembly](#)”
18. Re-install the left side cover. For instructions, see “[Installing the Left Side Cover](#)”
19. Plug all peripheral devices and the AC power cable back into the server. Power up the server.

Removing a Fixed Hard Drive

Caution: Fixed 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.

1. Observe the safety and ESD precautions listed in [Appendix G, “Safety Information”](#).
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the left side cover. For instructions, see “[Removing the Left Side Cover](#)”.
4. Remove the front bezel assembly. For instructions, see “[Removing and Installing the Front Bezel Assembly](#)”.

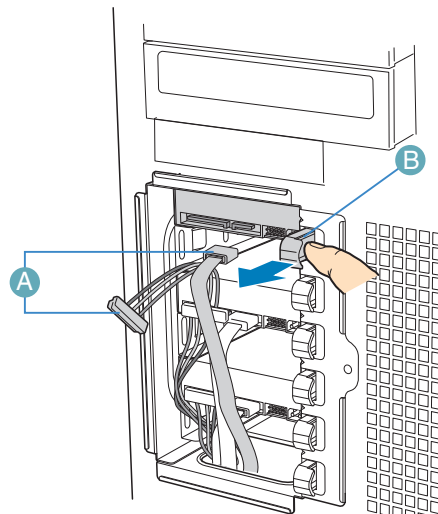
5. Loosen thumb screw (see letter “A” in the following figure). Apply slight pressure to the right side of drive bay access door and swing door outward (see letter “B”).



TP01869

Figure 40. Removing Drive Cage EMI Shield from Chassis

6. Disconnect the data and power cables from the hard drive to be removed (see letter “A” in the following figure). Pull the drive latch forward (see letter “B”) to unlatch the drive-locking mechanism for the hard drive you want to remove.



AF000430

Figure 41. Preparing Fixed Hard Drive for Removal

7. Slide the hard drive out of the fixed hard drive cage and place the hard drive on an anti-static surface. If replacing the hard drive, see [“Installing a Fixed Hard Drive”](#) for instructions.

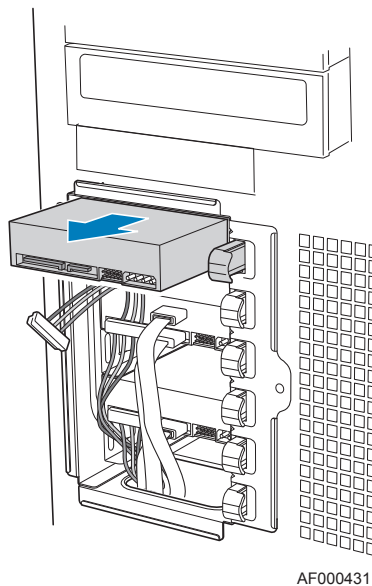


Figure 42. Removing Fixed Hard Drive from Drive Bay

8. Re-attach the drive cage EMI shield to the chassis and tighten the thumb screw.

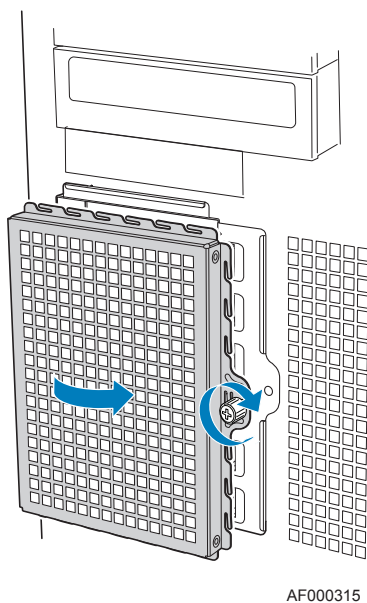


Figure 43. Re-installing Drive Cage EMI Shield

9. Re-install the front bezel assembly. For instructions, see [“Installing the Front Bezel Assembly”](#).
10. Re-install the left side cover. For instructions, see [“Installing the Left Side Cover”](#).

11. Plug all peripheral devices and the AC power cable(s) into the server. Power up the server.

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

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

Installing a DVD-ROM or CD-ROM Drive

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

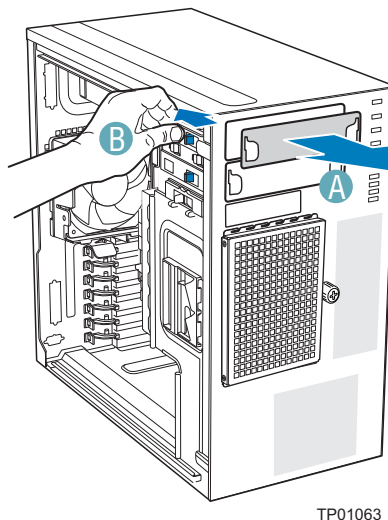
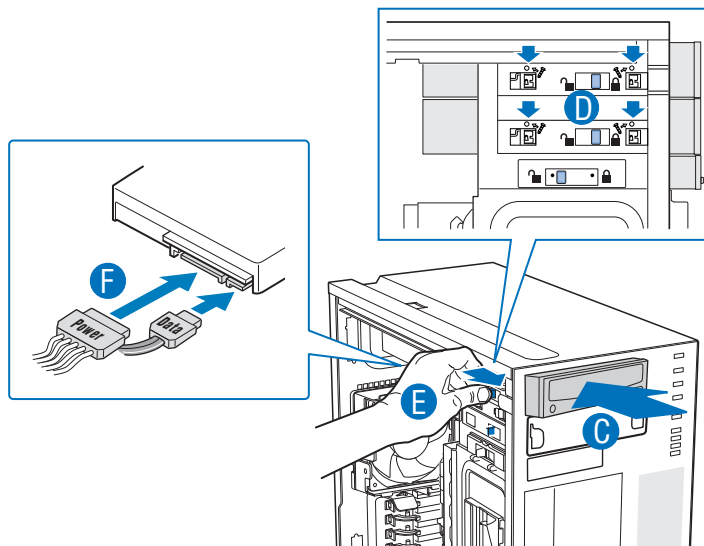


Figure 44. Removing 5.25-in Drive EMI Shield

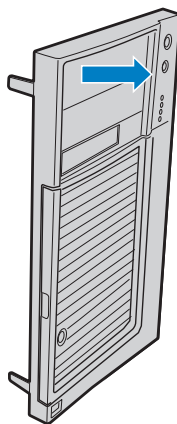
6. Insert the CD-ROM or DVD-ROM drive into the 5.25-in device drive bay (see letter “C” in the following figure). Line up holes in CD-ROM drive with holes in chassis (see letter “D”). Move latch to the “lock” position (see letter “E”). Connect power (P5 or P6 connector from the power supply) and data cables to the rear of the CD-ROM or DVD-ROM drive (see letter “F”).



AF002921

Figure 45. Installing CD-ROM or DVD-ROM Drive

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

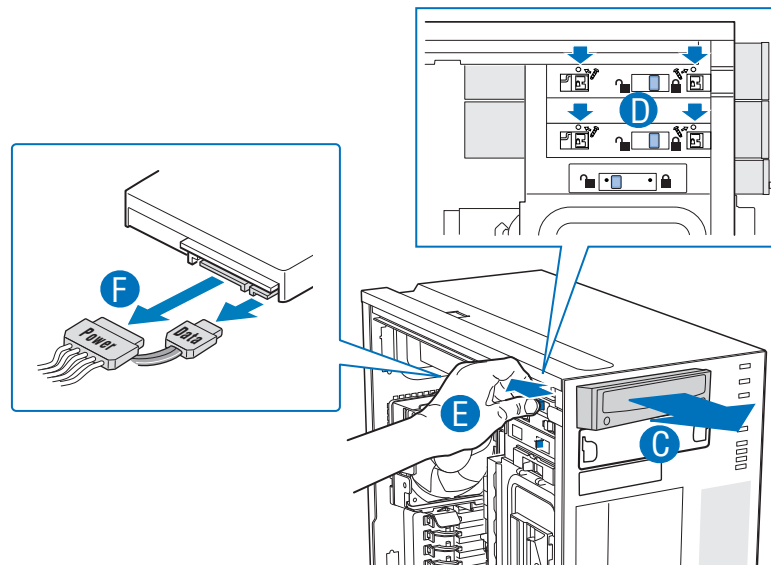


TP01723

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

Removing a CD-ROM or DVD-ROM Drive

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



AF003105

Figure 46. Removing CD-ROM or DVD-ROM Drive

6. If reinstalling a new CD-ROM or DVD-ROM drive, see “[Installing a DVD-ROM or CD-ROM Drive](#)” for instructions. If not replacing the drive, reinstall the EMI shield and front bezel filler panel, if available.

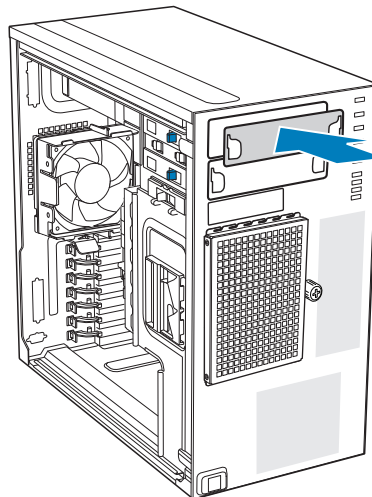


Figure 47. Installing 5.25-in Drive EMI Shield

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

Installing and Removing PCI Add-in Boards

The following instructions describe how to install and remove a PCI add-in board in the Intel[®] Server System SC5650BCDP. These instructions depend on the server board. See your server board documentation to determine PCI add-in board compatibility.

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

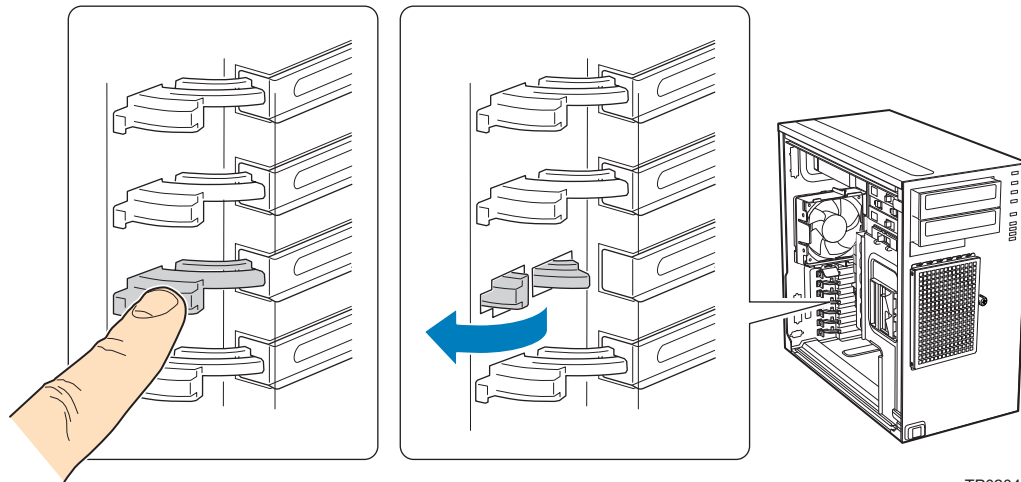
Caution: PCI add-in boards can be extremely sensitive to electric static discharge (ESD) and always require careful handling. After removing the add-in board from its protective wrapper or from the server board, place it component side up on a grounded, static-free surface or conductive foam pad. Do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

Installing PCI Add-in Boards

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

1. Observe the safety and ESD precautions listed in [Appendix G, “Safety Information”](#).
2. Power down the server and unplug all peripheral devices and the AC power cable.

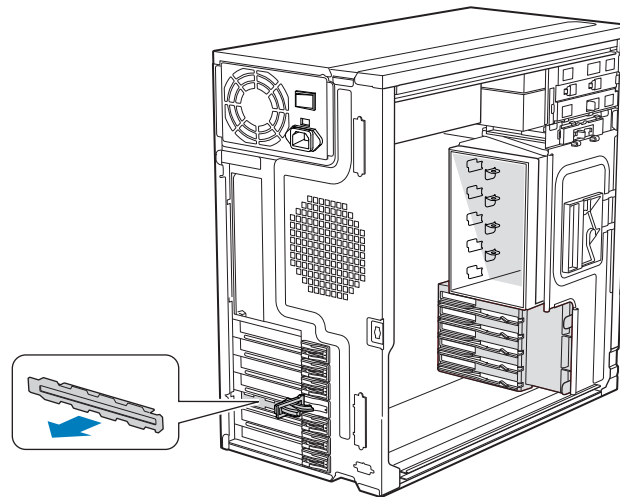
3. Remove the left side cover. For instructions, see “[Removing the Left Side Cover](#)”.
4. Open the back panel PCI Add-in Card Retention Device by pressing open from the inside of the chassis.



TP02049

Figure 48. Opening PCI Add-in Card Retention Device

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

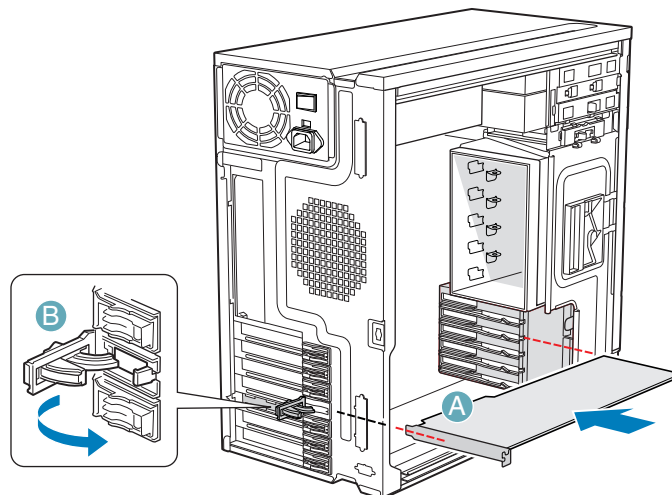


TP01744

Figure 49. Removing PCI Slot Shield

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

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



TP01745

Figure 50. Installing PCI Add-in Board

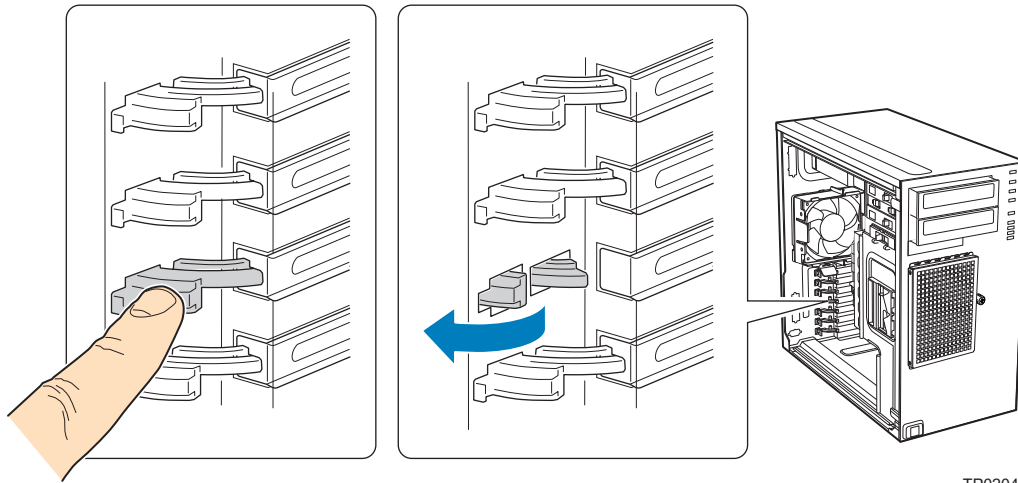
8. Repeat the previous steps until all PCI add-in boards are installed.
9. Attach cables, if necessary.
10. Reinstall the left side cover. For instructions, see [“Installing the Left Side Cover”](#).
11. Reconnect all peripheral devices and the AC power cable. Power up the server.

