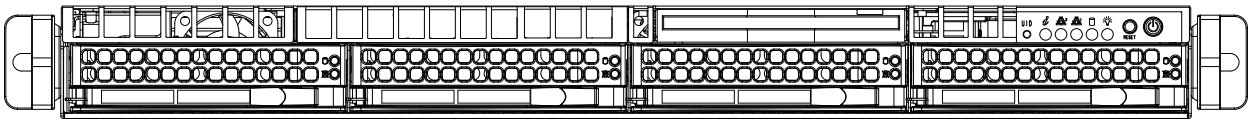
A+ Server
AS -1014S-WTRT



USER'S MANUAL

Revision 1.0

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Manual Revision 1.0

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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 A+ Server. Installation and maintainance should be performed by experienced technicians only.

Please refer to the AS -1014S-WTRT 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/wftp/driver/AMD/SP3/
- Product safety info: http://www.supermicro.com/about/policies/safety_information.cfm

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This manual may be periodically updated without notice. Please check the Supermicro website for possible updates to the manual revision level.

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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Appendix D UEFI BIOS Recovery

Appendix E IPMI Crash Dump

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Chapter 1

Introduction

1.1 Overview

This chapter provides a brief outline of the functions and features of the AS -1014S-WTRT. The AS -1014S-WTRT is based on the H12SSW-NT motherboard and the SC815TS-R504WBP4 chassis.

In addition to the motherboard and chassis, several important parts that are included with the system are listed below.

Main Parts List		
Description	**Part Number**	**Quantity**
Passive Heatsink for 1U System	SNK-P0062P	1
4-cm Counter-rotating Fans	FAN-0141L4	4
Hot-swap Hard Drive Trays	MCP-220-00075-0B	4
Air Shroud	MCP-310-81305-0B	1
Backplane	BPN-SAS3-815TQ-N4	1
Riser Card (right side WIO riser with one PCI-E x16 slot)	RSC-WR-6	1
Riser Card (left side WIO riser with two PCI-E x16 slots)	RSC-W-66G4	1
Rack Rail Mounting Kit	MCP-290-00054-0N	1

1.2 Unpacking the System

Inspect the box the A+ Server AS -1014S-WTRT was shipped in and note if it was damaged in any way. If any equipment appears damaged, please 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 B.

1.3 System Features

The following table provides you with an overview of the main features of the AS -1014S-WTRT. Please refer to Appendix C for additional specifications.

System Features
Motherboard
H12SSW-NT
Chassis
SC815TS-R504WBP4
CPU
Single EPYC 7002 series processor
Socket Type
SP3 socket
Memory
Supports up to 2 TB of ECC DDR4-3200 RDIMM/LRDIMM/3DS/NVDIMM memory in 8 DIMM slots
Chipset
SoC chipset
Expansion Slots
Two PCI-E 4.0 x16 slots (FHFL) with riser card (RSC-W-66G4) One PCI-E 4.0 x16 slot (low-profile) with riser card (RSC-WR-6) M.2 Interface: 2 SATA/ PCI-E 3.0 x2 M.2 Form Factor: 2280, 22120 M.2 Key: M-key
Hard Drives
Four 3.5" hot-swap hard drives
Power
500W redundant power supplies, Platinum Level (94%) (Full redundancy based on configuration and application load)
Form Factor
1U rackmount
Dimensions
(WxHxD) 17.25 x 1.72 x 25.58 in. (438.4 x 43.6 x 649.9 mm)

1.4 Server Chassis Features

Control Panel

The switches and LEDs located on the control panel are described below. See Chapter 4 for details on the control panel connections.

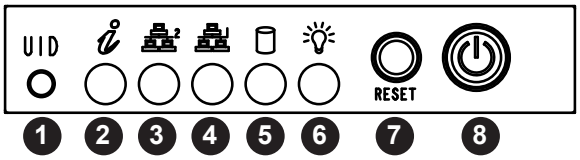


Figure 1-1. Control Panel View

Control Panel Features		
Item	**Feature**	**Description**
1	UID Button	Depressing the UID (unit identifier) button illuminates an LED on both the front and rear of the chassis for easy system location in large stack configurations. The LED will remain on until the button is pushed a second time.
2	Information LED	See table below for details.
3	NIC2 LED	Indicates network activity on LAN port 2 when flashing
4	NIC1 LED	Indicates network activity on LAN port 1 when flashing
5	HDD LED	Indicates activity on a hard drive when flashing.
6	Power LED	Indicates power is being supplied to the system power supply. This LED should normally be illuminated when the system is operating.
7	Reset Button	The reset button is used to reboot the system
8	Power Button	The main power button is used to apply or remove power from the power supply to the server. Turning off system power with this button removes the main power but maintains standby power. To perform many maintenance tasks, you must also unplug system before servicing

Information LED	
Status	**Description**
Continuously on and red	An overheat condition has occurred. (This may be caused by cable congestion.)
Blinking red (1Hz)	Fan failure, check for an inoperative fan.
Solid blue	UID has been activated locally to locate the server in a rack environment.
Blinking blue	UID has been activated using IPMI to locate the server in a rack environment.

Front Features

The AS -1014S-WTRT is a 1U system. See the illustration below for the features included on the front of the chassis.

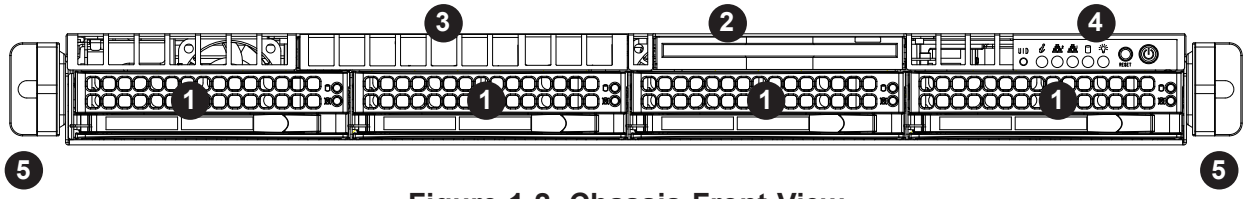


Figure 1-2. Chassis Front View

Front Chassis Features		
Item	**Feature**	**Description**
1	Hard Drive Carrier	Carrier for hot-swap hard drive
2	Slim FDD Bay/USB/COM Port Tray	Slim Fixed Disk Drive/USB/COM port tray (Optional)
3	Slim DVD ROM Drive	Slim DVD-ROM drive (Optional)
4	Control Panel	Front control panel with LEDs and buttons (see preceding page)
5	Rack Ear Brackets	Secures the server chassis to the rack

Rear Features

The illustration below shows the features included on the rear of the chassis.

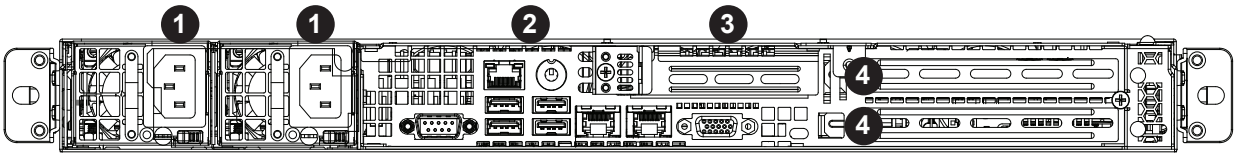


Figure 1-3. Chassis Rear View

Rear Chassis Features		
Item	**Feature**	**Description**
1	Power Supply	Redundant power supply modules
2	I/O Backpanel	Rear I/O ports (see Section 4.3)
3	Expansion Card Slot	Slot for low-profile expansion (add-on) card (requires pre-installed riser card) up to 6.6”
4	Expansion Card Slot	Slot for FHFL expansion card (requires pre-installed riser card) up to 10.5”

1.5 Motherboard Layout

Below is a layout of the H12SSW-NT 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.

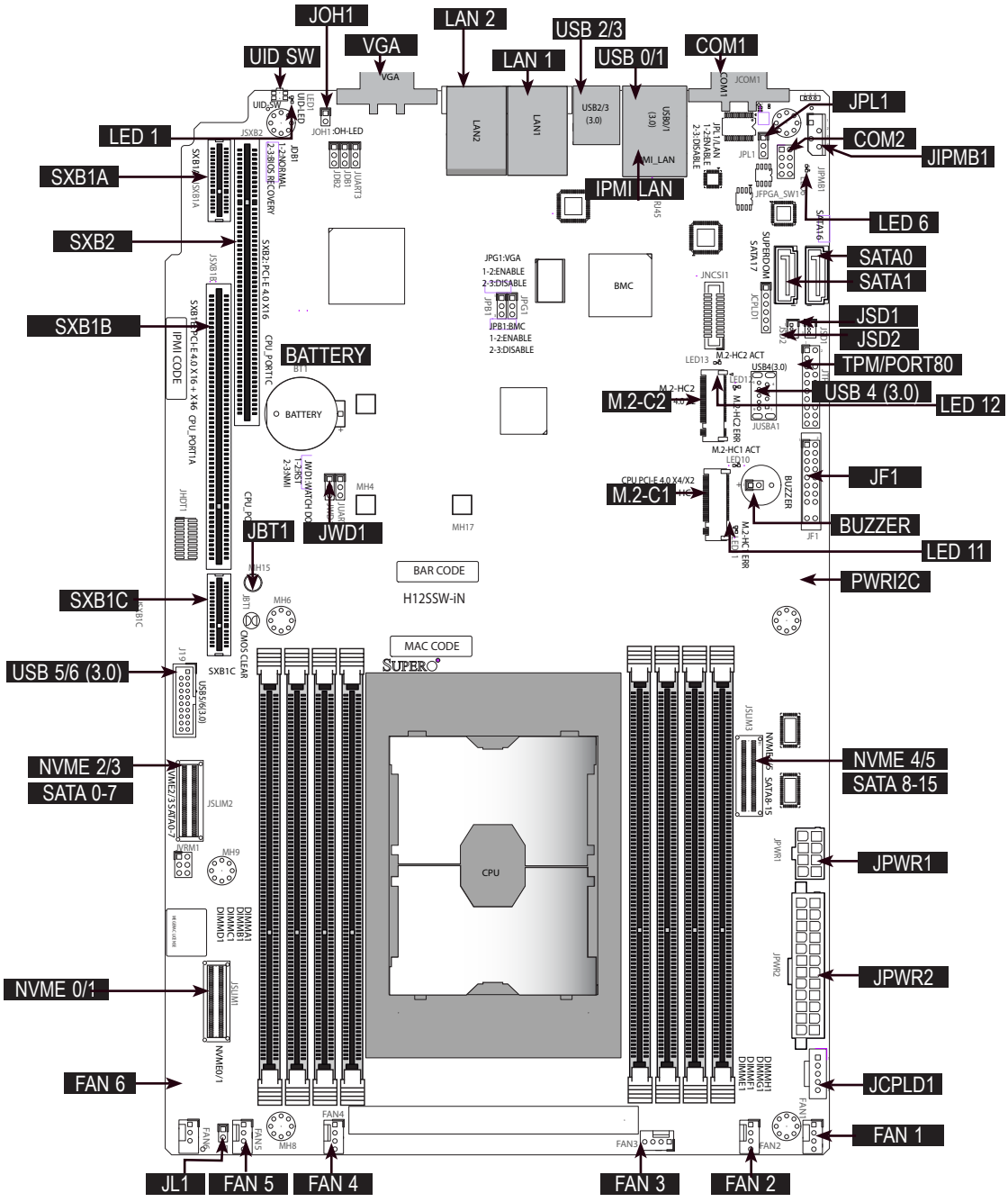


Figure 1-4. Motherboard Layout

Notes:

- "▪" indicates the location of Pin 1.
- Jumpers/components/LED indicators not indicated are used for internal testing only.

Quick Reference Table

Jumper	Description	Default Setting
UID SW	Unit ID switch (push-button toggle switch ON/OFF)	Off
JBT1	Clear CMOS	Open (Normal)
JWD1	Watch Dog control	Pins 1-2 (Reset)
JPL1	LAN Enable/Disable	Pins 1-2 (Enabled)
JPG1	Onboard Video Disable/Enable	Pins 1-2 (Enabled)

LED	Description	Status
LED1	UID LED	Blue: UID Activated
LED6	Power LED	On: Power On
LED 7	BMC Heartbeat	Blinking: BMC Normal/Working
LED12	M.2-C2 Interface Detection	On: SATA Off: PCI-E
LED11	M.2-C1 Interface Detection	On: SATA Off: PCI-E

Connector	Description
Battery (BT1)	Onboard CMOS battery
COM 1, COM 2	Rear panel COM port #1, Header for COM port #2
JCPLD1	Complex-Programmable Logical Device (CPLD) header
FAN 1~6	System cooling fan headers
JF1	Front control panel
JSD1, JSD2	SATA DOM power connector
JTPM1	Trusted Platform Module (TPM)/Port 80 connector
SATA0, SATA1	Internal SATA Ports
JL1	Chassis intrusion header
JOH1	Chassis overheat header
USB 0/1 (3.0)	Back panel USB 3.0 ports (USB 0/1)
USB 2/3 (3.0)	Back panel USB 3.0 ports (USB 2/3)
USB 4 (3.0)	USB 3.0 type A port (USB 4)
USB 5/6 (3.0)	Internal USB 3.0 header (USB 5/6)
SXB1A, SXB2, SXB1C	Riser slots
JPWR2	24-pin ATX power supply connector
JPWR1	12V 8-pin ATX CPU power connector
M.2-C1, M.2-C2	M.2 Slots
PWRI2C	Power supply SMBus I2C header
JIPMB1	4-pin External BMC I2C Header (for an IPMI Card)
LAN1, LAN2	Back panel LAN1, LAN2 connectors
VGA	Back panel VGA port
NVMe0~5	NVMe slots 0~5

Note: Jumpers, connectors, switches, and LED indicators that are not described in the preceding tables are for manufacturing testing purposes only, and are not covered in this manual.

