SUPERSERVER®
SYS-531MC-H8TNR
SYS-531MC-H8TNR-NODE

USER'S MANUAL

Revision 1.1

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Manual Revision 1.1

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Preface

About this Manual

This manual is written for professional system integrators and PC technicians. It provides information for the installation and use of the server. Installation and maintenance should be performed by certified service technicians only.

Please refer to the SYS-531MC-H8TNR/SYS-531MC-H8TNR-NODE server specifications page on our website for updates on supported memory, processors and operating systems (http://www.supermicro.com).

Notes

For your system to work properly, please follow the links below to download all necessary drivers/utilities and the user's manual for your server.

- Supermicro product manuals: http://www.supermicro.com/support/manuals/

- Product drivers and utilities: https://www.supermicro.com/wdl/driver

- Product safety info: http://www.supermicro.com/about/policies/safety_information.cfm

If you have any questions, please contact our support team at:
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Secure Data Deletion

A secure data deletion tool designed to fully erase all data from storage devices can be found on our website: https://www.supermicro.com/about/policies/disclaimer.cfm?url=/wdl/utility/Lot9_Secure_Data_Deletion_Utility/

Warnings

Special attention should be given to the following symbols used in this manual.

Warning! Indicates important information given to prevent equipment/property damage or personal injury.

Warning! Indicates high voltage may be encountered when performing a procedure.

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Chapter 1

Introduction

1.1 Overview

This chapter provides a brief outline of the functions and features of the SuperServer SYS-531MC-H8TNR/SYS-531MC-H8TNR-NODE. The system is based on the X13SCD-F motherboard and the CSE-938NH-R2K20BP2 chassis.

The following provides an overview of the specifications and capabilities of the system.

System Overview	
Motherboard	X13SCD-F
Chassis	CSE-938NH-R2K20BP2
Processor	Single Intel Xeon E-2400/6300 series processor
Memory	Up to 192 GB of DDR5 4400 MT/s ECC UDIMM memory in four DIMM slots
Drive Support	Per node: Two 2.5"/3.5" NVMe U.2/SATA3 and SAS(RAID/HBA AOC card required) drives Two NVMe/SATA3 M.2 onboard connectors (one slot up to 22110 form factor, the other one up to 2280 only)
Expansion Slots	Per node: One PCIe 5.0 x8 LP with open-ended slot, which can support up to 75 W
I/O Ports	One KVM connector One USB 3.2 Type-C port Two USB 2.0 Type-A ports
System Cooling	Four 8-cm heavy duty fans (SYS-531MC-H8TNR only)
Power	Two redundant power supply modules 2200W (Titanium Level)
Form Factor	3U: 5.21 x 17.26 x 23.2in. / 132 x 438 x 589mm

Notes: A Quick Reference Guide can be found on the product page of the Supermicro website.

The following safety models associated with the SYS-531MC-H8TNR/SYS-531MC-H8TNR-NODE have been certified as compliant with UL or CSA: 938-R22X13, 938-22.

1.2 System Features

The CSE-938NH-R2K20BP2 is a 3U chassis that supports 16 front hot-swap drives and eight rear hot-plug nodes.

Front View

Figure 1-1. System: Front View

System Features: Front	
Feature	**Description**
Control Panels	Power buttons and status indicators; details on the next page
Storage Drives	Sixteen 3.5" drive bays, two for each computing node; drive carriers display status lights

Drive Carrier LED Indicator			
LED	**Color**	**Blinking Pattern**	**Behavior for Device**
Activity LED	Blue	Solid On	SAS/NVMe drive installed
	Blue	Blinking	I/O activity
Status LED	Red	Solid On	Failure of drive with RSTe support
	Red	Blinking at 1 Hz	Rebuild drive with RSTe support
	Red	Blinking with two blinks and one stop at 1 Hz	Hot spare for drive with RSTe support (not supported in VMD mode)
	Red	On for five seconds, then off	Power on for drive with RSTe support
	Red	Blinking at 4 Hz	Identify drive with RSTe support
	Green	Solid On	Safe to remove NVMe device (not supported in VMD mode)
	Amber	Blinking at 1 Hz	Attention state---do not remove NVMe device (not supported in VMD mode)

Control Panel

The chassis front features a control panel to monitor node function and power off and on the entire system.

Figure 1-2. Control Panel

Control Panel Features		
Item	**Feature**	**Description**
1	Node Status Indicators	Eight numbered LEDs that indicate the status of each node (see table below).
2	Power Fail LED	Illuminated when one of the power supplies fails while any node is powered on. It is off during normal operation.
3	Main Power button	Used to apply or remove power from the power supply to the server system. Whether on or off, standby power to the system remains on.

Node Activity LED Indicators	
LED Appearance	**Description**
Solid Green	The node is powered on and operating normally.
Blinking Green	The node is in the process of shutting down.
Solid Red	The node is detecting an overheated condition.
1 Hz Blinking Red	The node is detecting a fan failure.
.25 Hz Blinking Red	The node is detecting a power failure.
Solid Blue	The node local UID is on.
1 Hz Blinking Blue	The node remote UID is on.
No Illumination	The node is powered down.

Rear View

Dedicated and Centralized BMC LAN Ports

Node 8   Node 7   Node 6   Node 5   Node 4   Node 3   Node 2   Node 1

Power Supply

Power Supply
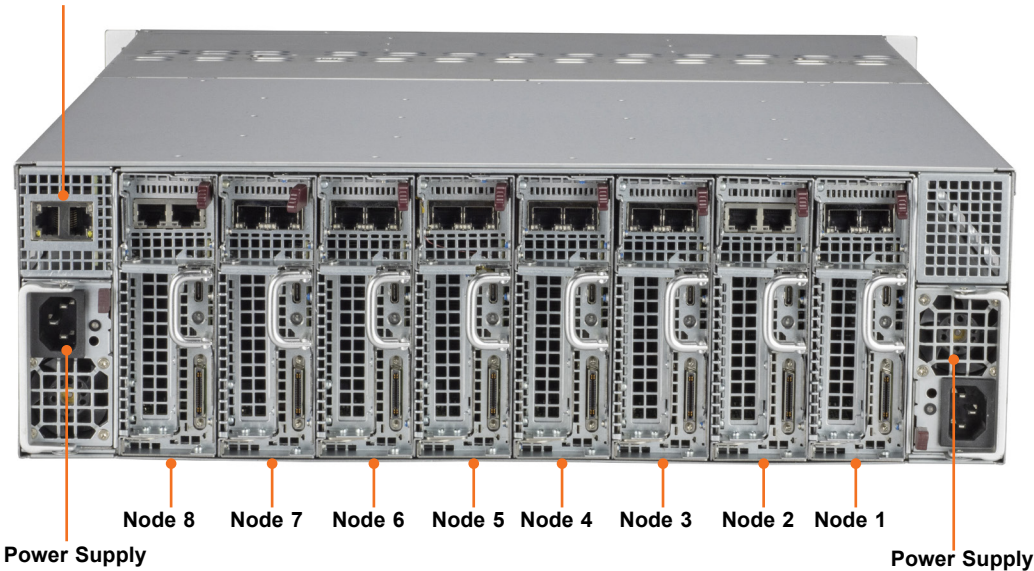
Figure 1-3. System: Rear View

KVM Port

USB

UID Switch

Power Button
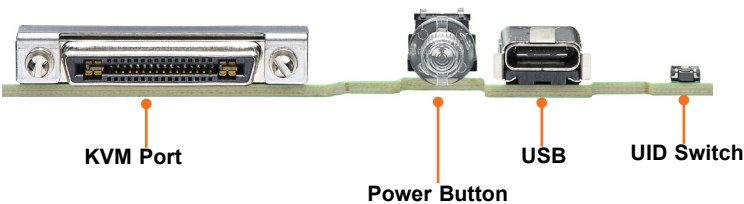
Figure 1-4. Node I/O Features

System Features: Rear	
Feature	**Description**
Nodes 1-8	Each node features a power button, two LAN ports and a KVM port
Power Supplies	Two redundant power supply modules, PWS1 on the left, PWS2 on the right
BMC LAN Ports	Dedicated and centralized ports in cascade or redundancy mode *Cascade:* connect the first port to a management device and the second port to another server *Redundancy:* connect each port to a different subnetwork switch **Note:** Do not connect both dedicated IPMI ports to the same network.
KVM Port	One VGA, one COM, and two USB 2.0 (with KVM dongle)
Power Button	Node power switch and indicator (green)
USB Port	USB Type C Port
UID Button	Toggle switch and LED indicator for Unit ID (blue)

Connecting to a Node

USB, COM, and VGA port capabilities can be added to any node through the KVM port on the rear. Plug in the adapter (dongle).
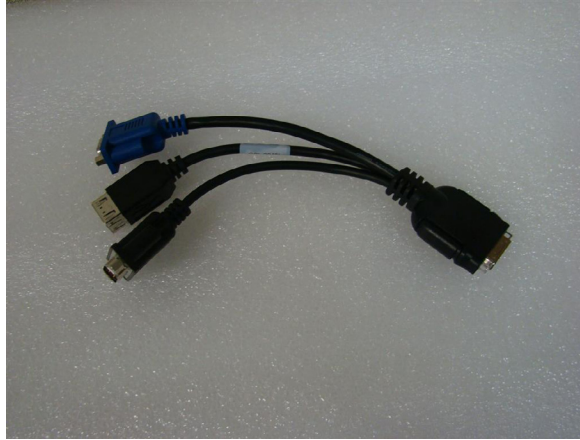
Figure 1-5. Adapter to Provide USB, COM, and VGA Ports

Node Trays

The chassis contains eight separate computing node drawers, each with its own motherboard.
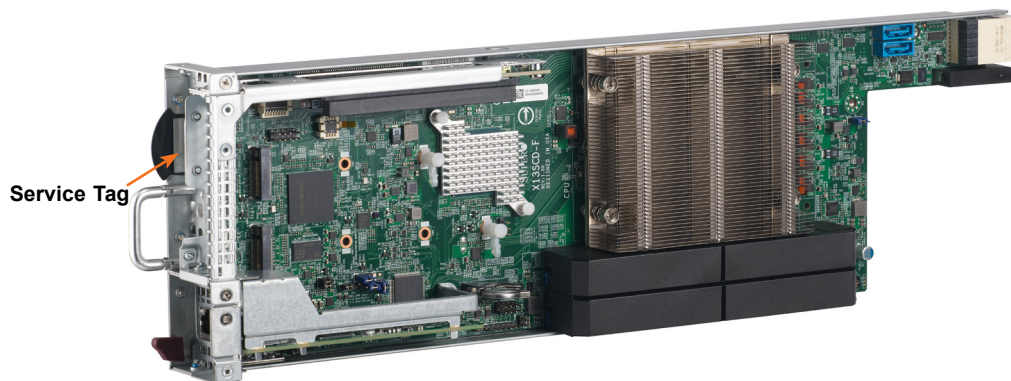
Figure 1-6. SYS-531MC-H8TNR Node Tray

BMC Password

Each node supports a pull-out server tag with a unique BMC Password Label. Extend the server tag and use the unique password to log into the BMC as the ADMIN user.

1.3 System Architecture

This section highlights the features on each node.

Main Components

PCIe Slot   Processor   SAS2/SATA3 Ports

M.2 Slot (up to 2280)

M.2 Slot (up to 110)

DIMM Slots

LAN Ports
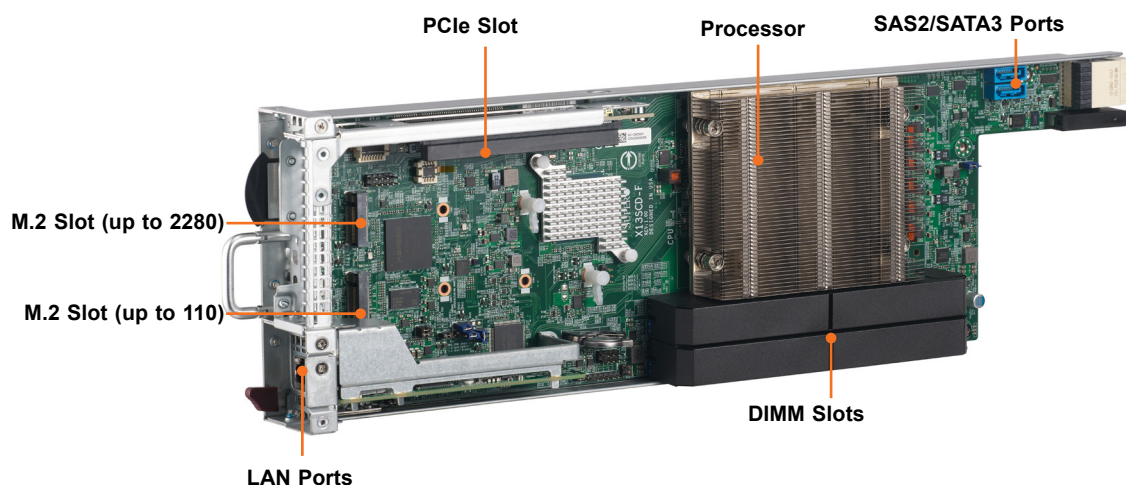
Figure 1-7. Node Features

Main Node Components	
Feature	**Description**
PCIe Slot	One PCIe 5.0 x8 (in x16) LP slot
Processor	Single Intel Xeon E-2400/6300 series processor
SAS/SATA Ports	Two SAS3/SATA3 ports for AOC
DIMM Slots	Four DDR5 DIMM slots (ECC UDIMM)
M.2 Slot	Two NVMe/SATA3 M.2 onboard connectors (one slot up to 22110 form factor, the other one up to 2280 only)
LAN Ports	Optional Dual 1GbE/10GbE PCIe 4.0 x8 LAN ports (Micro LP)

System Block Diagram

The block diagram below shows the connections and relationships between the subsystems and major components of the overall system.
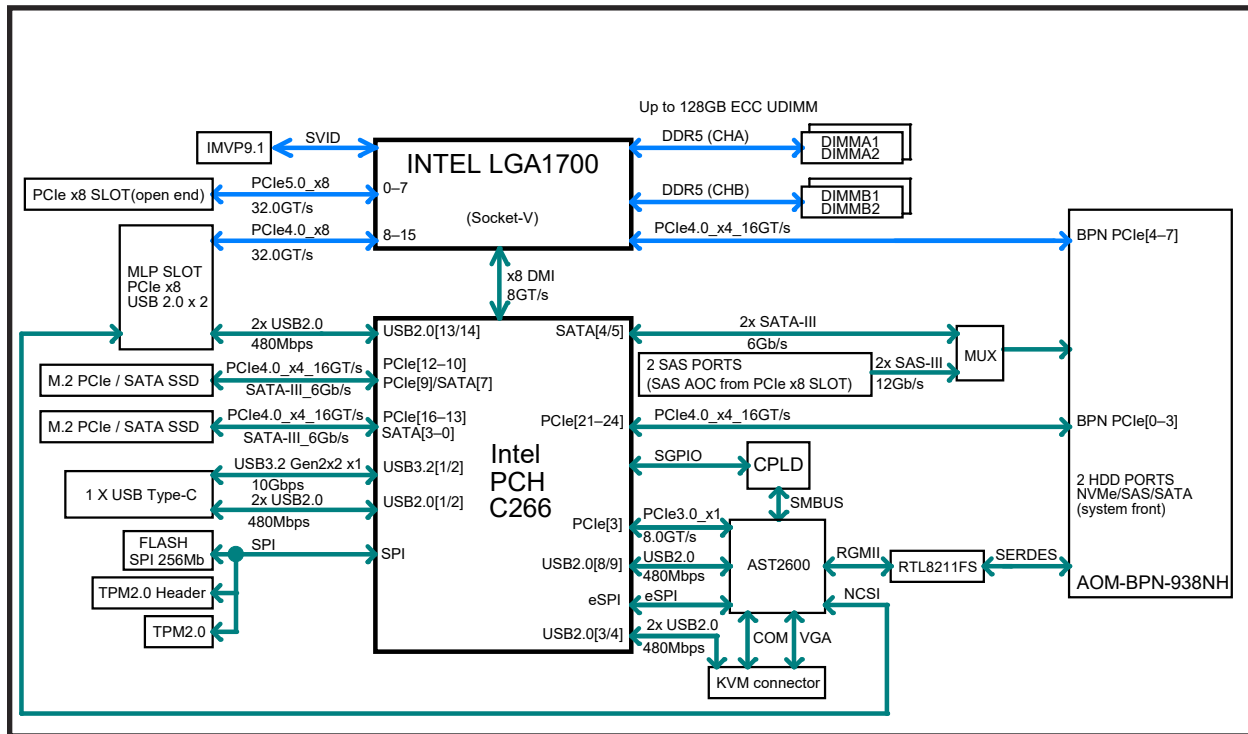
Figure 1-8. System Block Diagram

1.4 Motherboard Layout

Below is a layout of the X13SCD-F motherboard with jumper, connector and LED locations shown. See the table on the following page for descriptions. For detailed descriptions, pinout information and jumper settings, refer to Chapter 4 or the Motherboard Manual.
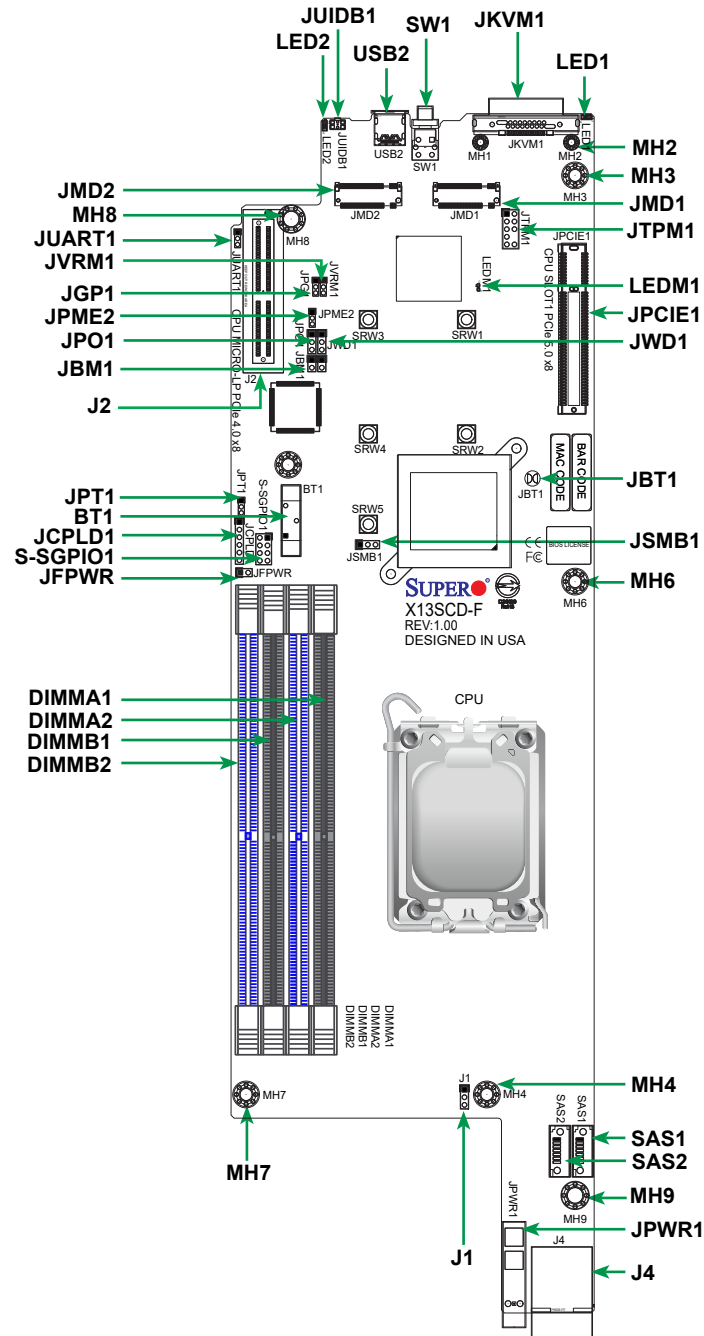
Figure 1-9. Motherboard Layout

Quick Reference Table

Jumper	Description	Default Setting
J1	SATA/SAS Select	Pins 1-2 (Onboard SATA) Pins 2-3 (AOC SAS)
JBM1	Disable IPMI Shared LAN	Pins 1-1 (Enabled)
JBT1	CMOS Clear	Open (Normal)
JPG1	VGA Enable/Disable	Pins 1-2 (Enabled)
JPME2	ME Manufacturing Mode	Pins 1-2 (Normal)
JPO1	CPU Throttle When PWR_Fail	Pins 2-3 (Disabled)
JPT1	Onboard TPM Enable/Disable	Pins 1-2 (Enabled)
JWD1	Watch Dog Timer	Pins 1-2 (Reset)

LED	Description	Status
LED1	Unit Identifier LED	Solid Blue: Unit Identified
LED2	OH/Power Fail/FAN LED	Blinking Red: Power Fail or FAN Fail Solid Red: Overheat
LEDM1	BMC Heartbeat LED	Blinking Green: BMC Normal

Connector	Description
BT1	CMOS Battery
J2	CPU Micro LP PCIe 4.0 x8 slot
J4	Backplane Connector
JKVM1	KVM Connector (VGA/USB2.0 x 2/COM port)
JMD1	M.2-H PCIe 4.0 x4/I-SATA 3.0 (2242/2280 form factors)
JMD2	M.2-H PCIe 4.0 x4/I-SATA 3.0 (2242/2280/22110 form factors)
JPCIE1	CPU Slot 1 PCIe 5.0 x8 Slot
JPWR1	Power Connector
JTPM1	Trusted Platform Module/Port 80 Connector
JUIDB1	UID Switch
MH1 – MH9	Mounting Holes
SAS1, SAS2	SAS Ports
S-SGPIO1	Serial Link General Purpose I/O Header
SRW1 – SRW5	M.2 Mounting Holes
SW1	Power Button, Power LED
USB2	USB 3.2 Type C Port

Chapter 2

Server Installation

2.1 Overview

This chapter provides advice and instructions for mounting your system in a server rack. If your system is not already fully integrated with processors, system memory etc., refer to Chapter 3 for details on installing those specific components.