Removing PCI Add-in Boards

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

1. Observe the safety and ESD precautions listed in [Appendix G, “Safety Information”](#).
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the left side cover. For instructions, see [“Removing the Left Side Cover”](#).

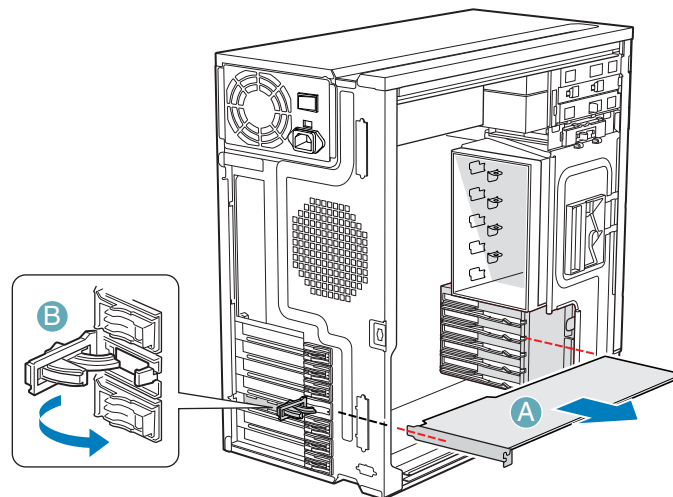
4. Open the back panel PCI Add-in Card Retention Device by pressing open from the inside of the chassis.



TP02049

Figure 51. Opening PCI Add-in Card Retention Device (DP/WS/BRP configuration shown)

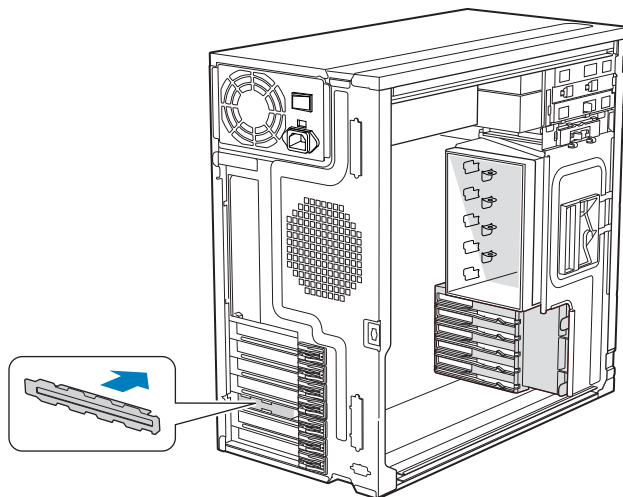
5. Disconnect any cables that may be attached to the PCI add-in board that needs to be removed.
6. Firmly grab the PCI add-in board by its top edge or upper corners and remove from the expansion slot on the server board (see letter “A” in the following figure). Place the removed add-in board in an anti-static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



TP01724

Figure 52. Removing PCI Add-in Board

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



TP01726

Figure 53. Replacing PCI Slot Shield

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

Replacing the Front Panel Board

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

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

1. Observe the safety and ESD precautions listed in [Appendix G, “Safety Information”](#).
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the left side cover. For instructions, see [“Removing the Left Side Cover”](#).
4. Remove the front bezel assembly if it is installed. For instructions, see [“Removing the Front Bezel Assembly”](#).

5. Remove the two screws (see letter “A” in the following figure”) securing the right side cover to the chassis. Lift the right side cover off the chassis.

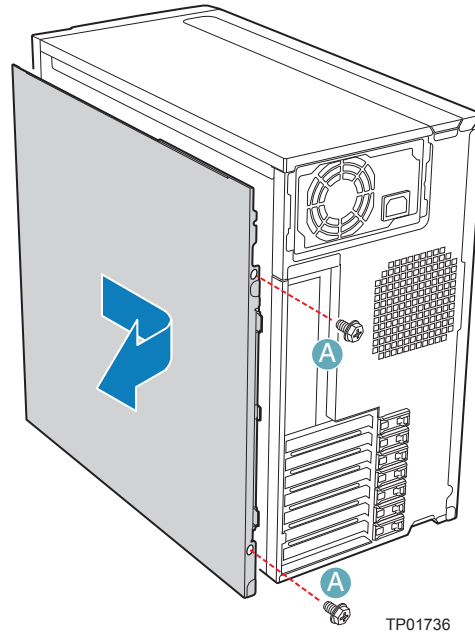


Figure 54. Removing Right Side Cover from Chassis

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

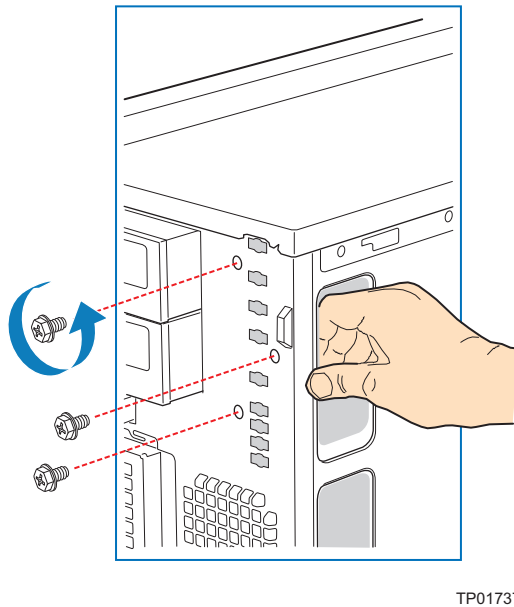
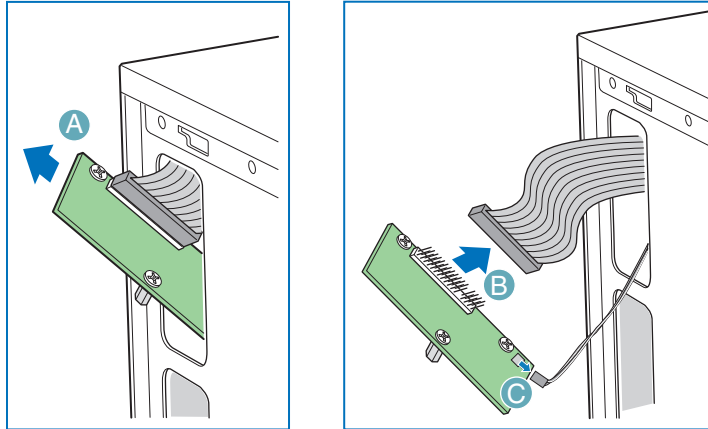


Figure 55. Unattaching Front Panel Board from Chassis

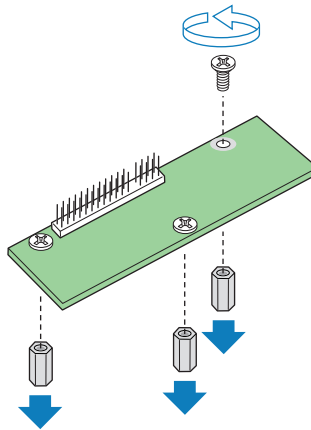
- Carefully remove the front panel board through the opening in the left side of the chassis (see letter “A” in the following figure). Disconnect the front panel cable (see letter “B”) and the chassis intrusion cable (see letter “C”) from the front panel board.



AF000432

Figure 56. Removing Front Panel Board from Chassis

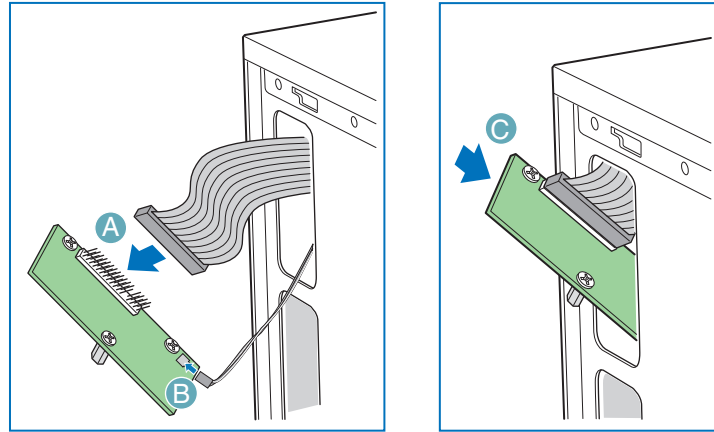
- Remove standoffs from the old front panel and install on the new front panel.



TP02000

Figure 57. Removing Standoffs from Front Panel

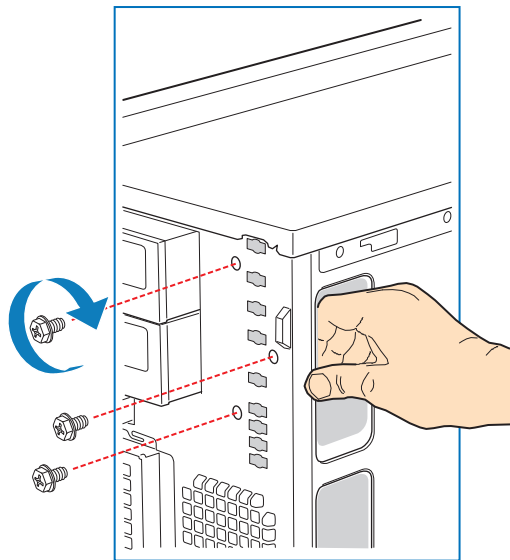
9. Attach the front panel cable (see letter “A” in the following figure) and the chassis intrusion cable (see letter “B”) to the new front panel board. Slide the new front panel board through the opening in the left side of chassis (see letter “C”).



AF000433

Figure 58. Installing Front Panel Board in Chassis

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

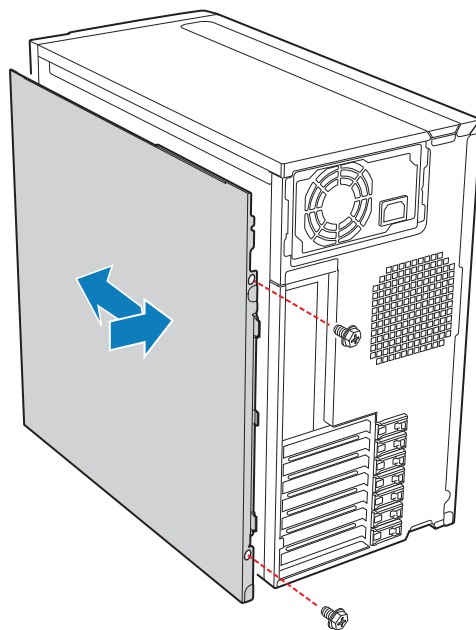


TP01740

Figure 59. Positioning Front Panel Board in Chassis

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

Warning: This chassis must be operated with the right side cover installed to ensure proper cooling.



TP01741

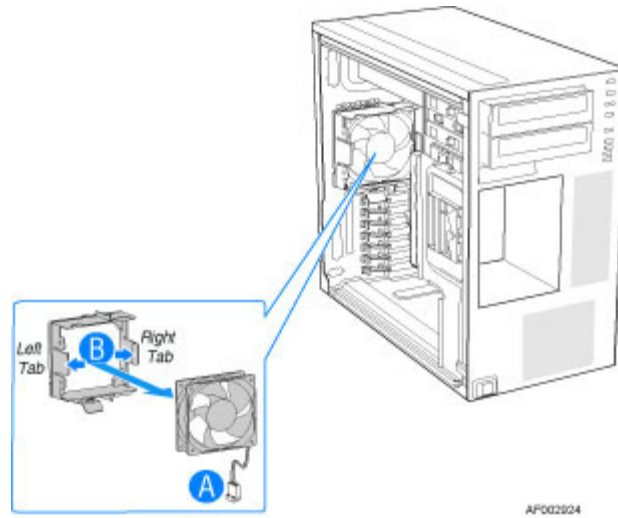
Figure 60. Re-installing Right Side Cover on Chassis

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

Replacing a System Fan

Caution: The system fan for the Intel® Server System SC5650BCDP is NOT hot swappable. Before removing or replacing a fan, you must first take the server out of service, turn off all peripheral devices connected to the system, turn off the system by pressing the power button, and unplug the AC power cord from the system or wall outlet.

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



AP002924

Figure 61. Removing System Fan from Chassis

5. For Intel® Server Board S5500BC only, install the fan guard. For installation, the new system fan in the snap-in bracket is shown in the following figure.

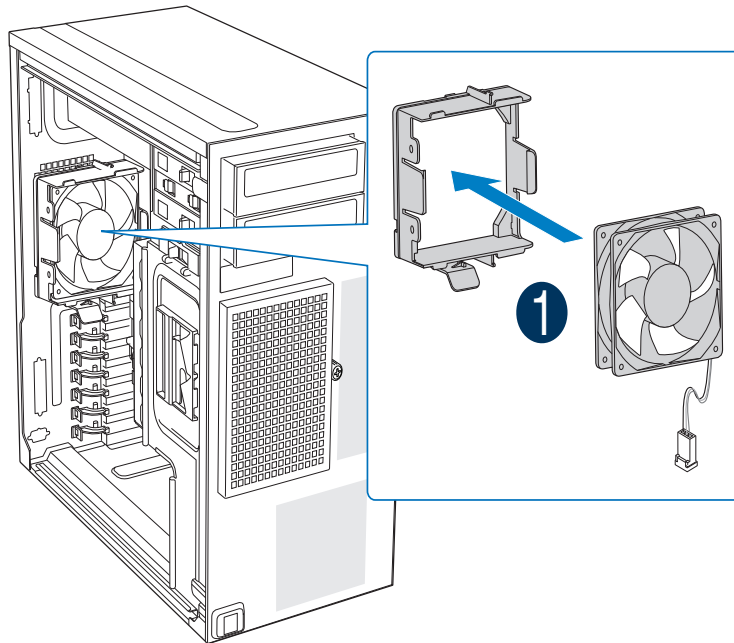


Figure 62. Installing System Fan in Chassis

6. Reconnect the fan cable to the server board. Refer to the *User Guide* that came with your server board for connection location.
7. Install the left side cover. For instructions, see “[Installing the Left Side Cover](#)”.
8. Plug all peripheral devices and the AC power cable into the server. Power up the server.