H12SSW AMD SP3 Rome Rev. 1.00

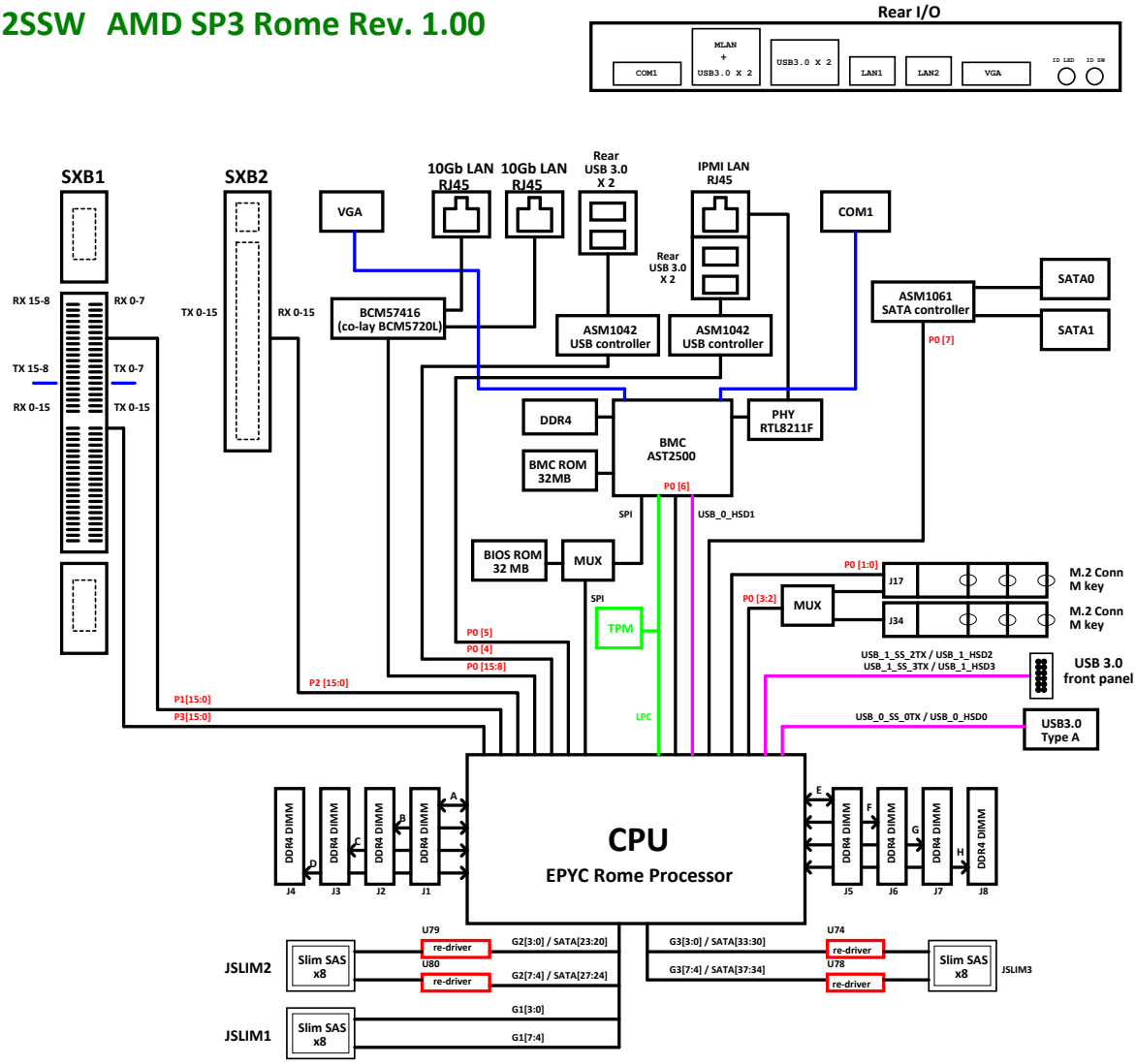


Figure 1-5. System Block Diagram

Note: This is a general block diagram and may not exactly represent the features on your motherboard. See the System Specifications appendix for the actual specifications of your motherboard.

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 4 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 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 B.
- 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.

2.3 Installing the Rails

There are a variety of rack units on the market, which may require a slightly different assembly procedure. This rail set fits a rack between 25.6" and 33" 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 Sections of the Rack Rails

The chassis package includes a rail set includes the outer rail pieces that attach to the rack.

Assembling the Outer Rails

Each outer rail comes in two sections that must be assembled before mounting onto the rack.

Assembling the Outer Rails

1. Identify the left and right outer rails by examining the ends, which bend outward. Match the left front outer rail with the left rear outer rail and the same for the right rails.

2. Align the round post in the rear rail (B) with the round hole at the end of the slot in the front rail (A), and slide the front section into the rear section.

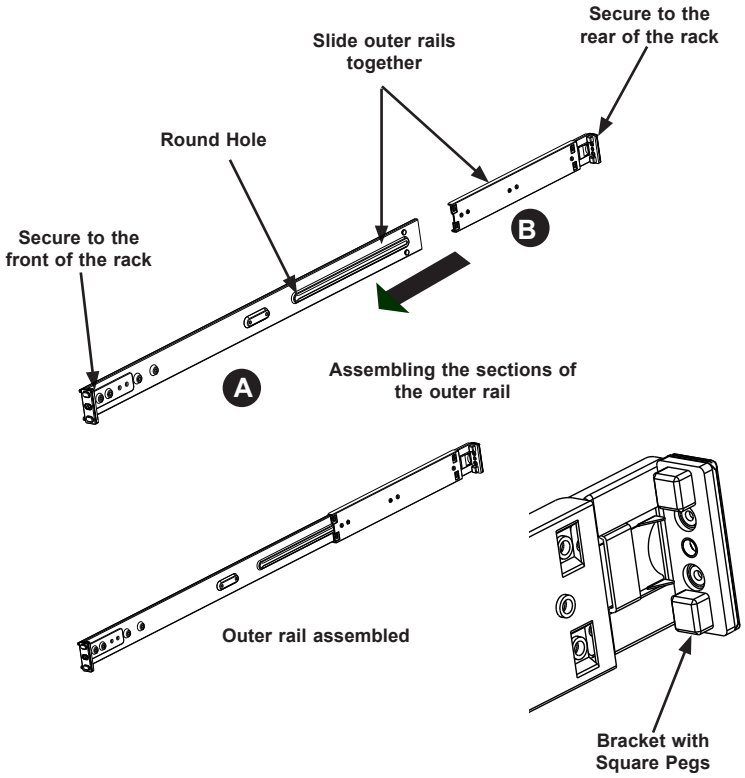


Figure 2-1. Assembling the Outer Rails

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.

Installing the Outer Rails

Each end of the assembled outer rail includes a bracket with square pegs to fit into your rack holes. If you have an older rack with round holes, these brackets must be removed, and you must use screws to secure the rail to the rack.

Outer Rail Installation

1. Align the square pegs on the front end of the rail with the square holes on the front of the rack (C). Push the rail into the rack until the quick release bracket snaps into place,securing the rail to the rack. Keep the rail horizontal.
2. Adjust the rail to reach just past the full depth of your rack.
3. Align the square pegs on the rear end of the rail to the holes on the rack (D) and push the rail into the rack until the quick release bracket snaps into place, securing the rail to the rack.
4. Repeat the procedure for the other outer rail assembly.

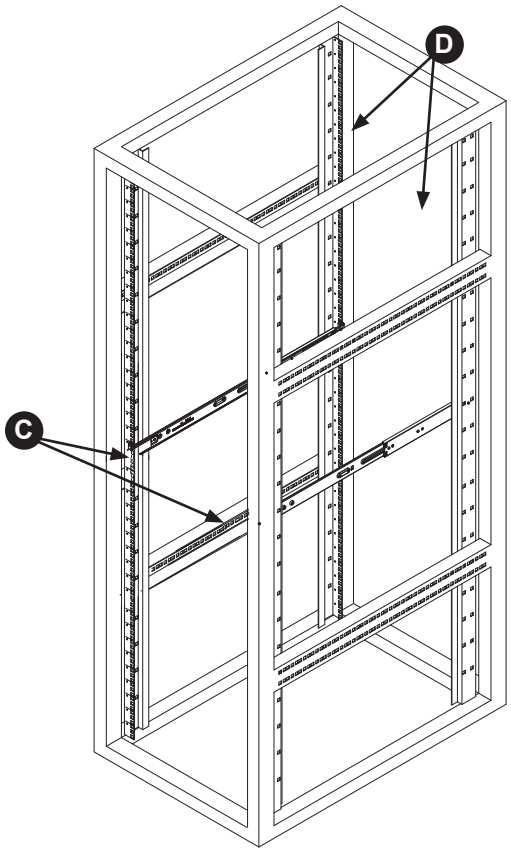


Figure 2-2. Installing the Outer Rails to the Rack

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.

2.4 Installing the Server into a Rack

You should now have rails attached to both the chassis and the rack. The next step is to install the server into the rack.

Installing the Chassis into a Rack

1. Confirm that chassis includes the inner rails and inner rail extensions. Also confirm that the outer rails are installed on the rack.
2. Align the chassis inner rails with the front of the out rails on the rack.
3. Slide the chassis rails into the rack rails, keeping the pressure even on both sides (you may have to depress the locking tabs when inserting). When the server has been pushed completely into the rack, you should hear the locking tabs click into position.
4. (Optional) Insert and tighten the thumbscrews that hold the front of the server to the rack.

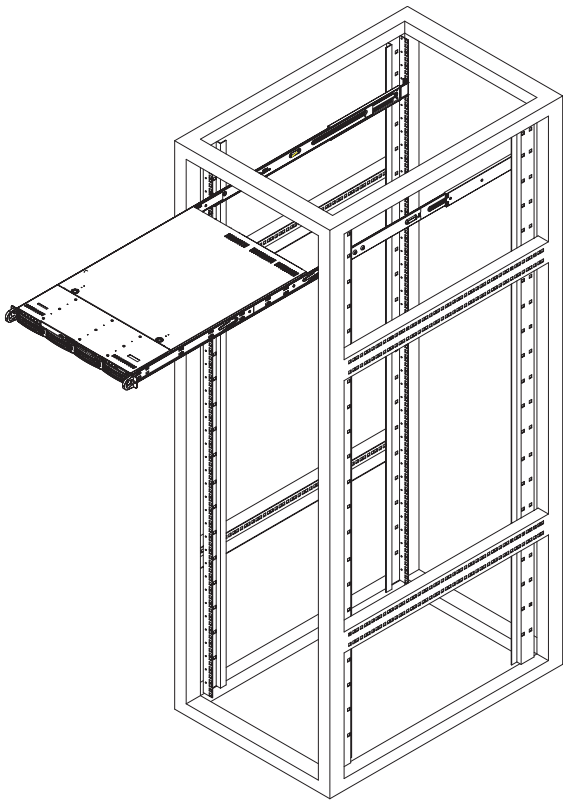


Figure 2-3. Installing the Server into a Rack

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

Installing the Chassis into a Telco Rack

To install the chassis into a Telco or post-style rack, use two L-shaped brackets on either side of the chassis (four total). First, determine how far follow the server will extend out the front of the rack. Larger chassis should be positioned to balance the weight between front and back. If a bezel is included on your server, remove it. Then attach the two front brackets to each side of the chassis, then the two rear brackets positioned with just enough space to accommodate the width of the telco rack. Finish by sliding the chassis into the rack and tightening the brackets to the rack.

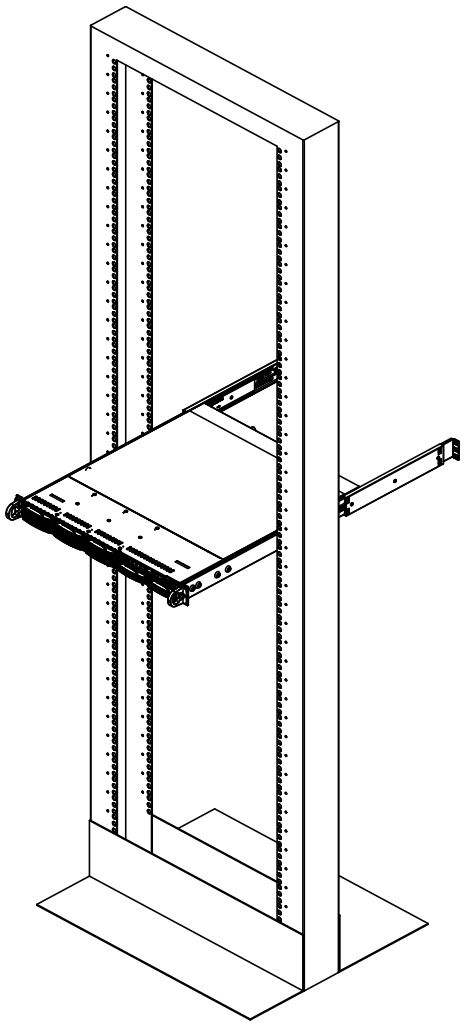


Figure 2-4. Installing the Server into a Telco Rack

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

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 Removing Power

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 cords from the power strip or outlet. (If your system has more than one power supply, remove the AC power cords from all power supply modules.)
3. Disconnect the power cord(s) from the power supply modules.

3.2 Accessing the System

The AS -1014S-WTRT features a removable top cover, which allows easy access to the inside of the chassis.

Removing the Top Cover

1. Begin by removing power from the system as described in Section 3.1.
2. Grasp the two handles on either side and pull the unit straight out until it locks (you will hear a "click").
3. Depress the two buttons on the top of the chassis to release the top cover and at the same time, push the cover away from you until it stops.
4. Lift the top cover from the chassis to gain full access to the inside of the server.