Caution: Electrostatic Discharge (ESD) can damage electronic components. To prevent such damage to PCBs (printed circuit boards), it is important to use a grounded wrist strap, handle all PCBs by their edges and keep them in anti-static bags when not in use.

2.2 Unpacking the System

Inspect the box in which the SYS-531MC-H8TNR/SYS-531MC-H8TNR-NODE was shipped, and note if it was damaged in any way. If any equipment appears damaged, file a damage claim with the carrier who delivered it.

Decide on a suitable location for the rack unit that will hold the server. It should be situated in a clean, dust-free area that is well ventilated. Avoid areas where heat, electrical noise and electromagnetic fields are generated. It will also require a grounded AC power outlet nearby. Be sure to read the precautions and considerations noted in Appendix A.

2.3 Preparing for Setup

The box in which the system was shipped should include the rackmount hardware needed to install it into the rack. Please read this section in its entirety before you begin the installation.

Choosing a Setup Location

- The system should be situated in a clean, dust-free area that is well ventilated. Avoid areas where heat, electrical noise and electromagnetic fields are generated.

- Leave enough clearance in front of the rack so that you can open the front door completely (~25 inches) and approximately 30 inches of clearance in the back of the rack to allow sufficient space for airflow and access when servicing.

- This product should be installed only in a Restricted Access Location (dedicated equipment rooms, service closets, etc.).

- This product is not suitable for use with visual display workplace devices according to §2 of the German Ordinance for Work with Visual Display Units.

Rack Precautions

- Ensure that the leveling jacks on the bottom of the rack are extended to the floor so that the full weight of the rack rests on them.

- In single rack installations, stabilizers should be attached to the rack. In multiple rack installations, the racks should be coupled together.

- Always make sure the rack is stable before extending a server or other component from the rack.

- You should extend only one server or component at a time - extending two or more simultaneously may cause the rack to become unstable.

Server Precautions

- Review the electrical and general safety precautions in Appendix A.

- Determine the placement of each component in the rack *before* you install the rails.

- Install the heaviest server components at the bottom of the rack first and then work your way up.

- Use a regulating uninterruptible power supply (UPS) to protect the server from power surges and voltage spikes and to keep your system operating in case of a power failure.

- Allow any drives and power supply modules to cool before touching them.

- When not servicing, always keep the front door of the rack and all covers/panels on the servers closed to maintain proper cooling.

Rack Mounting Considerations

Ambient Operating Temperature

If installed in a closed or multi-unit rack assembly, the ambient operating temperature of the rack environment may be greater than the room's ambient temperature. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacturer's maximum rated ambient temperature (TMRA).

Airflow

Equipment should be mounted into a rack so that the amount of airflow required for safe operation is not compromised.

Mechanical Loading

Equipment should be mounted into a rack so that a hazardous condition does not arise due to uneven mechanical loading.

Circuit Overloading

Consideration should be given to the connection of the equipment to the power supply circuitry and the effect that any possible overloading of circuits might have on overcurrent protection and power supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Reliable Ground

A reliable ground must be maintained at all times. To ensure this, the rack itself should be grounded. Particular attention should be given to power supply connections other than the direct connections to the branch circuit (i.e. the use of power strips, etc.).

To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable. The following guidelines are provided to ensure your safety:

- This unit should be mounted at the bottom of the rack if it is the only unit in the rack.

- When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.

- If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.

- Slide rail mounted equipment is not to be used as a shelf or a work space.

Slide rail mounted equipment is not to be used as a shelf or a work space.

Warning: do not pick up the server with the front handles. They are designed to pull the system from a rack only.

2.4 Installing the Rails

There are a variety of rack units on the market, which may require a slightly different assembly procedure. Do not use a two post "telco" type rack. This rail set fits a rack between 26.5" and 36.4" deep.

The following is a basic guideline for installing the system into a rack with the rack mounting hardware provided. You should also refer to the installation instructions that came with the specific rack you are using.

Identifying the Rails

The chassis package includes two rail assemblies. Each assembly consists of three sections: An inner rail that secures directly to the chassis, an outer rail that secures to the rack, and a middle rail which extends from the outer rail. These assemblies are specifically designed for the left and right side of the chassis and labeled.
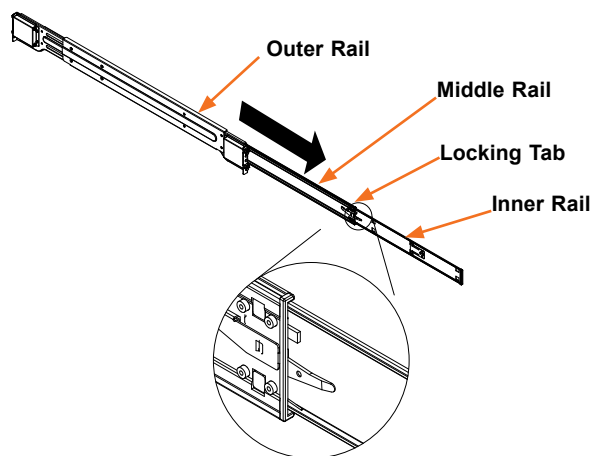
Figure 2-1. Identifying the Outer Rail, Middle Rail and Inner Rail
(Left Rail Assembly Shown)

Note: Both front chassis rails and the rack rails have a locking tab, which serves two functions. First, it locks the server into place when installed and pushed fully into the rack (its normal operating position. In addition, these tabs lock the server in place when fully extended from the rack. This prevents the server from coming completely out of the rack when pulled out for servicing.

Releasing the Inner Rail

Each inner rail has a locking latch. This latch prevents the server from coming completely out of the rack when the chassis is pulled out for servicing.

To mount the rail onto the chassis, first release the inner rail from the outer rails.

1. Pull the inner rail out of the outer rail until it is fully extended as illustrated below.

2. Press the locking tab down to release the inner rail.

3. Pull the inner rail all the way out.
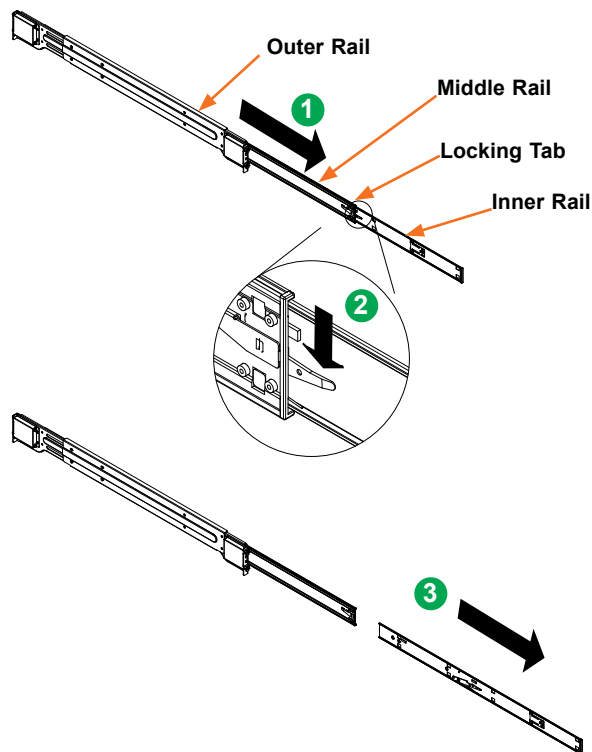
Figure 2-2. Extending and Releasing the Inner Rail

Note: The figure above is for illustrative purposes only. Always install servers at the bottom of the rack first.

Stability hazard. The rack stabilizing mechanism must be in place, or the rack must be bolted to the floor before you slide the unit out for servicing. Failure to stabilize the rack can cause the rack to tip over.

Installing the Inner Rails

Begin the rack mounting procedure by installing the inner rails to the chassis.

1. Identify the left and right inner rails. They are labeled.

2. Place the inner rail firmly against the side of the chassis, aligning the hooks on the side of the chassis with the holes in the inner rail.

3. Slide the inner rail forward toward the front of the chassis and under the hooks until the quick release bracket snaps into place, securing the rail to the chassis.
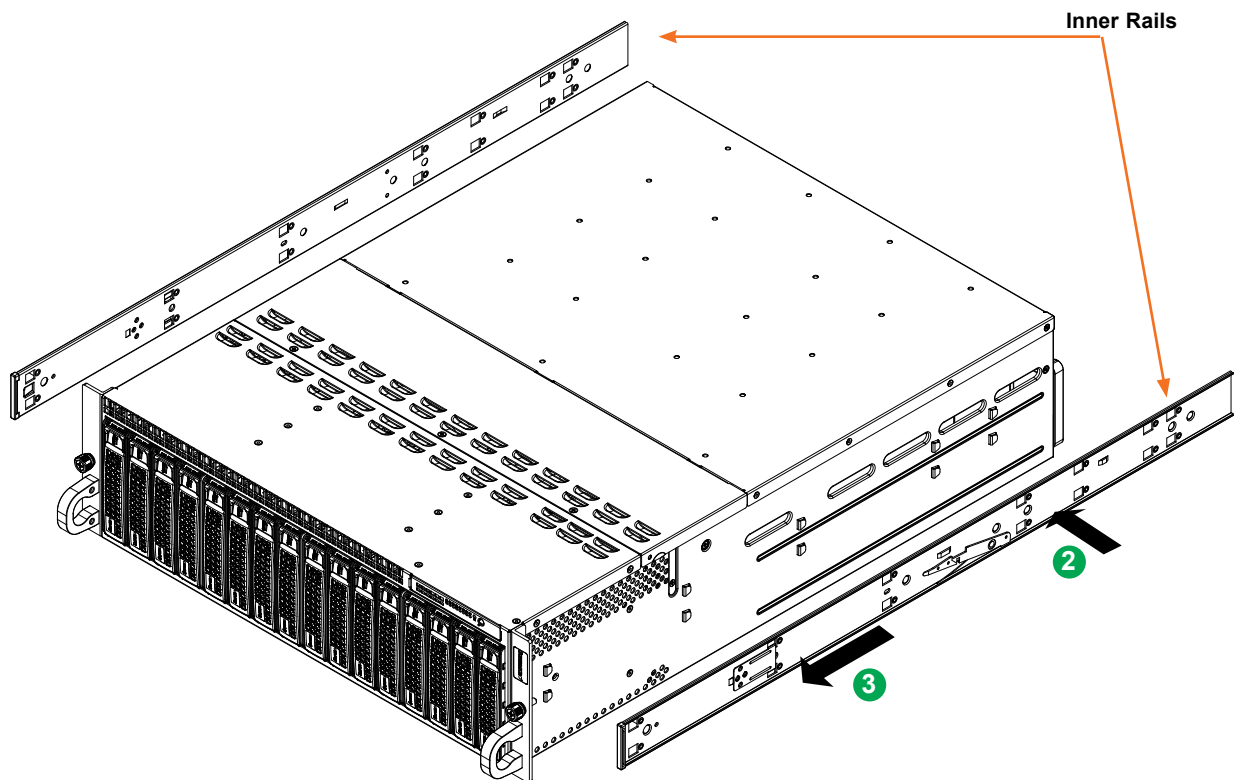
Figure 2-3. Installing the Rails

⚠️ **Warning:** Do not pick up the server with the front handles. They are designed to pull the system from a rack only.

Installing the Outer Rails onto the Rack

Each end of the assembled outer rail includes a bracket with hooks and spring-loaded pegs to fit into the square holes in your rack.

Installing the Outer Rail

1. Press upward on the locking tab at the rear end of the middle rail.

2. Push the middle rail back into the outer rail.

3. Hang the hooks on the front of the outer rail onto the square holes on the front of the rack. If desired, use screws to secure the outer rails to the rack.

4. Pull out the rear of the outer rail, adjusting the length until it just fits within the posts of the rack.

5. Hang the hooks of the rear section of the outer rail onto the square holes on the rear of the rack. Take care that the proper holes are used so the rails are level. If desired, use screws to secure the rear of the outer rail to the rear of the rack.
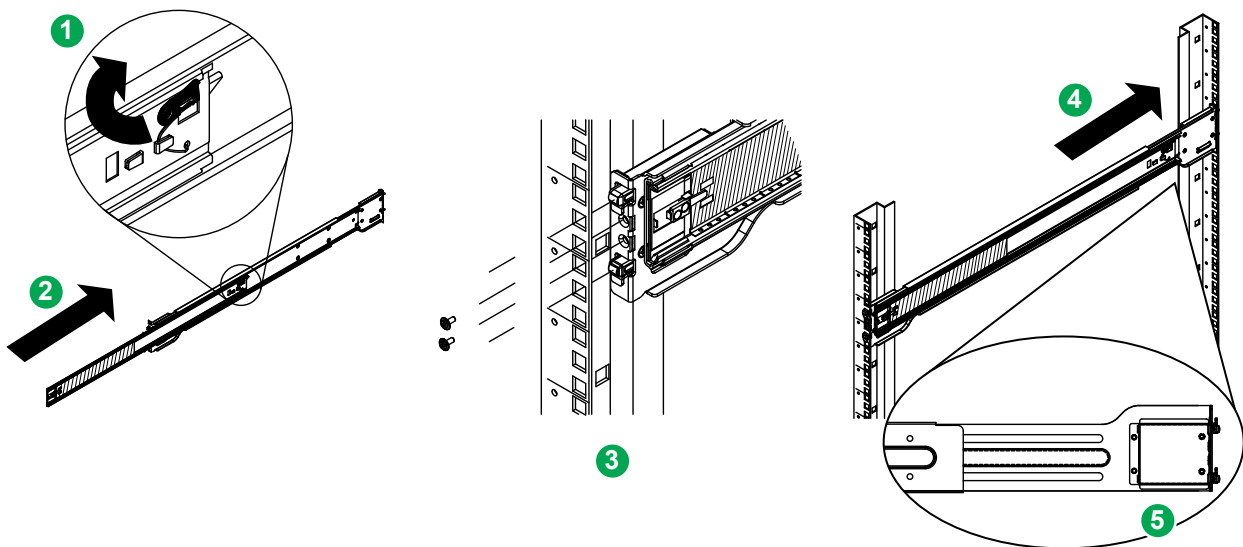
Figure 2-4. Extending and Mounting the Outer Rails

2.5 Installing the Chassis into a Rack

Once rails are attached to the chassis and the rack, you can install the server.

1. Pull the middle rail out of the front of the outer rail and make sure that the ball bearing shuttle is locked at the front of the middle rail.

2. Align the rear of the chassis rails with the middle rails and then push evenly on both sides of the chassis until it clicks into the fully extended position.

3. Depress the locking tabs on both sides of the chassis and push the it fully into the rack. The locking tabs should "click".

4. Optional screws may be used to hold the front of the chassis to the rack.
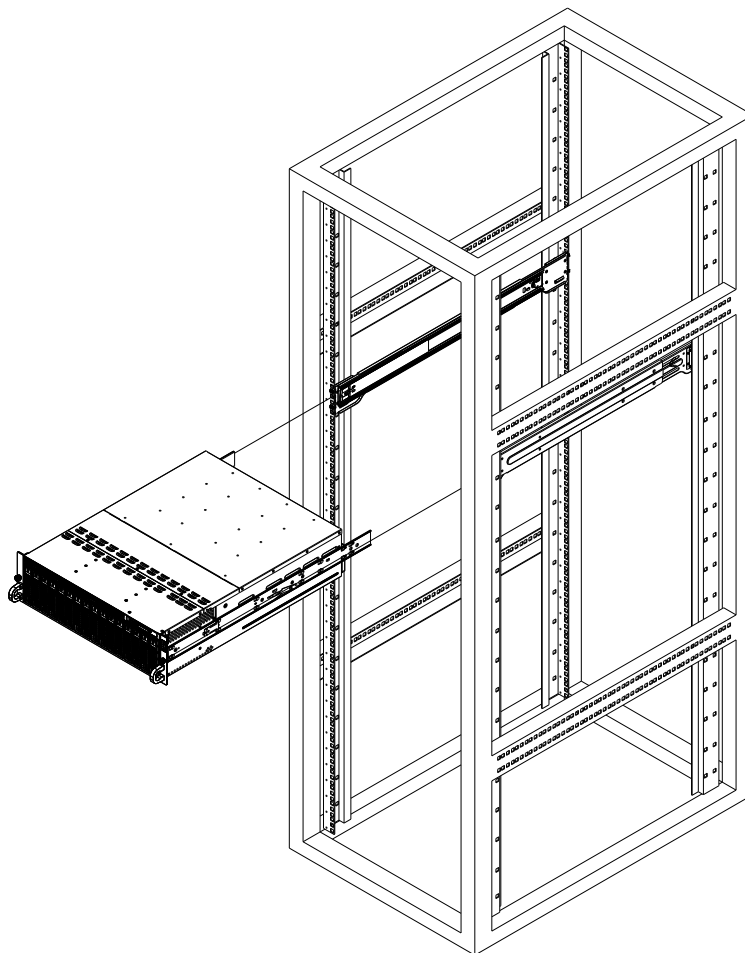
Figure 2-5. Installing the Server into the Rack

Note: Keep the ball bearing shuttle locked at the front of the middle rail during installation.

Note: Figure is for illustrative purposes only. Always install servers to the bottom of a rack first.

Removing the Chassis from the Rack

Caution! It is dangerous for a single person to off-load the heavy chassis from the rack without assistance. Be sure to have sufficient assistance supporting the chassis when removing it from the rack. Use a lift.

1. Pull the chassis forward out the front of the rack until it stops.

2. Press the release latches on each of the inner rails downward simultaneously and contiue to pull the chassis forward and out of the rack.
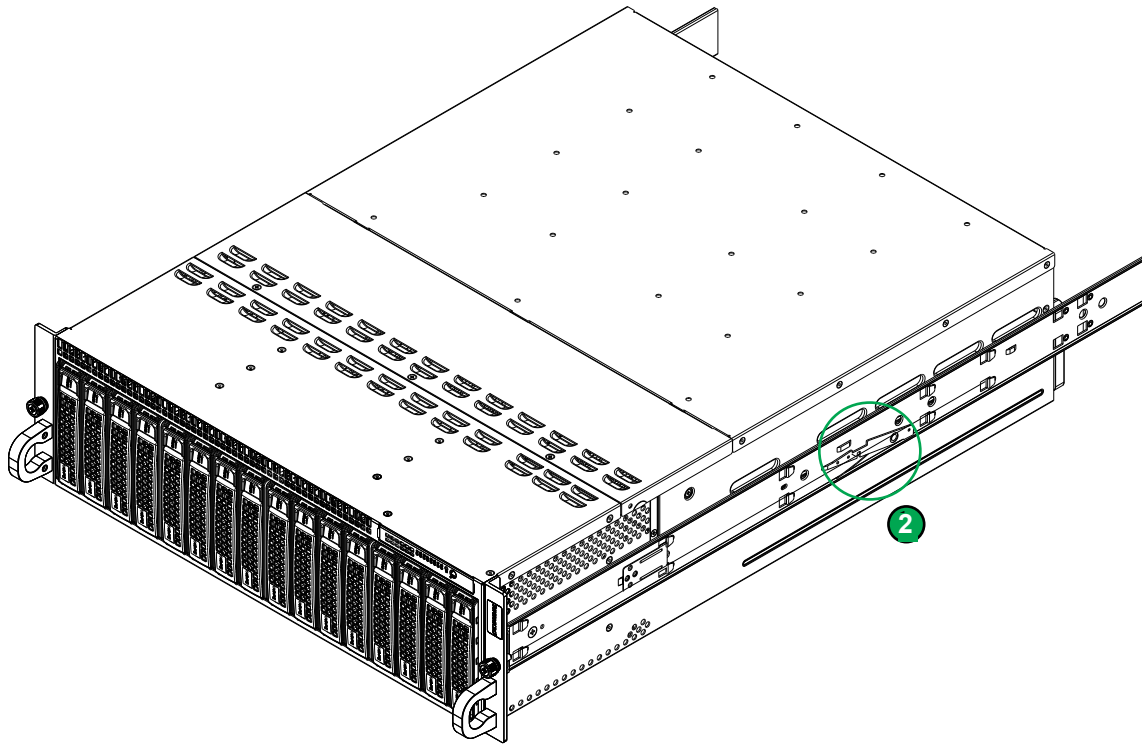
Figure 2-6. Removing the Chassis From the Rack

Chapter 3

Maintenance and Component Installation

This chapter provides instructions on installing and replacing main system components. To prevent compatibility issues, only use components that match the specifications and/or part numbers given.

Installation or replacement of most components require that power first be removed from the system. Please follow the procedures given in each section.

3.1 Powering Down the System

Use the following procedure to ensure that power has been removed from the system. This step is necessary when removing or installing non hot-swap components.

1. Use the operating system to power down the system.

2. After the system has completely shut down, disconnect the AC power cord(s) from the power strip or outlet and remove the AC power cords from all power supply modules.

3. Disconnect the power cord(s) from the power supply module(s).

4. When performing service on non hot-swap components, remove the system from the rack and place it on a bench or desk. Do not service with the system extended from the rack.

3.2 Accessing the System

The CSE-938NH chassis features a removable top cover, which allows easy access to the inside of the chassis.