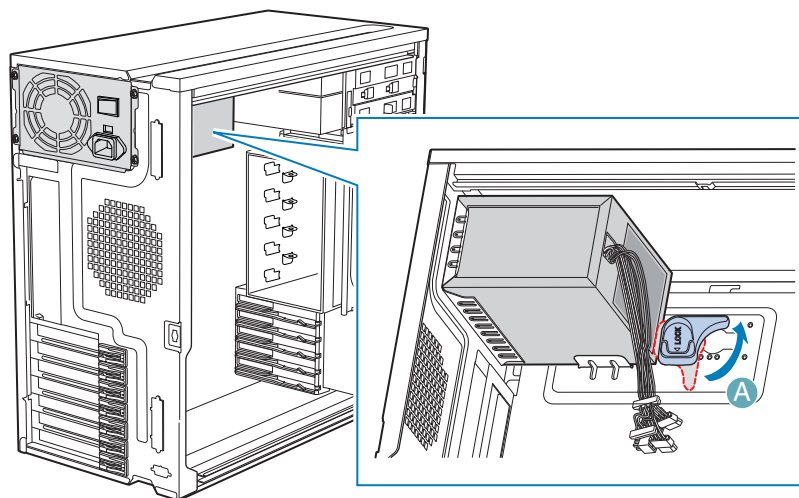
Replacing a Fixed Power Supply

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

Caution: *The fixed power supply is NOT hot-swappable in the DP, UP, and WS models of the Intel® Server System SC5650BCDP. Before removing or replacing the fixed 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.*

To replace a fixed power supply, use the following instructions:

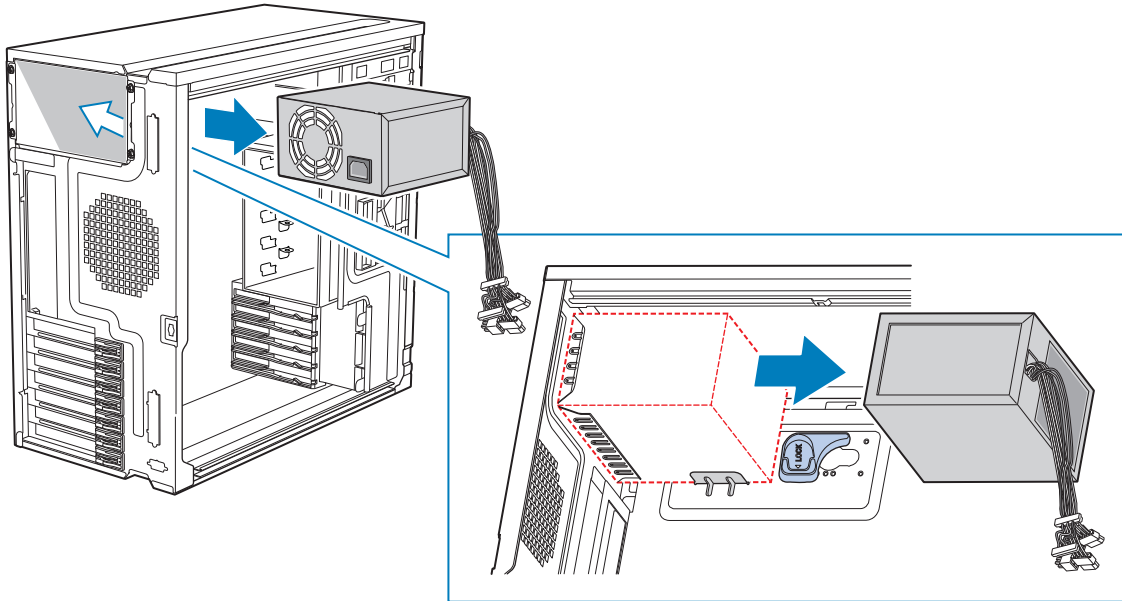
1. Observe the safety and ESD precautions listed in [Appendix G, “Safety Information”](#).
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the left side cover. For instructions, see [“Removing the Left Side Cover”](#).
4. Disconnect all internal power cables from chassis components and server board.
5. Rotate the blue locking mechanism (see letter “A” in the following figure) to the open position.



TP01757

Figure 63. Unlocking Fixed Power Supply from Chassis

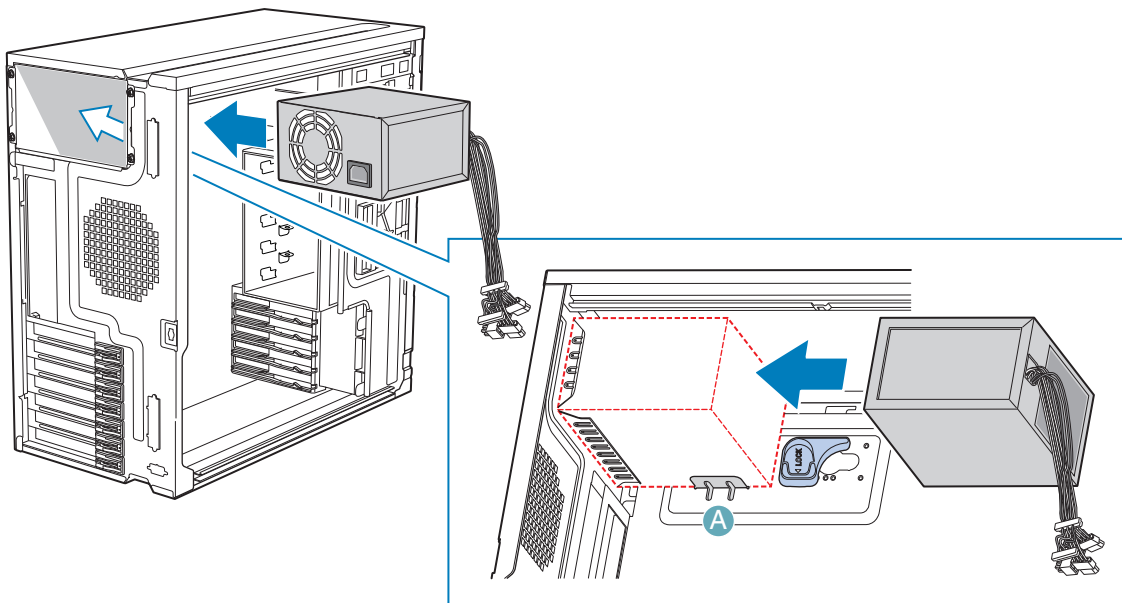
6. Once the fixed power supply is loose, push the power supply against the blue locking mechanism and then lift the power supply out of the chassis.



TP01754

Figure 64. Removing Fixed Power Supply from Chassis

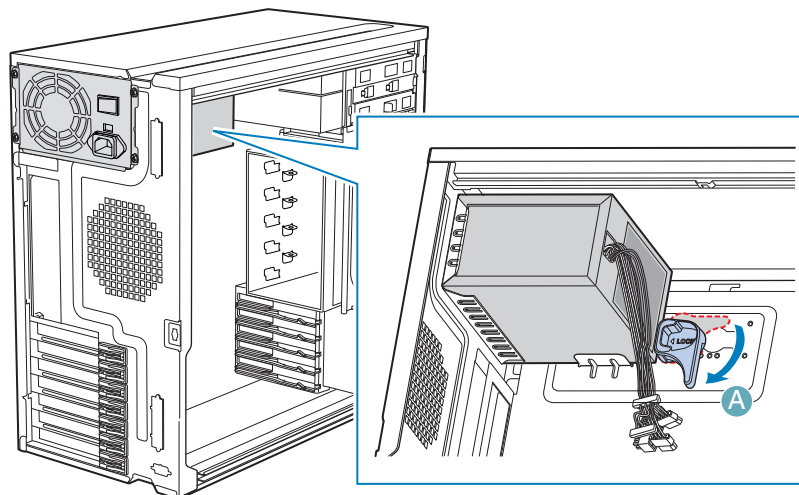
7. Insert the new fixed power supply in chassis. Ensure the blue locking mechanism is still in the open position. Make sure the new fixed power supply rests on the small metal shelf on the side wall of the chassis (see letter “A” in the following figure).



TP01753

Figure 65. Inserting Fixed Power Supply in Chassis

8. Rotate the blue locking mechanism to the locked position (see letter “A” in the following figure).



TP01755

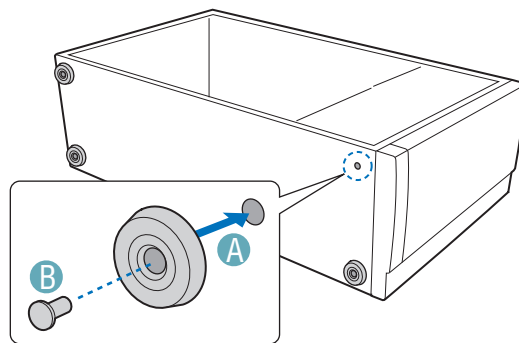
Figure 66. Locking Fixed Power Supply into Chassis

9. Route and connect the P1, P2, P3 and P4, P1 to the server board. Refer to the Intel[®] Server Board *Quick Start User's Guide* or *User Guide* that came with your Intel[®] server board for appropriate power connections.
10. Route the P5 to the PCI Express* graphic cards.
11. Route the P9 and P10 to the 5.25-in. removable media device bays and connect to installed devices.
12. Route the P11, P12, P13, and P14 (for DP/BRP/WS) cables to the hard drive cage and connect power cables to installed devices.
13. Install the left side cover. For instructions, see [“Installing the Left Side Cover”](#).
14. Reconnect all peripheral devices and the AC power cable to the server. Power up the server.

Installing Feet for a Pedestal-configured Chassis

Note: Do not install feet on your Intel® Server System SC5650BCDP if it is to be installed in a rack. Only install feet on a pedestal-configured chassis.

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



TP01709

Figure 67. Installing Feet on Chassis

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

3 Hot Swap Drive Cage Upgrade Install Instructions (optional)

The fixed hard drive cage that ships with your Intel® Server System SC5650BCDP is upgradeable to a hot swap drive cage with a SAS/SATA backplane. See your Intel Representative for ordering information.

You can install up to six hot swap hard drives in the optional hot swap drive cage. Power requirements for each individual hard drive may limit the maximum number of drives that can be integrated into the server chassis.

Note: The Intel® Server System SC5650BCDP does not support all hard drives.

Before You Begin

Before working with your server product, review the important safety information listed in [Appendix G, “Safety Information”](#).

Kits Required

- A hot swap conversion kit or a hot-swap drive cooling and mounting kit (part number: APP3HSDBKIT or APPTHSDBKIT).

OR

- A SAS/SATA backplane with expander (part number AXX6DRV3GEXP).

OR

- A hot swap drive cage kit with a SAS/SATA backplane without expander (part number AXX6DRV3GR)

Tools and Supplies Needed

- Phillips* (cross head) screwdriver (#1 bit and #2 bit)
- Needle-nosed pliers
- Anti-static wrist strap and conductive foam pad (recommended)

System References

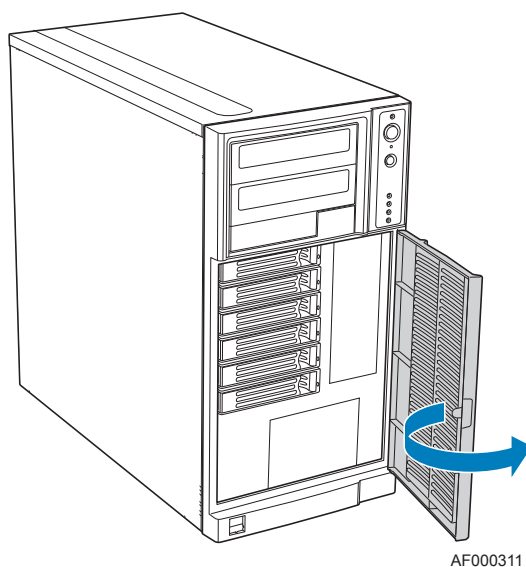
All references to the left, right, front, top, and bottom assume the reader is facing the front of the chassis as it would be positioned for pedestal operation.

Installing a Hot Swap Hard Drive

Note: The following set of instructions is only applicable if you replaced the fixed hard drive cage that shipped with your chassis with a SAS/SATA hard drive cage. If you are replacing a fixed hard drive, see “[Removing a Fixed Hard Drive](#)” for instructions.

Note: The Intel® Server System SC5650BCDP does not support all hard drives.

1. Open the drive bay access door.



AF000311

Figure 68. Opening Drive Bay Access Door

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

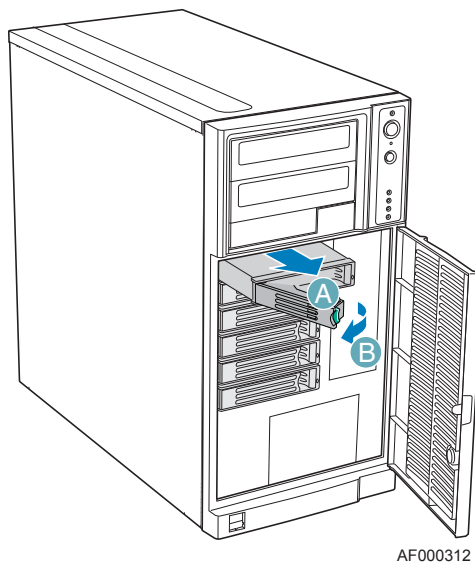


Figure 69. Releasing Drive Carrier from Hot Swap Drive Cage

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

Note: Store the plastic retention device for future use.