Warning: 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.

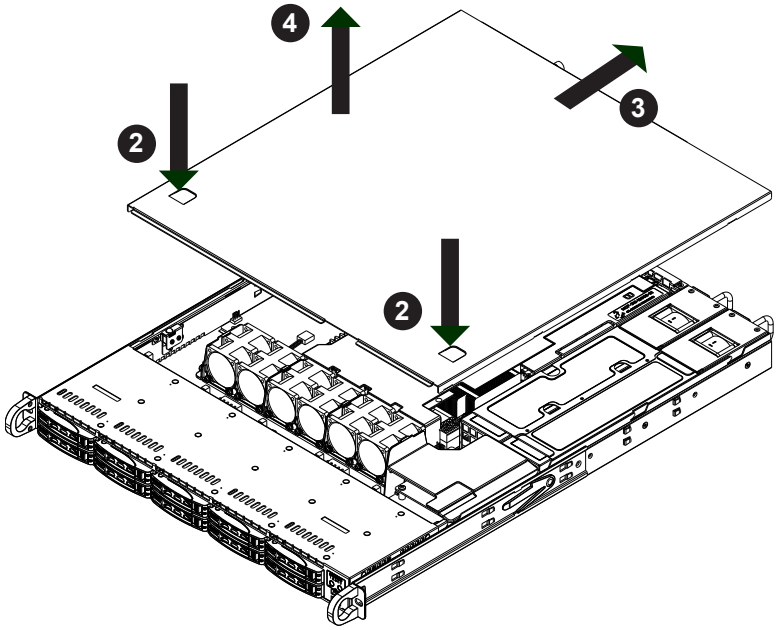


Figure 3-1. Removing the Chassis Cover

Note: Graphics in this manual are for illustration purposes only. Your components may look slightly different.

3.3 Motherboard Components

Processor and Heatsink Installation

Follow the procedures in this section to install a processor (CPU) and heatsink to the motherboard.

Notes:

- Use ESD protection.
- Power down the system as described in Section 3.1.
- The motherboard should be installed into the chassis first and the processor should be installed into the CPU socket before you install a CPU heatsink.
- If you bought a CPU separately, make sure to use a certified multi-directional heatsink only.
- When receiving a motherboard without a processor pre-installed, make sure that the plastic CPU socket cap is in place and none of the socket pins are bent; otherwise, contact your retailer immediately.
- Refer to the Supermicro website for updates on CPU support. All graphics in this manual are for illustration only. Your components may look different.

Installing the Processor and Heatsink

Begin by removing power from the system as described in Section 3.1.

1. Use a Torx T20 driver to loosen the screws holding down Force Frame in the sequence of 3-2-1. The screws are numbered on the Force Frame next to each screw hole.

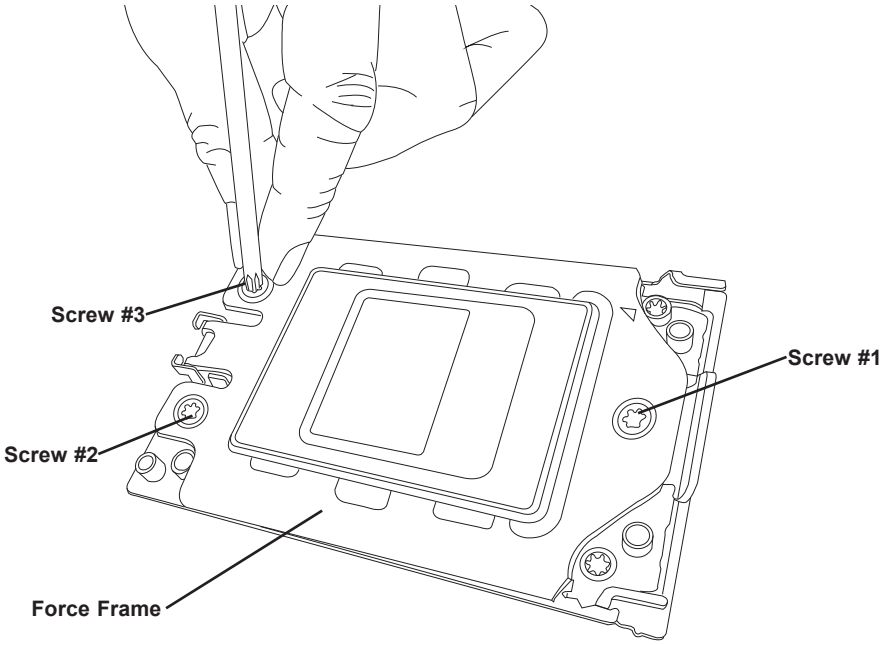


Figure 3-2. Removing the Processor Force Frame

2. The spring-loaded force frame will raise up after the last screw securing it (#1) is removed. Gently allow it to lift up to its stopping position.

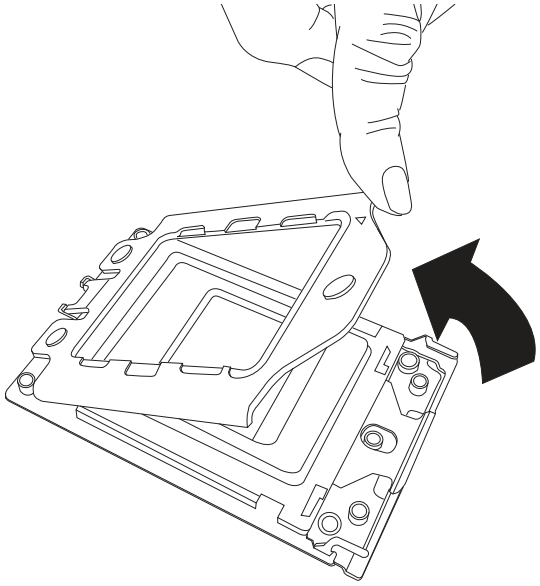


Figure 3-3. Raising the Force Frame

3. Lift the rail frame up by gripping the lift tabs near the front end of the rail frame. While keeping a secure grip of the rail frame, lift it to a position so you can do the next step of removing the external cap.

Note: The rail frame is spring loaded, so keep a secure grip on it as you lift it so it does not snap up.

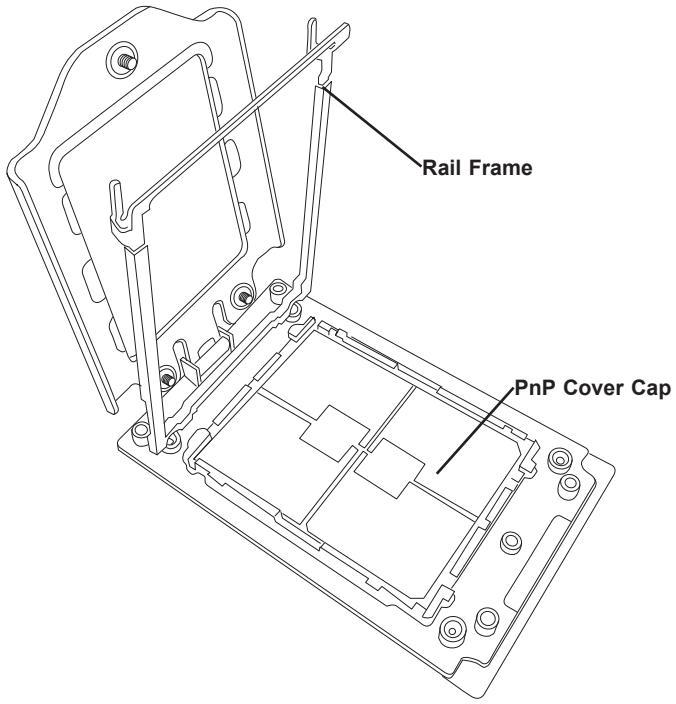


Figure 3-4. Lifting the Rail Frame

4. Remove the external cap from the Rail Frame by pulling it upwards through the rail guides on the rail frame.

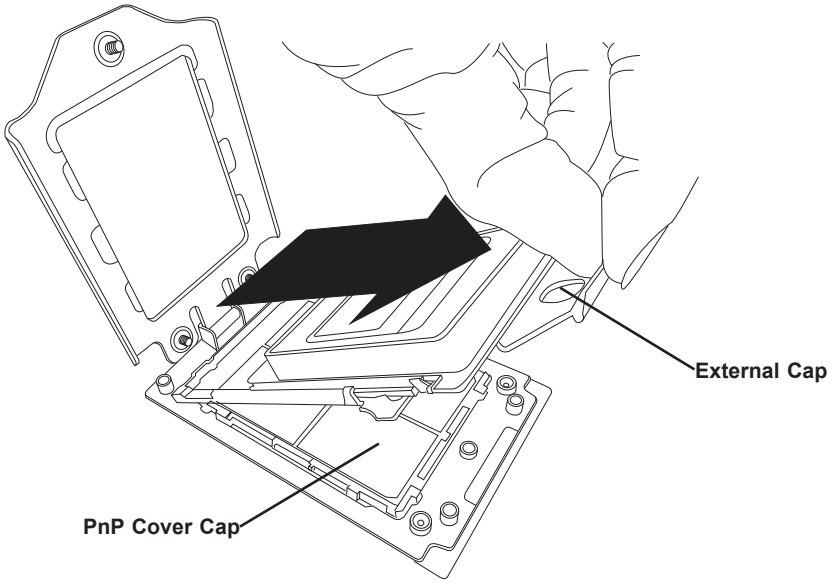


Figure 3-5. Removing the External Cap

5. The CPU package is shipped from the factory with the green carrier frame pre-assembled. Grip the handle of the carrier frame/CPU package assembly from its shipping tray, and while gripping the handle, align the flanges of the carrier frame onto the rails of the rail frame so its pins will be at the bottom when the rail frame is lowered later.

6. Slide the carrier frame/CPU package downwards to the bottom of the rail frame. Ensure the flanges are secure on the rails as you lower it downwards.

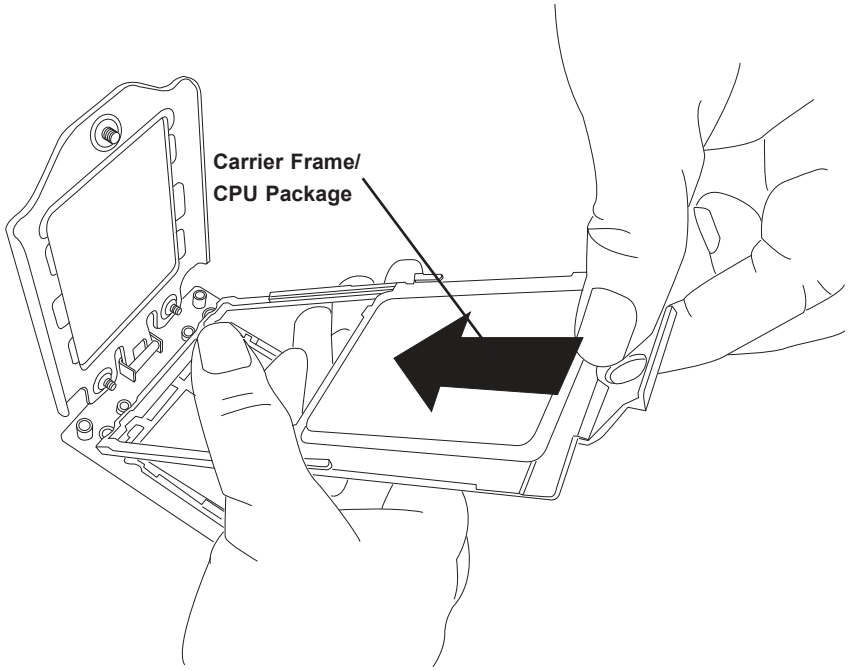


Figure 3-6. Inserting the Carrier Frame/CPU Package

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

7. Lift up the rail frame till it securely rests in upright position. Then remove the PnP cover cap from the CPU socket below. Grip the two lift tabs marked "Remove" at the middle of the cap and pull vertically upwards to remove the PnP cover cap.

Caution: The exposed socket contacts are extremely vulnerable and can be damaged easily. Do not touch or drop objects onto the contacts and be careful removing the PnP cover cap and when placing the rail frame over the socket.

8. Gently lower the rail frame down onto the socket until the latches on the rail frame engage with the socket housing and it rests in place. DO NOT force it into place!

10. Gently lower the force frame down onto the rail frame and hold it in place until it is seated in the Socket housing. Note that the force frame is spring loaded and has to be held in place before it is secured.