Removing the Top Cover

1. If necessary, remove power from the system as described in Section 3.1.

2. Remove the three screws securing the cover to the chassis. See Figure 3-1.

3. Lift the cover from the chassis.

Caution: Except for short periods of time, do not operate the server without the cover in place. The chassis cover must be in place to allow for proper airflow and to prevent overheating.
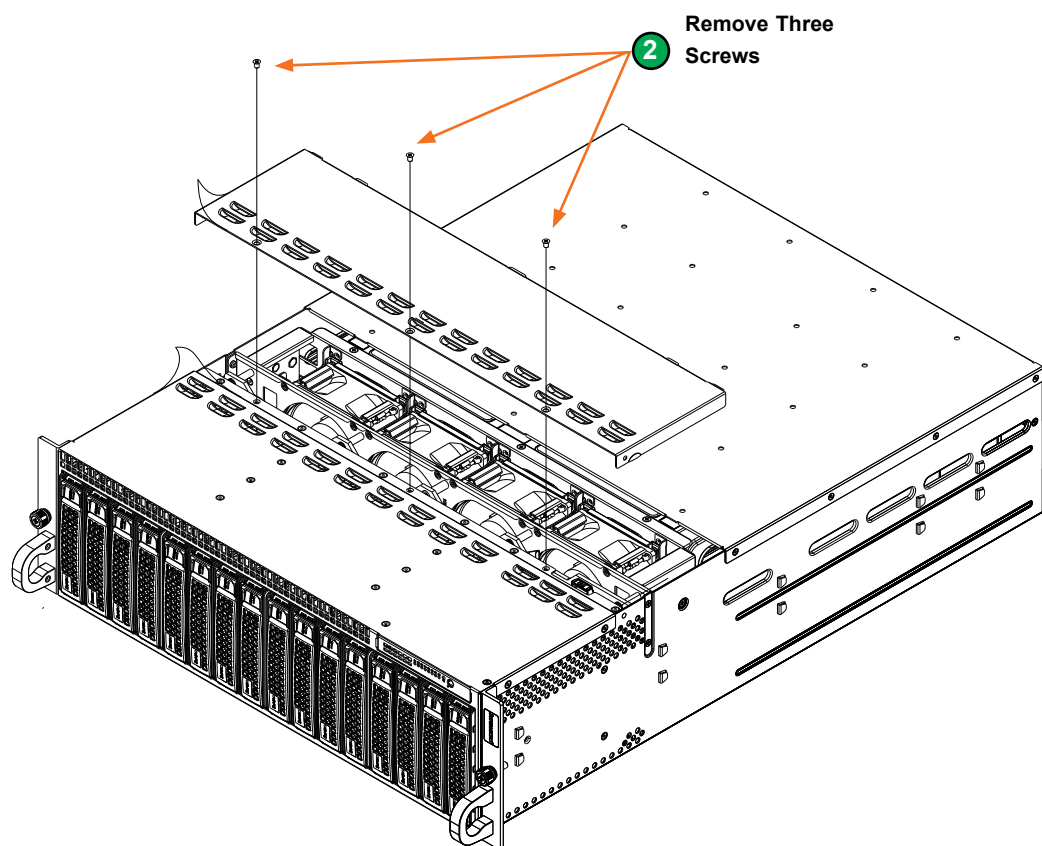
Figure 3-1. Removing the Chassis Cover

Nodes

The system includes eight removable computing nodes, each containing an individual motherboard. A node may be removed while other nodes continue to function.

Each node controls two storage drives and shares a fan with the node beside it. If a node is pulled out of the chassis, the storage drives associated with that node will power-down.
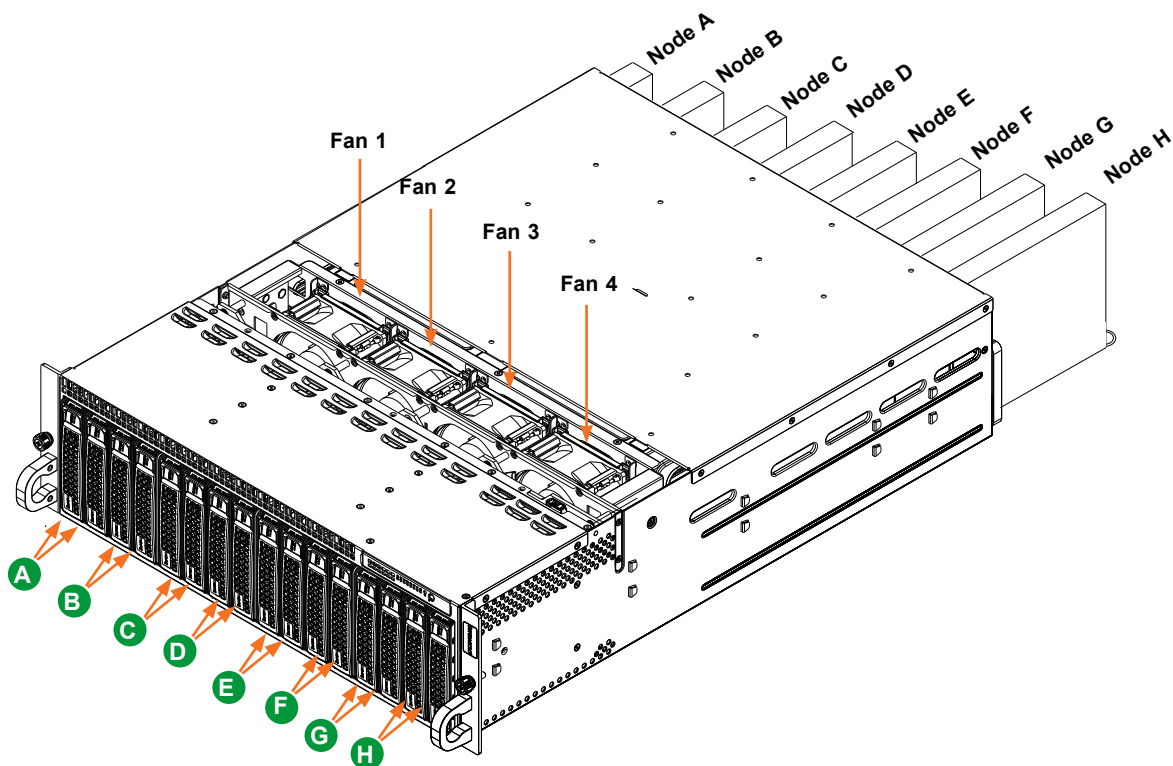
Figure 3-2. Corresponding Nodes, Fans and Storage Drives

Corresponding Nodes, Fans and Storage Drives		
Node	**Fan**	**Storage Drives**
Node A	Fan 1	Drives A1 and A2
Node B	Fan 1	Drives B1 and B2
Node C	Fan 2	Drives C1 and C2
Node D	Fan 2	Drives D1 and D2
Node E	Fan 3	Drives E1 and E2
Node F	Fan 3	Drives F1 and F2
Node G	Fan 4	Drives G1 and G2
Node H	Fan 4	Drives H1 and H2

Removing Nodes from the System

1. Power-down the individual node by pressing that node's power button.

2. Press and hold down the release tab on the front of the node.

3. Use the node handle to pull the node from the system.

Caution: Except for short periods of time while swapping nodes, do not operate the server with the node bays empty. In the unlikely event of a node failure, remove the failed node and replace it with the dummy node that was included with the system.
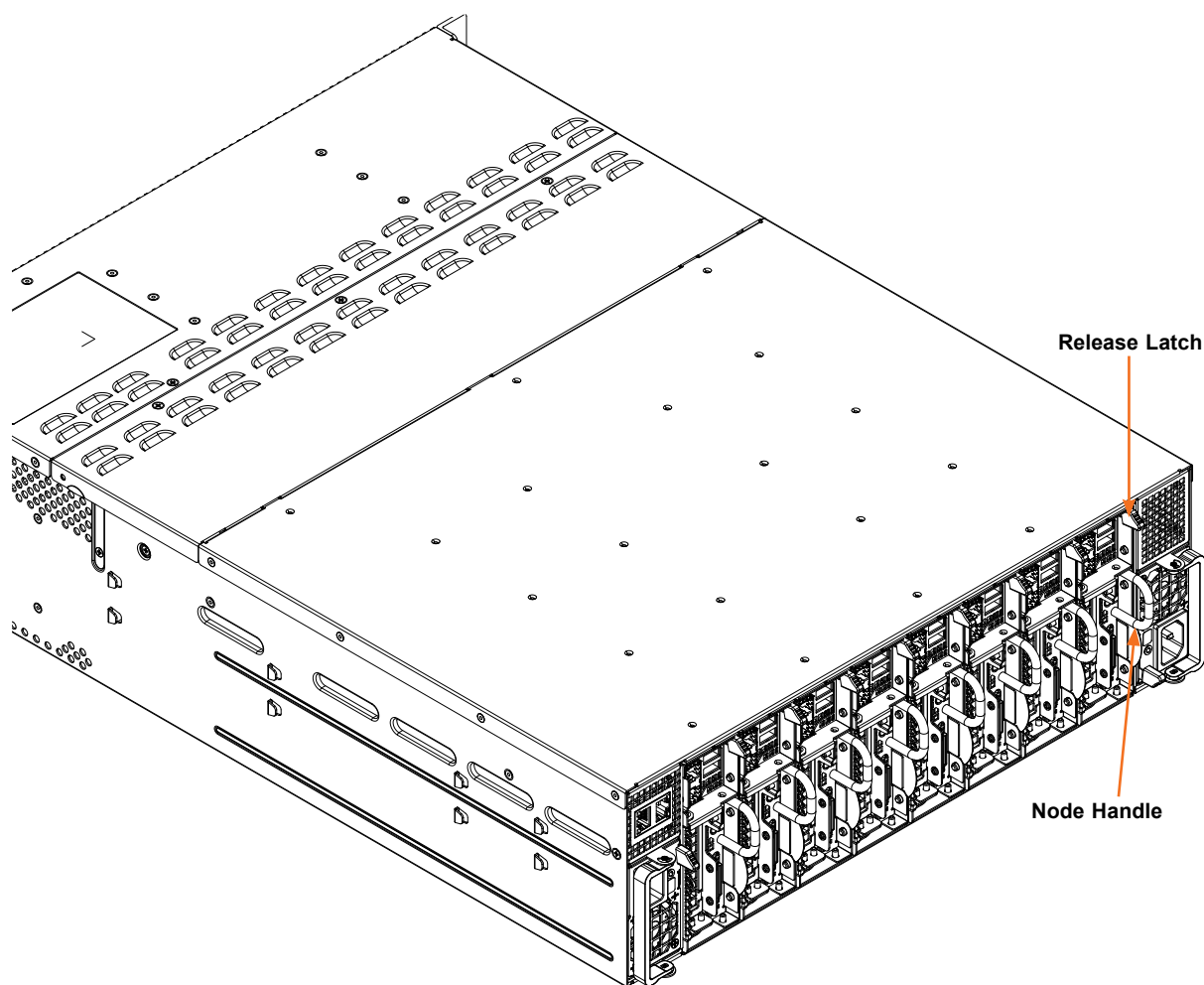
Figure 3-3. Removing a Node

3.3 Static-Sensitive Devices

Electrostatic Discharge (ESD) can damage electronic components. To avoid damaging your motherboard, it is important to handle it very carefully. The following measures are generally sufficient to protect the system PCBs from ESD.

Precautions

- Use a grounded wrist strap designed to prevent static discharge.

- Touch a grounded metal object before removing any PCB (printed circuit board) from its antistatic bag.

- Handle PCBs by their edges only; do not touch its components, peripheral chips, memory modules or gold contacts.

- When handling chips or modules, avoid touching their pins.

- Put the PCBs back into their antistatic bags when not in use.

- Use only the correct type of onboard CMOS battery. Do not install the onboard battery upside down to avoid possible explosion.

3.4 Processor and Heatsink Installation

Warning: When handling the processor package, avoid placing direct pressure on the label area of the fan.

Important:

- Use ESD protection.

- Unplug the AC power cord from all power supplies after shutting down the system.

- Check that the plastic protective cover is on the CPU socket and none of the socket pins are bent. If they are, contact your retailer.

- When handling the processor, avoid touching or placing direct pressure on the LGA lands (gold contacts). Improper installation or socket misalignment can cause serious damage to the processor or CPU socket, which may require manufacturer repairs.

- Thermal grease is pre-applied on a new heatsink. No additional thermal grease is needed.

- Refer to the Supermicro website for updates on processor support.

- All graphics in this manual are for illustrations only. Your components may look different.

- When installing the processor and heatsink, ensure a torque driver set to the correct force is used for each screw.

Installing the LGA1700 Processor

1. Remove the plastic protective cover from the load plate.
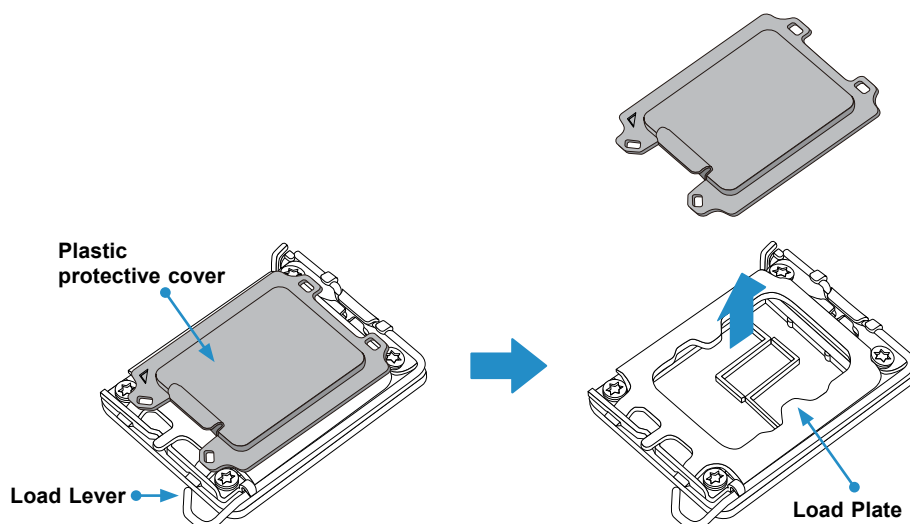
2. Gently push down the load lever to release and lift it, then lift the load plate to open it completely.

Lever lock
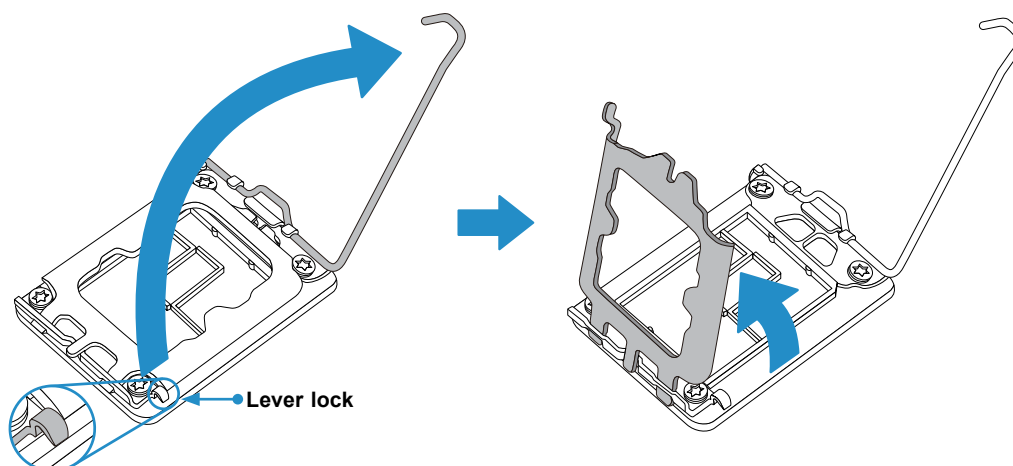
3. Use your thumb and your index finger to hold the CPU. Align the small triangle maker and notches on the CPU to the corresponding triangle maker and notches on the CPU load bracket. Once aligned, carefully lower the CPU straight down into the socket. Do not drop the CPU on the socket, or move it horizontally or vertically.

Pin 1

CPU

CPU notch

CPU load bracket notch
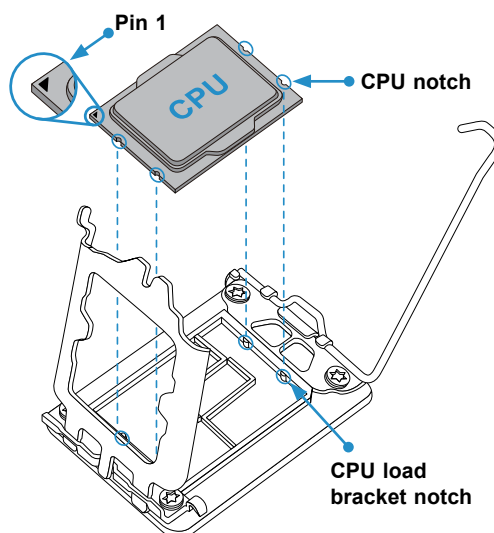
4. Do not rub the CPU against the surface or against any pins of the socket to avoid damaging the CPU or the socket.

5. With the CPU inside the socket, inspect the four corners of the CPU to make sure that the CPU is properly installed.

6. Close the load plate with the CPU inside the socket. Gently push the load lever down to the lever locks.

Lever lock
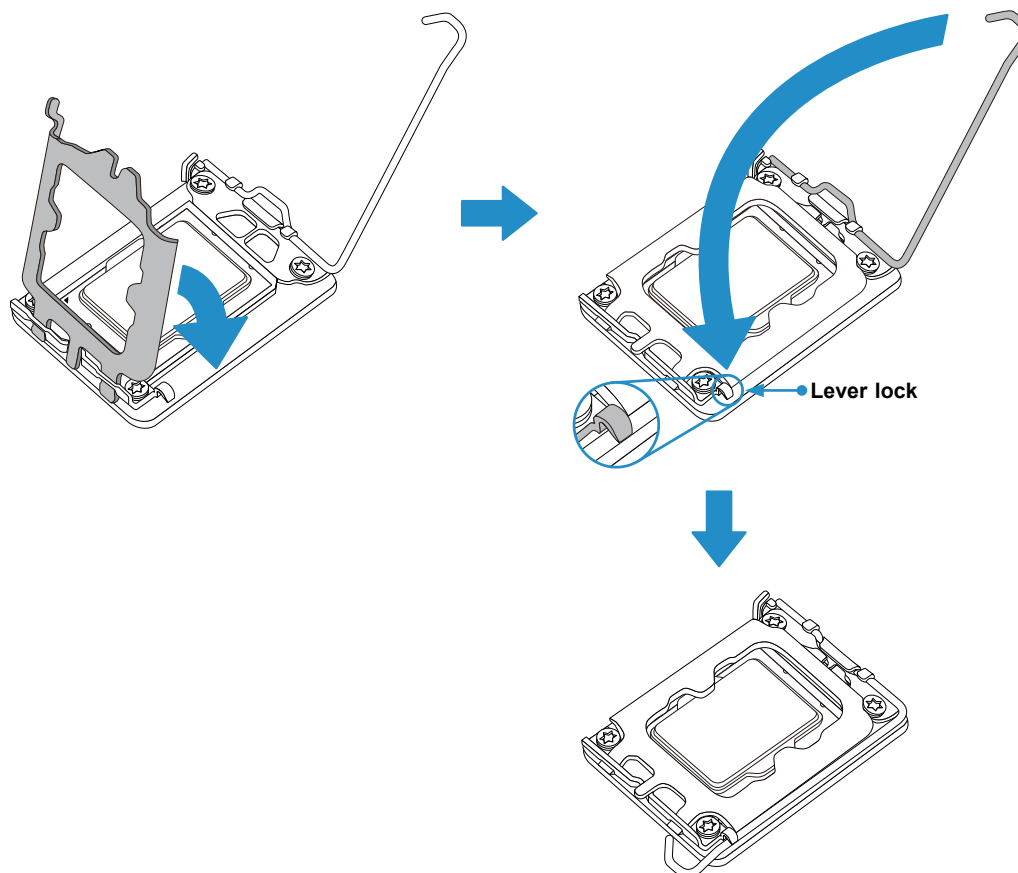
Important: You can only install the CPU inside the socket in one direction. Make sure that it is properly inserted into the CPU socket before closing the load plate. If it doesn't close properly, do not force it as it may damage your CPU. Instead, open the load plate again and double-check that the CPU is aligned properly.

Installing the CPU Heatsink

1. Do not apply thermal grease to the heatsink or the CPU; the required amount has already been applied.

2. Align the four holes of the heatsink with the four mounting holes on the motherboard.

3. With a torque wrench, gradually tighten screws #1, #2, then #3, #4 to ensure even pressure. The order of the screws is shown below. With a T30 bit torque driver **set to a force of 0.678 n-m (6.0 in-lbf)**, gradually tighten the four screws to ensure even pressure.

4. Examine all corners to ensure the heatsink is firmly attached to the motherboard.
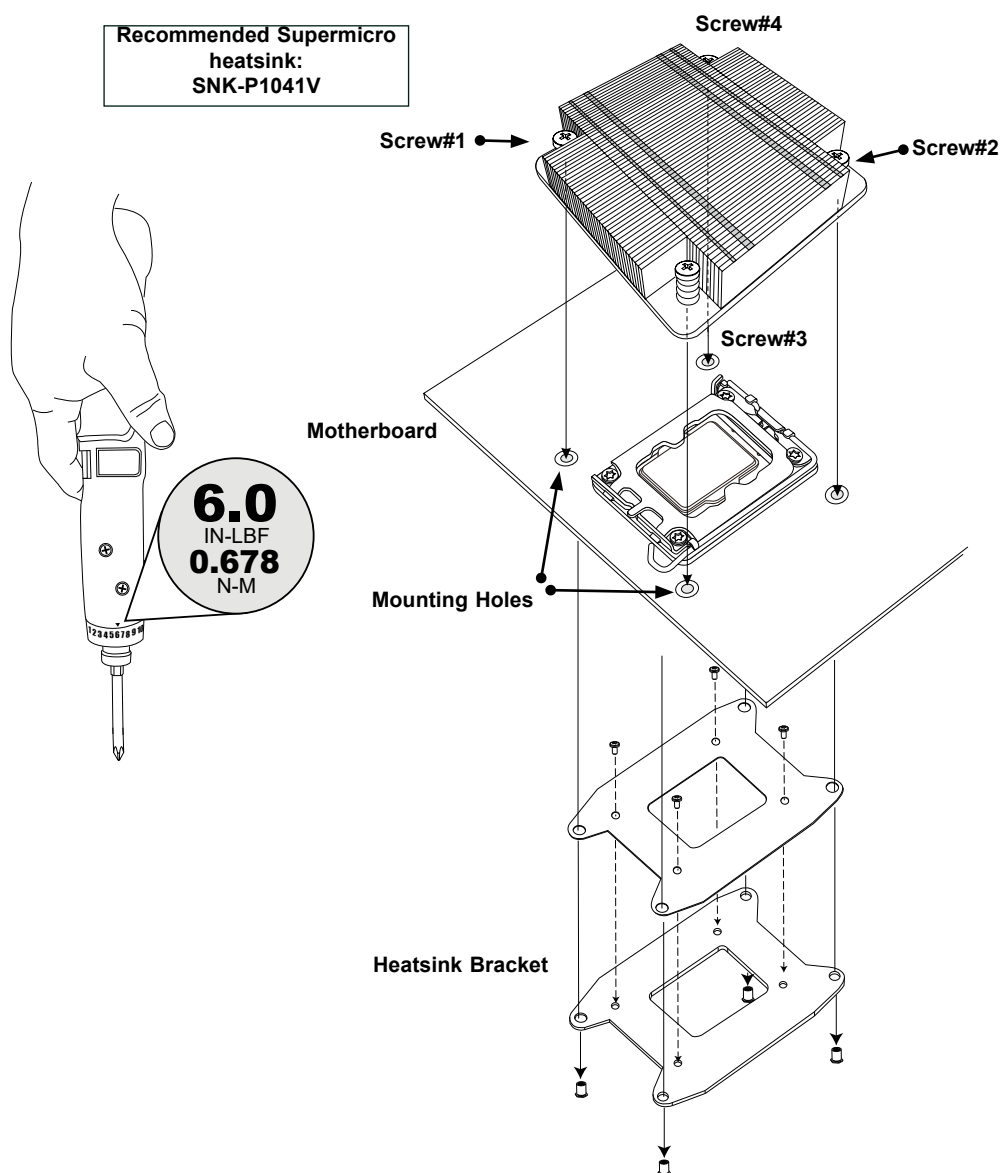
Removing the Heatsink

Note: We do not recommend that the CPU or heatsink be removed. However, if you do need to remove the heatsink, please follow the instructions below to remove the heatsink and prevent damage done to the CPU or other components.