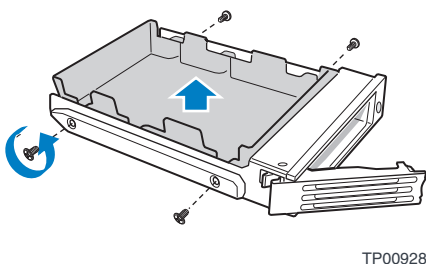
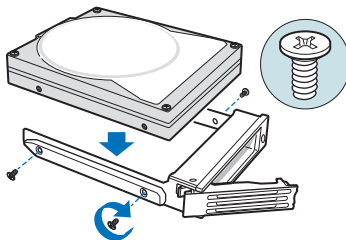


Figure 70. Removing Retention Device from Drive Carrier

4. Remove the hard drive from its wrapper and place it on an anti-static surface.
5. Set any jumpers and/or switches on the drive according to the drive manufacturer's instructions.
6. With the drive circuit-side down, position the connector end of the drive so that it is facing the rear of the drive carrier.

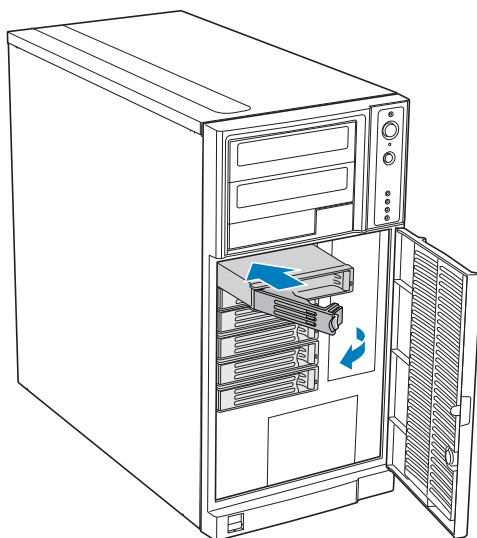
7. Align the holes in the drive to the holes in the drive carrier and attach the drive to the carrier with the screws that were formerly attached to the plastic retention device.



TP00929

Figure 71. Installing Hard Drive into Drive Carrier

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



AF000313

Figure 72. Re-installing Drive Carrier in Hot Swap Drive Cage

9. Close the drive bay access door.

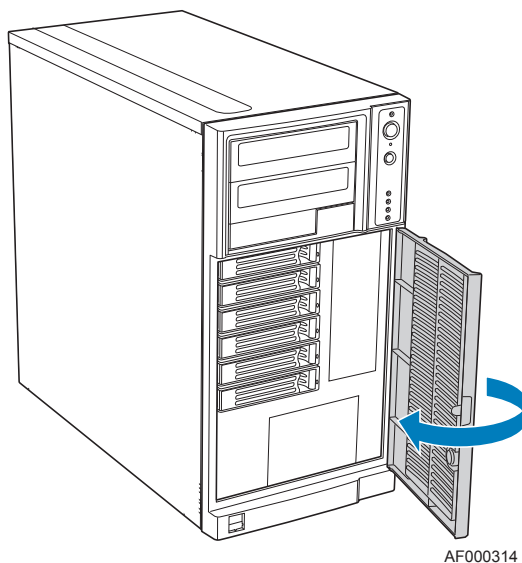


Figure 73. Closing Drive Bay Access Door

Removing a Hot-swap Hard Drive

1. Open the drive bay access door.

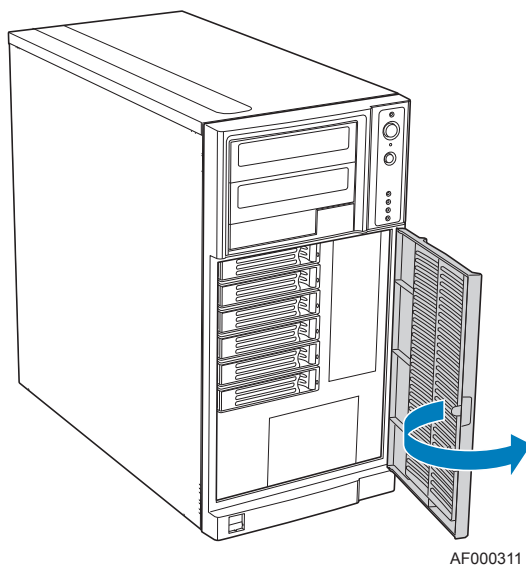
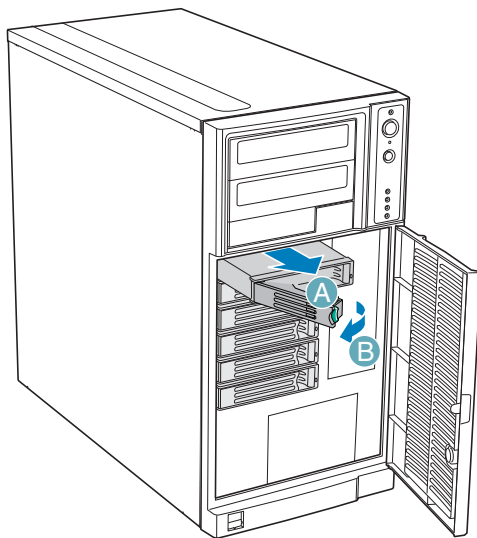


Figure 74. Opening Drive Bay Access Door

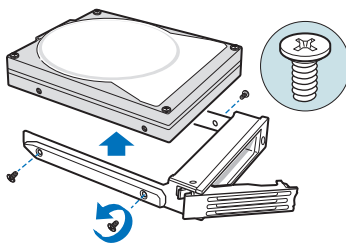
2. Press in on the green latch at the front of the drive carrier (see letter “A” in the following figure). Pull out on the black lever (see letter “B”) to slide the drive carrier from the hot swap drive cage.



AF000312

Figure 75. Removing Drive Carrier from Hot Swap Drive Cage

3. Remove the four screws that attach the hard drive to the drive carrier. Lift the drive from the carrier. Store the old drive in an anti-static bag.

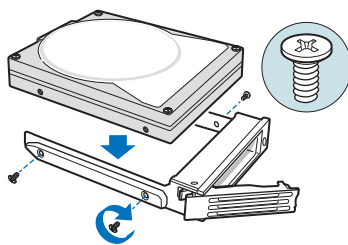


TP01714

Figure 76. Removing Hard Drive from Drive Carrier

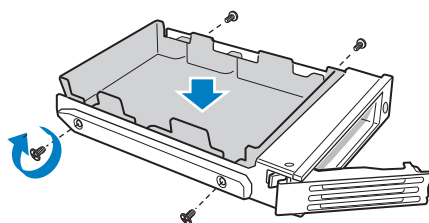
4. Remove the new drive from its anti-static bag and place in the drive carrier. With the drive circuit-side down, position the connector end of the drive so it is facing the rear of the drive carrier. Align the holes in the drive to the holes in the drive carrier and attach the drive to the carrier with the screws removed in the previous step.

Note: If you are not installing a new drive, place a plastic retention device into the drive carrier, using the four screws you removed from the hard drive.



TP00929

Figure 77. Installing Hard Drive in Drive Carrier



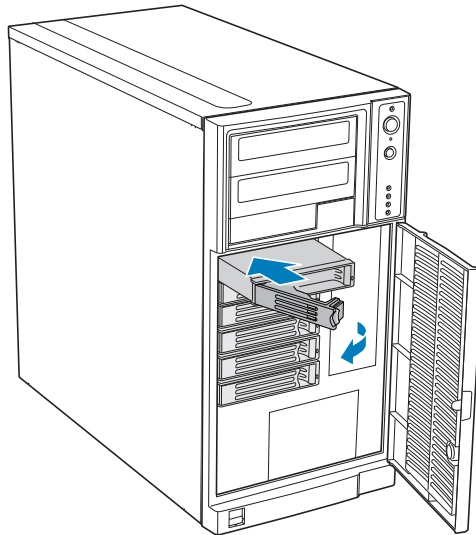
TP01713

Figure 78. Installing Plastic Retention Device in Drive Carrier

5. With the black lever in the fully open position, slide the drive carrier into the chassis. The green latch must be to the left. Do not push on the black lever until the lever begins to close by itself. When the black lever begins to close by itself, push on it to lock the drive carrier into place.

Hot Swap Drive Cage Upgrade Install Instructions (optional)

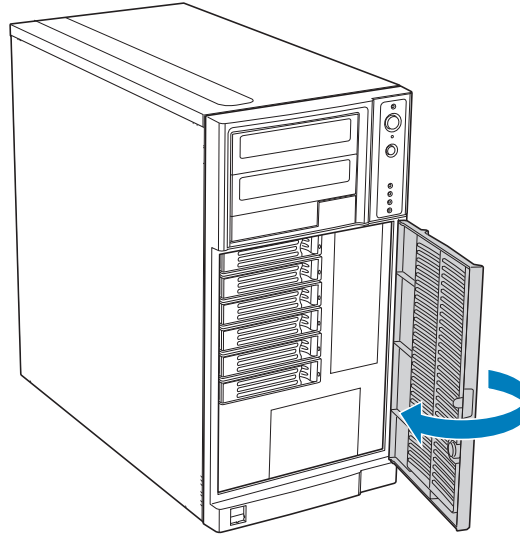
Note: For proper airflow, the drive carrier must be replaced in the chassis, even if no hard drive is installed in it.



AF000313

Figure 79. Re-installing Drive Carrier in Hot Swap Drive Cage

6. Close the drive bay access door.



AF000314

Figure 80. Closing Drive Bay Access Door

4 Rack Mount Kit Install Instructions (optional)

The Intel® Server System SC5650BCDP can be configured as a rack-mount chassis when outfitted with the optional rack mount accessory kit.

Before You Begin

Before working with your server product, review the important safety information listed in [Appendix G, “Safety Information”](#).

Tools and Supplies Needed

- Phillips* (cross head) screwdriver (#1 bit and #2 bit)
- Needle-nosed pliers
- Anti-static wrist strap and conductive foam pad (recommended)

System References

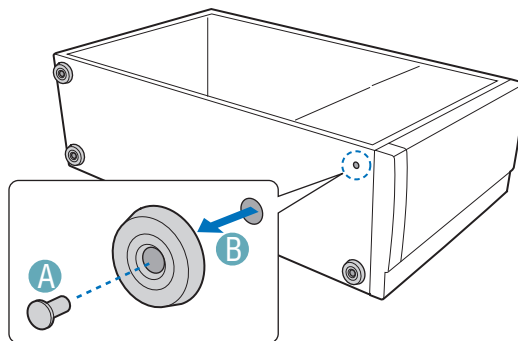
All references to the left, right, front, top, and bottom assume the reader is facing the front of the chassis as it would be positioned for rack-mount operation.

Setting up a Rack-configured Chassis

1. Observe the safety and ESD precautions listed in [Appendix G, “Safety Information”](#).
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Lay the chassis down on its right side.

Rack Mount Kit Install Instructions (optional)

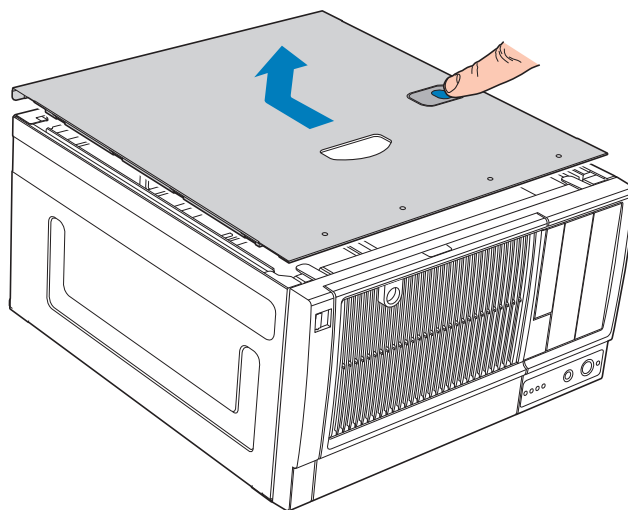
4. If installed, remove the chassis feet. Remove the pin from the rubber foot (see letter “A” in the following figure). Remove the rubber foot from the chassis hole (see letter “B”). Repeat process for remaining feet.



TP01710

Figure 81. Removing Chassis Feet

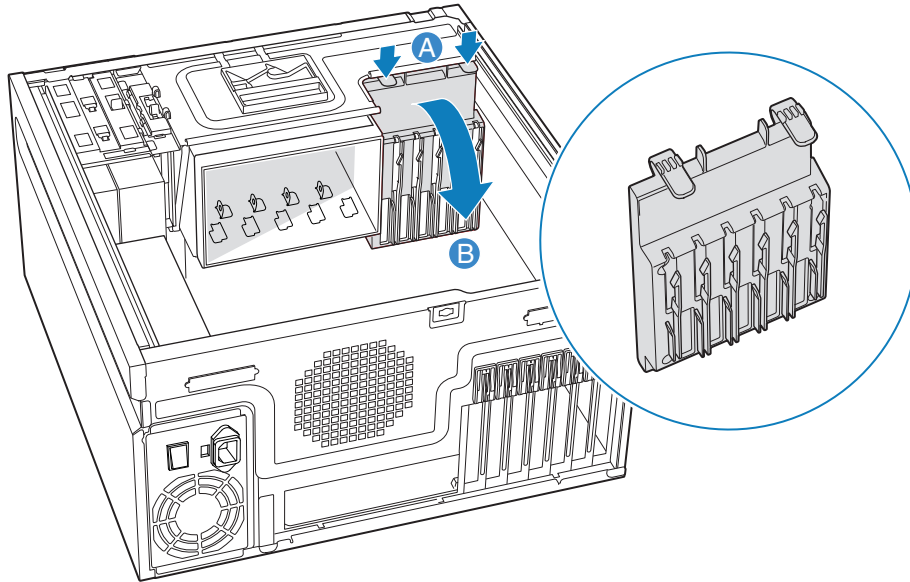
5. Remove the top side cover by pressing the latch and pushing back on the side cover to slide rearward and lift from chassis.



TP00958

Figure 82. Removing Top Side Cover from Chassis

6. Remove any PCI add-in boards. Remove the PCI card guide by pressing in on the blue tabs (see letter “A” in the following figure) and pulling the PCI card guide outward (see letter “B”).