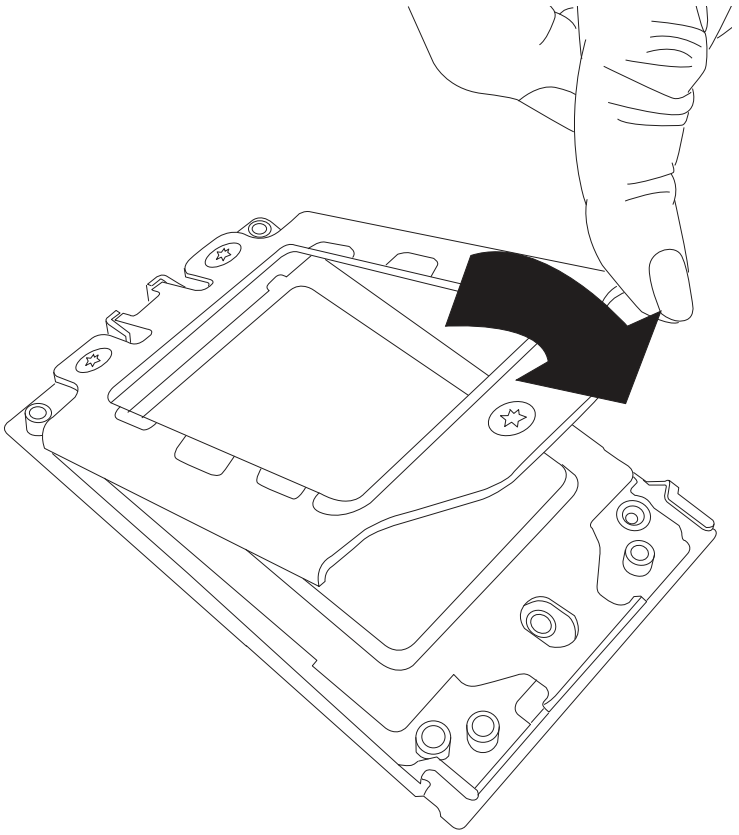


Figure 3-7. Lowering the Force Frame

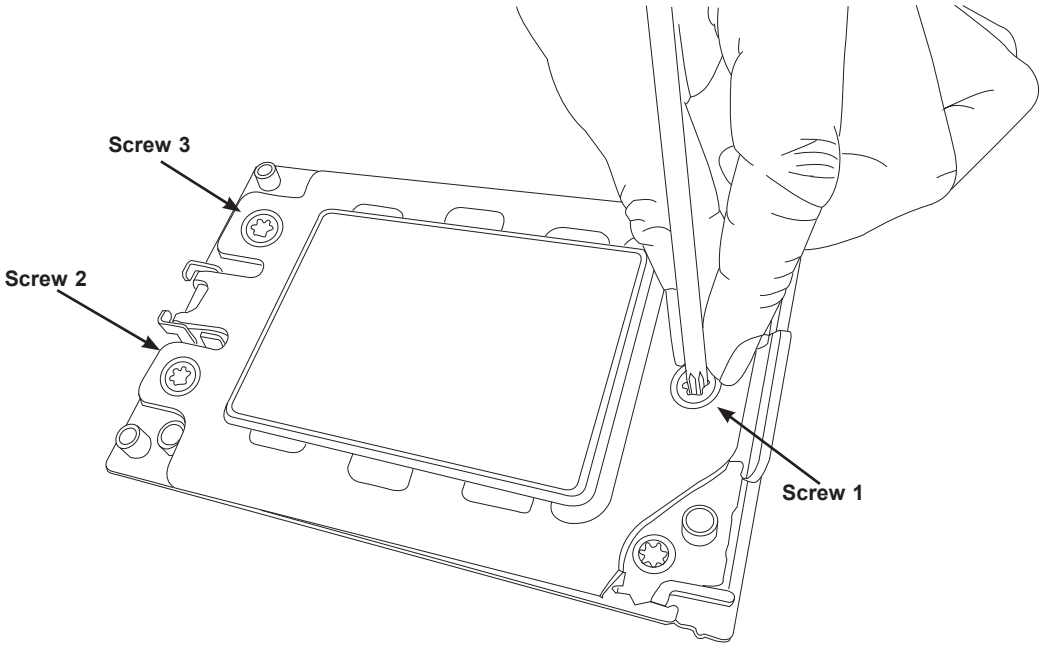


Figure 3-8. Securing the Force Frame

10. Secure the screws in the order 1-2-3, tightening each to 16.1 kgf-cm (14 lbf-in) of torque using a Torx T20 driver. The Force Frame secures both the Rail Frame and CPU Package.

Caution: The screw tightening sequence of 1-2-3 must be executed in the proper sequence to avoid catasrophic damage to the socket or CPU package.

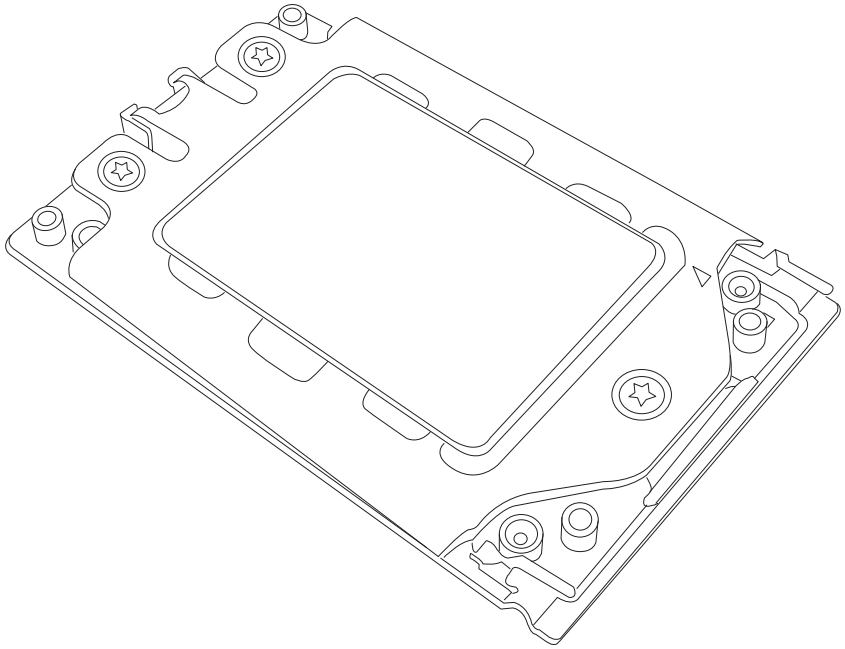


Figure 3-9. The Force Frame Secured

11. Lower the heatsink down till it rests securely on CPU Package over the four screw holes on the socket frame.

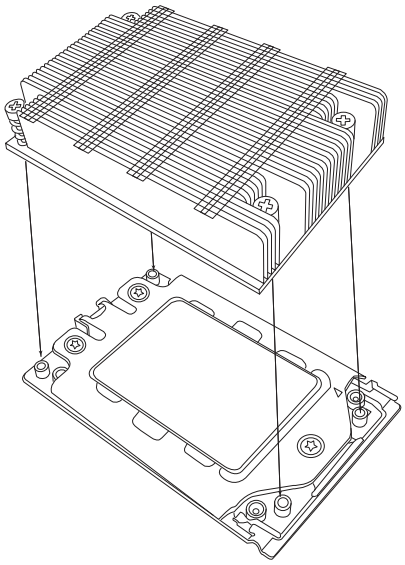


Figure 3-10. Mounting the Heatsink

12. Using a diagonal pattern, tighten the four screws down on the heatsink evenly till it is secure.

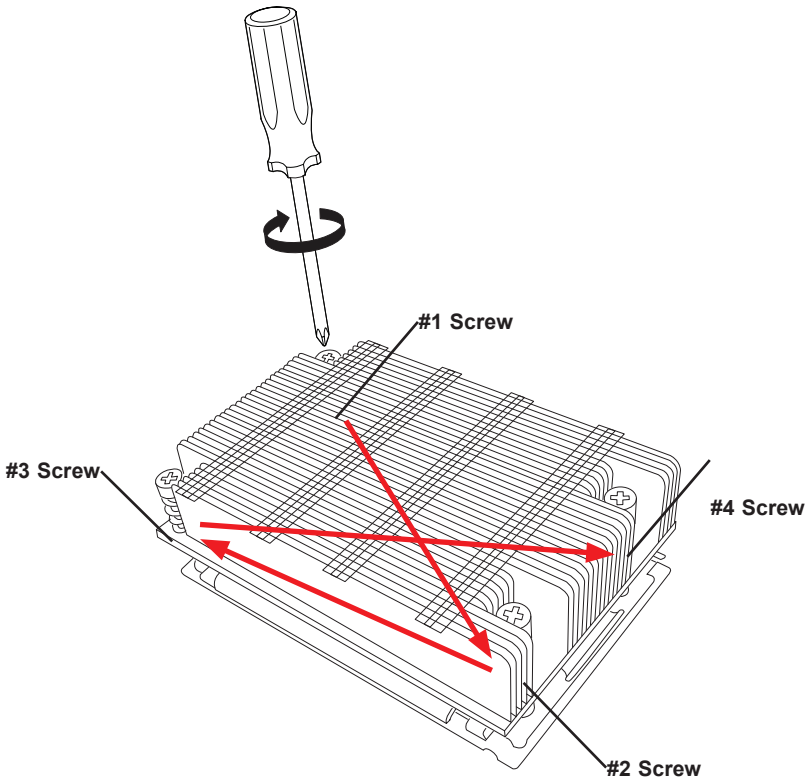


Figure 3-11. Securing the Heatsink

The processor and heatsink installation is complete. Repeat this procedure for any remaining CPU sockets on the motherboard.

Removing a Heatsink

We do not recommend removing the heatsink. If necessary, please follow the instructions below to prevent damage to the CPU or the CPU socket.

Note: Wait for the heatsink to cool down before removing it.

1. Unscrew and remove the heatsink screws from the motherboard in the sequence as show in the figure above.
2. Hold and gently pivot the heatsink back and forth to loosen it from the CPU. (Do not use excessive force when dislodging the heatsink!)
3. Once the heatsink is loose, remove it from the CPU.
4. Clean the surface of the CPU and the heatsink to get rid of the old thermal grease. Reapply the proper amount of thermal grease to the surface before you re-install the heatsink.

Uninstalling the Processor and Heatsink

1. Remove the heatsink.
2. Clean the Thermal grease left by the heatsink on the CPU package lid to limit the risk of it contaminating the CPU package land pads or contacts in the socket housing.
3. Reverse the procedure for installing the force frame onto the socket, unscrewing the plate in the 3-2-1 screw order and lift the force frame to the vertical position.
4. Lift the rail frame using the lift tabs near the front end of the rail frame. Note that the rail frame is spring loaded, so be careful lifting it up into a vertical position.
5. Grip the handle of the carrier frame and pull upwards to extract it from the rail frame. Return the carrier frame/CPU package to its original shipping container.
6. Grip the handle on the external cap and return it to the rail frame sliding it downwards till it rests in the frame.
7. Gripping the rail frame, rotate it downwards till it rests above and locks over the socket housing in its horizontal position.
8. Push and rotate down the force frame till it is over the external cap and rail frame into a horizontal position.
9. While holding down the force frame, secure it back to the socket frame by securing screw 1 in place. Note that without a CPU package in place, it is not necessary to tighten down screws 2 and 3 at this time.

Memory Support and Installation

Note: Check the Supermicro website for recommended memory modules.

Important: Exercise extreme care when installing or removing DIMM modules to prevent any possible damage.

Memory Support

The H12SSW-NT supports Up to two TB of ECC DDR4 3200MHz speed, RDIMM/ LRDIMM/3DS/NVDIMM memory in eight slots. Refer to the table below for additional memory information.

Populating RDIMM/RDIMM 3DS/LRDIMM/LRDIMM 3DS DDR4 Memory Modules

Type	DIMM Population	Maximum DIMM Capacity (GB)			Maximum Frequency (MHz)
		1 Channel	4 Channels	8 Channels	
RDIMM	1R	32GB	128GB	256GB	3200
	2R	64GB	256GB	512GB	3200
LRDIMM	4R	128GB	512GB	1TB	3200
	2S4R	256GB	1TB	2TB	3200
LRDIMM 3DS	2S2R (4 Ranks)	128GB	512GB	1TB	3200
	2S4R (8 Ranks)	256GB	1TB	2TB	3200

DIMM Module Population

When populating the motherboard with DIMM modules, please keep in mind the following:

- Always use DDR4 DIMM modules of the same type, size and speed.
- All eight memory channels per CPU socket should be populated with each channel having equal capacity. This enables the memory subsystem to operate in eight-way interleaving mode, which should provide the best performance in most cases.
- In most configurations, populating fewer than eight channels is supported, but not recommended.

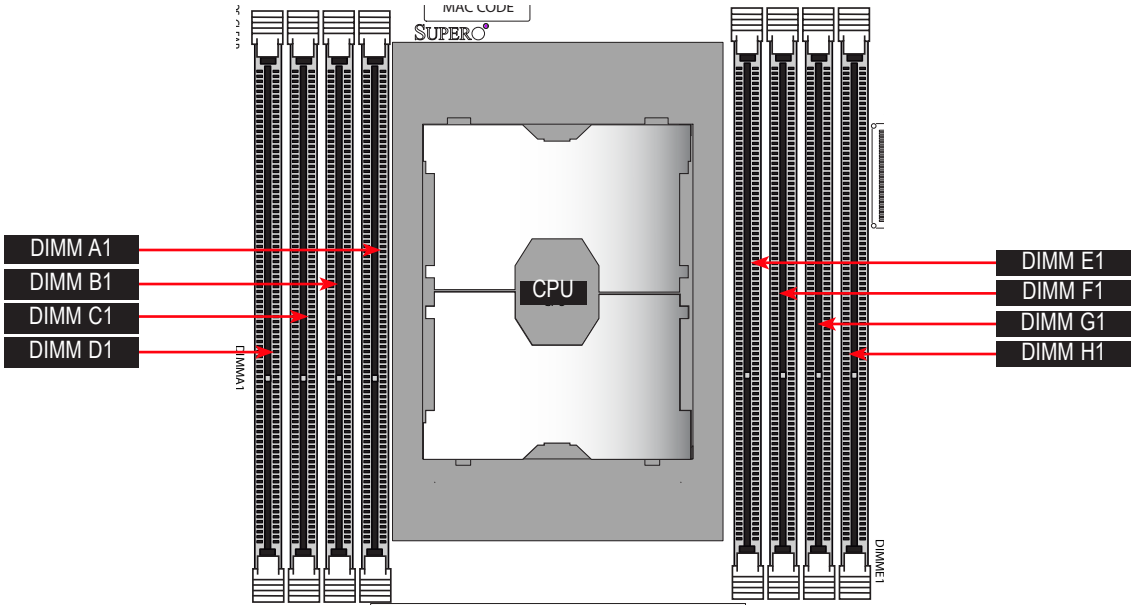


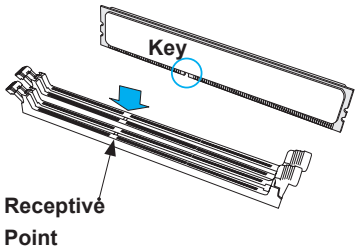
Figure 3-12. DIMM Numbering

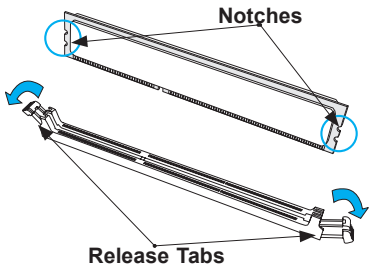
The Processor and its Memory Module Distribution								
CPU#	Channel							
	D1	C1	B1	A1	E1	F1	G1	H1
	1 DIMM (Supported, Not Recommended)							
CPU1		✓						
	2 DIMMs (Supported, Not Recommended)							
CPU1	✓	✓						
	4 DIMMs							
CPU1	✓	✓					✓	✓
	6 DIMMs							
CPU1	Unbalanced, not recommended							
	8 DIMMs							
CPU1	✓	✓	✓	✓	✓	✓	✓	✓

