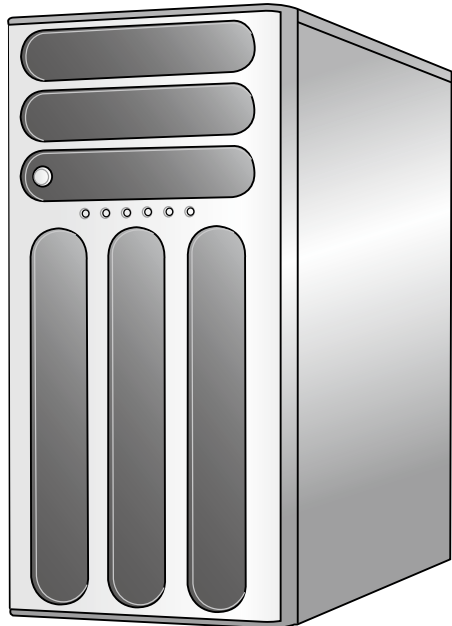




TS300-E8-PS4

Configuration Guide



E8467
First Edition
September 2013

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Contents

Contents	iii
Revision history	iii
Safety information	iv
Chapter 1: Product introduction	
1.1 Key features.....	1-2
1.2 System overview	1-4
1.3 Front panel features.....	1-5
1.4 Rear panel features.....	1-6
1.5 System specifications	1-7
Chapter 2: Components	
2.1 Upgrading CPU and CPU heatsink	2-2
2.2 Upgrading system memory.....	2-2
2.3 Upgrading hard disk drives.....	2-3
2.4 Installing ASUS PIKE SAS RAID card	2-4
2.5 Installing ASUS Server Management Board	2-5
2.6 Installing Expansion card.....	2-7
2.7 Rackmount rail kit	2-8
2.8 OS support list	2-9

Revision history

Revision	Revision history	Date
V1	First release of TS300-E8-PS4 configuration guide	September 2013

Safety information

Electrical Safety

- Before installing or removing signal cables, ensure that the power cables for the system unit and all attached devices are unplugged.
- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing any additional devices to or from the system, contact a qualified service technician or your dealer. Ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you service.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your dealer.

Operation Safety

- Servicing of this product or units is to be performed by trained service personnel only.
- Before operating the server, carefully read all the manuals included with the server package.
- Before using the server, ensure all cables are correctly connected and the power cables are not damaged. If any damage is detected, contact your dealer as soon as possible.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Place the server on a stable surface.



This product is equipped with a three-wire power cable and plug for the user's safety. Use the power cable with a properly grounded electrical outlet to avoid electrical shock.

Lithium-Ion Battery Warning

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

CD-ROM Drive Safety Warning

CLASS 1 LASER PRODUCT

Heavy System

CAUTION! This server system is heavy. Ask for assistance when moving or carrying the system.

Chapter 1

This chapter describes the key features of TS300-E8-PS4. It includes the product overview and general specifications.

Product introduction

1.1 Key features

The **ASUS® TS300-E8-PS4** is a 5U barebone server system featuring the ASUS P9D-E/4L server board. The server supports Intel® LGA1150 Xeon® E3-1200 v3 processors with the latest technologies through the chipsets with support for up to 32GB DDR3 1333MHz unbuffered ECC memory. This provides immediate performance upscaling and higher processing speeds. With four (4) native SATA 6Gb/s ports, 4 hot-swap hard drive trays and ASUS PIKE cards, the TS300-E8-PS4 delivers improved data transfer rates, more flexible storage expansion and complete RAID for SMB users.

The latest Intel® CPUs

The TS300-E8-PS4 is ready for the latest generation of Intel® Xeon® 32nm quad/dual-core UP processors, which offer a significant performance improvement over previous generation CPUs. Meanwhile, Intel® Turbo Boost Technology 2.0 provides an efficient, dynamic and intelligent way to enhance performance on demand.