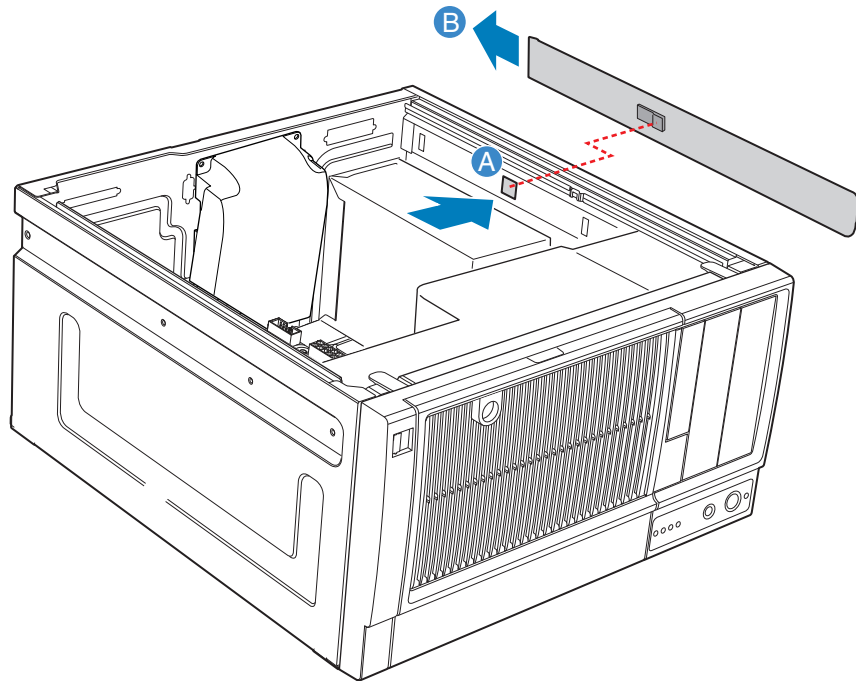


TP02001

Figure 83. Removing PCI Card Guide

Rack Mount Kit Install Instructions (optional)

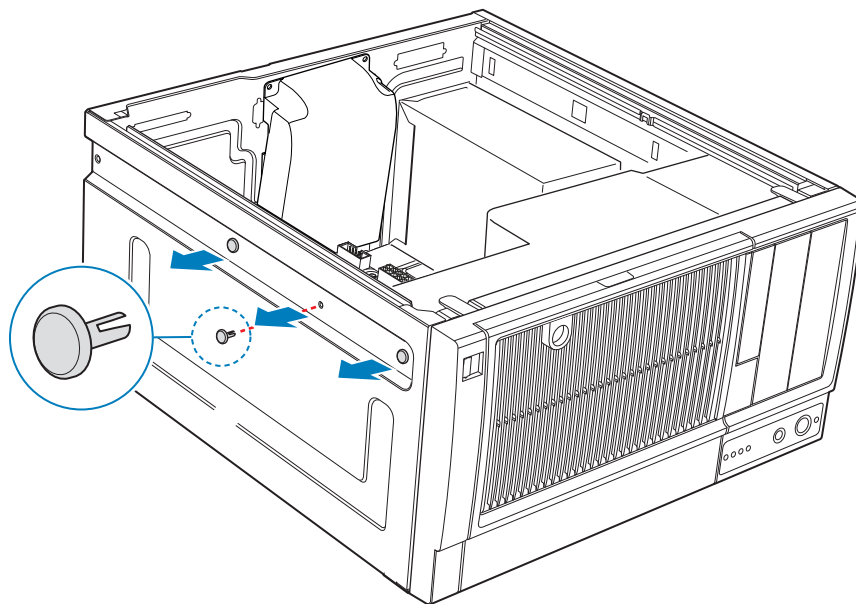
7. Remove plastic filler panel from chassis by pushing on interior tab (see letter “A” in the following figure) and sliding filler panel towards rear of chassis (see letter “B”).



AF000285

Figure 84. Removing Plastic Filler Panel from Chassis

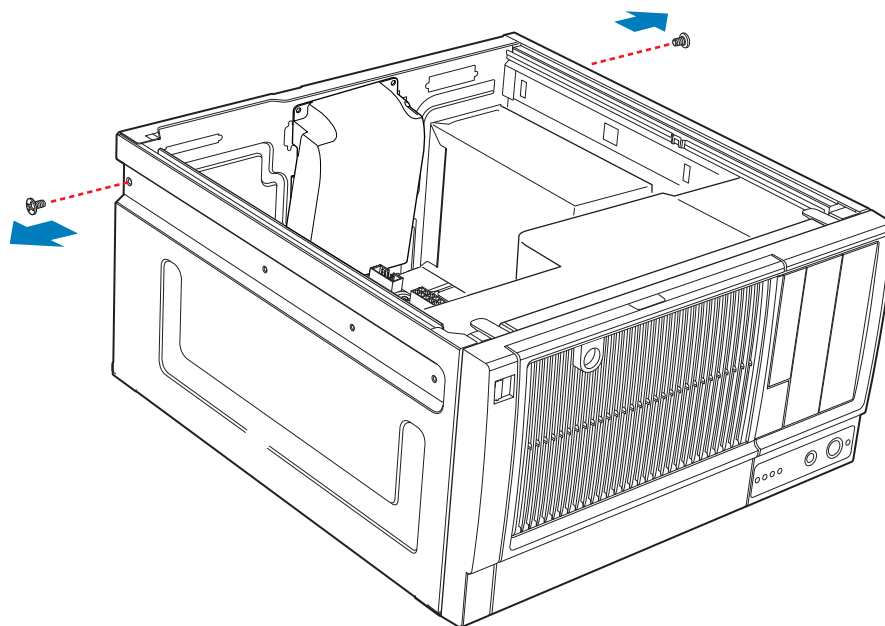
8. Remove the three plastic plugs from the left side of chassis.



AF000286

Figure 85. Removing Plastic Plugs

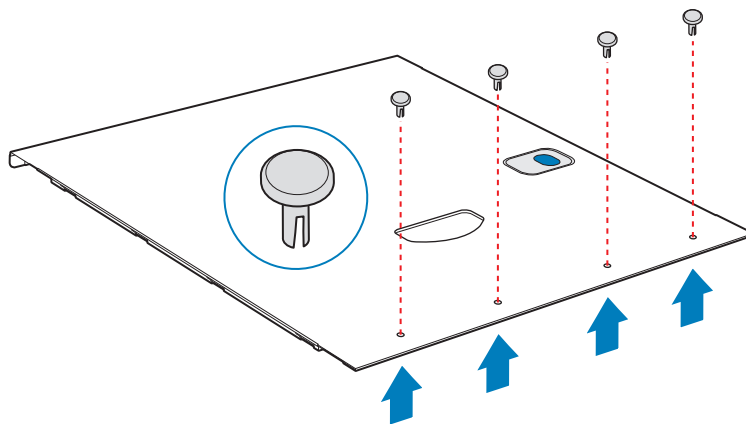
9. Remove two screws from the left and right sides of chassis.



AF000287

Figure 86. Removing Rear Screws

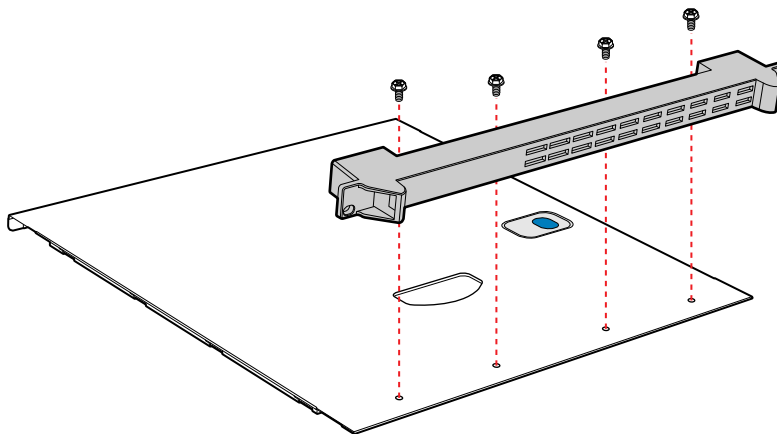
10. Remove the four plastic plugs from the top side cover.



TP02004

Figure 87. Removing Plastic Plugs from Top Side Cover

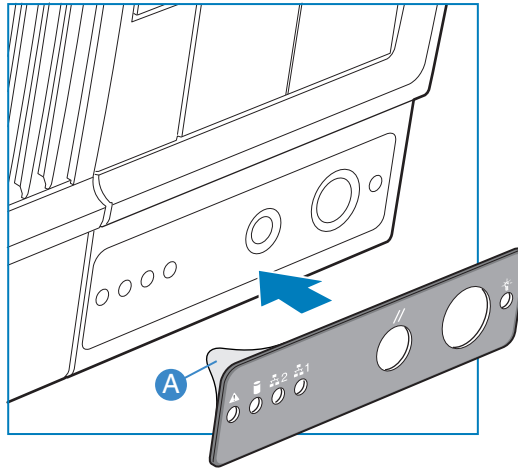
11. Install rack handle on left side cover using four 6-32 screws.



TP01053

Figure 88. Installing Rack Handle on Left Side Cover

12. If removed, install front bezel assembly. Affix front panel label (see letter “A” in the following figure) to the front panel.

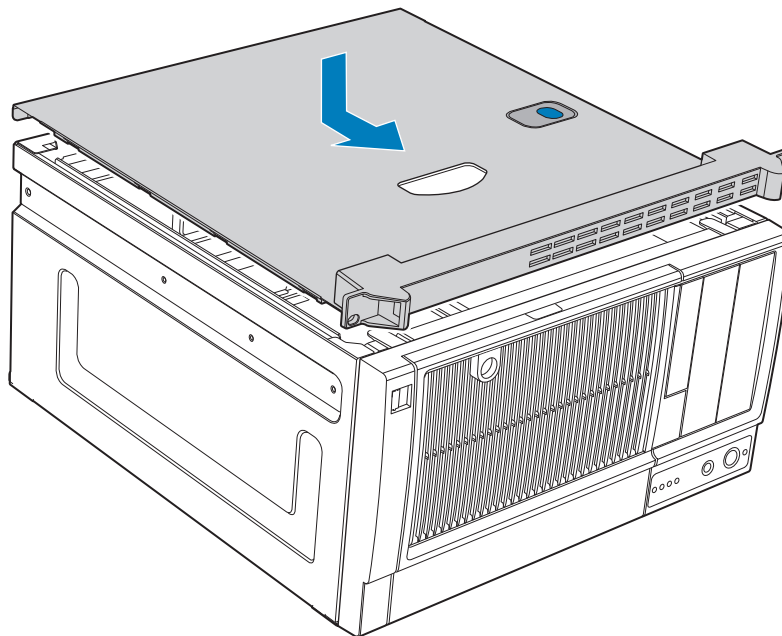


TP02005

Figure 89. Affixing Label to Front Panel

13. Install top side cover on chassis.

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

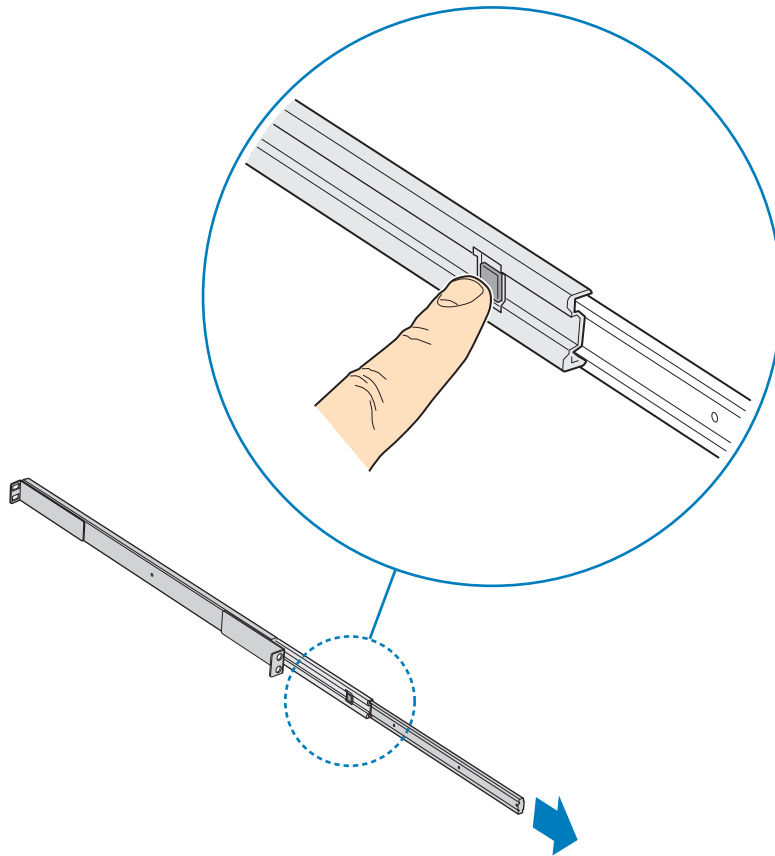


TP01057

Figure 90. Installing Top Side Cover on Chassis

Rack Mount Kit Install Instructions (optional)

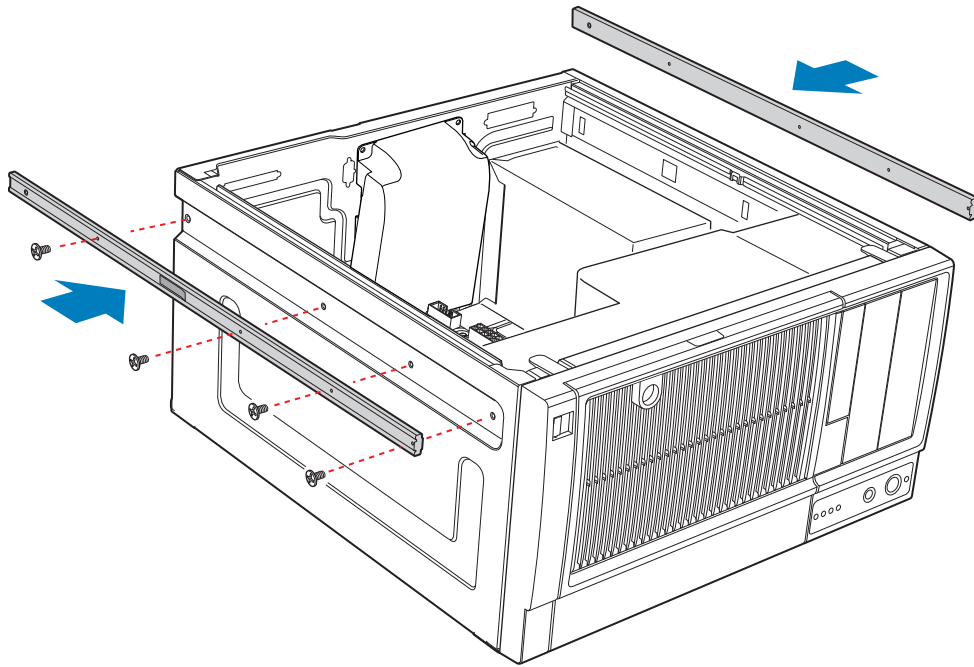
14. Detach inner rack rail from rack rail assembly. Press tab on inside of rack rail to release rack rail from rack rail assembly.