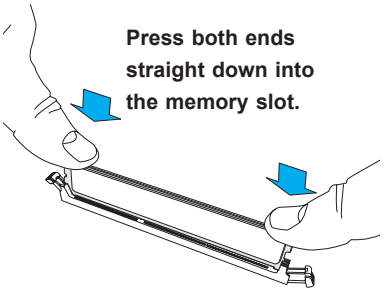
***Note: Most configurations populating fewer than eight channels are supported, but not recommended.**

DIMM Installation

1. Insert the desired number of DIMMs into the memory slots, there is no specific sequence or order required.
2. Push the release tabs outwards on both ends of the DIMM slot to unlock it.
3. Align the key of the DIMM module with the receptive point on the memory slot.
4. Align the notches on both ends of the module against the receptive points on the ends of the slot.
5. Press both ends of the module straight down into the slot until the module snaps into place.
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 loosened, remove it from the memory slot.

Caution: Exercise extreme caution when installing or removing memory modules to prevent damage to the DIMMs or slots.

PCI Expansion Card Installation

The system includes two pre-installed riser cards: RSC-RW-6, for a low-profile PCI-E x16 card, and RSC-W-66G4, which supports two FHFL PCI-E x16 cards. Riser cards position the expansion cards at a 90 degree angle, allowing them to fit inside the 1U chassis.

Installing PCI Expansion Cards

The riser cards have already been pre-installed into the motherboard. Perform the following steps to install an add-on card:

1. Remove the riser card bracket from the chassis by unscrewing the screws indicated in Figure 3-13.

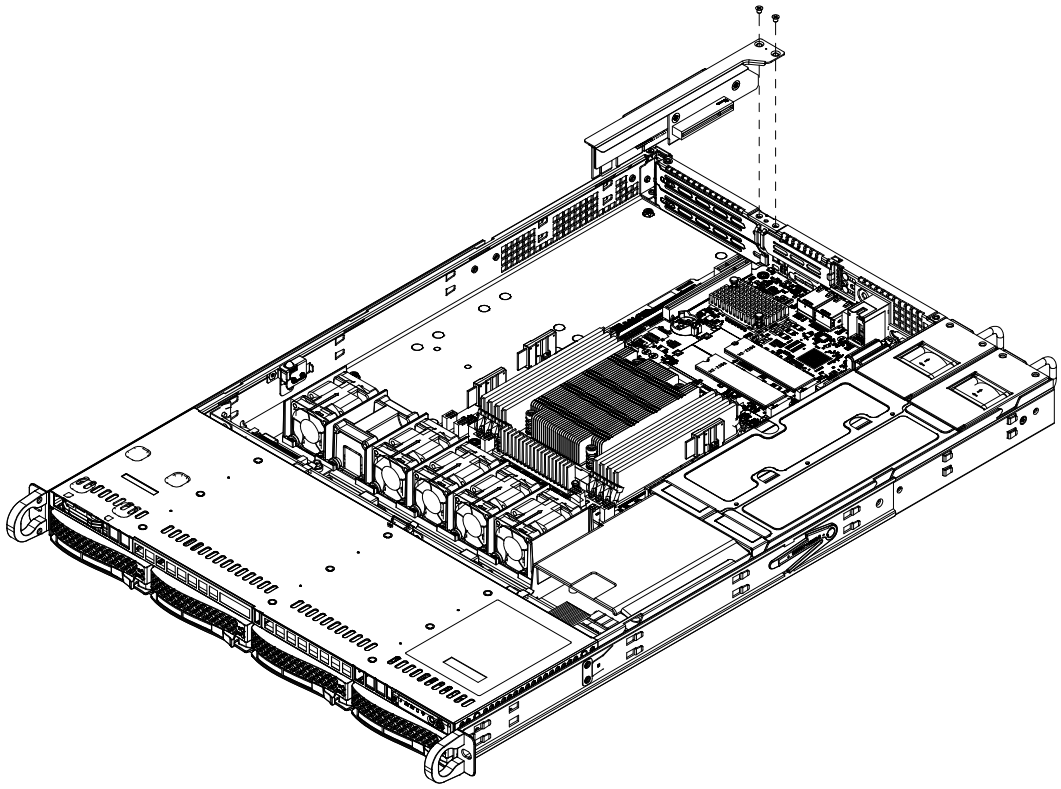


Figure 3-13. Removing the Riser Bracket

Note: Graphics in this manual are for illustration purposes only. Your components may look slightly different.

2. Lift the riser card bracket from the chassis.
3. Install the riser card on the bracket with the two screws provided, see Figure 3-13.
4. Open the latch on the end of the bracket.
5. Install the expansion card by sliding the card into the appropriate slot in the riser card, and then close the bracket latch over the end of it.
6. Install the entire assembly into the appropriate slot on the motherboard while aligning the bracket in the rear of the chassis.

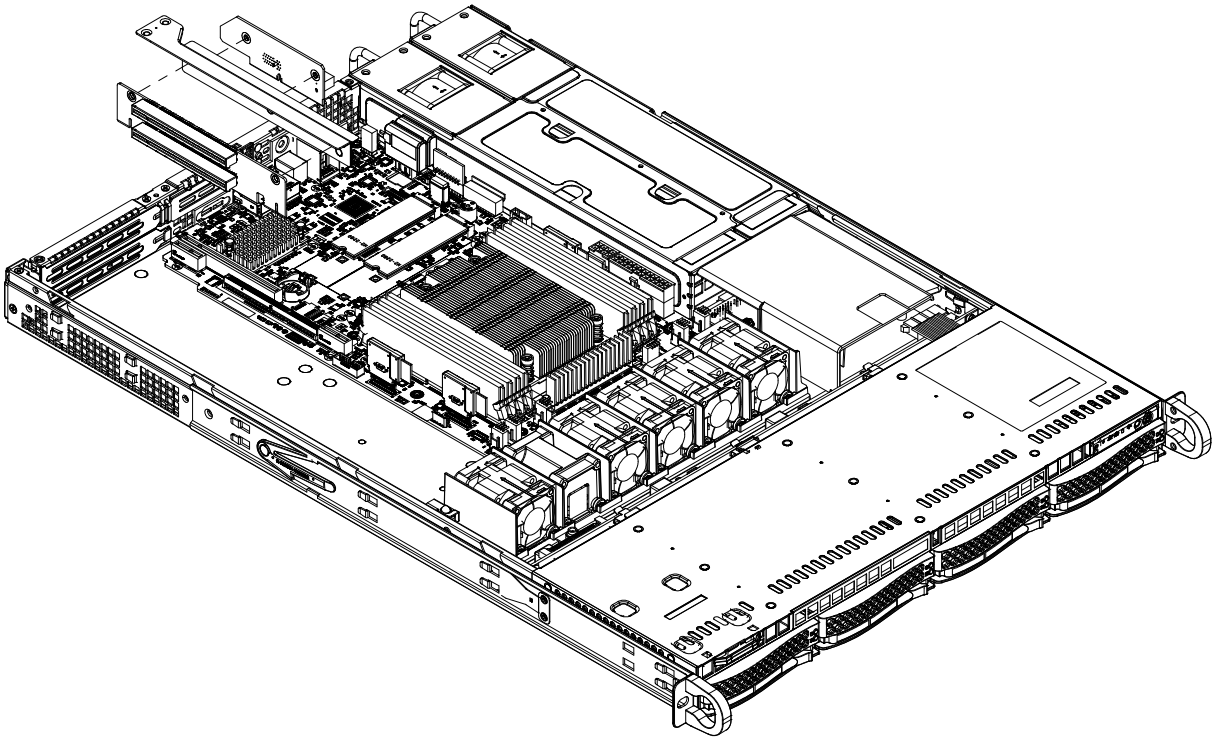


Figure 3-14. Installing Riser Card to Bracket

Note: Graphics in this manual are for illustration purposes only. Your components may look slightly different.

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 as described in section 3.1.

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.

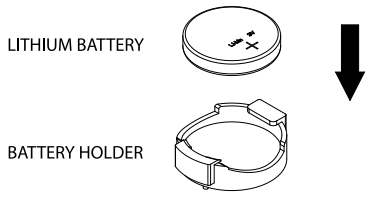


Figure 3-15. Installing the Onboard Battery

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).

3.4 Chassis Components

Hard Drives

Your server may or may not have come with hard drives installed. Up to four 3.5" SATA hard drives are supported by the chassis.

The hard drives are mounted in drive carriers to simplify their installation and removal from the chassis. (Both procedures may be done without removing power from the system.)

Hard Drive Carrier Indicators

Each hard drive carrier has two LED indicators: an activity indicator and a status indicator. In RAID configurations, the status indicator lights to indicate the status of the drive. In non-RAID configurations, the status indicator remains off. See the table below for details.

Hard Drive Carrier LED Indicators			
	LED Color	**State**	**Status**
Activity LED	Blue	Solid On	SAS/NVMe drive installed
	Blue	Blinking	I/O activity
Status LED	Red	Solid On	Failed drive for SAS/SATA/NVMe with RSTe support
	Red	Blinking at 1 Hz	Rebuild drive for SAS/SATA/NVMe with RSTe support
	Red	Blinking with two blinks and one stop at 1 Hz	Hot spare for SAS/SATA/NVMe with RSTe support
	Red	On for five seconds, then off	Power on SAS/SATA/NVMe with RSTe support
	Red	Blinking at 4 Hz	Identity drive for SAS/SATA/NVMe with RSTe support
	Red	Solid On	Safe to remove NVMe device
	Green	Blinking at 1 Hz	Attention state- do not remove NVMe device

Removing a Hot-Swap Drive Carrier

1. Push the release button on the carrier.
2. Swing the handle fully out.
3. Grasp the handle and use it to pull the drive carrier out of its bay.

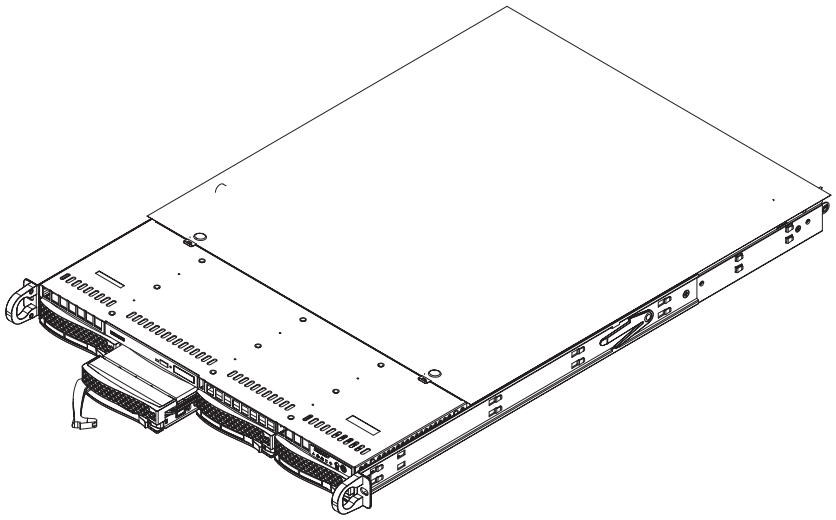


Figure 3-16. Removing a Drive Carrier

Note: Enterprise level hard disk drives are recommended for use in Supermicro chassis and servers. For information on recommended HDDs for AS -1014S-WTRT, visit the Supermicro website at https://www.supermicro.com/products/nfo/AMD_SP3.cfm?pg=SS, and click AS -1014S-WTRT, then Drive Options.

Mounting a Drive in a Drive Carrier

1. Remove the dummy drive, which comes pre-installed in the drive carrier, by removing the screws securing the dummy drive to the carrier. Note that these screws cannot be reused on the actual 3.5" hard drive.
2. Insert a drive into the carrier with the PCB side facing down and the connector end toward the rear of the carrier.
3. Align the drive in the carrier so that the screw holes of both line up. Note that there are holes in the carrier marked “SATA” to aid in correct installation.
4. Secure the drive to the carrier with four M3 screws. These screws are included in the chassis accessory box.
5. Insert the drive carrier into its bay, keeping the carrier oriented so that the hard drive is on the top of the carrier and the release button is on the right side. When the carrier reaches the rear of the bay, the release handle will retract.
6. Push the handle in until it clicks into the locked position

Removing a Drive from a Drive Carrier

1. After removing a carrier from the server, remove the screws that secure the hard drive to the carrier and separate the hard drive from the carrier.
2. Replace the carrier back into the drive bay.