Extreme power with easy-upgrade expandability

The ASUS TS300-E8-PS4 supports the latest Intel® Xeon® E3-1200 v3 processor family, delivering extreme computing power, highly scalable expandability, more flexible storage with RAID, and complete remote server management through ASWM Enterprise and ASMB7-iKVM. It also represents ASUS efforts in green design, featuring an 80 PLUS Bronze power supply for enhanced energy savings. Combined with its great computing power, it offers an ideal server choice for SMBs, who require superior performance and controllable costs.

The latest Intel® CPUs

The TS300-E8-PS4 is ready for new-generation Intel® Xeon® 22nm processors, which bring a significant performance improvement over previous-generation CPUs.

PCI Express 3.0-ready with workstation expandability and extensive I/O

The TS300-E8-PS4 ships with one PCI Express 3.0 x16 slot, designed to accommodate the power of graphics cards and other add-on components. Whether for professional graphics work, heavy duty multimedia, or dedicated gaming, more than ample graphics power can be applied whenever needed. It also has a PCI slot for legacy LAN cards, graphics cards, and sound card applications. Four USB 3.0 ports provide up to ten times the data transfer speeds of USB 2.0.

Digital power and green design

Exclusive ASUS Dr. MOS and Beat Thermal Chokes (BTC) help lower operating temperatures and promote efficiency for significant power savings and stability increases. The TS300-E8-PS4 also features an 80 PLUS Bronze power supply to reduce power loss and power consumption, helping consumers save on energy bills.

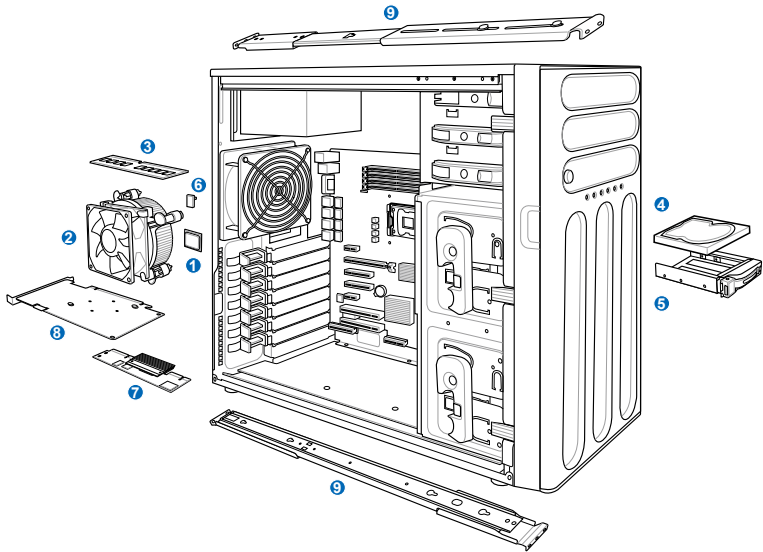
ASUS PIKE RAID provides high reliability

ASUS PIKE technology allows the TS300-E8-PS4 to support flexible storage options. Customers can upgrade to highly reliable enterprise-grade SAS 6Gb/s storage, while maintaining backward compatibility with existing SAS/SATA 1.5Gb/s and 3Gb/s storage infrastructure. Creating RAID 0, RAID 1, RAID 5, RAID 6, RAID 10, RAID 50, and RAID 60 configurations is made easy.