TP02006

Figure 91. Detaching Inner Rack Rail from Rack Rail Assembly

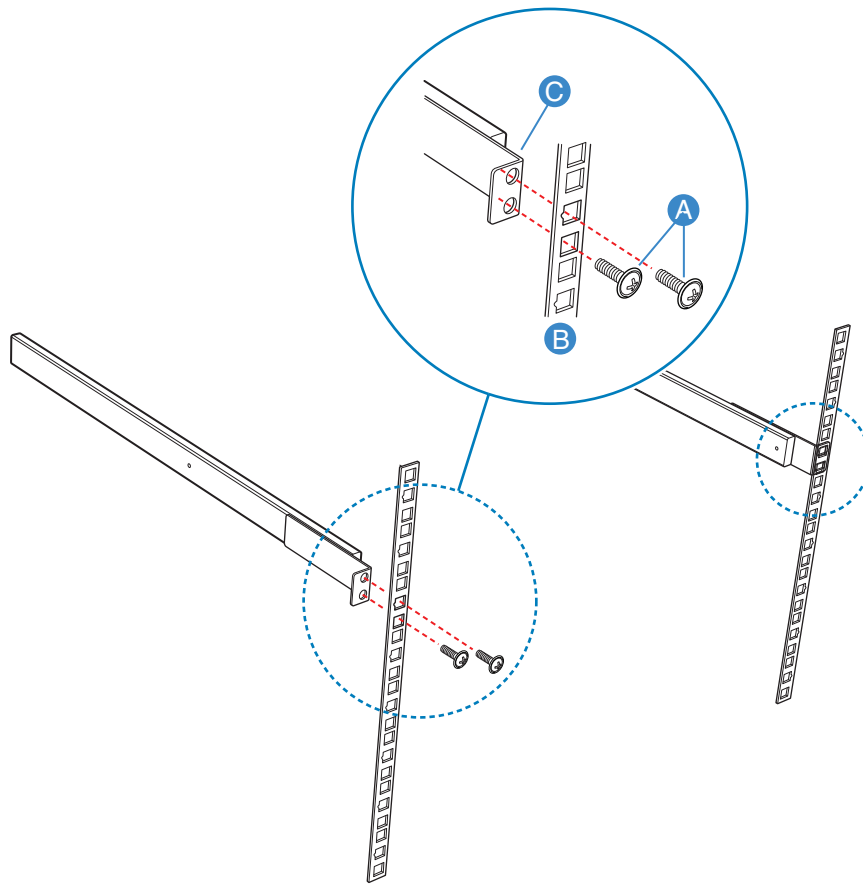
15. Attach inner rack rails (one per side) to chassis with four 6-32 screws.



AF000288

Figure 92. Attaching Inner Rack Rails to Chassis

16. Attach outer rack rails to rack uprights. Ensure the screws (two per outer rack rail; see letter “A” in the following figure) pass through the rack upright (see letter “B”), and the outer rack rail (see letter “C”).

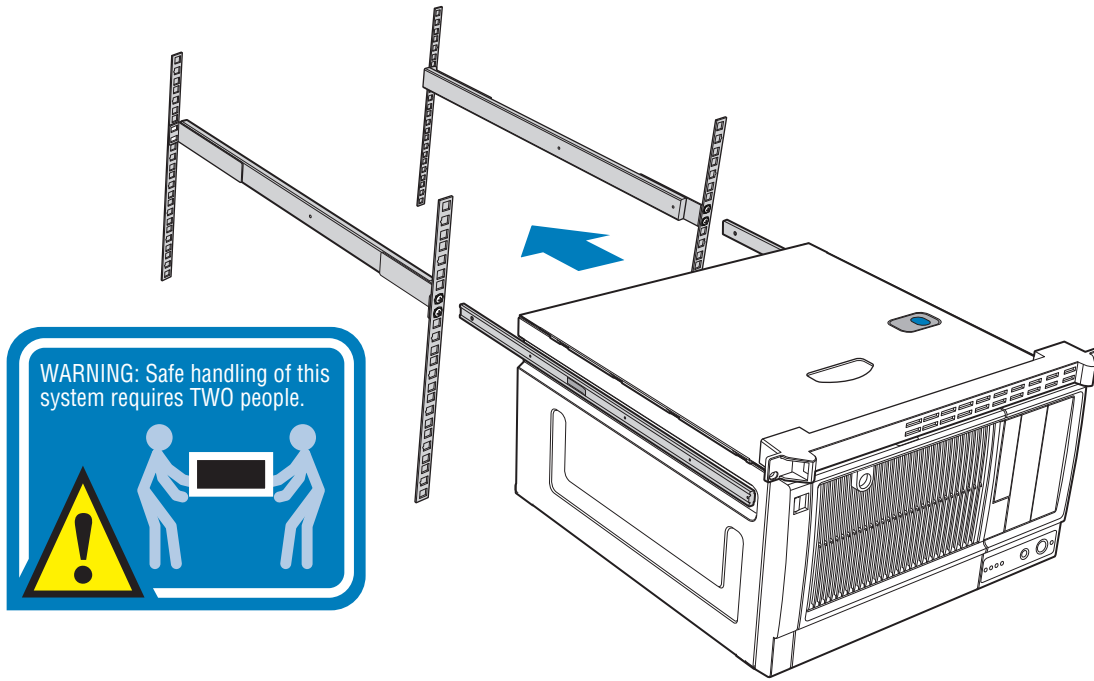


TP01056

Figure 93. Attaching Outer Rack Rails to Rack Uprights

17. Install chassis into rack.

Warning: Safe handling and lifting of this system requires *TWO* people.



TP01058

Figure 94. Installing Chassis into Rack

18. Reconnect all peripheral devices and the AC power cable to the server. Power up the server.

Rack Mount Kit Install Instructions (optional)

5 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 the BIOS Setup with or without an operating system being present. See “[Server System References](#)” for a link to the Intel® Server Board S1630BC Technical Product Specification where you can find details about specific BIOS setup screens.

Starting Setup

You can enter and start BIOS Setup under several conditions:

- When you turn on the server, after POST completes the memory test.
- When you 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 is corrupted, you will see other prompts but not the <F2> prompt:

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

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

If You Cannot Access Setup

If you cannot 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. If a user has adequate security rights, they can change these parameters. 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 launches 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 effect 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 <Enter> 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 <Enter> activates the selected item.
<F5> or <->	Change Value - The minus key or <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 <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 display: <pre style="margin-left: 40px;"> Setup Confirmation Load default configuration now? [Yes] [No] </pre> If "Yes" is selected and <Enter> is pressed, all Setup fields are set to their default values. If "No" is selected and the <Enter> key is pressed, or if <Esc> 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
	<pre> Setup Confirmation Save Configuration changes and exit now? [Yes] [No] </pre>

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

In the unlikely event a BIOS error occurs during the BIOS upgrade process, you may need to follow a recovery process to return the system to service. For additional information, see “[Server System References](#)” for a link to the necessary firmware and BIOS updates software and instructions.

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 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 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

Download the BIOS image file to a temporary folder on your hard drive. See [“Server System References”](#) for a link to the update software.

Caution: Do not power down the system during the BIOS update process! The system resets automatically when the BIOS upgrade process completes. 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 cannot access the BIOS setup screens, you must use the CMOS Clear jumper to reset the configuration RAM. The CMOS Clear jumper is located on jumper block at J2D2 on the server board.

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 Clear by MBX, at pins 1 and 2 to the CMOS Clear Force Erase position, covering pins 2 and 3.

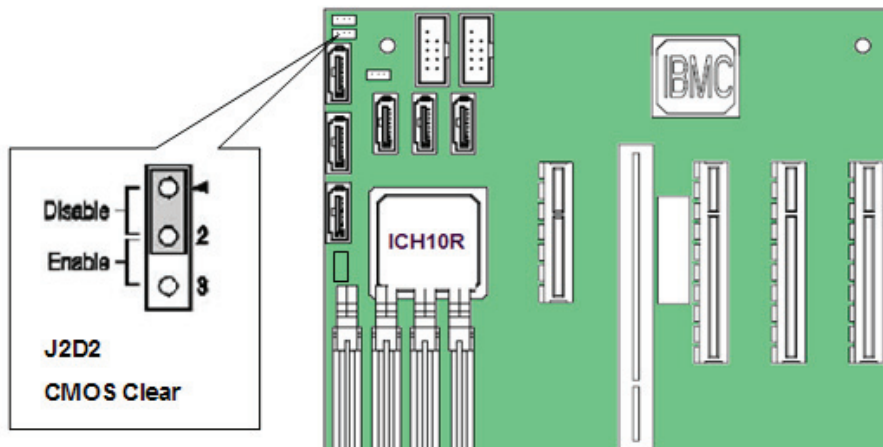


Figure 95. CMOS Recovery Jumper

4. Reconnect the AC power and power up the system.
5. When the system begins beeping, power it down and disconnect the AC power.
6. Return the CMOS Clear jumper to the spare location, covering pins 1 and 2.
7. Close the server chassis; reconnect the AC power and power up the system.
8. The CMOS is now cleared and you can reset it 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. Before you can set a new password(s), you must restore the password reset jumper to its original position. The password clear jumper is located on jumper block at location J32 on the server board.

1. Power down the system and disconnect the AC power.
2. Open the server chassis.
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.

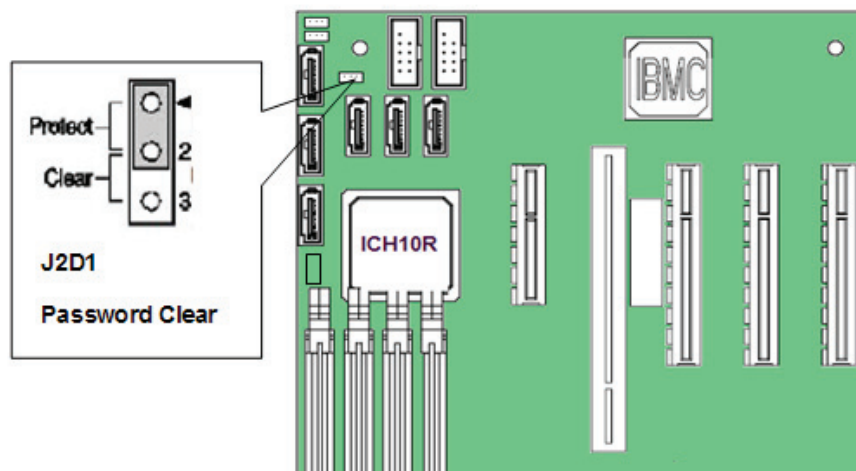


Figure 96. Password Recovery Jumper

4. Reconnect the AC power; power up the system.
5. Power down the system and disconnect the AC power.
6. Return the Password Reset jumper to the Password Clear Protect position, covering pins 1 and 2. Reconnect AC power and power up the server.
7. The password is now cleared and you can reset it by going into the BIOS setup.

6 Technical Reference

Power Supply Specifications

The power supply specifications for your Intel® Server System SC5650BCDP depend upon the configuration of chassis you purchased. The following power supply configuration is available:

- 600-W PFC Intel validated PSU (power supply unit) with integrated cooling fan

DP 600-W Power Supply Input Voltages

- 100-127 V at 50/60 Hz; 10 A max.
- 200-240 V at 50/60 Hz; 5 A max.

DP 600-W Power Supply Output Voltages

The following table lists the total wattage available from the power subsystem for each voltage. Ensure your loads do not exceed the combined total wattage of 600 W. For information about calculating the power usage for your configuration, see "Calculating Power Usage."

Table 5. DP 600-W Power Supply Output Capability

Voltage	Maximum Current

600-W Single Power Supply Input Voltages

- 100-127V at 50/60 Hz; 140 V_{rms} max.
- 200-240V at 50/60 Hz; 264 V_{rms} max.

System Environmental Specifications

Temperature	
Non-operating	-40 ° to 70 °C.
Operating	10 ° to 35 °C; derated 0.5 °C for every 1000 ft (305 m) to a maximum of 10,000 ft.
Humidity	
Non-operating	50% to 90% relative humidity (non-condensing) at 35 °C.
Shock	
Operating	2.0 g, 11 msec, Halfsine
Packaged	Operational after an 18" free fall.
Acoustic noise	DP, BRP configurations - 5.5 BA LWA idle; 6.0 BA LWA typical operation WS configuration - 4.8 BA LWA idle; 5.5 BA LWA typical operation
Electrostatic discharge (ESD)	Air Discharge: 0 to 12.0 kV Contact Discharge: 0 to 8.0kV

Appendix A: Intel® Server Issue Report Form

Note: 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.

Board / Chassis Information

Baseboard Revision - PBA#: _____

Baseboard Serial Number: _____

CPU1 Speed/Stepping/Spec: _____

CPU2 Speed/Stepping/Spec: _____

System BIOS Version: _____

HSC Firmware Version: _____

Chassis Model: _____

Intel® Server Chassis SC5650DP: _____

Intel® Server Chassis SC5650BRP: _____

Intel® Server System SR1630BC: _____

Intel® Server System SC5650BCDP: _____

Other (Vendor/Model): _____

DIMM Configuration

DIMM A1 MB and Vendor / part number: _____

DIMM A2 MB and Vendor / part number: _____

DIMM B1 MB and Vendor / part number: _____

DIMM B2 MB and Vendor / part number: _____

DIMM D1 MB and Vendor / part number: _____

DIMM D2 MB and Vendor / part number: _____

DIMM E1 MB and Vendor / part number: _____

DIMM E2 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 or Peripheral Description, Driver Revision, IRQ #, I/O Base Address, and FW

		Driver Revision	IRQ	I/O Base Address	FW Revision #
PCI Express* Gen2 x8					
PCI Slot 7					
PCI Slot 6					
PCI Slot 5					
PCI Express* x4					
PCI Slot 3					
PCI 5V 32/33 32-bit/ 33 MHz					
PCI Slot 4					
Video					
On-board Video					
Add-in Video					
NIC					
On-Board NIC1 (10/100/1000 Mb)					
On-Board NIC2 (10/100/1000 Mb)					

Revision #NIC

Hard Drive Information

Drive Type (SATA/SAS)	Make/Model	Hot-swap or Fixed	IRQ	FW Revision #
SATA_0				
SATA_1				
SATA_2				
SATA_3				
SATA_4				
SATA_5				

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.

Appendix B: LED Decoder

During the system boot process, the 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, the BIOS displays the POST code to the POST Code Diagnostic LEDs 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 that was executed.