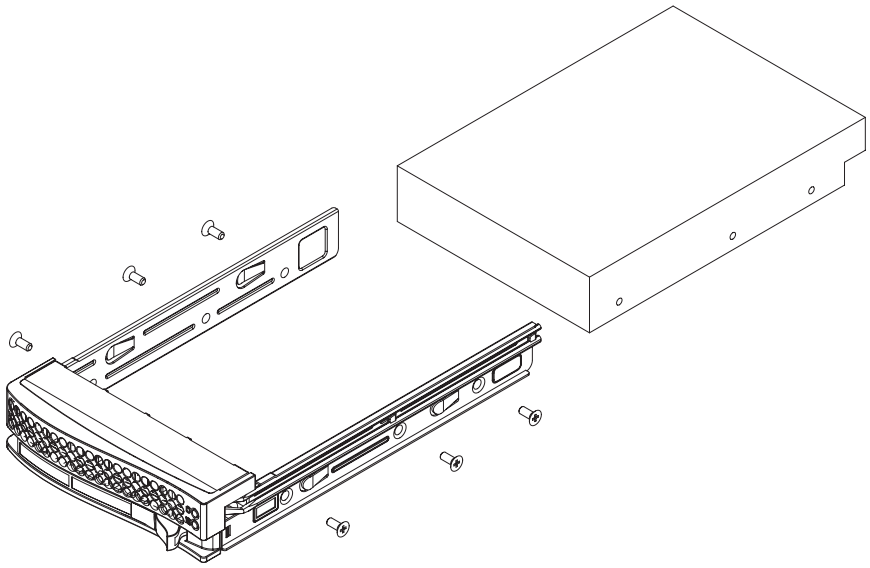


Figure 3-17. Removing a Dummy Drive from a Carrier

Installing an M.2 Solid State Drive

Note: There are some thermal limitations with M.2 drives. Please contact Supermicro Support before installing an M.2 device.

The motherboard can accommodate an M.2 solid state drive (SSD). The M.2 socket supports NVMe PCI-E 3.0 x2 (32 Gb/s) or SATA SSD cards in the 2280 or 22110 form factors. The 22110 form factor is recommended because the appropriate standoff comes pre-installed on the motherboard.

Caution: Use industry-standard anti-static equipment, such as gloves or wrist strap, and follow precautions to avoid damage caused by ESD.

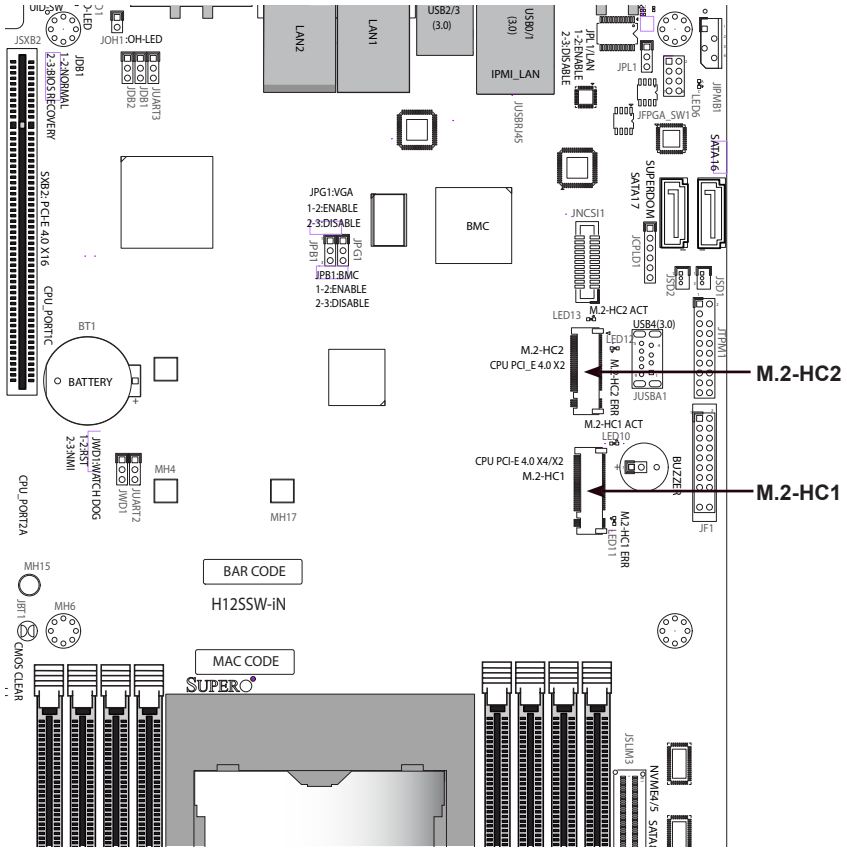


Figure 3-18. M.2 Slot Locations

Installing an M.2 2280 Device

1. Power down the system as described in Section 3.1 and then remove the top chassis cover as described in Section 3.2.
2. To loosen the M.2 plastic standoff on the motherboard, lift up its top square latch, and use gentle force to pull it out of the hole.
3. Move and place the standoff plug in the proper hole.
4. Insert the M.2 2280 device at a slight angle in the M.2 slot, and ensure the notch on the other end of the device aligns the standoff top.
5. Pull the top square latch down and ensure the latch plug is pushed in standoff to secure the device in place.
6. Replace the node into the chassis.

Air Shroud

Air shrouds concentrate airflow to maximize fan efficiency. The SC815TS chassis air shroud does not require screws to set up.

Air Shroud Installation

1. Begin by removing power from the system as described in Section 3.1. Remove the chassis cover as described in Section 3.2.
2. Position the air shroud in alignment with the CPU, memory card and fan locations.
3. Check the air shroud and motherboard components, removing the break-away pieces from the side of the air shroud if required.
4. Place the air shroud into the chassis.
5. Replace the chassis cover, plug the power cords into the rear of the power supply and power up the system.

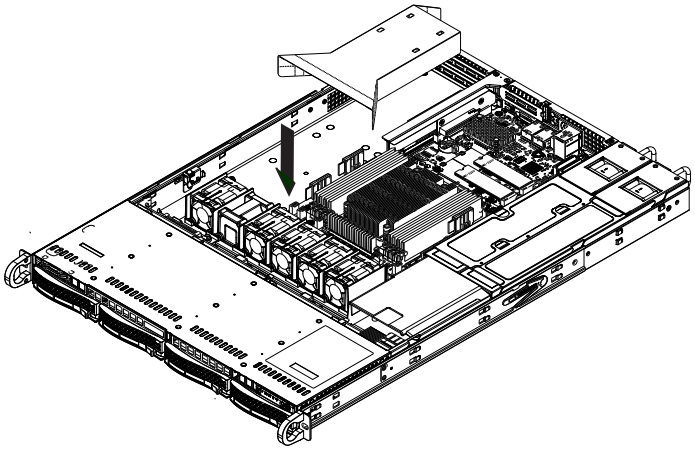


Figure 3-19. Installing the Air Shroud

Note: Graphics in this manual are for illustration purposes only. Your components may look slightly different.

Checking the Airflow

Check the Airflow

1. Make sure there are no objects obstructing the airflow in and out of the server.
2. Do not operate the server without hard drives or drive carriers in the drive bays. Use only recommended server parts.
3. Make sure no wires or foreign objects obstruct airflow through the chassis. Pull all excess cabling out of the airflow path or use shorter cables.
4. The control panel LEDs inform you of system status. See the Control Panel in Section 1.4 for details on the LEDs and the control panel buttons.

DVD-ROM Drive Installation

The AS -1014S-WTRT can accommodate a slim DVD drive (optional). Side mounting brackets are needed to install the DVD drive in the chassis.

Accessing a DVD-ROM Drive

Begin by removing power from the system as described in Section 3.1.

1. Unplug the power and data cables from the drive.
2. Locate the locking tab at the rear of the drive. It will be on the left side of the drive when viewed from the front of the chassis.
3. Pull the tab away from the drive and push the drive unit out the front of the chassis.
4. Add a new drive by following this procedure in reverse order. You may hear the faint *click* of the locking tab when the drive is fully inserted.
5. Reconnect the data and power cables to the drive then replace the chassis cover and restore power to the system.

System Cooling

Four 4-cm counter-rotating fans provide the cooling for the system. Each fan unit is actually made up of two fans joined back-to-back, which rotate in opposite directions. This counter-rotating action generates exceptional airflow and is effective in dampening vibration levels. The chassis provides two additional open fan housings, where an additional system fan may be added for optimal cooling.

It is very important that the chassis top cover is installed for the cooling air to circulate properly through the chassis and cool the components.

Changing a System Fan

1. If necessary, open the chassis while the system is running to determine which fan has failed. Never run the server for an extended period of time with the chassis cover open.
2. Remove power from the system as described in Section 3.1
3. Unplug the fan cable from the motherboard and remove the failed fan from the chassis.
4. Replace the failed fan with an identical 4-cm fan, available from Supermicro.
5. Push the new fan into the vacant space in the housing 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.

6. Reposition the fan housing back over the two mounting posts in the system, then reconnect the fan wires to the same fan headers on the motherboard.

7. Power up the system and check that the fan is working properly and that the LED on the control panel has turned off. Finish by replacing the chassis cover.

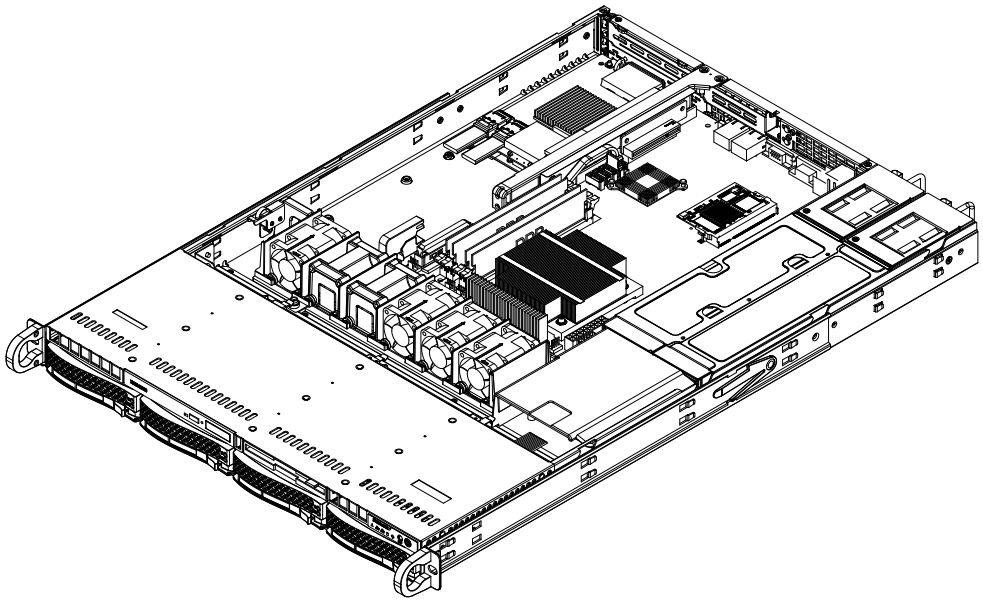


Figure 3-20. Replacing a System Fan

Note: the figure above is intended to show fan location only. The motherboard may differ from that in the AS -1014S-WTRT.

Power Supply

The AS -1014S-WTRT has a redundant, hot-plug 500W power supply consisting of two power modules. Each power supply module has an auto-switching capability, which enables it to automatically sense and operate at a 100V - 240V input voltage.

Power Supply Failure

If either of the two power supply modules fail, the other module will take the full load and allow the system to continue operation without interruption. The PWR Fail LED will illuminate and remain on until the failed unit has been replaced. Replacement units can be ordered directly from Supermicro (see contact information in the Preface). The hot-swap capability of the power supply modules allows you to replace the failed module without powering down the system.

Replacing the Power Supply

1. Check the LEDs on the power supplies to determine which module has failed.
2. Unplug the power cord from the failed module.
3. Push the release tab (on the back of the power supply) as illustrated, then pull the power supply out using the handle provided.
4. Push the new power supply module into the power bay until you hear a click (replace with the same model: p/n PWS-504P-1R).
5. Reconnect the power cord to the new module.

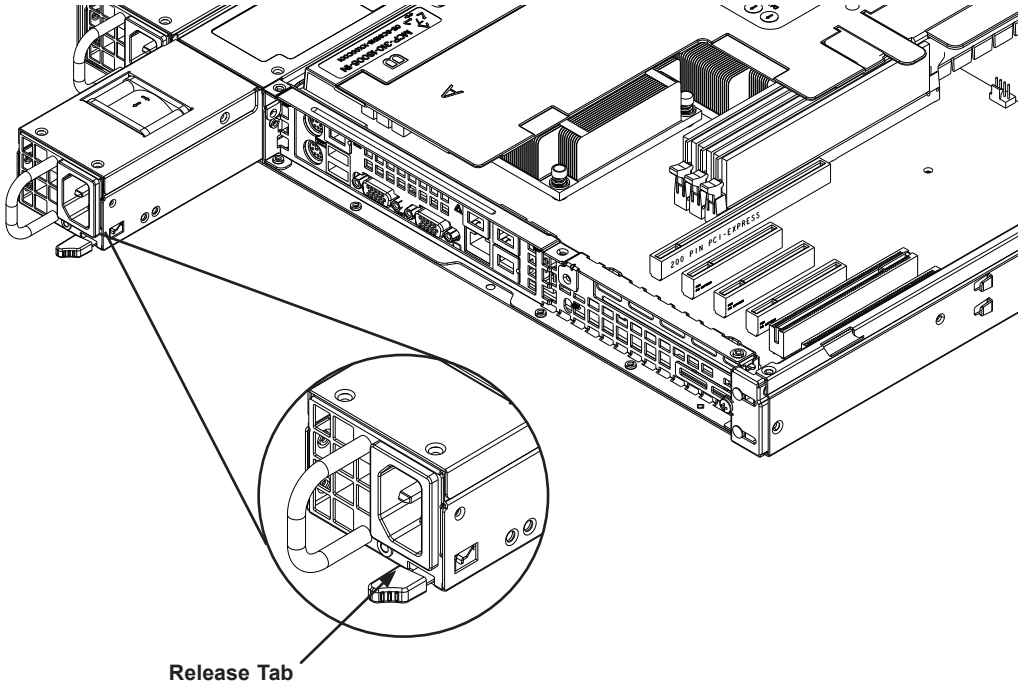


Figure 3-21. Replacing the Power Supply

Note: The figures above is intended to show the power supply locations only. The chassis and motherboard may differ from that found in the AS -1014S-WTRT.