Comprehensive remote management

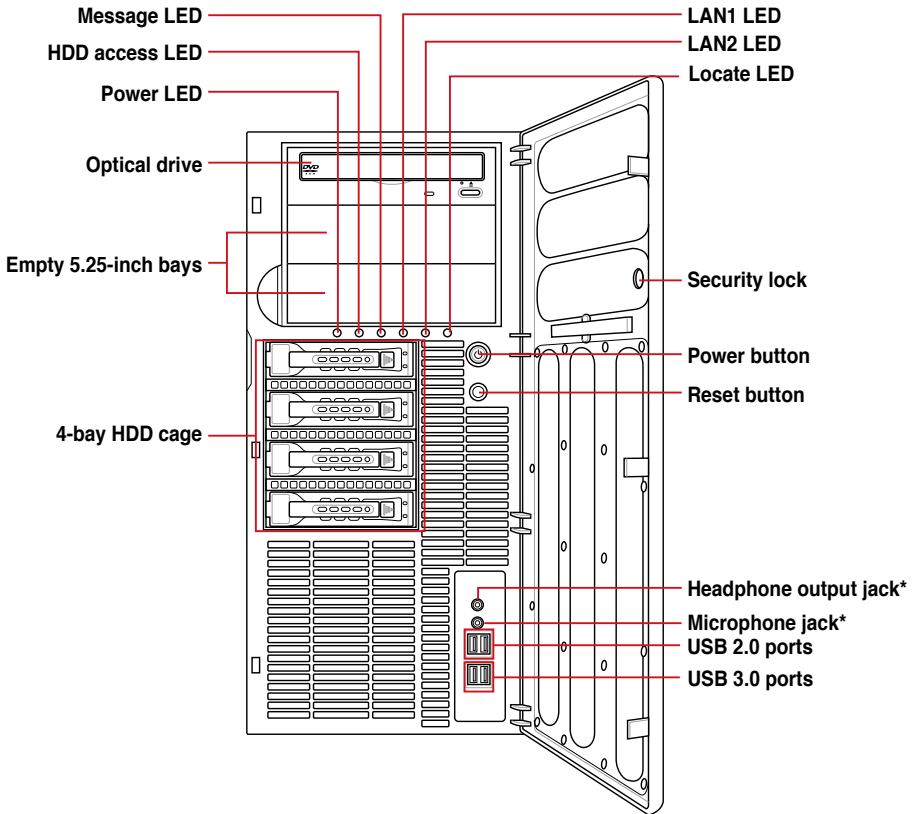
ASUS presents the most complete remote server management, including out of band ASMB7-iKVM and in-band ASWM Enterprise. Out-of-band ASMB7-iKVM is an effective remote server supervision tool that provides OS-independent and cross-platform monitoring of servers. It covers parameters such as temperatures, voltages, and fan status. MIS can be informed of server conditions from anywhere and at any time via instant event notifications. In-band ASWM Enterprise provides “one on many” usage, its centralized management allowing administrators access to BIOS updates, remote control, and power supervision on all servers simultaneously.

1.2 System overview



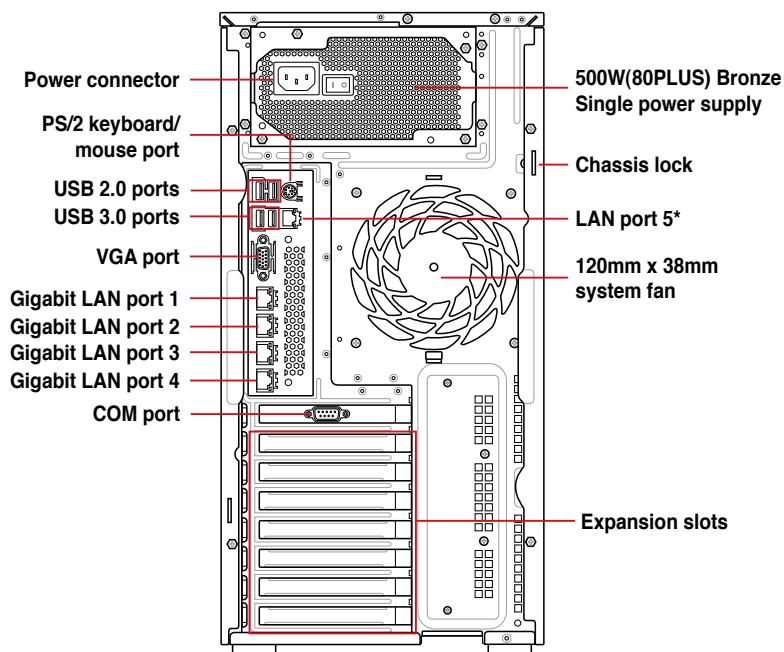
Items	Items
1. Central processing unit (CPU)	6. ASUS Server management board (optional)
2. CPU heatsink and fan	7. ASUS PIKE SAS RAID card (optional)
3. System memory	8. Expansion card
4. Hard disk drives	9. Rackmount rail kit (optional)
5. HDD trays	

1.3 Front panel features



*The function of front panel audio I/O ports is available only when the sound card is installed.