1. Unplug the power connector from the power supply.

2. Unscrew the heatsink screws in the sequence shown below.

3. Gently lift the heatsink up and remove it from the CPU.
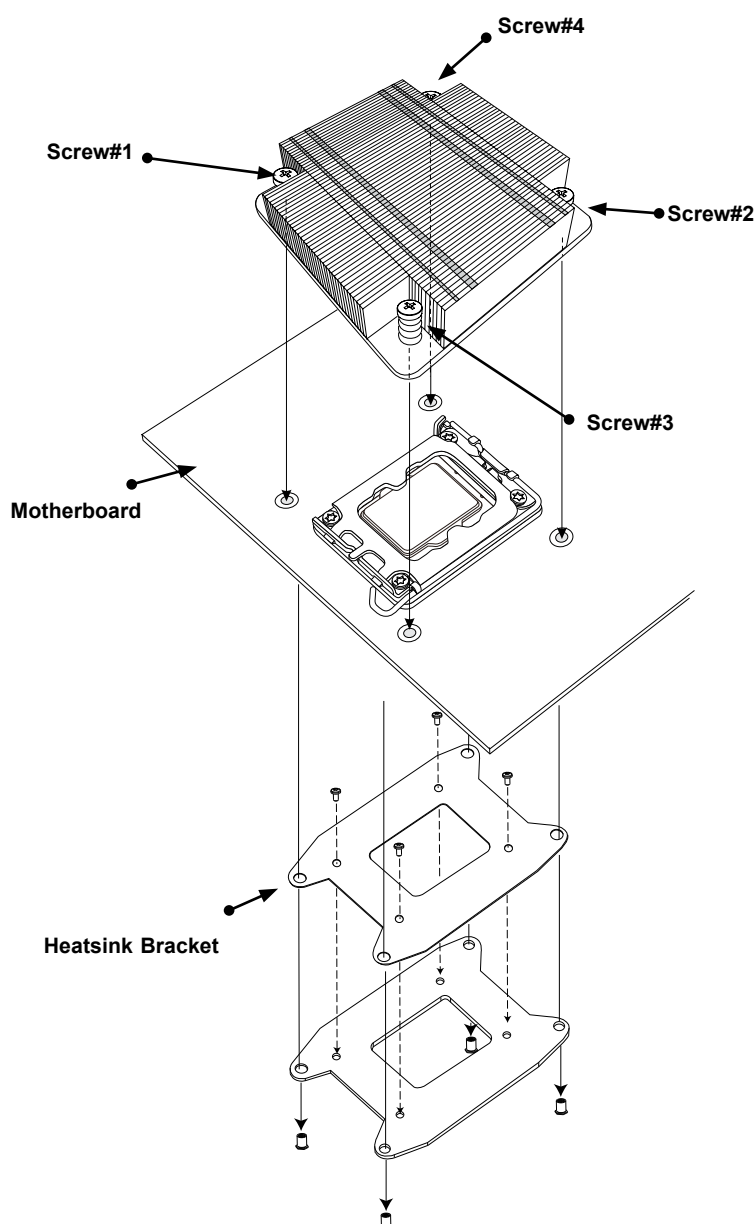
3.5 Memory

Memory Support

The X13SCD-F supports up to 128 GB of DDR5 ECC UDIMM memory with speeds of up to 4400 MT/s in four memory slots. Refer to the table below for the recommended DIMM population order and additional memory information.

DIMM Module Population Configuration

For optimal memory performance, follow the table below when populating memory.

Configuration	DIMMs	Channel A Slot 1	Channel A Slot 2	Channel B Slot 1	Channel B Slot2	Status
1	1				1	Supported
2	1			1		Not Supported
3	2			1	1	Supported
4	1		1			Supported - Best Performance
5	2		1		1	Supported - Best Performance
6	2		1	1		Not Supported
7	3		1	1	1	Supported
8	1	1				Not Supported
9	2	1			1	Not Supported
10	2	1		1		Not Supported
11	3	1		1	1	Not Supported
12	2	1	1			Supported
13	3	1	1		1	Supported
14	3	1	1	1		Not Supported
15	4	1	1	1	1	Supported - Best Performance

General Guidelines for Optimizing Memory Performance

• DIMM slots must be populated in the following order: DIMMA2, DIMMB2 and then DIMMA1, DIMMB1.

• It is recommended to use DDR5 memory of the same type, size, and speed.

• Mixed DIMM speeds can be installed. However, all DIMMs will run at the speed of the slowest DIMM.

• The motherboard will support odd-numbered amount of modules. However, to achieve the best memory performance, a balanced memory population is recommended.
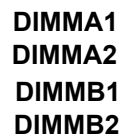
Figure 3-4. DIMM Slot Locations

DIMM Installation

1. Insert the desired number of DIMMs into the slots based on the recommended DIMM population tables shown above.

2. Push the release tabs on both ends of the DIMM slot outwards to unlock it.
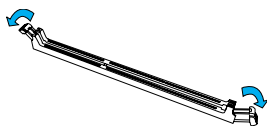
3. Align the key of the DIMM module with the receptive point on the memory slot.

Key
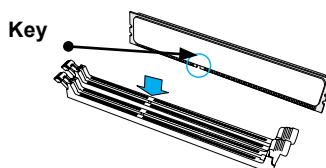
4. Align the notches on both ends of the module with the receptive points on the ends of the slot.

Notches
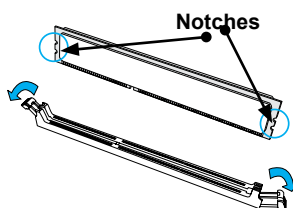
5. Push both ends of the module straight down into the slot until the module snaps into place.

Push both ends straight down into the memory slot.
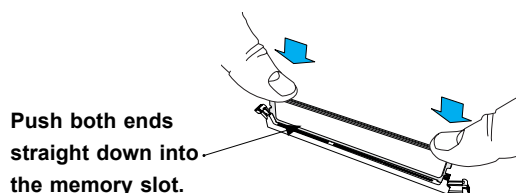
6. Press the release tabs to the lock positions to secure the DIMM module into the slot.

DIMM Removal

Press both release tabs on the ends of the DIMM module to unlock it. Once the DIMM module is loose, remove it from the memory slot.
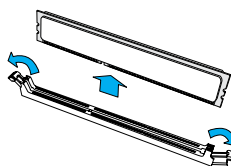
Warning! To avoid causing any damage to the DIMM module or the DIMM socket, do not use excessive force when pressing the release tabs on the ends of the DIMM socket. Handle DIMMs with care. Be aware and follow the ESD instructions given at he beginning of this chapter.

3.6 Motherboard Battery

The motherboard uses non-volatile memory to retain system information when system power is removed. This memory is powered by a lithium battery residing on the motherboard.

Replacing the Battery

Begin by removing power from the system.

1. Push aside the small clamp that covers the edge of the battery. When the battery is released, lift it out of the holder.

2. To insert a new battery, slide one edge under the lip of the holder with the positive (+) side facing up. Then push the other side down until the clamp snaps over it.

Note: Handle used batteries carefully. Do not damage the battery in any way; a damaged battery may release hazardous materials into the environment. Do not discard a used battery in the garbage or a public landfill. Please comply with the regulations set up by your local hazardous waste management agency to dispose of your used battery properly.

LITHIUM BATTERY

BATTERY HOLDER
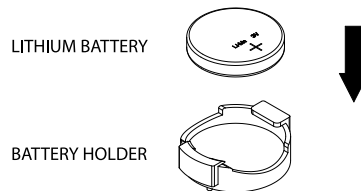
Figure 3-5. Installing the Onboard Battery

Warning: There is a danger of explosion if the onboard battery is installed upside down (which reverses its polarities). This battery must be replaced only with the same or an equivalent type recommended by the manufacturer (CR2032).

3.7 Chassis Components

Storage Drives

The chassis features sixteen hot-swap storage drives. These storage drives are contained in drive carriers and may be removed without powering-down the system. These carriers also help promote proper airflow through the drive bays.

Removing Drive Carriers from the Chassis

1. Press the release button on the drive carrier, which will extend the drive carrier handle.

2. Use the drive carrier handle to pull the carrier out of the chassis.

Removing a Dummy Drive from the Drive Carrier

1. Remove the drive carrier from the chassis as described in the previous section and lay it on a flat surface.

2. Remove the two screws securing the dummy drive to the drive carrier.

3. Lift the dummy drive from the drive carrier.

Caution: To maintain proper airflow, except for short periods of time (swapping drives), do not operate the server with the drive carriers removed from the bays, regardless of how many drives are installed.
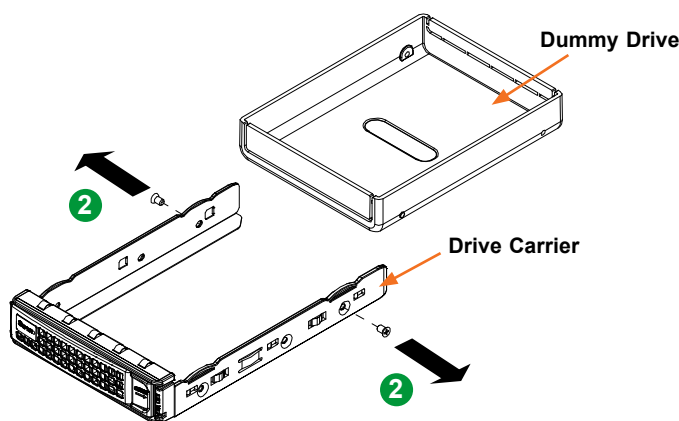
Figure 3-6. Removing a Dummy Drive from the Drive Carrier

Note: Enterprise level storage drives are recommended for use in Supermicro servers. For information on recommended drives, visit the Supermicro website at http://www.supermicro.com/products/nfo/storage.cfm.

System Cooling

Fans

Four 8-cm fans circulate air through the chassis to lower the internal temperature. The system fans are designed to be easily changed, with no tools required and no need to remove any other parts inside the chassis. See Figure 3-2 to determine which nodes and storage drives are cooled by each fan.

Note: the fan module is not included with the SYS-531MC-H8TNR-NODE system.

Replacing a System Fan

1. Determine which fan must be replaced. Use IPMI or open the chassis top cover while the system is operating and observe. Do not run the server for an extended period of time with the top cover open.

2. Simultaneously squeeze both release tabs on the top of the fan module.

3. Lift the fan module up and out of the chassis.

4. Place the replacement fan into the vacant space in the fan bracket while making sure the arrows on the top of the fan (indicating air direction) point in the same direction as the arrows on the other fans.

5. Put the fan back into the chassis and make sure that it is properly locked.

6. Confirm that the fan is working properly before replacing the chassis cover.
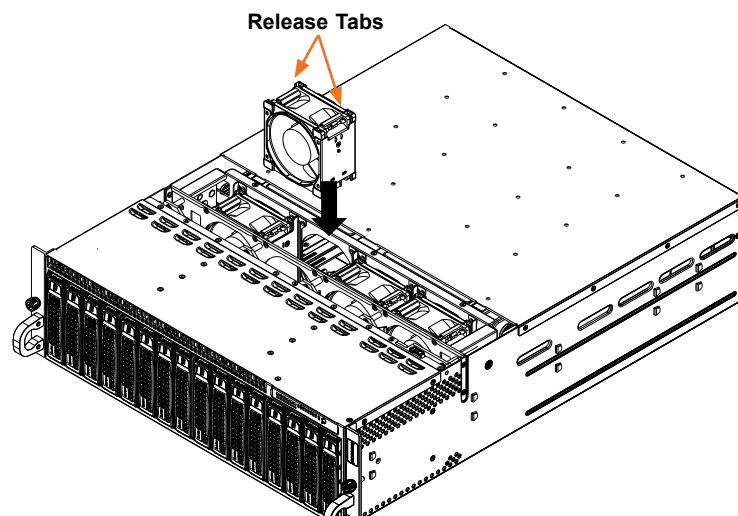
Figure 3-7. Replacing a Fan

Air Shroud

The air shroud is used to concentrate airflow to maximize fan efficiency.

Installing the Air Shroud

1. Remove the node from the chassis onto a flat, non-conductive surface.

2. If necessary, move any cables that interfere with the air shroud placement.

3. Place the air shroud in the chassis. It fits just beside the heatsink.

4. Secure the shroud to the tray with two screws and the alignment pin.
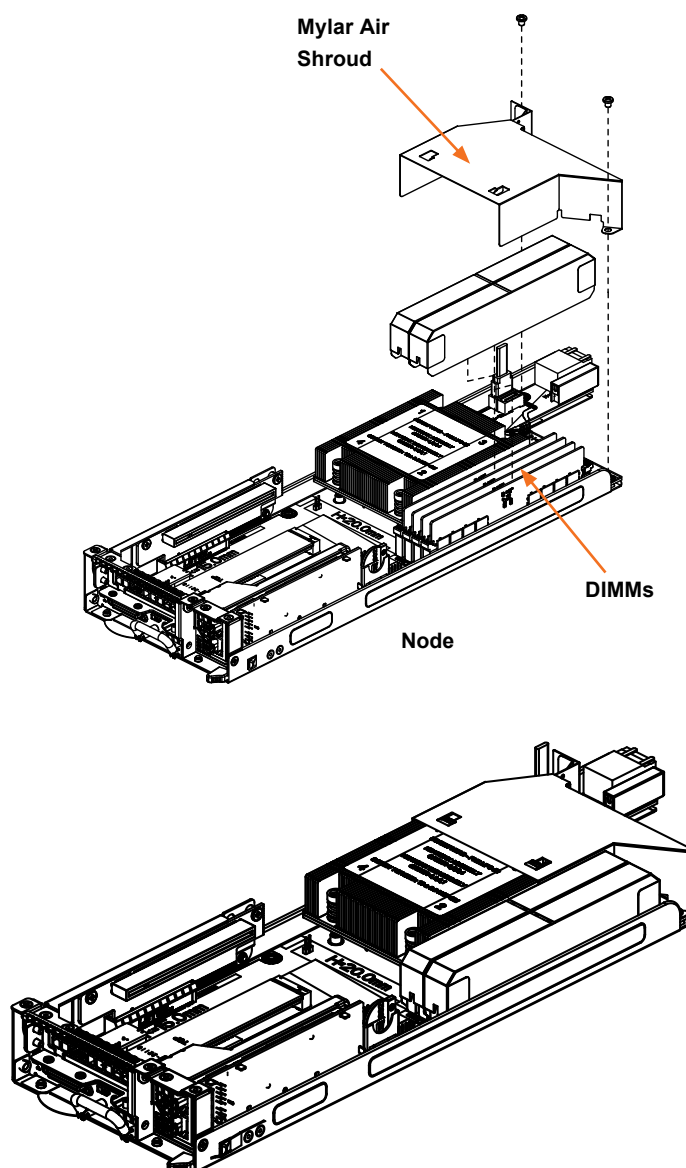
Figure 3-8. Installing the Air Shroud

Power Supply

The chassis features redundant power supplies. They are hot-swappable, meaning they can be changed without powering down the system. New units can be ordered directly from Supermicro or authorized distributors.

These power supplies are auto-switching capable. This feature enables them to automatically sense the input voltage and operate at a 100-120 V or 180-240 V. An amber light will be illuminated on the power supply when the power is off. An illuminated green light indicates that the power supply is operating.

Changing the Power Supply

1. With the system running, unplug the AC power cord that provide power to the failed module.

2. Press and hold the release tab on the front, top of the power module.

3. Grasp the handle and pull the power supply out of its bay.

4. Push the replacement power supply module into the empty bay until it clicks into the locked position.

5. Plug the AC power cord back into the power supply module.

Release Tab
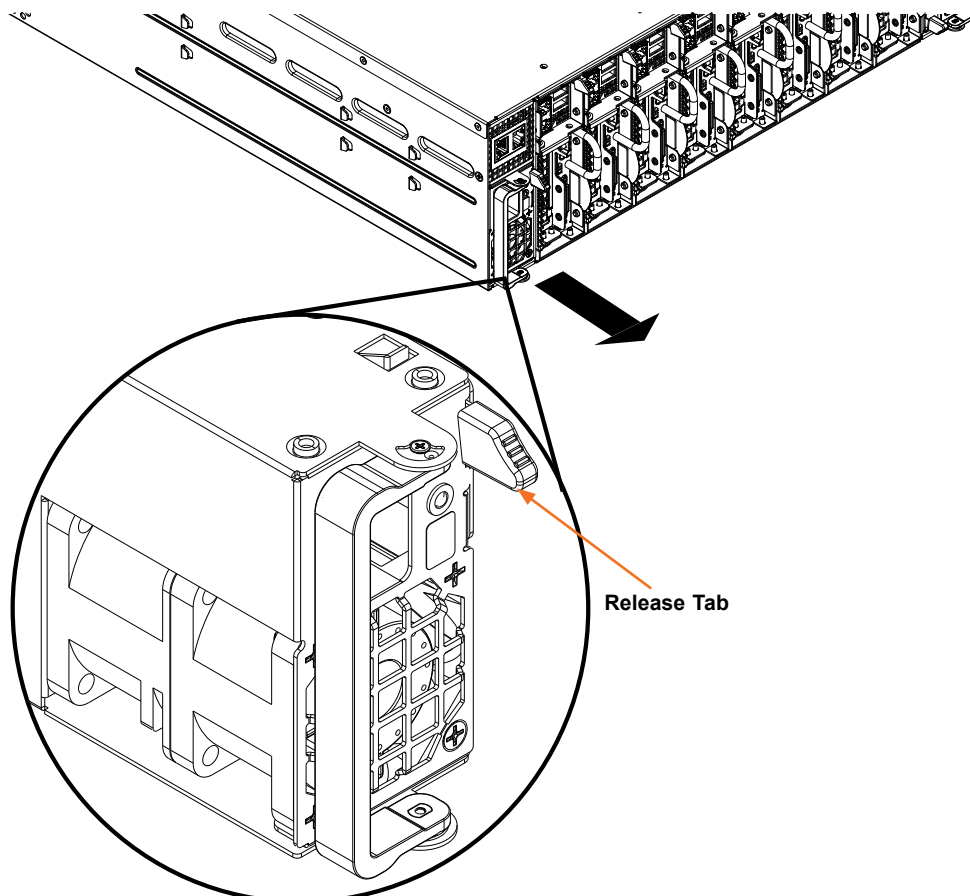
Figure 3-9. Replacing a Power Supply Module

3.8 BMC

The BMC can be reset using the button on the front control panel or on the chassis rear.

- Reset—Press and hold the button. After six seconds, the LED blinks at 2 Hz. The BMC resets and the reset duration is ~250 ms. Then the BMC starts to boot.

- Restore factory default configuration—Hold the button for twelve seconds. The LED blinks at 4 Hz while defaults are configured.

- Firmware update—the UID LED blinks at 10 Hz during a firmware update.

BMC Reset Options	
Event	**LED (Green)**
Reset	Blinks at 2 Hz
Restore Defaults	Blinks at 4 Hz
Update	Blinks at 10 Hz

Chapter 4

Motherboard Connections

This section describes the connections on the motherboard and provides pinout definitions. Note that depending on how the system is configured, not all connections are required. The LEDs on the motherboard are also described here. A motherboard layout indicating component locations may be found in Chapter 1. More detail can be found in the Motherboard Manual

Please review the Safety Precautions in Appendix A before installing or removing components.

4.1 Power Connections

JPWR1 is the 12V input power connector for the backplane power connector. This connection is made automatically when inserting the node into the system.

4.2 Headers and Connectors

TPM/Port 80 Header

The JTPM1 header is used to connect a Trusted Platform Module (TPM)/Port 80, which is available from Supermicro (optional). A TPM/Port 80 connector is a security device that supports encryption and authentication in storage drives. It allows the motherboard to deny access if the TPM associated with the drive is not installed in the system. For more information on TPM go to http://www.supermicro.com/manuals/other/TPM.pdf.

Trusted Platform Module Header Pin Definitions			
Pin#	Definition	Pin#	Definition
1	+3.3V	2	SPI_CS#
3	RESET#	4	SPI_MISO
5	SPI_CLK	6	GND
7	SPI_MOSI	8	NC
9	+3.3V Stdby	10	SPI_IRQ#

SGPIO Header

There is one Serial Link General Purpose Input/Output (S-SGPIO1) header on the motherboard. S-SGPIO is for sSATA use. Refer to the table below for pin definitions.

SGPIO Header Pin Definitions			
Pin#	Definition	Pin#	Definition
1	NC	2	NC
3	Ground	4	Data
5	Load	6	Ground
7	Clock	8	NC

NC = No Connection

SAS Ports

The X13SCD-F has two Serial Attached SCSI (SAS) ports. Set J1 to pins 1-2 to use these ports as onboard SATA or pins 2-3 as AOC SAS.