Installing Expansion Cards

The system accepts one full height full-length expansion card and one low profile card, mounted on a riser card and riser bracket. The low profile slot may be used for a Supermicro SAS controller card.

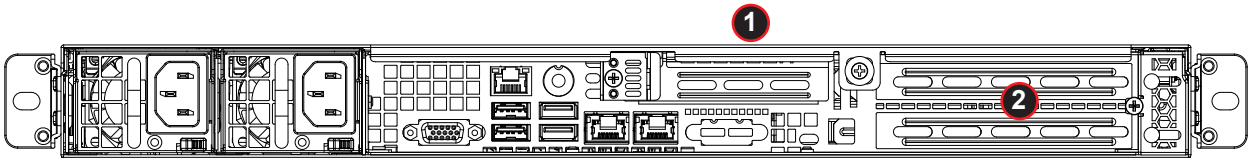


Figure 3-22. PCI Expansion Card Chassis Slots

Expansion Card Configurations		
Slot	**Mechanical**	**Electrical**
1	Low profile, half length	x16
2	Full Height, full length	x16

Full height = 4.2", Low profile = 2.5",
Full length = 9.5", Half length = 6.6"

Installing an Expansion Card

1. Power down the system as described in section 3.1 and remove the cover.
2. Remove the bracket and sections of the chassis in the rear. Small screwdriver icons are etched into the chassis pieces to help identify which screws must be removed.

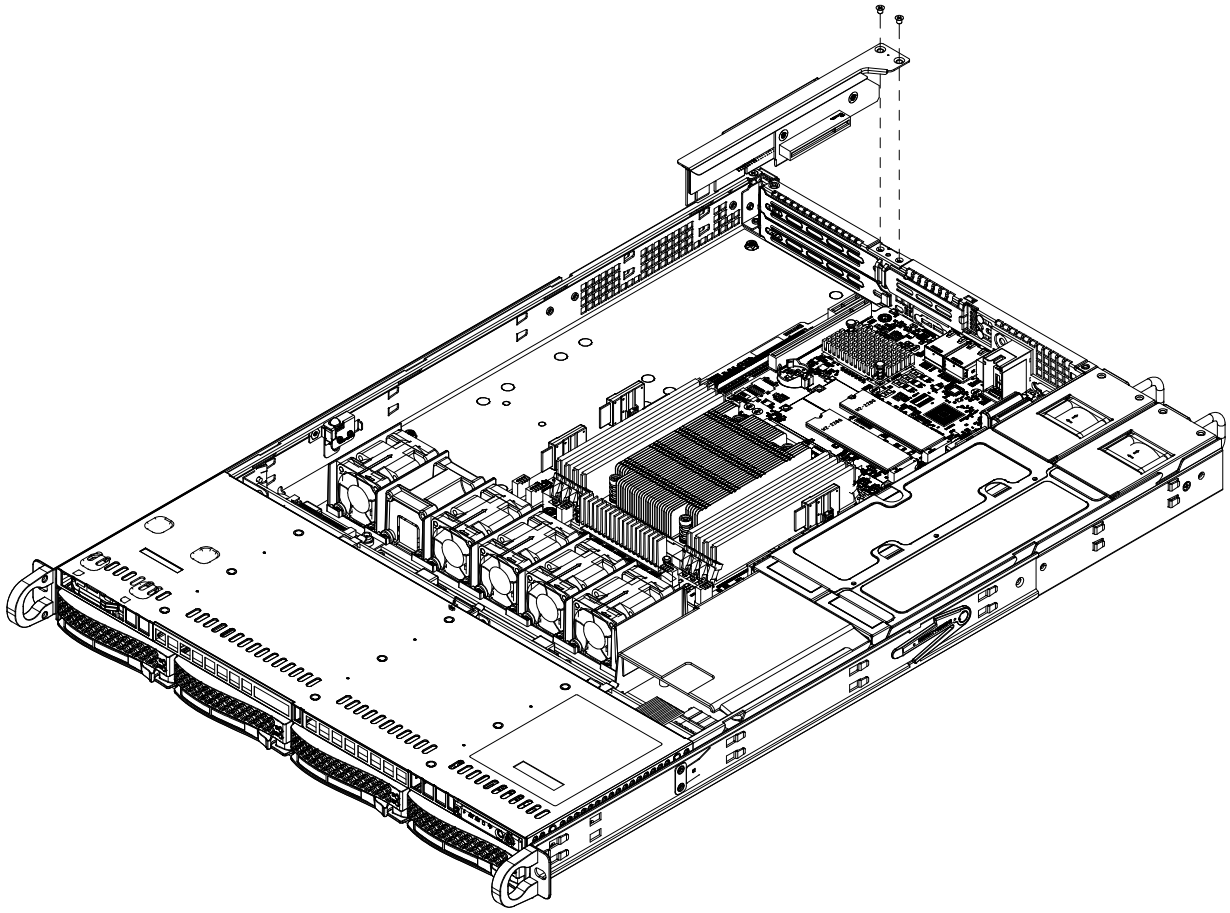


Figure 3-23. Riser Card Bracket and Expansion Slots

3. If necessary, attach the riser card to the riser card bracket using screws.
4. Insert the expansion card into a slot on the riser card while aligning the expansion card backplate with the open slot in the bracket.

5. Insert the riser card into the motherboard expansion slot while aligning the riser card bracket with the rear of the chassis. Secure the bracket with screws.

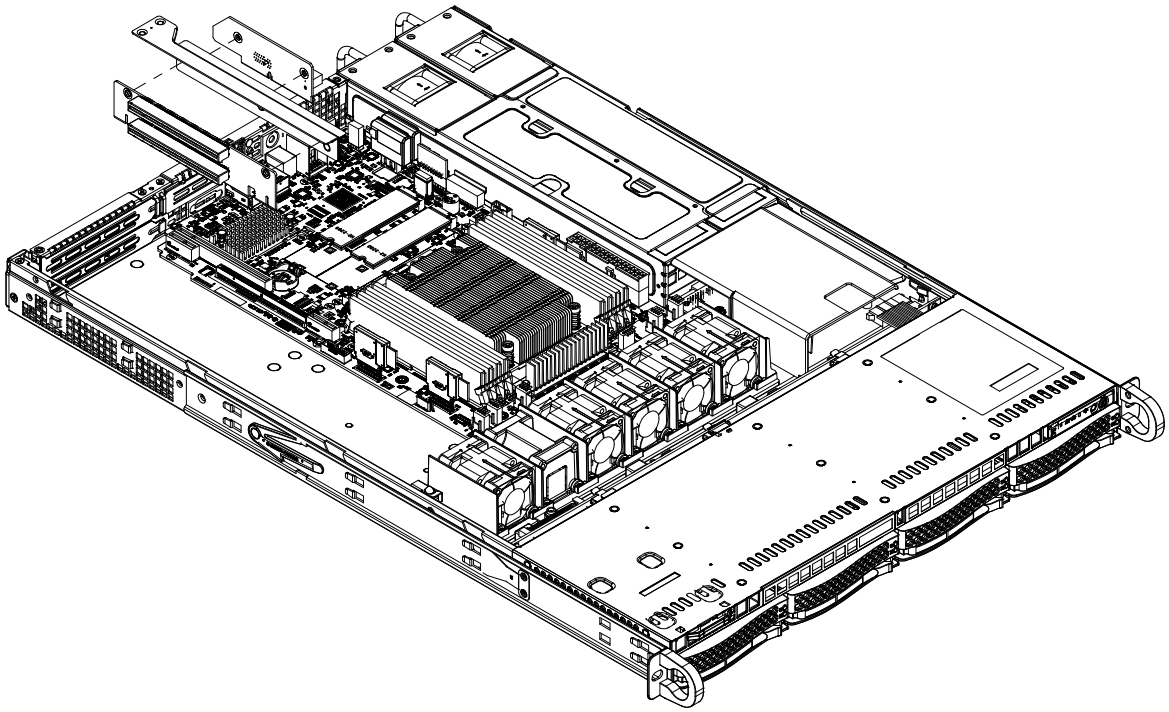


Figure 3-24. Expansion Cards Installed

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 severboard layout indicating component locations may be found in Chapter 1.

Please review the Safety Precautions in Chapter 3 before installing or removing components.

4.1 Power Connections

Two power connections on the AS -1014S-WTRT must be connected to the power supply. The wiring is included with the power supply.

- 12V 8-pin ATX XPU Power (JPWR1)
- 24-pin Primary ATX Power Supply (JPWR2)

Main Power Supply Connector (JPWR2)

The primary power supply connector (JPWR2) is an ATX power connector that the power supply plugs into directly.

ATX Power 24-pin Connector Pin Definitions

Pin#	Definition	Pin #	Definition
13	+3.3V	1	+3.3V
14	-12V	2	+3.3V
15	Ground	3	Ground
16	PS_ON	4	+5V
17	Ground	5	Ground
18	Ground	6	+5V
19	Ground	7	Ground
20	Res (NC)	8	PWR_OK
21	+5V	9	5VSB
22	+5V	10	+12V
23	+5V	11	+12V
24	Ground	12	+3.3V

12V 8-pin Auxilliary Power Connector (JPWR1)

JPWR1 is an 8-pin ATX power input to provide auxiliary power to the processor. Refer to the table below for pin definitions.

12V 8-pin Power Connector Pin Definitions	
Pins	**Definition**
1 through 4	Ground
5 through 8	+12V

4.2 Connectors and Headers

Onboard Fan Headers (FAN1~FAN6)

There are six fan headers on the motherboard. These are 4-pin fan headers; pins 1-3 are backward compatible with traditional 3-pin fans. The onboard fan speeds are controlled by Thermal Management (via Hardware Monitoring) in the BMC. When using Thermal Management setting, please use all 4-pin fans.

Fan Header Pin Definitions	
Pin#	**Definition**
1	Ground (Black)
2	+12V (Red)
3	Tachometer (Yellow)
4	PWM Control (Blue)

Disk-On-Module Power Connector (JSD1 & JSD2)

The Disk-On-Module (DOM) power connector at JSD1 provides 5V power to a solid-state DOM storage device connected to one of the SATA ports. See the table below for pin definitions.

DOM Power Pin Definitions	
Pin#	**Definition**
1	5V
2	Ground
3	Ground

SATA (SATA0, SATA1)

The H12SSW-NT has two available SATA 3.0 ports (SATA0 and SATA1) on the motherboard. These are standard SATA 3.0 ports.

SATA Connectors Pin Definitions

Pin#	Signal
1	Ground
2	SATA_TXP
3	SATA_TXN
4	Ground
5	SATA_RXN
6	SATA_RXP
7	Ground

NVMe Ports (NVMe 0/1)

The H12SSW-iN/NT has two dedicated NVMe ports (two ports on a slim SAS connector) on the motherboard. These ports provide high-speed, low-latency PCI-E 3.0 x4 connections directly from the CPU to NVMe Solid State (SSD) drives. This greatly increases SSD data-throughput performance and significantly reduces PCI-E latency by simplifying driver/software requirements resulting from direct PCI-E interface from the CPU to the NVMe SSD drives.

SATA/NVMe Hybrid Ports (SATA 0-7/NVMe 2-3; SATA 8-15/NVMe 4-5)

Each SATA/NVMe hybrid port can support up to eight SATA 3.0 ports or 2x NVMe ports (PCI-E x4), for a total of sixteen SATA ports or four NVMe ports.

PCI-E M.2 Connector (M.2-C1, M.2-C2)

The PCI-E M.2 connectors are for devices such as memory cards, wireless adapters, etc. These devices must conform to the PCI-E M.2 specifications (formerly known as NGFF). These particular PCI-E M.2 supports M-Key (PCI-E x2) storage cards. M.2-C1 can support a speed of PCI-E x4, when one M.2 device is installed.

TPM Header/Port 80 Connector (TPM Port)

The TPM header is used to connect a Trusted Platform Module (TPM), which is available from a third-party vendor. A TPM is a security device that supports encryption and authentication in hard drives. It enables the motherboard to deny access if the TPM associated with the hard drive is not installed in the system.

Please go to the following link for more information on TPM: http://www.supermicro.com/manuals/other/TPM.pdf.

Trusted Platform Module Header Pin Definitions

Pin#	Definition	Pin#	Definition
1	LCLK	2	GND
3	LFRAME#	4	Key
5	LRESET#	6	N/C
7	LAD3	8	LAD2
9	3.3V	10	LAD1
11	LAD0	12	GND
13	SMB_CLK (optional)	14	SMB_DAT (optional)
15	P3V3_STBY	16	SERIRQ
17	GND	18	LP_CLKRUN (optional)
19	LPC_PD (optional)	20	LPC_DRQ (optional)

USB Ports (USB 0~3, USB 4, USB 5/6)

There are a total of seven USB ports supported on the motherboard. Four are located on the back panel , USB 0/1, and USB 2/3 (both are USB 3.1 compliant). There are also three ports located on the motherboard, two are on one header, USB 5/6 (3.1) and the remaining one is on a 3.1 "Type A" connector (USB 4).