1.4 Rear panel features



*The port is for ASUS ASMB7-iKVM controller card only.

1.5 System specifications

Model Name		TS300-E8-PS4
Processor Support		1 x Socket LGA1150 Intel® Xeon® Processor E3-1200 v3 Product Family
Core Logic		Intel® C224 PCH
Memory	Total Slots	4 UDIMMs (2 Channels)
	Capacity	Maximum up to 32GB (4 UDIMMs)
	Memory Type	DDR3 1333/1600 ECC UDIMM
	Memory Size	2GB, 4GB, and 8GB (UDIMM)
Expansion Slots	Total PCI/PCI-X/PCI-E Slots	7
	Slot Type	1 x PCI-E x16 (Gen3 x16 Link; auto-switch to x8 link if slot 5 is occupied) 2 x PCI-E x8 (Gen3 x8 Link) 1 x PCI-E x1 (Gen2 x1 Link), MIO support 1 x PCI-E x1 (Gen2 x1 Link) 2 x PCI 32-bit /33MHz
	Additional Slot 1	1 x PIKE slot for Storage Enhancement
	SATA Controller	Intel® C224: - 2 x SATA 3Gbps ports - 4 x SATA 6Gbps ports - Intel® Rapid Storage Technology Enterprise (RSTE) supports software RAID 0, 1, 10 & 5 (Windows® only)
Storage	SAS Controller	Optional: ASUS PIKE 2008 8-port SAS 6G RAID card ASUS PIKE 2108-32PD 8-port SAS 6G HW RAID card ASUS PIKE 2208 8-port SAS 6G HW RAID card ASUS PIKE 2308 8-port SAS 6G RAID card
	HDD Bays	I = internal A or S = hot-swappable 4 x Hot-swap 3.5-inch HDD Bays
Networking	LAN	4 x Intel® I210AT + 1 x Mgmt LAN
Graphics	VGA	Aspeed AST2300 + 32MB VRAM

(continued on the next page)

		TS300-E8-PS4
Auxiliary Storage FDD / CD / DVD		3 x 5.25-inch media bays Options: 1. No Device 2. With DVD-RW for North America
Onboard I/O		5 x RJ-45 ports (One for ASMB7-iKVM) 4 x USB 3.0 ports (Front x 2, Rear x 2) 4 x USB 2.0 ports (Front x 2, Rear x 2) 1 x Internal A Type USB port 1 x VGA port 1 x PS/2 keyboard/mouse port
Management Solution	Out of Band Remote Management	Optional ASMB7-iKVM for KVM-over-IP support
	Software	ASWM Enterprise
Dimension (HH x WW x DD)		445mm x 217.5mm x 545mm
Net Weight Kg (CPU, DRAM, & HDD not included)		20 Kg
Environment		Operation temperature : 10°C–40°C Non operation temperature: -40°C–70°C Non operation humidity : 20% ~ 90% (Non-condensing)
Power Supply		500W(80Plus) Bronze Single Power Supply
Power Rating		100-240V, 10A-6A, 50-60Hz, Class I

***Specifications are subject to change without notice.**

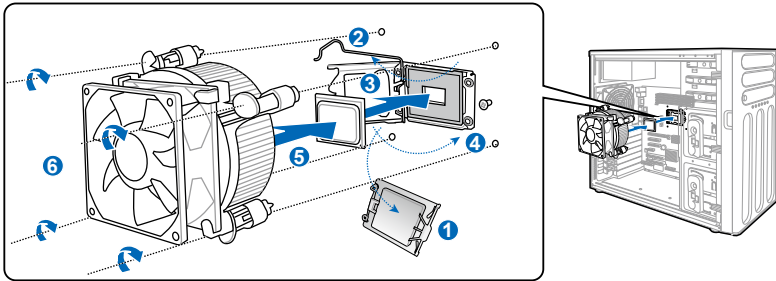
Chapter 2

This chapter lists the key components and optional accessories for the server system.