M.2 Slots

The motherboard has two M.2 slots (JMD1, JMD2). M.2 allows for a variety of card sizes, increased functionality, and spatial efficiency. JMD1 supports SSD cards in the 2242/2280 form factors and JMD2 supports cards in the 2242/2280/22110 form factors.

4.3 Input/Output Ports

See the figure below for the locations and descriptions of the I/O ports on the rear of the motherboard.
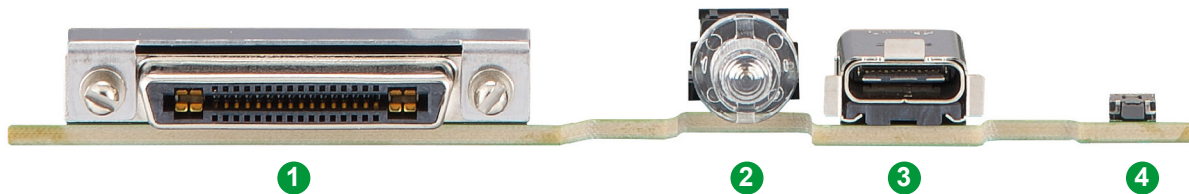
Figure 4-1. I/O Ports

Rear Panel I/O Ports	
Item	Description
1.	KVM Connector
2.	Power Switch, Power LED
3.	USB 3.2 Type C
4.	Unit Identifier Button

KVM Connector

The Keyboard, Video, and Mouse (KVM) connector at JKVM1 supports a set of keyboard, monitor, and mouse to control multiple computers. It also provides two USB 2.0 connections (USB0/1), one serial connection (COM1), and a VGA connection (VGA).

Power Switch, Power LED

Press the button at SW1 to power on the motherboard. This button can also power off the motherboard instantly or when held for four seconds. The settings for this button can be configured with the Power Button Function feature in the UEFI BIOS.

USB 3.2 Type-C Connector

There is one USB 3.2 Type C connector on the rear I/O panel. This port provides access to USB2.

Unit Identifier Switch (JUIDB1)

A Unit Identifier (UID) switch and two LED Indicators are located on the motherboard. The UID switch is located next to the VGA port on the back panel and serves two functions, as shown below.

Unit Identifier Switch			
Function	**User Input**	**Behavior**	**Activity**
UID LED Indicator	Push Once	Turns on the UID LED	UID LED turns solid blue
	Push Again	Turns off the UID LED	UID LED turns off
BMC Reset	Push and hold for 6 seconds	BMC will do a cold boot	BMC Hearbeat LED turns solid green
	Push and hold for 12 seconds	BMC will reset to factory default	BMC Hearbeat LED turns solid green

Note: After pushing and holding the UID switch for 12 seconds, all BMC settings including username and password will revert back to the factory default. Only the network settings and FRU are retained.

UID LED Pin Definitions	
Color	**Status**
Blue: On	Unit Identified

UID Switch Pin Definitions	
Pin#	**Definition**
1	Button In
2	Ground
G1	Ground
G2	Ground

4.4 Jumpers

Explanation of Jumpers

To modify the operation of the motherboard, jumpers are used to choose between optional settings. Jumpers create shorts between two pins to change the function associated with it. Pin 1 is identified with a square solder pad on the printed circuit board. See the motherboard layout page for jumper locations.

Note: On a two-pin jumper, "Closed" means the jumper is on both pins and "Open" indicates the jumper is either on only one pin or has been completely removed.
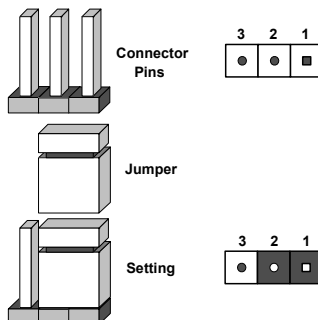
CMOS Clear

JBT1 is used to clear CMOS, which will also clear any passwords. Instead of pins, this jumper consists of contact pads to prevent accidentally clearing the contents of CMOS.

To Clear CMOS

1. First power down the system and unplug the power cord(s).

2. Remove the cover of the chassis to access the motherboard and remove the battery from the motherboard.

3. Short the CMOS pads with a metal object such as a small screwdriver for at least four seconds.

4. Remove the screwdriver (or shorting device).

5. Replace the cover, reconnect the power cord(s), and power on the system.

Notes: Clearing CMOS will also clear all passwords. Do not use the PW_ON connector to clear CMOS.

Watch Dog Timer

Watchdog (JWD1) is a system monitor that can reboot the system when a software application hangs. Close pins 1-2 to reset the system if an application hangs. Close pins 2-3 to generate a non-maskable interrupt (NMI) signal for the application that hangs. The Watchdog must also be enabled in the BIOS.

Watch Dog Jumper Settings	
Jumper Setting	**Definition**
Pins 1-2	Reset (Default)
Pins 2-3	NMI
Open	Disabled

TPM Enable

Use JPT1 to enable or disable the onboard TPM2.0.

TPM Enable/Disable Jumper Settings	
Jumper Setting	**Definition**
Pins 1-2	Enabled (Default)
Pins 2-3	Disabled

SATA/SAS Select

Set J1 to pins 1-2 to use these ports as onboard SATA or pins 2-3 as AOC SAS.

SATA/SAS Mode Select Jumper Settings	
Jumper Setting	**Definition**
Pins 1-2	Onboard SATA
Pins 2-3	AOC SAS

IPMI Share LAN Enable/Disable

Set the JBM1 jumper to enabled to share the LAN with IPMI.

IPMI Share LAN Enable/Disable Jumper Settings	
Jumper Setting	**Definition**
Pins 1-2 (Open)	Enabled (Default)
Pins 1-2 (Short)	Disabled

ME Manufacturing Mode

Close pins 2-3 of jumper JPME2 to bypass SPI flash security and force the system to operate in the manufacturing mode, which allows you to flash the system firmware from a host server for system setting modifications.

ME Manufacturing Mode Jumper Settings	
Jumper Setting	Definition
Pins 1-2	Normal (Default)
Pins 2-3	Manufacturing Mode

VGA Enable/Disable

Jumper JPG1 allows you to enable the onboard VGA connector. The default setting is pins 1-2 to enable the connection.

VGA Enable/Disable Jumper Settings	
Jumper Setting	Definition
Pins 1-2	Enabled (Default)
Pins 2-3	Disabled

CPU Throttle When PWR_Fail

The JPO1 jumper can enable the CPU Throttle mechanism to protect the CPU from damage due to excessive heat. This is a safeguard to prevent damage to the system. When an overheating condition occurs, thermal throttling kicks in. Three options are available to handle overheating: Power off, CPU Throttle - decrease CPU frequency to the minimum (800 Mhz), and Performance - do nothing.

CPU Throttle When PWR_Fail Jumper Settings	
Jumper Setting	Definition
Pins 1-2	Enabled
Pins 2-3	Disabled

4.5 LED Indicators

OH/Power Fail/Fan Fail LED

LED2 is the Overheat, Power Fail, and Fan Fail LED.

OH/Power Fail/Fan Fail LED	
LED Color	**Definition**
Blinking Red	Power Fail or Fan Fail
Solid Red	Overheat

BMC Heartbeat LED

LEDM1 is the BMC Heartbeat LED. When the LED is blinking green, BMC is working.

BMC Heartbeat LED	
LED Color	**Definition**
Blinking Green	BMC Normal

Chapter 5

Software

After the hardware has been installed, you can install the Operating System (OS), configure RAID settings and install the drivers.

5.1 Microsoft Windows OS Installation

If you will be using RAID, you must configure RAID settings before installing the Windows OS and the RAID driver. Refer to the RAID Configuration User Guides posted on our website at www.supermicro.com/support/manuals.

Installing the OS

1. Create a method to access the MS Windows installation ISO file. That might be a USB flash or media drive, or the BMC KVM console.

2. Go to the Supermicro web page for your motherboard and click on "Download the Latest Drivers and Utilities", select the proper driver, and copy it to a USB flash drive.

3. Boot from a bootable device with Windows OS installation. You can see a bootable device list by pressing **F11** during the system startup.
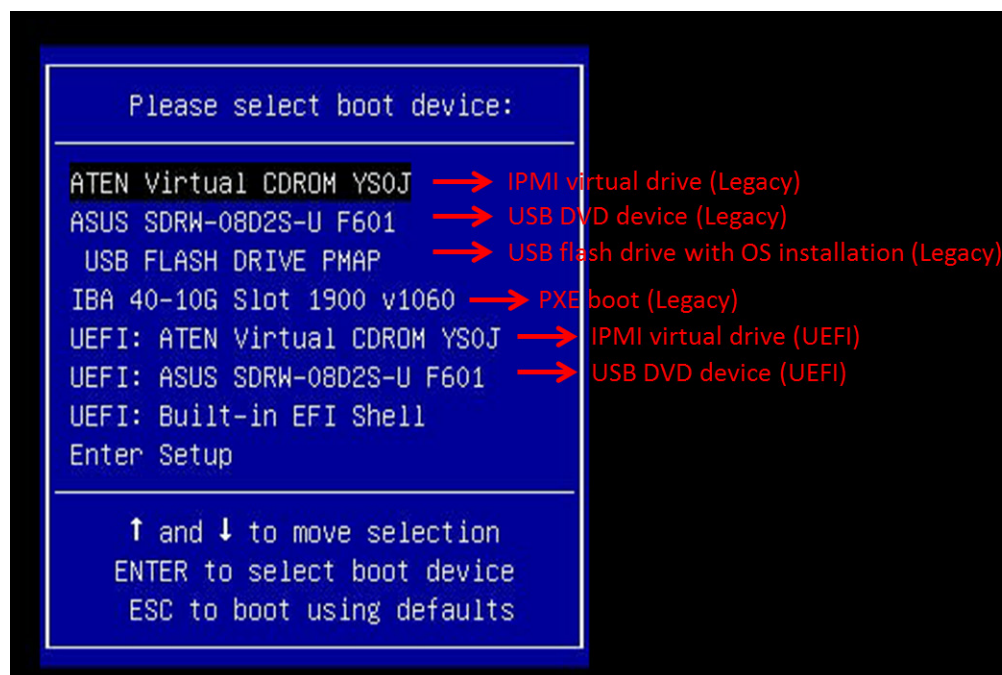
Figure 5-1. Select Boot Device

4. During Windows Setup, continue to the dialog where you select the drives on which to install Windows. If the disk you want to use is not listed, click on "Load driver" link at the bottom left corner.
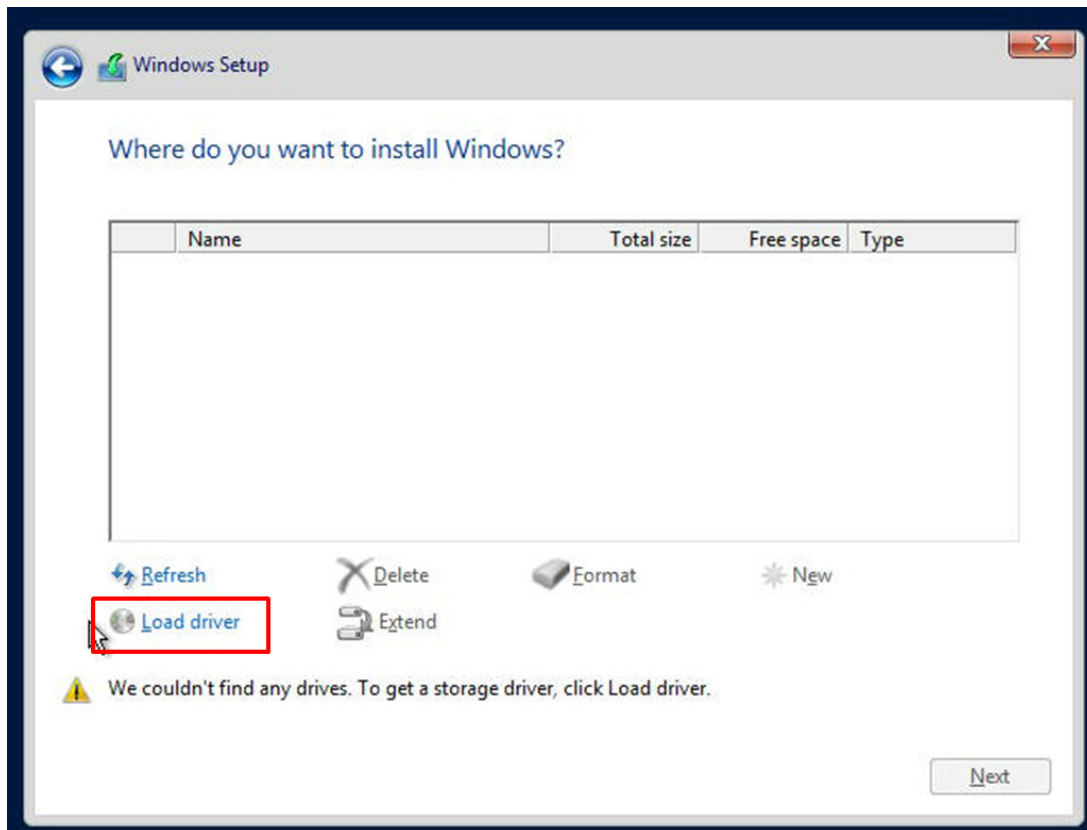
Figure 5-2. Load Driver Link

To load the driver, browse the USB flash drive for the proper driver files.

- For RAID, choose the SATA/sSATA RAID driver indicated then choose the storage drive on which you want to install it.

- For non-RAID, choose the SATA/sSATA AHCI driver indicated then choose the storage drive on which you want to install it.

5. Once all devices are specified, continue with the installation.

6. After the Windows OS installation has completed, the system will automatically reboot multiple times.

5.2 Driver Installation

The Supermicro website contains drivers and utilities for your system at https://www. supermicro.com/wdl/driver. Some of these must be installed, such as the chipset driver.

After accessing the website, go into the CDR_Images (in the parent directory of the above link) and locate the ISO file for your motherboard. Download this file to a USB flash or media drive. (You may also use a utility to extract the ISO file if preferred.)

Another option is to go to the Supermicro website at http://www.supermicro.com/products/. Find the product page for your motherboard, and "Download the Latest Drivers and Utilities".

Insert the flash drive or disk and the screenshot shown below should appear.
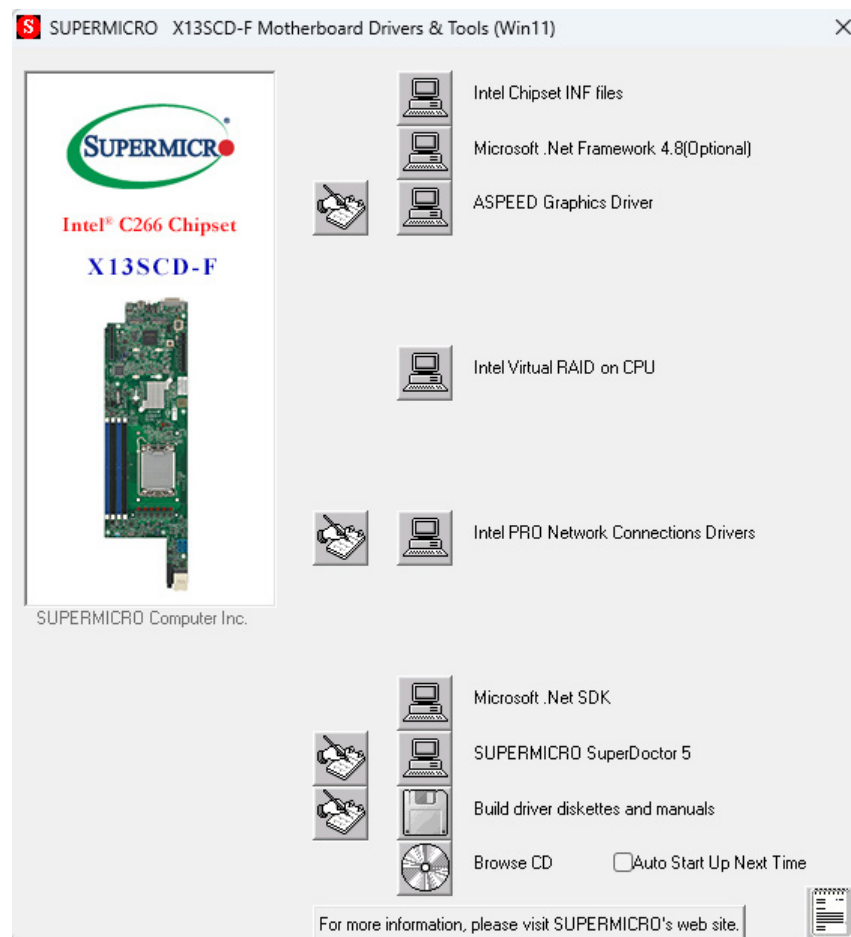
Figure 5-3. Driver & Tool Installation Screen

Note: Click the icons showing a hand writing on paper to view the readme files for each item. Click the computer icons to the right of these items to install each item (from top to the bottom) one at a time. **After installing each item, you must re-boot the system before moving on to the next item on the list.** The bottom icon with a CD on it allows you to view the entire contents.

5.3 SuperDoctor® 5

The Supermicro SuperDoctor 5 is a program that functions in a command-line or web-based interface for Windows and Linux operating systems. The program monitors such system health information as CPU temperature, system voltages, system power consumption, fan speed, and provides alerts via email or Simple Network Management Protocol (SNMP).

SuperDoctor 5 comes in local and remote management versions and can be used with Nagios to maximize your system monitoring needs. With SuperDoctor 5 Management Server (SSM Server), you can remotely control power on/off and reset chassis intrusion for multiple systems with SuperDoctor 5 or BMC. SuperDoctor 5 Management Server monitors HTTP, FTP, and SMTP services to optimize the efficiency of your operation.
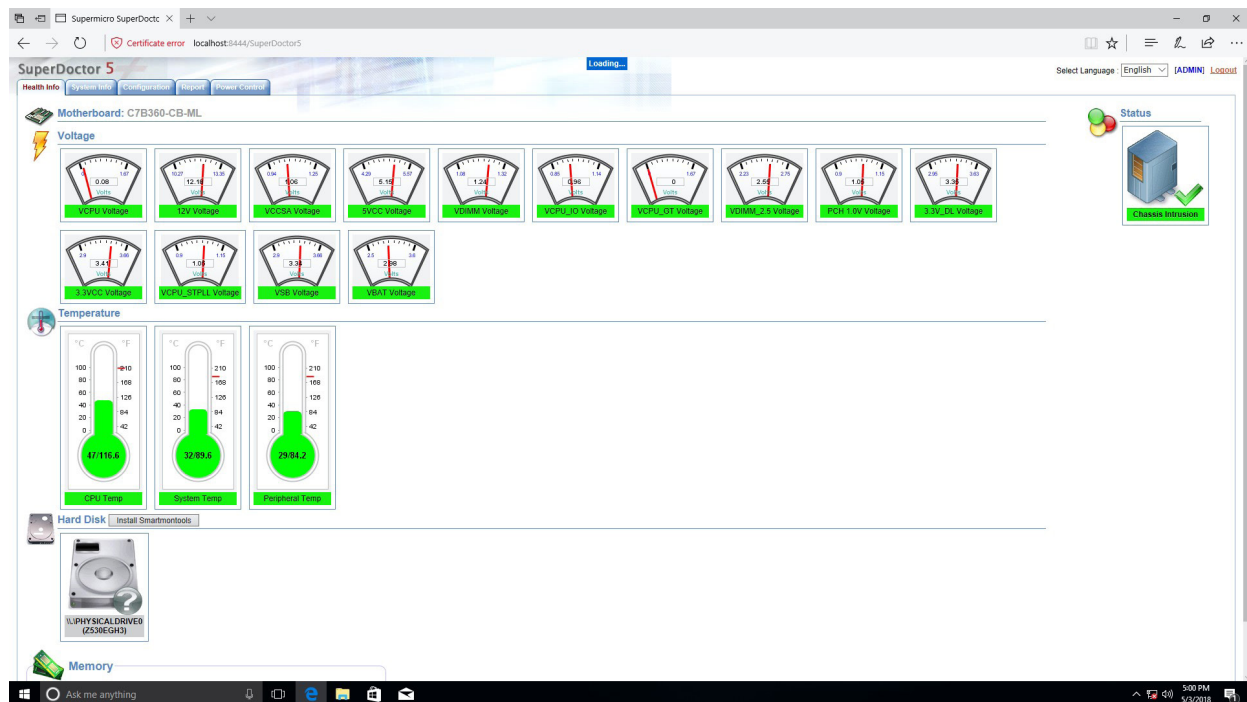
Figure 5-4. SuperDoctor 5 Interface Display Screen (Health Information)

5.4 BMC

The X13SCD-F provides remote access, monitoring and management through the baseboard management controller (BMC) and other management controllers distributed among different system modules. There are several BIOS settings that are related to BMC. For general documentation and information on BMC, visit our website at:

www.supermicro.com/en/solutions/management-software/bmc-resources

BMC ADMIN User Password

For security, each system is assigned a unique default BMC password for the ADMIN user. This can be found on a sticker on the chassis and a sticker on the motherboard. The sticker also displays the BMC MAC address.

Figure 5-5. BMC Password Label

See Chapter 1 for label location.

Chapter 6

Optional Components

This chapter describes optional system components and installation procedures.