Each POST code is represented by the Eight amber Diagnostic LEDs. The POST codes are divided into two nibbles, an upper nibble and a lower nibble. The upper nibble bits are represented by Diagnostic LEDs #4, #5, #6, #7. The lower nibble bits are represented by Diagnostic LEDs #0, #1, #2 and #3. Given the bit is set in the upper and lower nibbles, then corresponding LED is lit. If the bit is clear, corresponding LED is off.

The Diagnostic LED #7 is labeled as “MSB”, and the Diagnostic LED #0 is labeled with “LSB”.

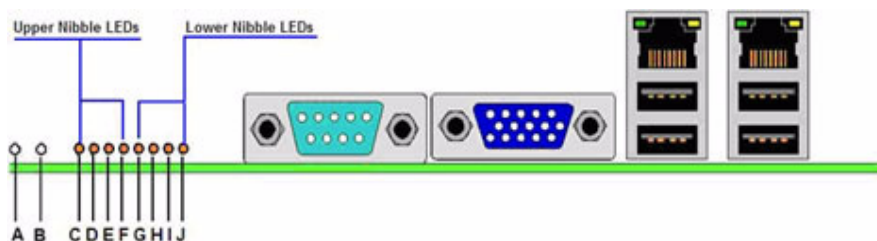


Figure 97. Diagnostic LED Placement Diagram

Table 7. Diagnostic LED Placement Diagram

A. Status LED	B. ID LED
C. Diagnostic LED #7 (MSB LED)	D. Diagnostic LED #6
E. Diagnostic LED #5	F. Diagnostic LED #4
G. Diagnostic LED #3	H. Diagnostic LED #2
I. Diagnostic LED #1	J. Diagnostic LED #0 (LSB LED)

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

Table 8. POST Progress Code LED Example

LEDs	Upper Nibble LEDs				Lower Nibble LEDs			
	MSB							LSB
	LED #7	LED #6	LED #5	LED #4	LED #3	LED #2	LED #1	LED #0
	8h	4h	2h	1h	8h	4h	2h	1h
Status	ON	OFF	ON	OFF	ON	OFF	ON	OFF
Results	1	0	1	0	1	1	0	0
	Ah				Ch			

- Upper nibble bits = 1010b = Ah; Lower nibble bits = 1100b = Ch; the two are concatenated as ACh.

Table 9. Diagnostic LED POST Code Decoder

Diagnostic LED Decoder									
Checkpoint	O = On, X = Off								Description
	Upper Nibble				Lower Nibble				
	MSB							LSB	
	8h	4h	2h	1h	8h	4h	2h	1h	
LED	#7	#6	#5	#4	#3	#2	#1	#0	
Multi-use code—This POST Code is used in different contexts.									
	O	O	O	O	X	X	O	X	Seen at the start of Memory Reference Code (MRC)
									Start of the very early platform initialization code
									Very late in POST, it is the signal that the operating system has switched to virtual memory mode.
Memory Error Codes (accompanied by a beep code)									
Note: These are codes used in early POST by the Memory Reference Code. Later in POST, these same codes are used for other Progress Codes. (These progress codes are not controlled by the BIOS and are subject to change at the discretion of the Memory Reference Code team.)									

Table 9. Diagnostic LED POST Code Decoder

0xE8h	O	O	O	X	O	X	X	X	No Usable Memory Error: No memory in the system, or SPD bad so no memory could be detected.
0xEAh	O	O	O	X	O	X	O	X	Channel Training Error: DQ/DQS training failed on a channel during memory channel initialization. If no usable memory remains, system is halted.
0xEBh	O	O	O	X	O	X	O	O	Memory Test Error: Memory failed Hardware BIST.
0xEDh	O	O	O	X	O	O	X	O	Population Error: RDIMMs and UDIMMs cannot be mixed in the system.
0xEEh	O	O	O	X	O	O	O	X	Mismatch Error: More than two quad-ranked DIMMs in a channel.
Memory Reference Code Progress Codes (Not accompanied by a beep code)									
0xB0h	O	X	O	O	X	X	X	X	Chipset Initialization Phase
0xB1h	O	X	O	O	X	X	X	O	Reset Phase
0xB2h	O	X	O	O	X	X	O	X	DIMM Detection Phase
0xB3h	O	X	O	O	X	X	O	O	Clock Initialization Phase
0xB4h	O	X	O	O	X	O	X	X	SPD Data Collection Phase
0xB6h	O	X	O	O	X	O	O	X	Rank Formation Phase
0xB8h	O	X	O	O	O	X	X	X	Channel Training Phase
0xB9h	O	X	O	O	O	X	X	O	Memory Test Phase
0xBAh	O	X	O	O	O	X	O	X	Memory Map Creation Phase
0xBBh	O	X	O	O	O	X	O	O	RAS Initialization Phase
0xBCh	O	X	O	O	O	O	X	X	MRC Complete
Host Processor									
0x04h	X	X	X	O	X	O	X	X	Early processor initialization (flat32.asm) where system BSP is selected.

Table 9. Diagnostic LED POST Code Decoder

0x10h	X	X	X	O	X	X	X	X	Power-on initialization of the host processor (bootstrap processor)
0x11h	X	X	X	O	X	X	X	O	Host processor cache initialization (including AP)
0x12h	X	X	X	O	X	X	O	X	Starting application processor initialization
0x13h	X	X	X	O	X	X	O	O	SMM initialization
Chipset									
0x21h	X	X	O	X	X	X	X	O	Initializing a chipset component
Memory									
0x22h	X	X	O	X	X	X	O	X	Reading configuration data from memory (SPD on DIMM)
0x23h	X	X	O	X	X	X	O	O	Detecting presence of memory
0x24h	X	X	O	X	X	O	X	X	Programming timing parameters in the memory controller
0x25h	X	X	O	X	X	O	X	O	Configuring memory parameters in the memory controller
0x26h	X	X	O	X	X	O	O	X	Optimizing memory controller settings
0x27h	X	X	O	X	X	O	O	O	Initializing memory, such as ECC init
0x28h	X	X	O	X	O	X	X	X	Testing memory

Table 9. Diagnostic LED POST Code Decoder

PCI Bus									
0x50h	X	O	X	O	X	X	X	X	Enumerating PCI buses
0x51h	X	O	X	O	X	X	X	O	Allocating resources to PCI buses
0x52h	X	O	X	O	X	X	O	X	Hot Plug PCI controller initialization
0x53h	X	O	X	O	X	X	O	O	Reserved for PCI bus
0x54h	X	O	X	O	X	O	X	X	Reserved for PCI bus
0x55h	X	O	X	O	X	O	X	O	Reserved for PCI bus
0x56h	X	O	X	O	X	O	O	X	Reserved for PCI bus
0x57h	X	O	X	O	X	O	O	O	Reserved for PCI bus
USB									
0x58h	X	O	X	O	O	X	X	X	Resetting USB bus
0x59h	X	O	X	O	O	X	X	O	Reserved for USB devices
ATA / ATAPI / SATA									
0x5Ah	X	O	X	O	O	X	O	X	Resetting SATA bus and all devices
0x5Bh	X	O	X	O	O	X	O	O	Reserved for ATA
SMBUS									
0x5Ch	X	O	X	O	O	O	X	X	Resetting SMBUS
0x5Dh	X	O	X	O	O	O	X	O	Reserved for SMBUS
Local Console									
0x70h	X	O	O	O	X	X	X	X	Resetting the video controller (VGA)
0x71h	X	O	O	O	X	X	X	O	Disabling the video controller (VGA)
0x72h	X	O	O	O	X	X	O	X	Enabling the video controller (VGA)
Remote Console									
0x78h	X	O	O	O	O	X	X	X	Resetting the console controller
0x79h	X	O	O	O	O	X	X	O	Disabling the console controller
0x7Ah	X	O	O	O	O	X	O	X	Enabling the console controller

Table 9. Diagnostic LED POST Code Decoder

Keyboard (only USB)									
0x90h	O	X	X	O	X	X	X	X	Resetting the keyboard
0x91h	O	X	X	O	X	X	X	O	Disabling the keyboard
0x92h	O	X	X	O	X	X	O	X	Detecting the presence of the keyboard
0x93h	O	X	X	O	X	X	O	O	Enabling the keyboard
0x94h	O	X	X	O	X	O	X	X	Clearing keyboard input buffer
0x95	O	X	X	O	X	O	X	X	Instructing keyboard controller to run Self Test (PS/2 only)
Mouse (only USB)									
0x98h	O	X	X	O	X	X	O	X	Resetting the mouse
0x99h	O	X	X	O	X	X	O	O	Detecting the mouse
0x9Ah	O	X	X	O	X	O	O	X	Detecting the presence of mouse
0x9Bh	O	X	X	O	X	O	O	O	Enabling the mouse
Fixed Media									
0xB0h	O	X	O	O	X	X	X	X	Resetting fixed media device
0xB1h	O	X	O	O	X	X	X	O	Disabling fixed media device
0xB2h	O	X	O	O	X	X	O	X	Detecting presence of a fixed media device (hard drive detection, and so on)
0xB3h	O	X	O	O	X	X	O	O	Enabling / configuring a fixed media device
Removable Media									
0xB8h	O	X	O	O	O	X	X	X	Resetting removable media device
0xB9h	O	X	O	O	O	X	X	O	Disabling removable media device
0xBAh	O	X	O	O	O	X	O	X	Detecting the presence of a removable media device (CD-ROM detection, and so on)
0xBCh	O	X	O	O	O	O	X	X	Enabling / configuring a removable media device
Boot Device Selection (BDS)									

Table 9. Diagnostic LED POST Code Decoder

0xD0	O	O	X	O	X	X	X	X	Trying to boot device selection 0
0xD1	O	O	X	O	X	X	X	O	Trying to boot device selection 1
0xD2	O	O	X	O	X	X	O	X	Trying to boot device selection 2
0xD3	O	O	X	O	X	X	O	O	Trying to boot device selection 3
0xD4	O	O	X	O	X	O	X	X	Trying to boot device selection 4
0xD5	O	O	X	O	X	O	X	O	Trying to boot device selection 5
0xD6	O	O	X	O	X	O	O	X	Trying to boot device selection 6
0xD7	O	O	X	O	X	O	O	O	Trying to boot device selection 7
0xD8	O	O	X	O	O	X	X	X	Trying to boot device selection 9
0xD9	O	O	X	O	O	X	X	X	Trying to boot device selection 9
0xDA	O	O	X	O	O	X	O	X	Trying to boot device selection A
0xDB	O	O	X	O	O	X	O	O	Trying to boot device selection B
0xDC	O	O	X	O	O	O	X	X	Trying to boot device selection C
0xDD	O	O	X	O	O	O	X	X	Trying to boot device selection D
0xDE	O	O	X	O	O	O	O	X	Trying to boot device selection E
0xDF	O	O	X	O	O	O	O	O	Trying to boot device selection F
Pre-EFI Initialization (PEI) Core									
0xE0h	O	O	O	X	X	X	X	X	Started dispatching early initialization modules (PEIM)
0xE1h	O	O	O	X	X	X	X	O	Reserved for initialization module use (PEIM)
0xE2h	O	O	O	X	X	X	O	X	Initial memory found, configured, and installed correctly

Table 9. Diagnostic LED POST Code Decoder

0xE3h	O	O	O	X	X	X	O	O	Reserved for initialization module use (PEIM)
Driver eXecution Environment (DXE) Core (not accompanied by a beep code)									
0xE4h	O	O	O	X	X	O	X	X	Entered EFI driver execution phase (DXE)
0xE5h	O	O	O	X	X	O	X	O	Started dispatching drivers
0xE6h	O	O	O	X	X	O	O	X	Started connecting drivers
DXE Drivers									
0xE7h	O	O	O	X	O	O	X	O	Waiting for user input
0xE8h	O	O	O	X	O	X	X	X	Checking password
0xE9h	O	O	O	X	O	X	X	O	Entering BIOS setup
0xEAh	O	O	O	X	O	O	X	X	Flash Update
0xEEh	O	O	O	X	O	O	X	X	Calling Int 19. One beep unless silent boot is enabled.
0xEFh	O	O	O	X	O	O	X	O	Unrecoverable boot failure
Runtime Phase / EFI Operating System Boot									
0xF4h	O	O	O	O	X	O	X	X	Entering Sleep state
0xF5h	O	O	O	O	X	O	X	O	Exiting Sleep state
0xF8h	O	O	O	O	X	O	X	X	Operating system has requested EFI to close boot services (ExitBootServices () has been called)
0xF9h	O	O	O	O	X	O	X	O	Operating system has switched to virtual address mode (SetVirtualAddressMap () has been called)
0xFAh	O	O	O	O	O	X	O	X	Operating system has requested the system to reset (ResetSystem () has been called)
Pre-EFI Initialization Module (PEIM) / Recovery									
0x30h	X	X	O	O	X	X	X	X	Crisis recovery has been initiated because of a user request
0x31h	X	X	O	O	X	X	X	O	Crisis recovery has been initiated by software (corrupt flash)

Table 9. Diagnostic LED POST Code Decoder

0x34h	X	X	O	O	X	O	X	X	Loading crisis recovery capsule
0x35h	X	X	O	O	X	O	X	O	Handing off control to the crisis recovery capsule
0x3Fh	X	X	O	O	O	O	O	O	Unable to complete crisis recovery capsule

Appendix C: Getting Help

If you encounter an issue with your server system, follow these steps to obtain support:

1. Visit the following Intel support web page:
<http://support.intel.com/support/motherboards/server>
This web page provides 24x7 support when you need it to get the latest and most complete technical support information on all Intel Enterprise Server and Storage Platforms. Information available at the support site includes:
 - Latest BIOS, firmware, drivers and utilities
 - Product documentation, installation and quick start guides
 - Full product specifications, technical advisories and errata
 - Compatibility documentation for memory, hardware add-in cards, chassis support matrix and operating systems
 - Server and chassis accessory parts list for ordering upgrades or spare parts
 - A searchable knowledgebase to search for product information throughout the support site
2. If you are still unable to obtain a solution to your issue, send an email to Intel's technical support center using the online form available at
<http://supportmail.intel.com/scripts-emf/welcome.aspx>
3. Lastly, you can contact an Intel support representative using one of the support phone numbers available at <http://support.intel.com/support/9089.htm> (charges may apply). Intel customer support suggests filling out the issue report form available at “[Intel® Server Issue Report Form](#)” to better service the issue. Intel also offers Channel Program members around-the-clock 24x7 technical phone support on Intel® server boards, server chassis, server RAID controller cards, and Intel® Server Management at <http://www.intel.com/reseller/>.

Note: You will need to log in to the Reseller site to obtain the 24x7 number.

Warranty Information

To obtain warranty information, visit the following Intel web site:

<http://support.intel.com/support/motherboards/server/sb/CS-010807.htm>

Appendix D: 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.