Components

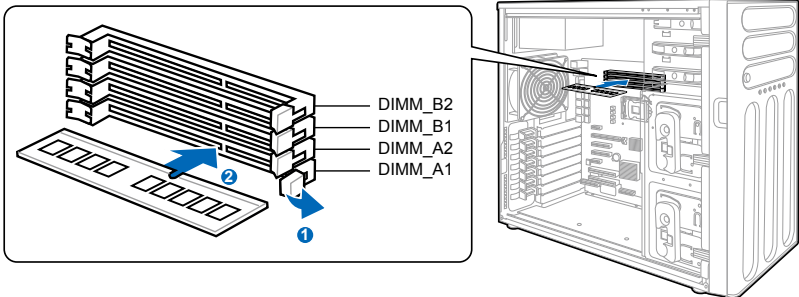
2.1 Upgrading CPU and CPU heatsink

The ASUS TS300-E8-PS4 supports Intel® LGA1150 Xeon® E3-1200 v3 processors.



2.2 Upgrading system memory

The motherboard comes with four Double Data Rate 3 (DDR3) Dual Inline Memory Modules (DIMM) sockets.



You may install 2GB, 4GB and 8GB Unbuffered with ECC DDR3 DIMMs into the DIMM sockets using the memory configurations in this section.

UDIMM				
DIMM Slot Per Channel	DIMM Populated per Channel	DIMM Type	Speed	Rank per DIMM
2	1	Unbuffered DDR3 ECC	1333/1600	Single Rank, Dual Rank
2	2	Unbuffered DDR3 ECC	1333/1600	Single Rank, Dual Rank



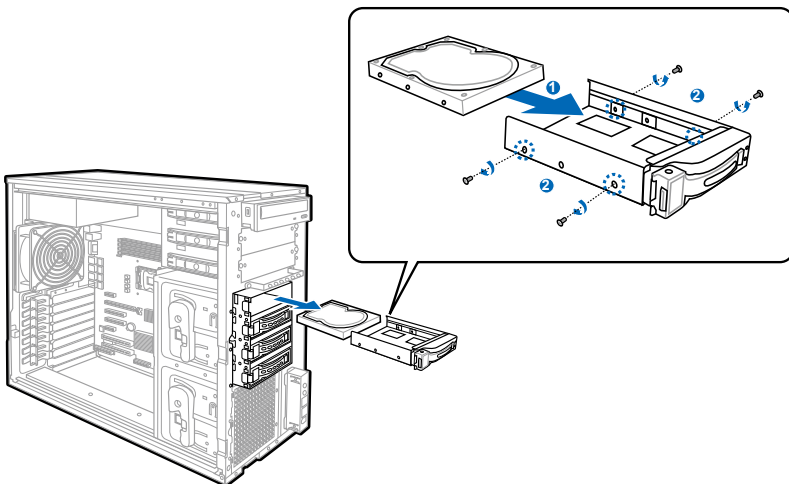
- Start installing the DIMMs from slot A2 and B2 (blue).
- Always install DIMMs with the same CAS latency. For optimum compatibility, it is recommended that you obtain memory modules from the same vendor.

2.3 Upgrading hard disk drives

The system supports four hot-swap SATAII/SAS hard disk drives.

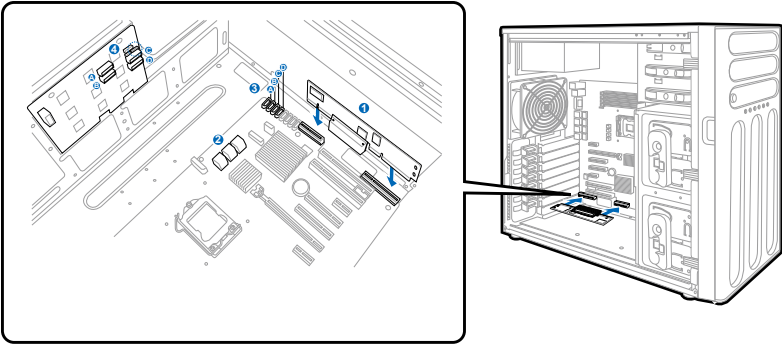


We recommend that you install identical drives of the same model and capacity for RAID configuration.