6.1 Optional Parts List

Optional Parts List	
Description	**Part Number**
Cable for AOC-S3908L-H8iR-16DD	CBL-SAST-1230T4S1-100
Cable for AOC-S3008L-L8i	CBL-SAST-0616
Black Gen 6 hot-swap 3.5"-to-2.5" HDD tray	MCP-220-93801-0B
Black Gen 6.5 hot-swap 3.5"-to-2.5" tool-less drive tray	MCP-220-00158-0B
Mylar air shroud for GPU on MicroCloud 938NH	MCP-310-93807-0B
GPU Cards	GPU-IATS-M75
	GPU-NVQT1000
	GPU-NVA2-NC
	GPU-NVTT4
	GPU-NVL4
Network Cards	AOC-S25GC-i2S
	AOC-S100G-M2C-O
	AOC-CTGS-i2T
	AOC-CGP-I2
	AOC-CTG-b2T
	AOC-CTG-i2S
Storage Controller Cards	AOC-S3908L-H8iR-16DD
	AOC-S3808L-L8IT-P
	AOC-SLG3-2M2-P
	AOC-SLG4-2H8M2-P
Software	SFT-DCMS-Single
	OSNBD3/2/1
	OS4HR3/2/1

Chapter 7

Troubleshooting and Support

7.1 Information Resources

Website

A great deal of information is available on the Supermicro website, supermicro.com.
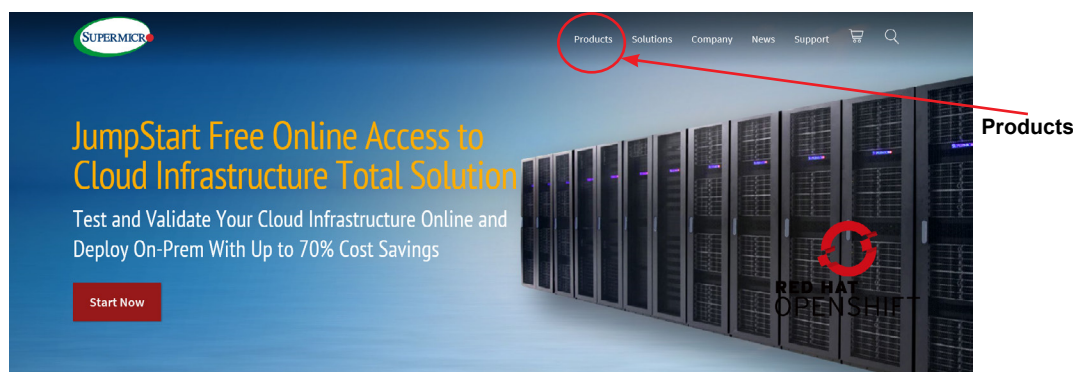
Figure 7-1. Supermicro Website

- Specifications for servers and other hardware are available by clicking the menu icon, then selecting the **Products** option.

- The **Support** option offers downloads (manuals, BIOS/BMC, drivers, etc.), FAQs, RMA, warranty, and other service extensions.

Direct Links for the SYS-531MC-H8TNR/SYS-531MC-H8TNR-NODE System

SYS-531MC-H8TNR server page

X13SCD-F motherboard page for links to the Quick Reference Guide, User Manual, validated storage drives, etc.

Direct Links for General Support and Information

Frequently Asked Questions

Add-on card descriptions

TPM User Guide

SuperDoctor5 Large Deployment Guide

For validated memory, see our Product Resources page

Direct Links (continued)

Product Matrices page for links to tables summarizing specs for systems, motherboards, power supplies, riser cards, add-on cards, etc.

Security Center for recent security notices

Supermicro Phone and Addresses

7.2 Baseboard Management Controller Interface

The system supports the Baseboard Management interface. BMC is used to provide remote access, monitoring and management. There are several BIOS settings that are related to BMC.
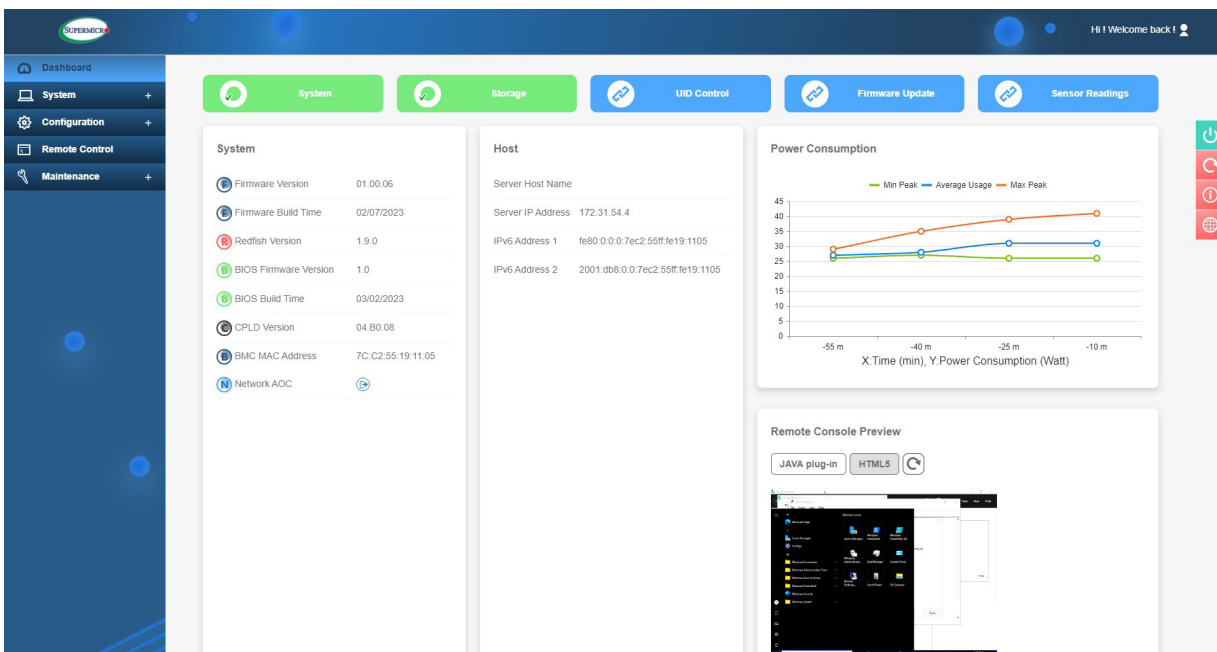

Figure 7-2. BMC Interface: Dashboard View
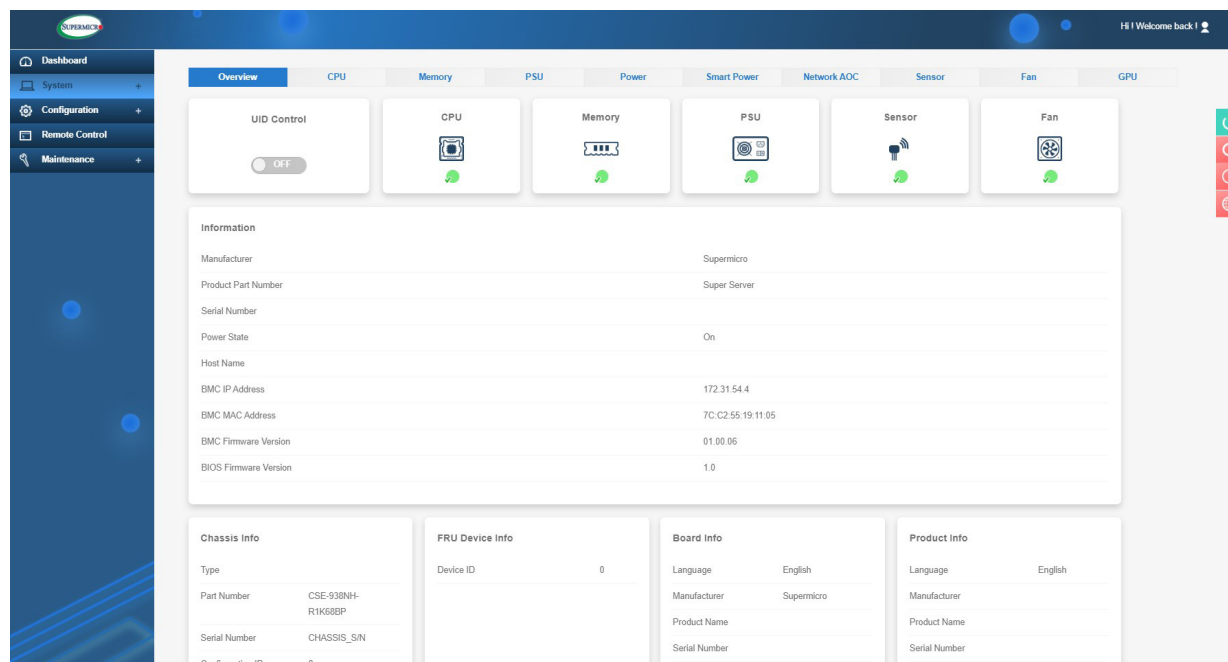
Figure 7-3. BMC Interface: System View
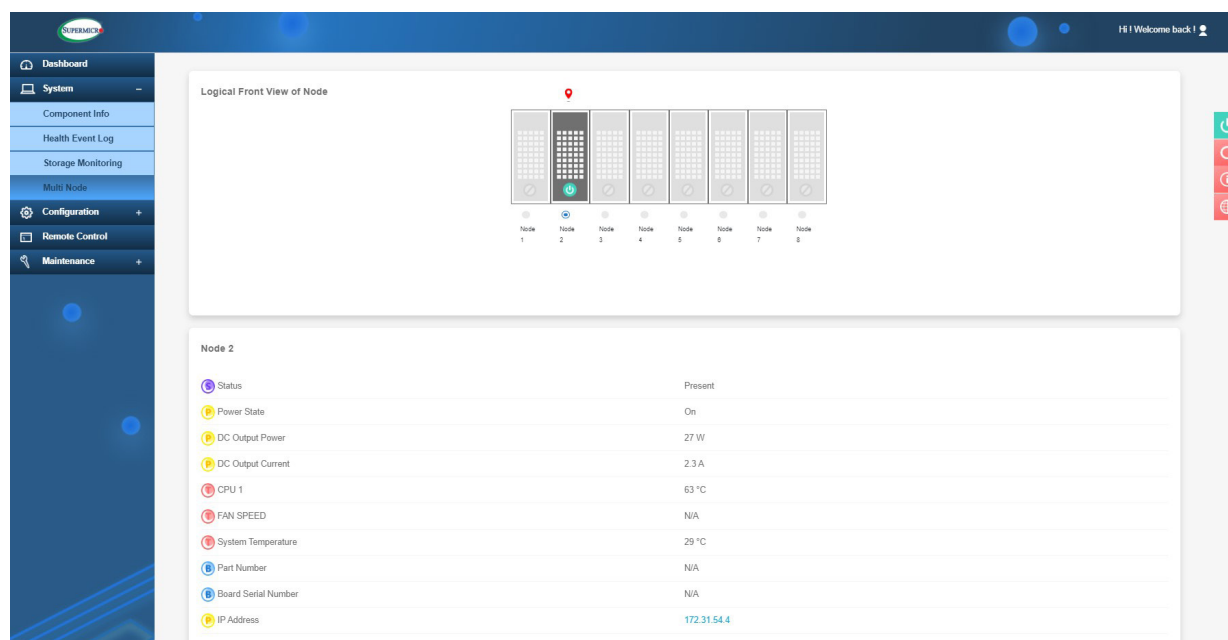
Figure 7-4. BMC Interface: Multi Node View

7.3 Troubleshooting Procedures

Use the following procedures to troubleshoot your system. If you have followed all of the procedures below and still need assistance, refer to the Technical Support Procedures or Returning Merchandise for Service section(s) in this chapter. Power down the system before changing any non hot-swap hardware components.

No Power

1. As you try to power up the system, note any beep codes. The AMI BIOS supplies additional checkpoint codes, which are documented online at http://www.supermicro.com/support/manuals/ ("AMI BIOS POST Codes User's Guide").

2. Make sure that the power connector is connected to your power supply.

3. Make sure that no short circuits exist between the motherboard and chassis.

4. Disconnect all cables from the motherboard, including those for the keyboard and mouse.

5. Remove all add-on cards.

6. Install a CPU, a heatsink, connect the internal speaker (if applicable), and the power LED to the motherboard. Make sure that the heatsink is fully seated.

7. Verify that all jumpers are set to their default positions.

8. Check that the power supplies' input voltage operate at 100-120 VAC or 180-240 VAC.

9. Turn the power switch on and off to test the system

No Video

1. If the power is on but you have no video, remove all the add-on cards and cables.

2. As you try to power up the system, note any beep codes. Refer to the next section for details on beep codes.

System Boot Failure

If the system does not display POST (Power-On-Self-Test) or does not respond after the power is turned on, check the following:

Turn on the system with only one DIMM module installed. If the system boots, check for bad DIMM modules or slots by following the Memory Errors Troubleshooting procedure below.

Memory Errors

1. Make sure that the DIMM modules are properly and fully installed.

2. Confirm that you are using the correct memory. Also, it is recommended that you use the same memory type and speed for all DIMMs in the system. See the memory section for details.

3. Check for bad DIMM modules or slots by swapping modules between slots and noting the results.

4. Check the power supply voltage 115 V/230 V switch.

Losing the System's Setup Configuration

1. Always replace power supplies with the exact same model that came with the system. A poor quality power supply may cause the system to lose the CMOS setup configuration.

2. The battery on your motherboard may be old. Check to verify that it still supplies approximately 3 VDC. If it does not, replace it with a new one.

3. If the above steps do not fix the setup configuration problem, contact your vendor for repairs.

If the System Becomes Unstable

If the system becomes unstable during or after OS installation, check the following:

1. CPU/BIOS support: Make sure that your CPU is supported and that you have the latest BIOS installed in your system.

2. Memory support: Make sure that the memory modules are supported by testing the modules using memtest86 or a similar utility.

   Note: Refer to the product page on our website at http://www.supermicro.com for memory and CPU support and updates.

3. Storage drive support: Make sure that all storage drives work properly. Replace any bad drives with good ones.

4. System cooling: Check the system cooling to make sure that all heatsink fans and CPU/ system fans, etc., work properly. Check the hardware monitoring settings in the BMC to make sure that the CPU and system temperatures are within the normal range. Also check the front panel Overheat LED and make sure that it is not on.

5. Adequate power supply: Make sure that the power supply provides adequate power to the system. Make sure that all power connectors are connected. Please refer to our website for more information on the minimum power requirements.

6. Proper software support: Make sure that the correct drivers are used.

If the system becomes unstable before or during OS installation, check the following:

1. Source of installation: Make sure that the devices used for installation are working properly, including boot devices such as CD.

2. Cable connection: Check to make sure that all cables are connected and working properly.

3. Using the minimum configuration for troubleshooting: Remove all unnecessary components (starting with add-on cards first), and use the minimum configuration (but with a CPU and a memory module installed) to identify the trouble areas. Refer to the steps listed in Section A above for proper troubleshooting procedures.

4. Identifying bad components by isolating them: If necessary, remove a component in question from the chassis, and test it in isolation to make sure that it works properly. Replace a bad component with a good one.

5. Check and change one component at a time instead of changing several items at the same time. This will help isolate and identify the problem.

6. To find out if a component is good, swap this component with a new one to see if the system will work properly. If so, then the old component is bad. You can also install the component in question in another system. If the new system works, the component is good and the old system has problems.

7.4 BIOS Error Beep (POST) Codes

During the POST (Power-On Self-Test) routines, which are performed each time the system is powered on, errors may occur.

Non-fatal errors are those which, in most cases, allow the system to continue the boot-up process. The error messages normally appear on the screen.

Fatal errors are those which will not allow the system to continue the boot-up procedure. If a fatal error occurs, you should consult with your system manufacturer for possible repairs.

These fatal errors are usually communicated through a series of audible beeps. The table below lists some common errors and their corresponding beep codes encountered by users.

BIOS Error Beep (POST) Codes		
Beep Code	**Error Message**	**Description**
1 short	Refresh	Circuits have been reset (Ready to power up)
5 short, 1 long	Memory error	No memory detected in system
5 long, 2 short	Display memory read/write error	Video adapter missing or with faulty memory
1 long continuous	System OH	System overheat condition

Additional BIOS POST Codes

The AMI BIOS supplies additional checkpoint codes, which are documented online at http://www.supermicro.com/support/manuals/ ("AMI BIOS POST Codes User's Guide").

When BIOS performs the Power On Self Test, it writes checkpoint codes to I/O port 0080h. If the computer cannot complete the boot process, a diagnostic card can be attached to the computer to read I/O port 0080h (Supermicro p/n AOC-LPC80-20).

For information on AMI updates, please refer to http://www.ami.com/products/.

7.5 Crash Dump Using BMC

In the event of a processor internal error (IERR) that crashes your system, you may want to provide information to support staff. You can download a crash dump of status information using BMC.

Check BMC Error Log

1. Access the BMC web interface.

2. Click the **Server Health** tab, then **Event Log** to verify an IERR error.
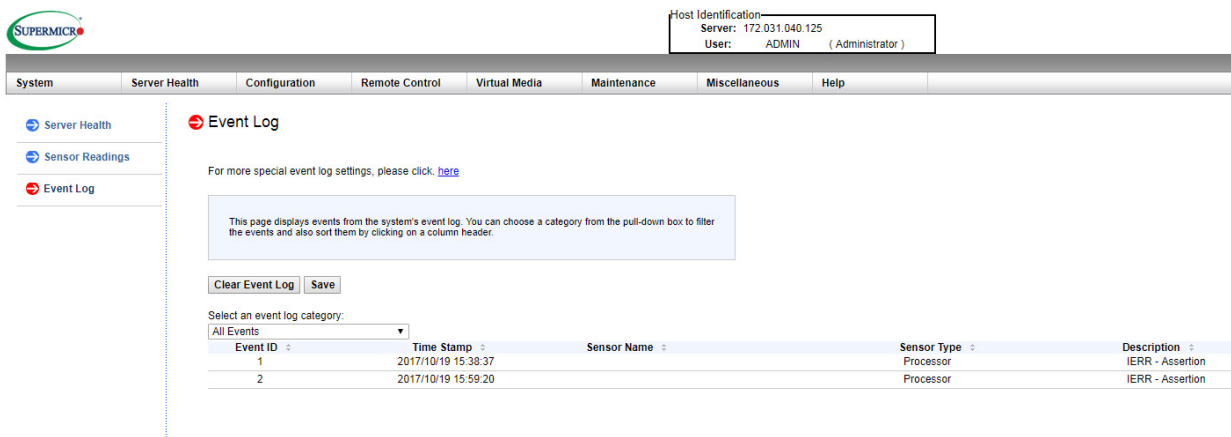
Figure 7-5. BMC Event Log

In the event of an IERR, the BMC executes a crash dump. You must download the crash dump and save it.

7.6 UEFI BIOS Recovery

Warning: Do not upgrade the BIOS unless your system has a BIOS-related issue. Flashing the wrong BIOS can cause irreparable damage to the system. In no event shall Supermicro be liable for direct, indirect, special, incidental, or consequential damages arising from a BIOS update. If you do update the BIOS, do not shut down or reset the system while the BIOS is updating to avoid possible boot failure.

Overview

The Unified Extensible Firmware Interface (UEFI) provides a software-based interface between the operating system and the platform firmware in the pre-boot environment. The UEFI specification supports an architecture-independent mechanism that will allow the UEFI OS loader stored in an add-on card to boot the system. The UEFI offers clean, hands-off management to a computer during system boot.

Recovering the UEFI BIOS Image

A UEFI BIOS flash chip consists of a recovery BIOS block and a main BIOS block (a main BIOS image). The recovery block contains critical BIOS codes, including memory detection and recovery codes for the user to flash a healthy BIOS image if the original main BIOS image is corrupted. When the system power is turned on, the recovery block codes execute first. Once this process is complete, the main BIOS code will continue with system initialization and the remaining POST (Power-On Self-Test) routines.

Note 1: Follow the BIOS recovery instructions below for BIOS recovery when the main BIOS block crashes.

Note 2: When the BIOS recovery block crashes, you will need to follow the procedures to make a Returned Merchandise Authorization (RMA) request. Also, you may use the Supermicro Update Manager (SUM) Out-of-Band (https://www.supermicro.com.tw/products/nfo/SMS_SUM.cfm) to reflash the BIOS.

Recovering the Main BIOS Block with a USB Device

This feature allows the user to recover the main BIOS image using a USB-attached device without additional utilities used. A USB flash device such as a USB Flash Drive, or a USB CD/DVD ROM/RW device can be used for this purpose. However, a USB storage drive cannot be used for BIOS recovery at this time.

The file system supported by the recovery block is FAT (including FAT12, FAT16, and FAT32) which is installed on a bootable or non-bootable USB-attached device. However, the BIOS might need several minutes to locate the SUPER.ROM file if the media size becomes too large due to the huge volumes of folders and files stored in the device.

To perform UEFI BIOS recovery using a USB-attached device, follow the instructions below.

1. Using a different machine, copy the "Super.ROM" binary image file into the Root "\" directory of a USB device or a writable CD/DVD.

   Note 1: If you cannot locate the "Super.ROM" file in your drive disk, visit our website at www.supermicro.com to download the BIOS package. Extract the BIOS binary image into a USB flash device and rename it "Super.ROM" for the BIOS recovery use.

   Note 2: Before recovering the main BIOS image, confirm that the "Super.ROM" binary image file you download is the same version or a close version meant for your motherboard.

2. Insert the USB device that contains the new BIOS image ("Super.ROM") into your USB drive and reset the system when the following screen appears.

3. After locating the healthy BIOS binary image, the system will enter the BIOS Recovery menu as shown below.

Note: At this point, you may decide if you want to start the BIOS recovery. If you decide to proceed with BIOS recovery, follow the procedures below.
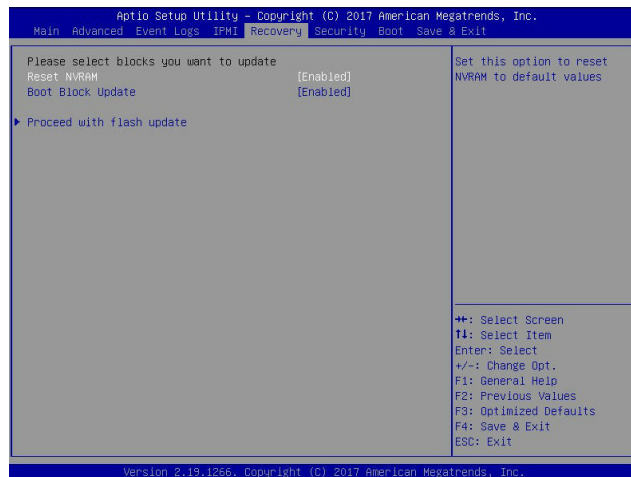
4. When the screen as shown above displays, use the arrow keys to select the item "Proceed with flash update" and press the <Enter> key. You will see the BIOS recovery progress as shown in the screen below.