- UL60950 - CSA 60950 (USA / Canada)
- EN60950 (Europe)
- IEC60950 (International)
- CB Certificate & Report, IEC60950 (report to include all country national deviations)
- BSMI Declaration of Conformity (Taiwan)

- Belarus License - Listed on System License (Belarus)
- UL 60950 Recognition (USA)

Product EMC Compliance - Class A Compliance

Note: *Legally the product is required to comply with Class A emission requirements as it is intended for a commercial type market place. Intel targets 10db margin to Class A Limits*

The Intel® Server System SR1630BC was tested and verified to comply with the following electromagnetic compatibility (EMC) regulations when installed a compatible Intel® host system. For information on compatible host system(s), refer to Intel's Server Builder Web site or contact your local Intel representative.

- CISPR 22 - Emissions (International)
- EN55022 - Emissions (Europe)
- EN55024 - Immunity (Europe)
- CE - EMC Directive 89/336/EEC (Europe)
- FCC - Part 15 Emissions (USA) Verification
- AS/NZS 3548 Emissions (Australia / New Zealand)
- BSMI CNS13438 Emissions (Taiwan)
- RRL MIC Notice No. 1997-41 (EMC) & 1997-42 (EMI) (Korea)

Certifications / Registrations / Declarations

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

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 10. 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
China	CNCA - CB4943 (Safety) GB 9254 (Emissions) GB17625 (Harmonics)	

Table 10. 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	この装置は、クラス A 情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。VCCI-A
Korea	RRL Certification MIC Notice No. 1997-41 (EMC) & 1997-42 (EMI)	 인증번호: CPU

Table 10. 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 <div style="border: 1px solid black; padding: 2px; width: fit-content; margin-top: 10px;"> <p>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</p> </div>

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: "Appareils Numériques", NMB-003 édictée par le Ministre Canadien 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自主規制協議会（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.

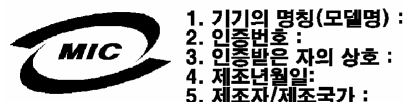
BSMI (Taiwan)

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.



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

CNCA (CCC-China)

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




声明



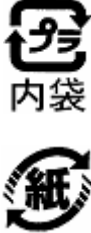
此为A级产品，在生活环境中，该产品可能会造成无线电干扰。在这种情况下，可能需要用户对其干扰采取可行的措施。

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 11. 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.	<p>Special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate.</p> <p>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.</p>
China	<p><u>China RoHS</u></p> <p>Administrative Measures on the Control of Pollution Caused by Electronic Information Products" (EIP) #39. Referred to as China RoHS.</p> <p>Mark requires to be applied to retail products only. Mark used is the Environmental Friendly Use Period (EFUP). Number represents years.</p>	
	<p><u>China Recycling (GB18455-2001)</u></p> <p>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.</p>	
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	<p><u>European Directive 2002/95/EC -</u> Restriction of Hazardous Substances (RoHS). Threshold limits and banned substances are noted below.</p> <p>Quantity limit of 0.1% by mass (1000 PPM) for: Lead, Mercury, Hexavalent Chromium, Polybrominated Biphenyls Diphenyl Ethers (PBB/PBDE)</p> <p>Quantity limit of 0.01% by mass (100 PPM) for: Cadmium</p>	None Required.
Germany	<p><u>German Green Dot</u> Applied to Retail Packaging Only for Boxed Boards</p>	
Intel Internal Specification	<p>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.</p>	None Required
International	<p><u>ISO11469</u> - Plastic parts weighing >25gm are intended to be marked with per ISO11469.</p>	>PC/ABS<
	<p>Recycling Markings - Fiberboard (FB) and Cardboard (CB) are marked with international recycling marks. Applied to outer bulk packaging and single package.</p>	
Japan	<p><u>Japan Recycling</u> Applied to Retail Packaging Only for Boxed Boards</p>	

Other Markings

Table 12. 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.	<p>English:</p> <p>This unit has more than one power supply cord. To reduce the risk of electrical shock, disconnect (2) two power supply cords before servicing.</p> <hr/> <p>Simplified Chinese</p> <p>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</p> <p>Traditional Chinese</p> <p>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</p> <hr/> <p>German:</p> <p>Dieses Geräte hat mehr als ein Stromkabel. Um eine Gefahr des elektrischen Schlages zu verringern trennen sie beide (2) Stromkabeln bevor Instandhaltung</p>

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 E: Warranty

Limited Warranty for Intel® Server Subassembly Products

Intel warrants that the Products (defined herein as the Intel® server 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.


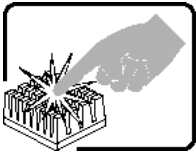
Appendix F: Installation/Assembly Safety Instructions

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 System Safety Information on the Resource CD and/or at:

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

English

	<p>SAFETY STEPS: Whenever you remove the chassis covers to access the inside of the system, follow these steps:</p> <ol style="list-style-type: none">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.
	<p>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.</p>

Wichtige Sicherheitshinweise

Lesen Sie zunächst sämtliche Warn- und Sicherheitshinweise in diesem Dokument, bevor Sie eine der Anweisungen ausführen. Beachten Sie hierzu auch die Sicherheitshinweise zu Intel-Serverplatinen und -Servergehäusen auf der Ressourcen-CD oder unter:

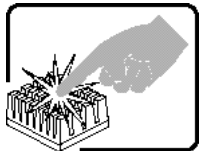
<http://support.intel.com/support/motherboards/server/sb/cs-010770.htm>



SICHERHEISSMASSNAHMEN:

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.



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.

Consignes de sécurité

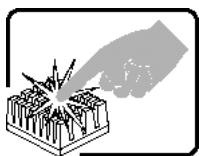
Lisez attention toutes les consignes de sécurité et les mises en garde indiquées dans ce document avant de suivre toute instruction. Consultez Intel Server Boards and Server Chassis Safety Information sur le CD Resource CD ou bien rendez-vous sur le site:

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



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.



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.

Instrucciones de seguridad importantes

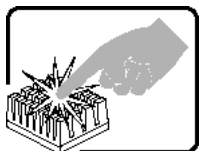
Lea todas las declaraciones de seguridad y precaución de este documento antes de realizar cualquiera de las instrucciones. Vea Intel Server Boards and Server Chassis Safety Information en el CD Resource y/o en:

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



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 sujeta 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.


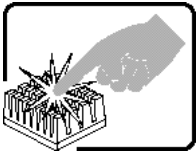


Si el sistema ha estado en funcionamiento, el microprocesador y el disipador de calor pueden estar aún calientes. También conviene tener en cuenta que en el chasis o en el tablero puede haber piezas cortantes o punzantes. Por ello, se recomienda precaución y el uso de guantes protectores.

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。参见 Resource CD（资源光盘）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》）。

Italiano

	<p>PASSI DI SICUREZZA: Qualora si rimuovano le coperture del telaio per accedere all'interno del sistema, seguire i seguenti passi:</p> <ol style="list-style-type: none">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.
	<p>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.</p>

Appendix G: Safety Information

English

Server Safety Information

This document applies to Intel® Server Boards, Intel® Server System (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 suppressor and disconnect telecommunication lines to your modem during an electrical storm.
- Provided with a properly grounded wall outlet.
- Provided with sufficient space to access the power supply cord(s), because they serve as the product's main power disconnect.

Equipment Handling Practices

Reduce the risk of personal injury or equipment damage:

- Conform to local occupational health and safety requirements when moving and lifting equipment.
- Use mechanical assistance or other suitable assistance when moving and lifting equipment.
- To reduce the weight for easier handling, remove any easily detachable components.

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 ernstesten 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 Netztaaste 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.

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 einer 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

Batteriewechsel

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.

- Vérifiez si les câbles, les cartes d'extension et les autres composants sont correctement installés.
- Fixez les couvercles du boîtier du produit, comme décrit dans le manuel d'installation.

Laser-Peripheralgeräte oder -Komponenten

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

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

Français

Consignes de sécurité sur le serveur

Ce document s'applique aux cartes serveur Intel[®], au châssis de serveur Intel[®] (sur pieds et sur rack) et aux périphériques installés. Pour réduire les risques de dommages corporels, d'électrocution, d'incendie et de dommages matériels, lisez ce document et respectez tous les avertissements et précautions mentionnés dans ce guide avant d'installer ou de mettre à jour votre produit serveur Intel[®].







En cas de conflit entre les informations fournies dans ce document et celles livrées avec le produit ou publiées sur le site Web pour un produit particulier, la documentation du produit prime.

Votre serveur doit être intégré et entretenu uniquement par des techniciens qualifiés.

Vous devez suivre les informations de ce guide et les instructions d'assemblage des manuels de serveur pour vérifier et maintenir la conformité avec les certifications et approbations de produit existantes. Utilisez uniquement les composants décrits et réglementés spécifiés dans ce guide. L'utilisation d'autres produits/composants annulera la liste UL et les autres approbations réglementaires du produit, et le produit peut ne pas être conforme aux autres lois et réglementations locales applicables au produit.

Sécurité: avertissements et mises en garde

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

ATTENTION	Indique la présence d'un risque pouvant entraîner des blessures physiques mineures ou endommager légèrement le matériel si la mise en garde n'est pas prise en compte.
AVERTISSEMENT	Indique la présence d'un risque pouvant entraîner des blessures corporelles graves si l'avertissement n'est pas pris en compte.
	Indique un risque potentiel si les informations signalées ne sont pas prises en compte.
	Indique des risques d'électrocution pouvant entraîner des blessures corporelles graves ou mortelles si les consignes de sécurité ne sont pas respectées.
	Signale des composants ou des surfaces soumis à des températures élevées.
	Indique de ne pas toucher aux pales de ventilateur, car cela peut entraîner des blessures.
	Indique de débrancher tous les cordons d'alimentation secteur pour déconnecter l'alimentation.
	Veillez réutiliser la batterie

Domaines d'utilisation prévus

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

Sélection d'un emplacement

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

- Propre, sec et exempt de particules en suspension (autres que la poussière normale d'une pièce).
- Bien ventilé et à l'écart des sources de chaleur telles que la lumière directe du soleil et les radiateurs.
- À l'écart des sources de vibration ou des chocs physiques.
- Isolé des champs électromagnétiques importants produits par des appareils électriques.

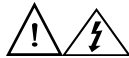
- Dans les régions sujettes aux orages magnétiques, nous vous recommandons de brancher votre système à un suppresseur de surtension et de déconnecter les lignes de télécommunication de votre modem pendant les orages.
- Équipé d'une prise murale reliée à la terre.
- Équipé d'un espace suffisant pour accéder aux cordons d'alimentation secteur, car ils servent de disjoncteur principal d'alimentation du produit.

Pratiques de manipulation de l'équipement

Réduisez le risque de dommages personnels ou matériels :

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

Alimentation et avertissements en matière d'électricité



Attention: Le bouton d'alimentation, indiqué par le symbole de mise en veille, **NE COUPE PAS** complètement l'alimentation secteur du système car le courant de veille 5 V reste actif lorsque le système est sous tension. Pour couper l'alimentation du système, vous devez débrancher le cordon d'alimentation secteur de la prise murale. Votre système peut utiliser plusieurs cordons d'alimentation secteur. Assurez-vous que tous les cordons d'alimentation sont débranchés. Vous devez les débrancher avant d'ouvrir le châssis, d'ajouter ou de supprimer un composant non connectable à chaud.

Les alimentations de certains serveurs Intel sont munies de doubles fusibles pôle/neutre: veuillez observer les précautions d'usage afin d'éviter tout risque d'électrocution.

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.

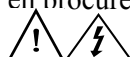
Le bloc d'alimentation de ce produit ne contient aucun composant réparable par l'utilisateur. N'ouvrez pas le bloc d'alimentation. L'intérieur de celui-ci est soumis à des

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.

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.



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.*



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.



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.



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.

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.



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.

Remplacement de la pile



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



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



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 todas 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





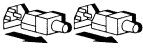

Para reducir la posibilidad de que se produzcan lesiones personales o daños en la propiedad, antes de empezar a instalar el producto, lea, observe y cumpla toda la información e instrucciones de seguridad siguientes. Puede que se utilicen los siguientes símbolos de seguridad en la documentación y es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

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).

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 estén 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 eléctricos use precauciones al trabajar con las fuentes de alimentación que utilizan el polo neutral de fuselaje.

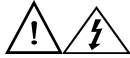
No intente modificar ni utilizar un cable de alimentación de CA si no es del tipo exacto requerido. Se necesita un cable de CA para cada fuente de alimentación del sistema.

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.

Si no se ha proporcionado con el producto ningún cable de alimentación de CA, adquiera alguno cuyo uso esté aprobado en su país.



Precaución: Para evitar descargas eléctricas o fuego, revise los cables de alimentación que usará con el producto tal y como se describe a continuación:

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



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

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

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



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



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

Advertencias sobre el montaje en bastidor

El bastidor del equipo se debe sujetar con un soporte fijo para evitar que se caiga cuando se extraiga un servidor o una pieza del mismo. El bastidor del equipo debe instalarse siguiendo las instrucciones del fabricante del bastidor.

Instale el equipo en el bastidor comenzando desde la parte de abajo, con el equipo más pesado en la parte inferior del bastidor.

Extraiga las piezas del equipo del bastidor de una a una.

El usuario es el responsable de la instalación de un dispositivo de desconexión de la alimentación principal para toda la unidad del bastidor. El acceso a este dispositivo de desconexión deberá ser de fácil acceso y deberán incluirse indicaciones que lo identifiquen como el control de alimentación eléctrica de toda la unidad, no sólo de los servidores.

Para evitar el riesgo de descargas eléctricas, deberá instalar una conexión a tierra apropiada para el bastidor y para cada pieza del equipo instalada en el mismo.

Descarga electrostática (ESD)



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



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



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



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、火灾以及设备损坏的危险，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。
	表示请勿触碰风扇叶片，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于无静电的接地表面上。请使用导电泡沫垫（若有），不要使用主板包装。请勿将主板在任何表面上滑动。

其他危险

替换电池

注意事项

不正确替换电池可能导致爆炸危险。替换电池时，请只使用设备生产商推荐使用的电池。

请按当地法规处置电池。

请勿对电池充电。

请勿拆卸、刺穿或以其他方式损坏电池。

冷却和气流

注意事项

按照说明小心布置线缆，尽量减少气流阻塞和冷却问题。

为保证适当的冷却和气流，运行系统时请确保机箱盖已安装。未安装机箱盖即运行系统可能导致系统部件受损。安装机箱盖的步骤如下：

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

激光外设或激光设备

注意事项

为避免幅射暴露和 / 或人身伤害：

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

请与生产商联系维修事宜