2.4 Installing ASUS PIKE SAS RAID card

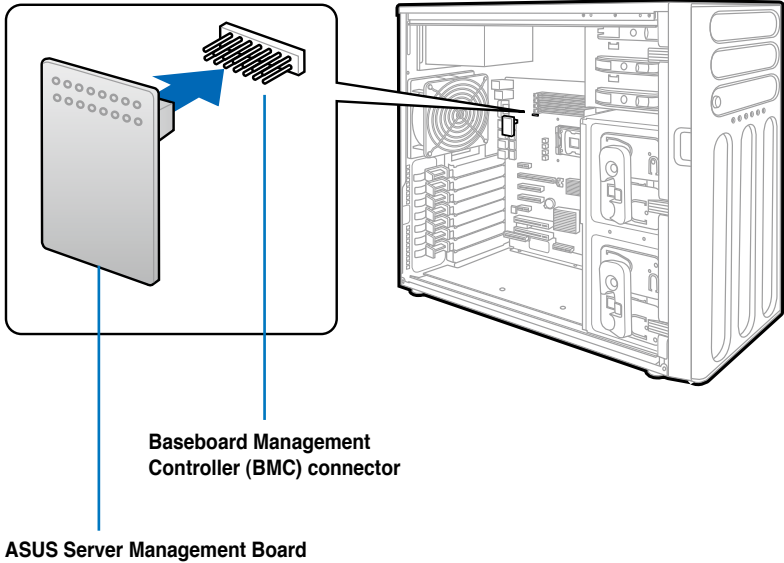
The ASUS PIKE SAS RAID card allows users to create SAS RAID sets from SAS hard disk drives connected to the SAS connectors on the motherboard.



1. Locate the PIKE RAID card slot on the motherboard then insert the PIKE SAS RAID card into the PIKE RAID card slot. Ensure that it is securely seated in place.
2. Remove the data cables connected to the SATA connectors on the motherboard.
3. Connect the data cables, by numerical order, to the SAS connectors labeled PSAS1-4 (light blue) on the motherboard.
4. Locate the SGPIO_SEL1 jumper on the backplane then set it to pins 2-3.

2.5 Installing ASUS Server Management Board

ASUS Server Management Board is an Intelligent Platform Management Interface (IPMI) 2.0-compliant board that allows users to monitor, control and manage a remote server from the local or central server in local area network (LAN).