   Note: _Do not interrupt the BIOS flashing process until it has completed_.

5. After the BIOS recovery process is complete, press any key to reboot the system.

6. Using a different system, extract the BIOS package into a USB flash drive.
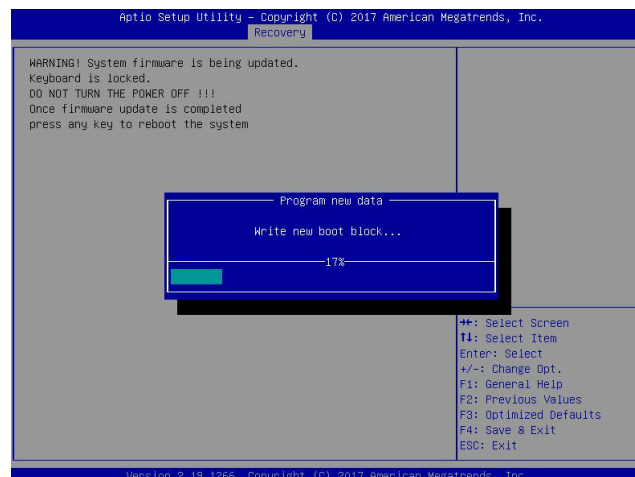
7. Press <Del> continuously during system boot to enter the BIOS Setup utility. From the top of the tool bar, select Boot to enter the submenu. From the submenu list, select Boot
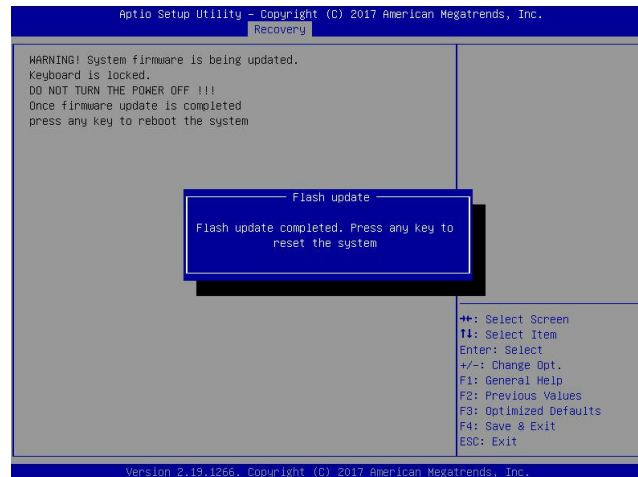
Option #1 as shown below. Then, set Boot Option #1 to [UEFI AP:UEFI: Built-in EFI Shell]. Press <F4> to save the settings and exit the BIOS Setup utility.

8. When the UEFI Shell prompt appears, type fs# to change the device directory path. Go to the directory that contains the BIOS package you extracted earlier from Step 6. Enter flash.nsh BIOSname.### at the prompt to start the BIOS update process.
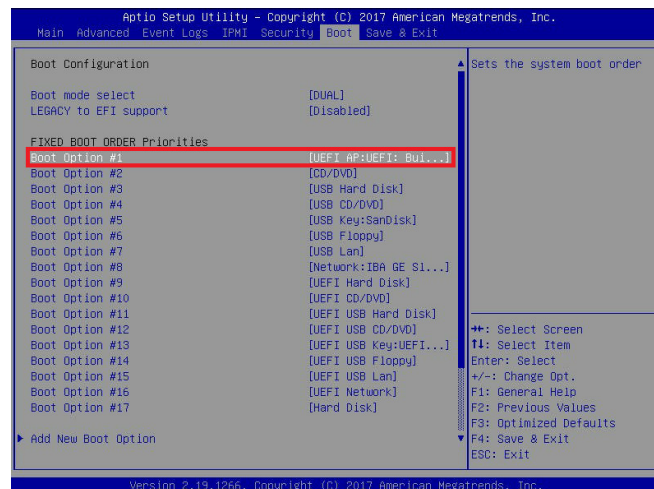
Note: *Do not interrupt this process* until the BIOS flashing is complete.

9. The screen above indicates that the BIOS update process is complete. When you see the screen above, unplug the AC power cable from the power supply, clear CMOS, and plug

the AC power cable in the power supply again to power on the system.

10. Press <Del> continuously to enter the BIOS Setup utility.

11. Press <F3> to load the default settings.

12. After loading the default settings, press <F4> to save the settings and exit the BIOS Setup utility.

7.7 CMOS Clear

JBT1 is used to clear CMOS, which will also clear any passwords. Instead of pins, this jumper consists of contact pads to prevent accidentally clearing the contents of CMOS.

To Clear CMOS

1. First power down the system completely.

2. Remove the cover of the chassis to access the motherboard.

3. Remove the onboard battery from the motherboard.

4. Short the CMOS pads with a metal object such as a small screwdriver for at least four seconds.

5. Remove the screwdriver or shorting device.

6. Replace the cover, reconnect the power cords and power on the system.

Notes: Clearing CMOS will also clear all passwords.

Do not use the PW_ON connector to clear CMOS.

JBT1 contact pads

7.8 Where to Get Replacement Components

If you need replacement parts for your system, to ensure the highest level of professional service and technical support, purchase exclusively from our Supermicro Authorized Distributors/System Integrators/Resellers. A list can be found at: http://www.supermicro.com. Click the "Where to Buy" tab.

7.9 Reporting an Issue

Technical Support Procedures

Before contacting Technical Support, please take the following steps. If your system was purchased through a distributor or reseller, please contact them for troubleshooting services. They have the best knowledge of your specific system configuration.

1. Please review the Troubleshooting Procedures in this manual and Frequently Asked Questions on our website before contacting Technical Support.

2. BIOS upgrades can be downloaded from our website. **Note**: Not all BIOS can be flashed depending on the modifications to the boot block code.

3. If you still cannot resolve the problem, include the following information when contacting us for technical support:

   - System, motherboard, and chassis model numbers and PCB revision number

   - BIOS release date/version (this can be seen on the initial display when your system first boots up)

   - System configuration

An example of a Technical Support form is posted on our website. Distributors: For immediate assistance, please have your account number ready when contacting our technical support department by email.

Returning Merchandise for Service

A receipt or copy of your invoice marked with the date of purchase is required before any warranty service will be rendered. You can obtain service by calling your vendor for a Returned Merchandise Authorization (RMA) number. When returning to the manufacturer, the RMA number should be prominently displayed on the outside of the shipping carton, and mailed prepaid or hand-carried. Shipping and handling charges will be applied for all orders that must be mailed when service is complete.

For faster service, RMA authorizations may be requested online (http://www.supermicro.com/support/rma/).

Whenever possible, repack the chassis in the original Supermicro carton, using the original packaging material. If these are no longer available, be sure to pack the chassis securely, using packaging material to surround the chassis so that it does not shift within the carton and become damaged during shipping.

This warranty only covers normal consumer use and does not cover damages incurred in shipping or from failure due to the alteration, misuse, abuse or improper maintenance of products.

During the warranty period, contact your distributor first for any product problems.

Vendor Support Filing System

For issues related to Intel, use the Intel IPS filing system:

https://www.intel.com/content/www/us/en/design/support/ips/training/welcome.html

For issues related to Red Hat Enterprise Linux, since it is a subscription based OS, contact your account representative.

7.10 Feedback

Supermicro values your feedback as we strive to improve our customer experience in all facets of our business. Please email us at techwriterteam@supermicro.com to provide feedback on our manuals.

7.11 Contacting Supermicro

Headquarters

Address:	Super Micro Computer, Inc.
	980 Rock Ave.
	San Jose, CA 95131 U.S.A.
Tel:	+1 (408) 503-8000
Fax:	+1 (408) 503-8008
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	Sales-USA@supermicro.com (Sales Inquiries)
	Government_Sales-USA@supermicro.com (Gov. Sales Inquiries)
	support@supermicro.com (Technical Support)
	RMA@supermicro.com (RMA Support)
	Webmaster@supermicro.com (Webmaster)
Website:	www.supermicro.com

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Email:	Sales_Europe@supermicro.com (Sales Inquiries)
	Support_Europe@supermicro.com (Technical Support)
	RMA_Europe@supermicro.com (RMA Support)
Website:	www.supermicro.nl

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	Zhonghe Dist., New Taipei City 235
	Taiwan (R.O.C)
Tel:	+886-(2) 8226-3990
Fax:	+886-(2) 8226-3992
Email:	Sales-Asia@supermicro.com.tw (Sales Inquiries)
	Support@supermicro.com.tw (Technical Support)
	RMA@supermicro.com.tw (RMA Support)
Website:	www.supermicro.com.tw

Appendix A

Standardized Warning Statements for AC Systems

About Standardized Warning Statements

The following statements are industry standard warnings, provided to warn the user of situations which have the potential for bodily injury. Should you have questions or experience difficulty, contact Supermicro's Technical Support department for assistance. Only certified technicians should attempt to install or configure components.

Read this appendix in its entirety before installing or configuring components in the Supermicro chassis.

These warnings may also be found on our website at http://www.supermicro.com/about/policies/safety_information.cfm.

Warning Definition

Warning! This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents.

警告の定義

この警告サインは危険を意味します。

人身事故につながる可能性がありますので、いずれの機器でも動作させる前に、

電気回路に含まれる危険性に注意して、標準的な事故防止策に精通して下さい。

此警告符号代表危险。

您正处于可能受到严重伤害的工作环境中。在您使用设备开始工作之前，必须充分意识到触电的危险，并熟练掌握防止事故发生的标准工作程序。请根据每项警告结尾的声明号码找到此设备的安全性警告说明的翻译文本。

此警告符號代表危險。

您正處於可能身體可能會受損傷的工作環境中。在您使用任何設備之前，請注意觸電的危險，並且要熟悉預防事故發生的標準工作程序。請依照每一注意事項後的號碼找到相關的翻譯說明內容。

Warnung

WICHTIGE SICHERHEITSHINWEISE

Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu Verletzungen führen kann. Machen Sie sich vor der Arbeit mit Geräten mit den Gefahren elektrischer Schaltungen und den üblichen Verfahren zur Vorbeugung vor Unfällen vertraut. Suchen Sie mit der am Ende jeder Warnung angegebenen Anweisungsnummer nach der jeweiligen Übersetzung in den übersetzten Sicherheitshinweisen, die zusammen mit diesem Gerät ausgeliefert wurden.

BEWAHREN SIE DIESE HINWEISE GUT AUF.

INSTRUCCIONES IMPORTANTES DE SEGURIDAD

Este símbolo de aviso indica peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considere los riesgos de la corriente eléctrica y familiarícese con los procedimientos estándar de prevención de accidentes. Al final de cada advertencia encontrará el número que le ayudará a encontrar el texto traducido en el apartado de traducciones que acompaña a este dispositivo.

GUARDE ESTAS INSTRUCCIONES.

IMPORTANTES INFORMATIONS DE SÉCURITÉ

Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant entraîner des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers liés aux circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents. Pour prendre connaissance des traductions des avertissements figurant dans les consignes de sécurité traduites qui accompagnent cet appareil, référez-vous au numéro de l'instruction situé à la fin de chaque avertissement.

CONSERVEZ CES INFORMATIONS.

תקנון הצהרות אזהרה

הצהרות הבאות הן אזהרות על פי תקני התעשייה, על מנת להזהיר את המשתמש מפני חבלה פיזית אפשרית. במידה ויש שאלות או היתקלות בבעיה כלשהי, יש ליצור קשר עם מחלקת תמיכה טכנית של סופרמיקרו. טכנאים מוסמכים בלבד רשאים להתקין או להגדיר את הרכיבים. יש לקרוא את הנספח במלואו לפני התקנת או הגדרת הרכיבים במארזי סופרמיקרו.

احذر! خطرٌ عٌ هذا الزهز ةٌ جسذ اصابة ف تتسبب أى وٌي حالة ف اكَ .
الذوائز عي اجوةٌ الٌ بالوخاطز علن على كي،هعذات أي على تعول أى قبل
ةٍ الكهزبائ
حادث أي وقع عٌ لو ةٍ القائ النقاوسات بالووارسات ةٌ درا على وكي
تزجوتها للعشر ذٌ تحذ كل ةٌ هَا ف صٌص الوُ إى الب رقن استخذم

안전을 위한 주의사항

경고!

이 경고 기호는 위험이 있음을 알려 줍니다. 작업자의 신체에 부상을 야기 할 수 있는 상태에 있게 됩니다. 모든 장비에 대한 작업을 수행하기 전에 전기회로와 관련된 위험요소들을 확인하시고 사전에 사고를 방지할 수 있도록 표준 작업절차를 준수해 주시기 바랍니다.

해당 번역문을 찾기 위해 각 경고의 마지막 부분에 제공된 경고문 번호를 참조하십시오

BELANGRIJKE VEILIGHEIDSINSTRUCTIES

Dit waarschuwings symbool betekent gevaar. U verkeert in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij een elektrische installatie betrokken risico's en dient u op de hoogte te zijn van de standaard procedures om ongelukken te voorkomen. Gebruik de nummers aan het eind van elke waarschuwing om deze te herleiden naar de desbetreffende locatie.

BEWAAR DEZE INSTRUCTIES

Installation Instructions

Warning! Read the installation instructions before connecting the system to the power source.

設置手順書
システムを電源に接続する前に、設置手順書をお読み下さい。

警告
将此系统连接电源前,请先阅读安装说明。

警告
將系統與電源連接前,請先閱讀安裝說明。

Warnung

Vor dem Anschließen des Systems an die Stromquelle die Installationsanweisungen lesen.

¡Advertencia!

Lea las instrucciones de instalación antes de conectar el sistema a la red de alimentación.

Attention

Avant de brancher le système sur la source d'alimentation, consulter les directives d'installation.

יש לקרוא את הוראות התקנה לפני חיבור המערכת למקור מתח.

اقر إرشادات التركيب قبل توصيل النظام إلى مصدر للطاقة

시스템을 전원에 연결하기 전에 설치 안내를 읽어주십시오.

Waarschuwing

Raadpleeg de installatie-instructies voordat u het systeem op de voedingsbron aansluit.

Circuit Breaker

Warning! This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 250 V, 20 A.

サーキット・ブレーカー

この製品は、短絡(過電流)保護装置がある建物での設置を前提としています。

保護装置の定格が250 V、20 Aを超えないことを確認下さい。

警告

此产品的短路(过载电流)保护由建筑物的供电系统提供,确保短路保护设备的额定电流不大于250V,20A。

警告

此產品的短路(過載電流)保護由建築物的供電系統提供,確保短路保護設備的額定電流不大於250V,20A。

Warnung

Dieses Produkt ist darauf angewiesen, dass im Gebäude ein Kurzschluss- bzw. Überstromschutz installiert ist. Stellen Sie sicher, dass der Nennwert der Schutzvorrichtung nicht mehr als: 250 V, 20 A beträgt.

¡Advertencia!

Este equipo utiliza el sistema de protección contra cortocircuitos (o sobrecorrientes) del edificio. Asegúrese de que el dispositivo de protección no sea superior a: 250 V, 20 A.

Attention

Pour ce qui est de la protection contre les courts-circuits (surtension), ce produit dépend de l'installation électrique du local. Vérifiez que le courant nominal du dispositif de protection n'est pas supérieur à :250 V, 20 A.

מוצר זה מסתמך על הגנה המותקנת במבנים למניעת קצר חשמלי. יש לוודא כי
המכשיר המגן מפני הקצר החשמלי הוא לא יותר מ-250VDC, 20A

هذا المنتج يعتمد على معداث الحمايت مه الدوائرالقصيرة التي تم تثبيتها في
المبنى
تأكد من أن تقييم الجهاز الوقائي ليس أكثر من : 20A, 250V

경고!
이 제품은 전원의 단락(과전류)방지에 대해서 전적으로 건물의 관련 설비에 의존합니다.
보호장치의 정격이 반드시 250V(볼트), 20A(암페어)를 초과하지 않도록 해야 합니다.

Waarschuwing

Dit product is afhankelijk van de kortsluitbeveiliging (overspanning) van uw electrische installatie. Controleer of het beveiligde aparaat niet groter gedimensioneerd is dan 250V, 20A.

Power Disconnection Warning

Warning! The system must be disconnected from all sources of power and the power cord removed from the power supply module(s) before accessing the chassis interior to install or remove system components (except for hot-swap components).

電源切断の警告

システムコンポーネントの取り付けまたは取り外しのために、シャーシー内部にアクセスするには、システムの電源はすべてのソースから切断され、電源コードは電源モジュールから取り外す必要があります。

警告

在你打开机箱并安装或移除内部器件前,必须将系统完全断电,并移除电源线。

警告

在您打開機殼安裝或移除內部元件前，必須將系統完全斷電，並移除電源線。

Warnung

Das System muss von allen Quellen der Energie und vom Netzanschlusskabel getrennt sein, das von den Spg.Versorgungsteilmodulen entfernt wird, bevor es auf den Chassisinnenraum zurückgreift, um Systemsbestandteile anzubringen oder zu entfernen.

¡Advertencia!

El sistema debe ser disconnected de todas las fuentes de energía y del cable eléctrico quitado de los módulos de fuente de alimentación antes de tener acceso el interior del chasis para instalar o para quitar componentes de sistema.

Attention

Le système doit être débranché de toutes les sources de puissance ainsi que de son cordon d'alimentation secteur avant d'accéder à l'intérieur du chassis pour installer ou enlever des composants de systéme.

אזהרה מפני ניתוק חשמלי
אזהרה!
יש לנתק את המערכת מכל מקורות החשמל ויש להסיר את כבל החשמלי מהספק
לפני גישה לחלק הפנימי של המארז לצורך התקנת או הסרת רכיבים.

يجب فصم اننظاو من جميع مصادر انطاقت وإزانت سهك انكهرباء من وحدة امداد
انطاقت قبم
انصل إنى امناطق انداخهيت نههيكم نتشبيج أو إزانت مكناث الجهاز

경고!
시스템에 부품들을 장착하거나 제거하기 위해서는 섀시 내부에 접근하기 전에 반드시 전원
공급장치로부터 연결되어있는 모든 전원과 전기코드를 분리해주어야 합니다.

Waarschuwing

Voordat u toegang neemt tot het binnenwerk van de behuizing voor het installeren of
verwijderen van systeem onderdelen, dient u alle spanningsbronnen en alle stroomkabels
aangesloten op de voeding(en) van de behuizing te verwijderen

Equipment Installation

Warning! Only authorized personnel and qualified service persons should be allowed
to install, replace, or service this equipment.

機器の設置

トレーニングを受け認定された人だけがこの装置の設置、交換、またはサービスを許可されていま
す。

警告
只有经过培训且具有资格的人员才能进行此设备的安装、更换和维修。

警告
只有經過受訓且具資格人員才可安裝、更換與維修此設備。

Warnung

Nur autorisiertes Personal und qualifizierte Servicetechniker dürfen dieses Gerät installieren,
austauschen oder warten..

¡Advertencia!

Sólo el personal autorizado y el personal de servicio calificado deben poder instalar,
reemplazar o dar servicio a este equipo.

Attention

Seul le personnel autorisé et le personnel de maintenance qualifié doivent être autorisés à installer, remplacer ou entretenir cet équipement..

אזהרה!

יש לאפשר רק צוות מורשה ואנשי שירות מוסמכים להתקין, להחליף או לטפל בציוד זה.

.ينبغي السماح فقط للموظفين المعتمدين وأفراد الخدمة المؤهلين بتركيب هذا الجهاز أو استبداله أو صيانته

경고!

승인된 직원과 자격을 갖춘 서비스 담당자만이 이 장비를 설치, 교체 또는 서비스할 수 있습니다.

Waarschuwing

Alleen geautoriseerd personeel en gekwalificeerd onderhoudspersoneel mag deze apparatuur installeren, vervangen of onderhouden..

Restricted Area

Warning! This unit is intended for installation in restricted access areas. A restricted access area can be accessed only through the use of a special tool, lock and key, or other means of security. (This warning does not apply to workstations).

アクセス制限区域

このユニットは、アクセス制限区域に設置されることを想定しています。

アクセス制限区域は、特別なツール、鍵と錠前、その他のセキュリティの手段を用いてのみ出入りが可能です。

警告
此部件应安装在限制进出的场所，限制进出的场所指只能通过使用特殊工具、锁和钥匙或其它安全手段进出的场所。

警告
此裝置僅限安裝於進出管制區域，進出管制區域係指僅能以特殊工具、鎖頭及鑰匙或其他安全方式才能進入的區域。

Warnung

Diese Einheit ist zur Installation in Bereichen mit beschränktem Zutritt vorgesehen. Der Zutritt zu derartigen Bereichen ist nur mit einem Spezialwerkzeug, Schloss und Schlüssel oder einer sonstigen Sicherheitsvorkehrung möglich.

¡Advertencia!

Esta unidad ha sido diseñada para instalación en áreas de acceso restringido. Sólo puede obtenerse acceso a una de estas áreas mediante la utilización de una herramienta especial, cerradura con llave u otro medio de seguridad.

Attention

Cet appareil doit être installée dans des zones d'accès réservés. L'accès à une zone d'accès réservé n'est possible qu'en utilisant un outil spécial, un mécanisme de verrouillage et une clé, ou tout autre moyen de sécurité.

אזור עם גישה מוגבלת

אזהרה!

יש להתקין את היחידה באזורים שיש בהם הגבלת גישה. הגישה ניתנת בעזרת

כלי אבטחה בלבד)מפתח, מנעול וכד.('

تخصيص هذه انحذة نترك بُها ف مناطق محظورة تم .

مَكن انصل إن منطقت محظورة فقط من خلال استخذاو أداة خاصت،

أو أ وس هُت أخري نلالأمما ققم ومفتاح

경고!

이 장치는 접근이 제한된 구역에 설치하도록 되어있습니다. 특수도구, 잠금 장치 및 키, 또는 기타 보안 수단을 통해서만 접근 제한 구역에 들어갈 수 있습니다.

Waarschuwing

Dit apparaat is bedoeld voor installatie in gebieden met een beperkte toegang. Toegang tot dergelijke gebieden kunnen alleen verkregen worden door gebruik te maken van speciaal gereedschap, slot en sleutel of andere veiligheidsmaatregelen.

Battery Handling

CAUTION: There is risk of explosion if the battery is replaced by an incorrect type. Replace the battery only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions

電池の取り扱い

バッテリーを間違ったタイプに交換すると爆発の危険があります。交換する電池はメーカーが推奨する型、または同等のものを使用下さい。使用済電池は製造元の指示に従って処分して下さい。

警告

如果更换的电池类型不正确，则存在爆炸危险。请只使用同类电池或制造商推荐的功能相当的电池更换原有电池。请按制造商的说明处理废旧电池。

警告

如果更換的電池類型不正確，則有爆炸危險。請使用製造商建議之相同或功能相當的電池更換原有電池。請按照製造商的說明指示處理廢棄舊電池。

WARNUNG

Es besteht Explosionsgefahr, wenn die Batterie durch einen falschen Typ ersetzt wird. Ersetzen Sie die Batterie nur durch den gleichen oder vom Hersteller empfohlenen Batterietyp. Entsorgen Sie die benutzten Batterien nach den Anweisungen des Herstellers.

ATTENTION

Il existe un risque d'explosion si la batterie est remplacée par un type incorrect. Ne la remplacer que par une pile de type semblable ou équivalent, recommandée par le fabricant. Jeter les piles usagées conformément aux instructions du fabricant.

ADVERTENCIA

Existe riesgo de explosión si la batería se reemplaza por un tipo incorrecto. Reemplazar la batería exclusivamente con el mismo tipo o el equivalente recomendado por el fabricante. Desechar las baterías gastadas según las instrucciones del fabricante.

אזהרה!

קיימת סכנת פיצוץ אם הסוללה תוחלף בסוג שגוי. יש להחליף

את הסוללה בסוג התואם מחברת יצרן מומלצת.

סילוק הסוללות המשומשות יש לבצע לפי הוראות היצרן.

هناك خطر الانفجار إذا تم استبدال البطارية بنوع غير صحيح.
اسحبذال البطارية
فقط بنفس النع أو ما يعادلها مما أوصث به الشرمة المصنعة
جخلص من البطاريات المسحعملة وفقا لحعليمات الشرمة الصانعة

경고!

배터리를 잘못된 종류로 교체하면 폭발의 위험이 있습니다. 기존 배터리와 동일하거나 제조사에서 권장하는 동등한 종류의 배터리로만 교체해야 합니다. 제조사의 안내에 따라 사용된 배터리를 처리하여 주십시오.

WAARSCHUWING

Er bestaat explosiegevaar als de batterij wordt vervangen door een verkeerd type. Vervang de batterij slechts met hetzelfde of een equivalent type die door de fabrikant aanbevolen wordt. Gebruikte batterijen dienen overeenkomstig fabrieksvoorschriften afgevoerd te worden.

Redundant Power Supplies

Warning! This unit might have more than one power supply connection. All connections must be removed to de-energize the unit.

冗長電源装置

このユニットは複数の電源装置が接続されている場合があります。

ユニットの電源を切るためには、すべての接続を取り外さなければなりません。

警告
此部件连接的电源可能不止一个，必须将所有电源断开才能停止给该部件供电。

警告
此裝置連接的電源可能不只一個，必須切斷所有電源才能停止對該裝置的供電。

Warnung

Dieses Gerät kann mehr als eine Stromzufuhr haben. Um sicherzustellen, dass der Einheit kein trom zugeführt wird, müssen alle Verbindungen entfernt werden.

¡Advertencia!

Puede que esta unidad tenga más de una conexión para fuentes de alimentación. Para cortar por completo el suministro de energía, deben desconectarse todas las conexiones.

Attention

Cette unité peut avoir plus d'une connexion d'alimentation. Pour supprimer toute tension et tout courant électrique de l'unité, toutes les connexions d'alimentation doivent être débranchées.

אם קיים יותר מספק אחד
אזהרה!
ליחדה יש יותר מחיבור אחד של ספק. יש להסיר את כל החיבורים על מנת לרוקן
את היחידה.

قد يكون لهذا الجهاز عدة اتصالات بوحدات امداد الطاقة .
يجب إزالة كافة الاتصالات لعسل الوحدة عن الكهرباء

경고!
이 장치에는 한 개 이상의 전원 공급 단자가 연결되어 있을 수 있습니다. 이 장치에 전원을 차단하기 위해서는 모든 연결 단자를 제거해야만 합니다.

Waarschuwing

Deze eenheid kan meer dan één stroomtoevoeraansluiting bevatten. Alle aansluitingen dienen verwijderd te worden om het apparaat stroomloos te maken.

Backplane Voltage

Warning! Hazardous voltage or energy is present on the backplane when the system is operating. Use caution when servicing.

バックプレーンの電圧

システムの稼働中は危険な電圧または電力が、バックプレーン上にかかっています。

修理する際には注意ください。

警告

当系统正在进行时，背板上有很危险的电压或能量，进行维修时务必小心。

警告

當系統正在進行時，背板上有危險的電壓或能量，進行維修時務必小心。

Warnung

Wenn das System in Betrieb ist, treten auf der Rückwandplatine gefährliche Spannungen oder Energien auf. Vorsicht bei der Wartung.

¡Advertencia!

Cuando el sistema está en funcionamiento, el voltaje del plano trasero es peligroso. Tenga cuidado cuando lo revise.

Attention

Lorsque le système est en fonctionnement, des tensions électriques circulent sur le fond de panier. Prendre des précautions lors de la maintenance.

מתח בפנל האחורי

אזהרה!

קיימת סכנת מתח בפנל האחורי בזמן תפעול המערכת. יש להיזהר במהלך

העבודה.

هناك خطز مه التيار الكهزبائي أوالطاقة المجددة على اللحة
عندما يكن النظام يعمل که حذرا عند خدمة هذا الجهاس

경고!

시스템이 동작 중일 때 후면판 (Backplane)에는 위험한 전압이나 에너지가 발생 합니다.
서비스 작업 시 주의하십시오.

Waarschuwing

Een gevaarlijke spanning of energie is aanwezig op de backplane wanneer het systeem in gebruik is. Voorzichtigheid is geboden tijdens het onderhoud.

Comply with Local and National Electrical Codes

Warning! Installation of the equipment must comply with local and national electrical codes.

地方および国の電気規格に準拠

機器の取り付けはその地方および国の電気規格に準拠する必要があります。

警告

设备安装必须符合本地与本国电气法规。

警告

設備安裝必須符合本地與本國電氣法規。

Warnung

Die Installation der Geräte muss den Sicherheitsstandards entsprechen.

¡Advertencia!

La instalacion del equipo debe cumplir con las normas de electricidad locales y nacionales.

Attention

L'équipement doit être installé conformément aux normes électriques nationales et locales.

תיאום חוקי החשמל הארצי

אזהרה!

התקנת הציוד חייבת להיות תואמת לחוקי החשמל המקומיים והארציים.

تركيب المعدات الكهربائية يجب أن يمتثل للقاويه المحلية والطية المتعلقة بالكهرباء

경고!

현 지역 및 국가의 전기 규정에 따라 장비를 설치해야 합니다.

Waarschuwing

Bij installatie van de apparatuur moet worden voldaan aan de lokale en nationale elektriciteitsvoorschriften.

Product Disposal

Warning! Ultimate disposal of this product should be handled according to all national laws and regulations.

製品の廃棄

この製品を廃棄処分する場合、国の関係する全ての法律・条例に従い処理する必要があります。

警告

本产品的废弃处理应根据所有国家的法律和规章进行。

警告

本產品的廢棄處理應根據所有國家的法律和規章進行。

Warnung

Die Entsorgung dieses Produkts sollte gemäß allen Bestimmungen und Gesetzen des Landes erfolgen.

¡Advertencia!

Al deshacerse por completo de este producto debe seguir todas las leyes y reglamentos nacionales.

Attention

La mise au rebut ou le recyclage de ce produit sont généralement soumis à des lois et/ou directives de respect de l'environnement. Renseignez-vous auprès de l'organisme compétent.

סילוק המוצר

אזהרה!

סילוק סופי של מוצר זה חייב להיות בהתאם להנחיות וחוקי המדינה.

التخلص النهائي من هذا المنتج ينبغي التعامل معه وفقا لجميع القانين واللائح الطنية عند

경고!

이 제품은 해당 국가의 관련 법규 및 규정에 따라 폐기되어야 합니다.

Waarschuwing

De uiteindelijke verwijdering van dit product dient te geschieden in overeenstemming met alle nationale wetten en reglementen.

Fan Warning

WARNING
Hazardous
moving parts.
Keep away from moving fan blades.

Warning! Hazardous moving parts. Keep away from moving fan blades. The fans might still be turning when you remove the fan assembly from the chassis. Keep fingers, screwdrivers, and other objects away from the openings in the fan assembly's housing.

ファンの警告

警告!回転部品に注意。運転中は回転部(羽根)に触れないでください。シャーシから冷却ファン装置を取り外した際、ファンがまだ回転している可能性があります。ファンの開口部に、指、ドライバー、およびその他のものを近づけないで下さい。

警告!
警告！危险的可移动性零件。请务必与转动的风扇叶片保持距离。 当您从机架移除风扇装置，风扇可能仍在转动。小心不要将手指、螺丝起子和其他物品太靠近风扇

警告
危险的可移动性零件。請務必與轉動的風扇葉片保持距離。 當您從機架移除風扇裝置，風扇可能仍在轉動。小心不要將手指、螺絲起子和其他物品太靠近風扇。

Warnung

Gefährlich Bewegende Teile. Von den bewegenden Lüfterblätter fern halten. Die Lüfter drehen sich u. U. noch, wenn die Lüfterbaugruppe aus dem Chassis genommen wird. Halten Sie Finger, Schraubendreher und andere Gegenstände von den Öffnungen des Lüftergehäuses entfernt.

¡Advertencia!

Riesgo de piezas móviles. Mantener alejado de las aspas del ventilador. Los ventiladores podran dar vuelta cuando usted quite ell montaje del ventilador del chasis. Mandtenga los dedos, los destornilladores y todos los objetos lejos de las aberturas del ventilador

Attention

Pieces mobiles dangereuses. Se tenir a l'ecart des lames du ventilateur Il est possible que les ventilateurs soient toujours en rotation lorsque vous retirerez le bloc ventilateur du châssis. Prenez garde à ce que doigts, tournevis et autres objets soient éloignés du logement du bloc ventilateur.

אזהרה!
חלקים נעים מסוכנים. התרחק מלהבי המאוורר בפעולהכאשר מסירים את חלקי המאוורר מהמארז, יתכן והמאווררים עדיין עובדים. יש להרחיק למרחק בטוח את האצבעות וכלי עבודה שונים מהפתחים בתוך המאוורר

تحذير! أجزاء متحركة خطرة. ابتعد عن شفرات المروحة المتحركة.من الممكن أن المراوح لا تزال تدورعند إزالة كتلة المروحة من الهيكل يجب إبقاء الأصابع ومفكات البراغي وغيرها من الأشياء بعيدا عن الفتحات في كتلة المروحة.

경고!

움직이는 위험한 부품. 회전하는 송풍 날개에 접근하지 마세요. 섀시로부터 팬 조립품을 제거할 때 팬은 여전히 회전하고 있을 수 있습니다. 팬 조립품 외관의 열려있는 부분들로부터 손가락 및 스크류드라이버, 다른 물체들이 가까이 하지 않도록 배치해 주십시오.

Waarschuwing

Gevaarlijk bewegende onderdelen. Houd voldoende afstand tot de bewegende ventilatorbladen. Het is mogelijk dat de ventilator nog draait tijdens het verwijderen van het ventilatorsamenstel uit het chassis. Houd uw vingers, schroevendraaiers en eventuele andere voorwerpen uit de buurt van de openingen in de ventilatorbehuizing.

Power Cable and AC Adapter

Warning! When installing the product, use the provided or designated connection cables, power cables and AC adaptors. Using any other cables and adaptors could cause a malfunction or a fire. Electrical Appliance and Material Safety Law prohibits the use of UL or CSA -certified cables (that have UL/CSA shown on the cord) for any other electrical devices than products designated by Supermicro only.

電源コードとACアダプター

製品を設置する場合、提供または指定および購入された接続ケーブル、電源コードとACアダプターを 該当する地域の条例や安全基準に適合するコードサイズやプラグと共に使用下さい。他のケーブルやアダプタを使用すると故障や火災の原因になることがあります。

電気用品安全法は、ULまたはCSA認定のケーブル(UL/CSAマークがコードに表記)を Supermicro が指定する製品以外に使用することを禁止しています。

警告
安装此产品时,请使用本身提供的或指定的或采购的连接线,电源线和电源适配器，包含遵照当地法规和安全要求的合规的电源线尺寸和插头.使用其它线材或适配器可能会引起故障或火灾。
除了Supermicro所指定的产品,电气用品和材料安全法律规定禁止
使用未经UL或CSA认证的线材。(线材上会显示UL/CSA符号)。

警告
安裝此產品時,請使用本身提供的或指定的或採購的連接線,電源線和電源適配器，包含遵照當地法規和安全要求的合規的電源線尺寸和插頭.使用其它線材或適配器可能會引起故障或火災。
除了Supermicro所指定的產品,電氣用品和材料安全法律規定禁止
使用未經UL或CSA認證的線材。 (線材上會顯示UL/CSA符號)。

Warnung

Nutzen Sie beim Installieren des Produkts ausschließlich die von uns zur Verfügung gestellten Verbindungskabeln, Stromkabeln und/oder Adapater, die Ihre örtlichen Sicherheitsstandards einhalten. Der Gebrauch von anderen Kabeln und Adapter können Fehlfunktionen oder Feuer verursachen. Die Richtlinien untersagen das Nutzen von UL oder CAS zertifizierten Kabeln (mit UL/CSA gekennzeichnet), an Geräten oder Produkten die nicht mit Supermicro gekennzeichnet sind.

¡Advertencia!

Cuando instale el producto, utilice la conexión provista o designada o procure cables, Cables de alimentación y adaptadores de CA que cumplan con los códigos locales y los requisitos de seguridad, incluyendo el tamaño adecuado del cable y el enchufe. El uso de otros cables y adaptadores podría causar un mal funcionamiento o un incendio. La Ley de Seguridad de Aparatos Eléctricos y de Materiales prohíbe El uso de cables certificados por UL o CSA (que tienen el certificado UL / CSA en el código) para cualquier otros dispositivos eléctricos que los productos designados únicamente por Supermicro.

Attention

Lors de l'installation du produit, utilisez les cables de connection fournis ou désigné ou achetez des cables, cables de puissance et adaptateurs respectant les normes locales et les conditions de securite y compris les tailles de cables et les prises electriques appropries. L'utilisation d'autres cables et adaptateurs peut provoquer un dysfonctionnement ou un incendie. Appareils électroménagers et la Loi sur la Sécurité Matériel interdit l'utilisation de câbles certifies- UL ou CSA (qui ont UL ou CSA indiqué sur le code) pour tous les autres appareils électriques sauf les produits désignés par Supermicro seulement.

כבלים חשמליים ומתאמי AC

אזהרה!

כאשר מתקינים את המוצר, שי להשתמש בכבלים, ספקים ומתאמים מאשר AC נרכש או שנקנו ולמתאום לצרור כבל שומיש . עקתהו לבכה לש הנוכנ הדימ ללוכ ,תוימוקמה תוחיטבה תושירדל ומאתוה רשאו ,הנקתהה למשחה ירישכמב שומישה יקוחל םאתהב. ולמשח רצק וא הלקתל םורגל לולע ,רחא גוסמ םאתמ וא לבכ לש דוק םהילע עיפומ רשאכ) CSA ב וא UL -ב םיכמסומה םילבכב שמתשהל רוסיא םייק ,תוחיטבה יקוחו דבלב סSupermicro י"ע םאתוה רשא רצומב קר אלא ,רחא ילמשח רצומ לכ רובע UL/CSA).

عند تركيب المنتج، قم باستخدام التوصيلات المتوفرة أو المحددة قم بشراء الكابلات كابلات الكهربائية ومحولات التيار المتردد مع الالتزام بقوانين ومتطلبات السلامة المحلية بما في ذلك الكهربائية ومحولات التيار المتردد مع الالتزام بقوانين ومتطلبات السلامة المحلية بما في ذلك حجم الموصل والقابس السليم. استخدام أي كابلات ومحولات أخرى قد يتسبب في عطل أو حريق. يحظر قانون السلامة للأجهزة الكهربائية والمعدات استخدام الكابلات المعتمدة من قبل UL أو CSA والتي تحمل علامة (UL/CSA) مع أي معدات أخرى غير المنتجات المعنية والمحددة من قبل Supermicro.

전원 케이블 및 AC 어댑터

경고! 제품을 설치할 때 현지 코드 및 적절한 굵기의 코드와 플러그를 포함한 안전 요구 사항을 준수하여 제공되거나 지정된 연결 혹은 구매 케이블, 전원 케이블 및 AC 어댑터를 사용하십시오.

다른 케이블이나 어댑터를 사용하면 오작동이나 화재가 발생할 수 있습니다. 전기 용품 안전법은 UL 또는 CSA 인증 케이블 (코드에 UL / CSA가 표시된 케이블)을 Supermicro 가 지정한 제품 이외의 전기 장치에 사용하는 것을 금지합니다.

Stroomkabel en AC-Adapter

Waarschuwing! Bij het aansluiten van het Product uitsluitend gebruik maken van de geleverde Kabels of een andere geschikte aan te schaffen Aansluitmethode, deze moet altijd voldoen aan de lokale voorschriften en veiligheidsnormen, inclusief de juiste kabeldikte en stekker. Het gebruik van niet geschikte Kabels en/of Adapters kan een storing of brand veroorzaken. Wetgeving voor Elektrische apparatuur en Materiaalveiligheid verbied het gebruik van UL of CSA -gecertificeerde Kabels (met UL/CSA in de code) voor elke andere toepassing dan de door Supermicro hiervoor beoogde Producten.

Appendix B

System Specifications

Processors (per node)

Single Intel Xeon E-2400/6300 series processors with a TDP of up to 95 W in an LGA1700 socket
Note: Refer to the motherboard specifications pages on our website for updates to supported processors.

Chipset

Intel C266 PCH

BIOS

AMI® 256 MB SPI Flash EEPROM

Memory (per node)

Up to 192 GB of DDR5 4400 MT/s ECC UDIMM memory in four DIMM slots

Storage Drives (per node)

Two 2.5"/3.5" NVMe U.2/SATA3 and SAS(RAID/HBA AOC card required) drives
Two NVMe/SATA3 M.2 onboard connectors (one slot up to 22110 form factor, the other one up to 2280 only)

PCI Expansion Slots (per node)

One PCIe 5.0 x8 LP with open-ended slot, which can support up to 75 W

I/O Ports (per node)

One KVM connector
One USB 3.2 Type-C port
Two USB 2.0 Type-A ports

Motherboard

X13SCD-F; 15.69" (L) x 4.75" (W) (399 x 121mm)

Chassis

CSE-938NH-R2K20BP2; 3U rackmount, 5.21 x 17.26 x 23.2in. / 132 x 438 x 589mm

System Cooling (SYS-531MC-H8TNR only)

Four 8-cm heavy duty fans (SYS-531MC-H8TNR only)

Power Supply

Model: PWS-2K20A-1R, Two 2200 W redundant modules, 80Plus Titanium Level
AC Input
   1200W: 100-127Vac / 50-60Hz
   1800W: 200-220Vac / 50-60Hz
   2090W: 200-220Vac / 50-60Hz (for UL/cUL use only)
   1980W: 220-230Vac / 50-60Hz
   2200W: 220-240Vac / 50-60Hz (for UL/cUL use only)
   2090W: 230-240Vac / 50-60Hz
   2090W: 230-240Vdc / 50-60Hz (for CCC only)
+12V
  Max: 100A / Min: 0A (100Vac-127Vac)
  Max: 150A / Min: 0A (200Vac-220Vac)
  Max: 165A / Min: 0A (220Vac-230Vac)
  Max: 183.33A / Min: 0A (220Vac-240Vac) (for UL/cUL only)
  Max: 174.17A / Min: 0A (230Vac-240Vac)
  Max: 174.17A / Min: 0A (230Vdc-240Vdc) (for CCC only)
  Max: 174.17A / Min: 0A (230Vac-240Vac) (for UL/cUL only)
+5V SB
  Max: 1A / Min: 0A

Operating Environment

Operating Temperature: 10º to 35º C (50º to 95º F)

Non-operating Temperature: -40º to 70º C (-40º to 158º F)

Operating Relative Humidity: 8% to 90% (non-condensing)

Non-operating Relative Humidity: 8% to 95% (non-condensing)

Regulatory Compliance

FCC, ICES, CE, VCCI, RCM, UKCA, NRTL, CB

Applied Directives, Standards

EMC/EMI: 2014/30/EU (EMC Directive)

FCC Part 15 Subpart B

ICES-003

VCCI-CISPR 32

AS/NZS CISPR 32

EN/BS EN55032

EN/BS EN55035

CISPR 32

CISPR 35

EN/BS 61000-3-2

EN/BS 61000-3-3

EN/BS 61000-4-2

EN/BS 61000-4-3

EN/BS 61000-4-4

EN/BS 61000-4-5

EN/BS 61000-4-6

EN/BS 61000-4-8

EN/BS 61000-4-11

Green Environment:

2011/65/EU (RoHS Directive)

EC 1907/2006 (REACH)

2012/19/EU (WEEE Directive)

California Proposition 65

Product Safety: 2014/35/EU (LVD Directive)

UL/CSA 62368-1 (USA and Canada)

IEC/EN 62368-1

Perchlorate Warning

California Best Management Practices Regulations for Perchlorate Materials: This Perchlorate warning applies only to products containing CR (Manganese Dioxide) Lithium coin cells. "Perchlorate Material-special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate"

　この装置は、クラスＡ機器です。この装置を住宅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