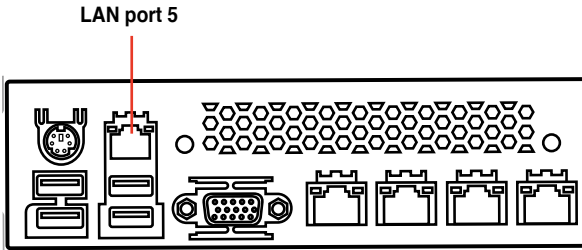


ASMB7-iKVM

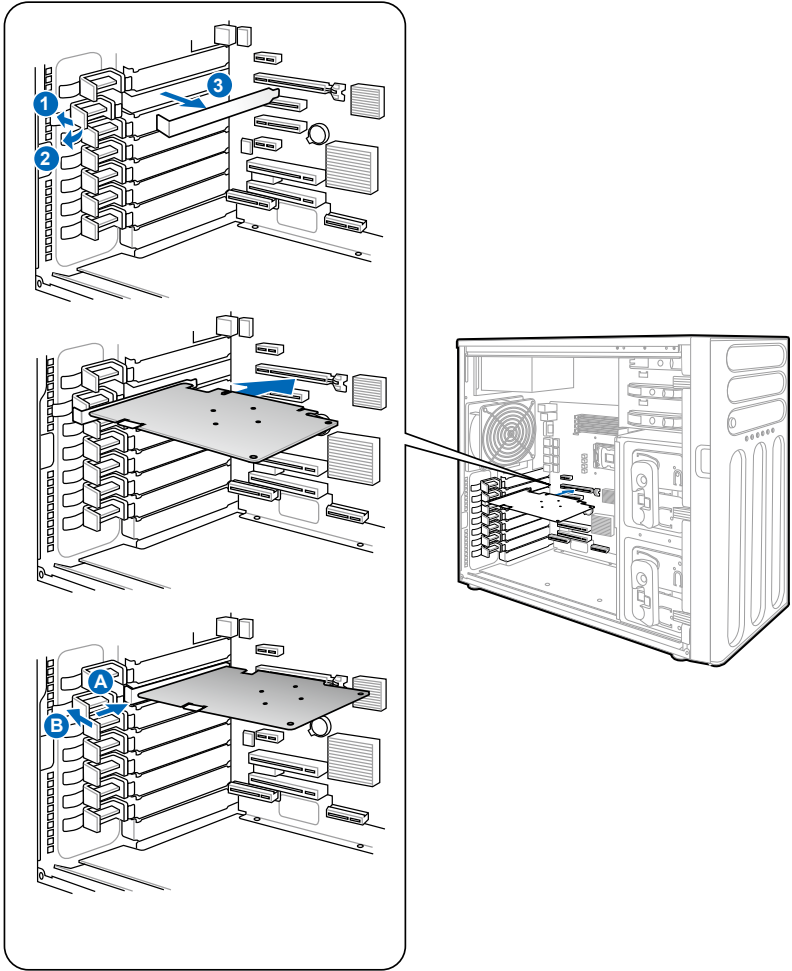
- Remote real-time access to servers with full control by keyboard, video monitor and mouse (KVM) of a single local computer from anywhere at any time. In addition, KVM function is based on BIOS-level access, therefore, even the server OS is down, the KVM module can still work to provide around-the-clock remote monitor and diagnosis through GUI (Web-based Graphical User Interface).
- Advanced server management functions including “remote power on/off/reset”, “remote hardware health monitoring” and “system event log”.
- Allows administrators to share the data saved in a local drive (floppy, CD/DVD-ROM, flash device, HDD) to target servers, which makes data-sharing convenient.



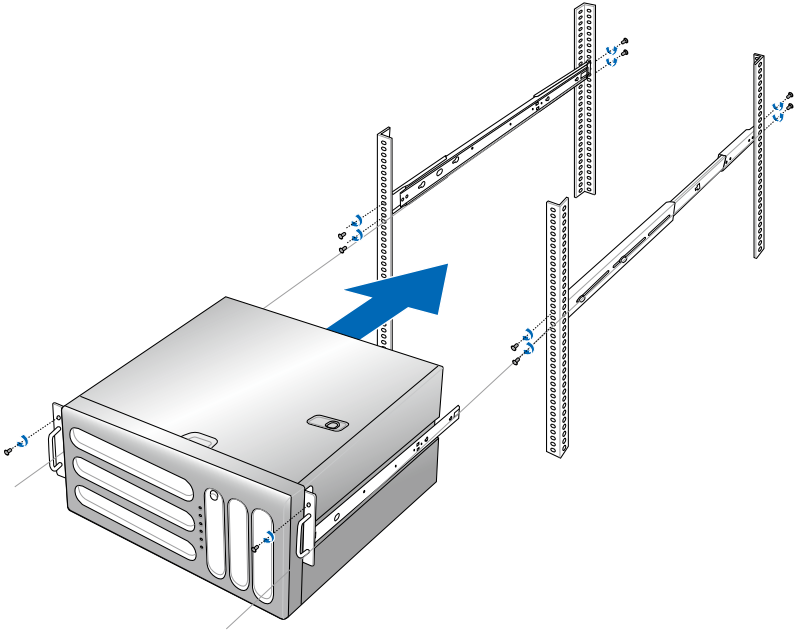
We recommend to use LAN port 5 for server management.



2.6 Installing Expansion card



2.7 Rackmount rail kit



2.8 OS support list

OS support list

Windows Server 2012 64-bit

Windows® 8 64-bit

Windows® Server 2008 Enterprise SP2 64-bit

Windows® Server 2008 R2 Enterprise SP1 64-bit

Red Hat Enterprise Linux AS 5.8/6.2/6.3 64-bit

Cent OS 5.6/6.2/6.3 64-bit

Ubuntu 12.04 64-bit

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