Front Panel USB 3.0 Pin Definitions

Pin#	Definition	Pin#	Definition
1	VBUS	19	Power
2	Stda_SSRX-	18	USB3_RN
3	Stda_SSRX+	17	USB3_RP
4	GND	16	GNd
5	Stda_SSTX-	15	USB3_TN
6	Stda_SSTX+	14	USB3_TP
7	GND	13	GND
8	D-	12	USB_N
9	D+	11	USB_P
10		x	

Expansion Slots

The motherboard features several expansion slots. The table below describes each slot's type and speed.

Expansion Slots	
Name	**Description**
SXB1A	Riser Slot
SXB1B	Riser Slot (for CPU Slot1 PCI-E 4.0 x16, Slot3, PCI-E 4.0 x16)
SXB1C	Riser Slot
SXB2	Riser Slot (for CPU Slot2, PCI-E 4.0 x16)

Onboard Battery (BATTERY)

The onboard back up battery is located at BATTERY. The onboard battery provides backup power to the on chip CMOS, which stores the BIOS' setup information. It also provides power to the Real Time Clock (RTC) to keep it running.

Chassis Intrusion (JL1)

A Chassis Intrusion header is located at JL1 on the motherboard. Attach the appropriate cable from the chassis to the header to inform you when the chassis is opened.

Chassis Intrusion Pin Definitions	
Pins	**Definition**
1	Ground
2	Intrusion Input

Overheat LED/Fan Fail (JOH1)

The JOH1 header is used to connect an LED indicator to provide warnings of chassis overheating or fan failure. This LED will blink when a fan failure occurs. Refer to the table on right for pin definitions.

Overheat / Fan Fail Pin Definitions	
Pins	**Definition**
1	5vDC
2	OH Active

Overheat / Fan Fail LED Status	
Status	**Definition**
Off	Normal
On, Solid	Overheat
On, Blinking	Fan Failure

IPMB System Management Bus Header (JIPMB1)

A System Management Bus header for IPMI 2.0 is located at JIPMB1. Connect the appropriate cable here to use the IPMB I^2C connection on your system.

IPMB Header Pin Definitions	
Pin#	**Definition**
1	Data
2	Ground
3	Clock
4	No Connection

Power SMB Header (PWRI2C)

Power System Management Bus (I2C) header monitors power supply, fan and system temperatures. See the table below for pin definitions.

Power SMB Header Pin Definitions	
Pin#	**Definition**
1	Clock
2	Data
3	PWR Fail
4	Ground
5	+3.3V

Front Control Panel

JF1 contains header pins for various buttons and indicators that are normally located on a control panel at the front of the chassis. These connectors are designed specifically for use with Supermicro chassis. See the figure below for the location of JF1.

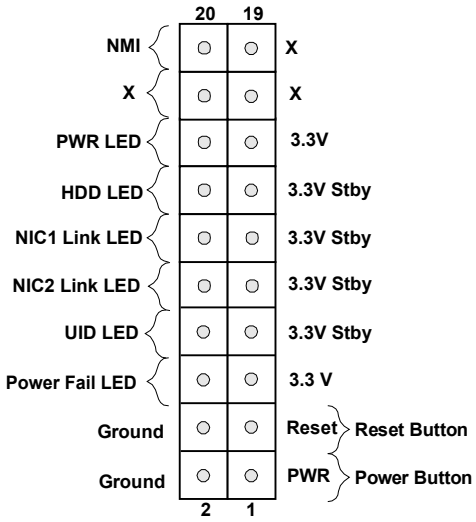


Figure 4-1. JF1 Pin Definitions

NMI Button

The non-maskable interrupt button header is located on pins 19 and 20 of JF1. Refer to the table below for pin definitions.

NMI Button Pin Definitions (JF1)	
Pin#	**Definition**
19	Control
20	Ground

Power LED

The Power LED connection is located on pins 15 and 16 of JF1. Refer to the table below for pin definitions.

Power LED Pin Definitions (JF1)	
Pin#	**Definition**
15	+5V
16	Ground

HDD LED

The HDD LED connection is located on pins 13 and 14 of JF1. Attach a hard drive LED cable here to display disk activity detected on the motherboard's built-in disk controllers. See the table below for pin definitions.

HDD LED
Pin Definitions (JF1)

Pin#	Definition
13	+5V
14	HDD Active

NIC1/NIC2 Link LED

The NIC (Network Interface Controller) LED connection for LAN port 1 is located on pins 11 and 12 of JF1, and the LED connection for LAN Port 2 is on Pins 9 and 10. Attach the NIC LED cables to display network activity. Refer to the table below for pin definitions.

NIC1/NIC2 LED
Pin Definitions (JF1)

Pin#	Definition
9/11	Vcc
10/12	Ground

UID LED

The UID LED is on pins 7 and 8 of JF1. Connect the front panel UID LED to this header to indicate when the rear UID switch is turned on. Refer to the table below for pin definitions.

UID LED
Pin Definitions (JF1)

Pin#	Definition
7	Vcc
8	Ground

Power Fail LED

The Power Fail LED connection is located on pins 5 and 6 of JF1. Refer to the table below for pin definitions.

Power Fail LED
Pin Definitions (JF1)

Pin#	Definition
5	Vcc
6	Ground

Reset Button

The Reset Button connection is located on pins 3 and 4 of JF1. Attach the hardware reset switch from the computer case to this header to reset the system. Refer to the table below for pin definitions.

Reset Button Pin Definitions (JF1)	
Pin#	**Definition**
3	Reset
4	Ground

Power Button

The Power Button connection is located on pins 1 and 2 of JF1. Momentarily contacting both pins will power on/off the system. This button can also be configured to function as a suspend button (with a setting in the BIOS - see Chapter 4). To turn off the power in the suspend mode, press the button for at least 4 seconds. Refer to the table below for pin definitions.

Power Button Pin Definitions (JF1)	
Pin#	**Definition**
1	Signal
2	+3V Standby

4.3 Ports

Rear I/O Ports

See the figure below for the locations and descriptions of the various I/O ports on the rear of the motherboard.

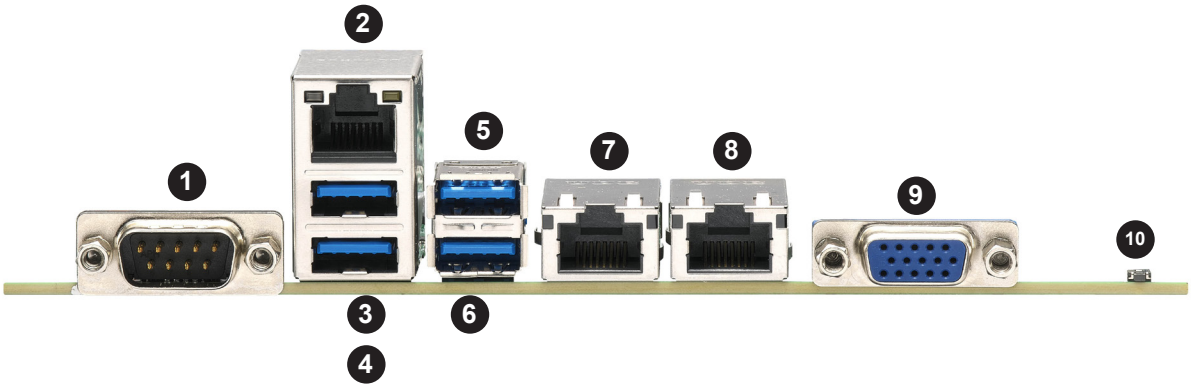


Figure 4-2. Rear I/O Ports

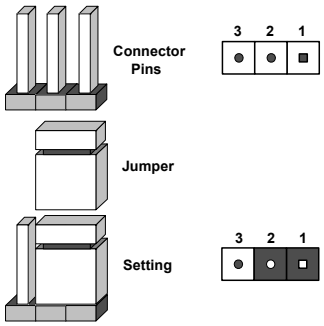
Rear I/O Ports					
#	**Description**	**#**	**Description**	**#**	**Description**
1	COM Port	5	USB 2 (3.1)	9	VGA Port
2	IPMI LAN Port	6	USB 3 (3.1)	10	UID Switch & UID LED
3	USB 0 (3.1)	7	LAN Port #1		
4	USB 1 (3.1)	8	LAN Port #2		

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.
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 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 (JWD1)

JWD1 controls the Watch Dog function. Watch Dog is a monitor that can reboot the system when a software application hangs. Jumping pins 1-2 will cause Watch Dog to reset the system if an application hangs. Jumping pins 2-3 will generate a non-maskable interrupt signal for the application that hangs. Watch Dog must also be enabled in BIOS. The default setting is Reset.

Note: When Watch Dog is enabled, the user needs to write their own application software to disable it.

Watch Dog Jumper Settings

Jumper Setting	Definition
Pins 1-2	Reset (Default)
Pins 2-3	NMI
Open	Disabled

LAN Enable/Disable (JPL1)

Jumper JPL1 will enable or disable LAN1/LAN2. See below for jumper settings. The default setting is enabled.

GLAN Enable Jumper Settings

Pin#	Definition
1-2	Enabled (default)
2-3	Disabled

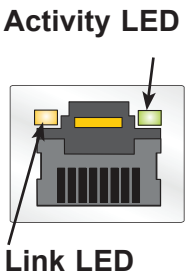
4.5 LED Indicators

LAN Port LEDs

The motherboard's Ethernet ports have two LED indicators. The Activity LED is green and indicates connection and activity. The Link LED may be green, orange/amber, or off to indicate the speed of the connection. Refer to the tables below for more information.

Link LED, Connection Link, Speed Indicator	
LED Color	**Definition**
Orange	1 Gb/s
Green	10 Gb/s

Activity LED		
Color	**State**	**Definition**
None	No Connection	
None	Off	Link
Green	Flashing	Active



UID LED Indicator (LED1)

The rear LED1 is located next to the UID switch. The front UID LED is located on the front panel. When you press the UID switch, both rear LED1 and front UID LED indicators will turn on. Press the UID switch again to turn off the LED indicators. Use this UID Indicator to 'mark' the system, so the system can be easily identified whether on the front or back (e.g., a system rack with multiple units installed).

UID LED LED Indicator		
Color	**State**	**Definition**
Blue	Solid On	Unit Identified
None	Off	UID Off

BMC Hearbeat LED (LED7)

A BMC Heartbeat LED is located at LED7 on the motherboard. When LED7 is blinking, the BMC is functioning normally. See the table below for more information.

BMC Heartbeat LED State		
Color	**State**	**Definition**
Green	Solid On	BMC is not ready
Green	Blinking	BMC Normal
Green	Fast Blinking	BMC: Initializing

Onboard Power OK LED (LED6)

LED6 is an onboard power OK LED. When this LED6 is lit, it means the system is turned on, and all the system power rails are ready. When the system is turned off, or any one of the system power rails fail, this LED will turn off. Turn off the system, and unplug the power cable before removing or installing any component(s).

Onboard Power LED Indicator	
LED Color	**Definition**
Off	System Off (power cable not connected)
Green	System On, Power OK

M.2 Interface Detection LED (LED11 and LED12)

The M.2 Interface Detection LED indicates that an M.2 interface was detected and working correctly on either M.2-C1 (LED11) or M.2-C2 (LED12). It will indicate whether a SATA or PCI-E signal has been detected.

M.2 Active LED Indicator	
LED Color	**Definition**
Off	Off (PCI-E)
Green	On (SATA)

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 DVD, perhaps using an external USB/SATA DVD drive, or a USB flash drive, or the IPMI KVM console.

2. Retrieve the proper RST/RSTe driver. 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.

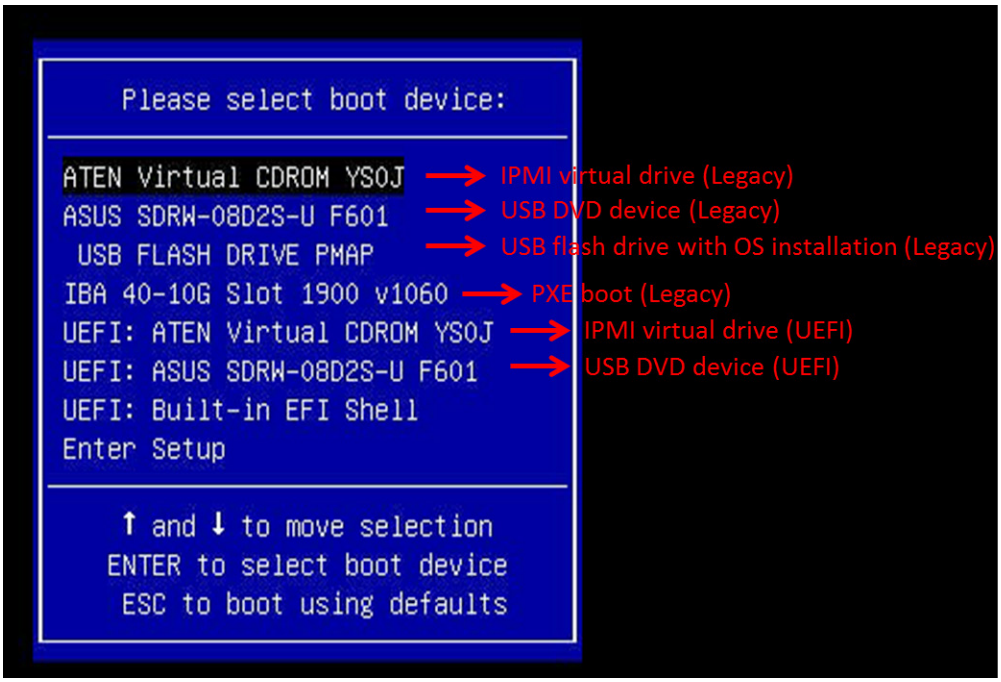


Figure 5-1. Select Boot Device

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.

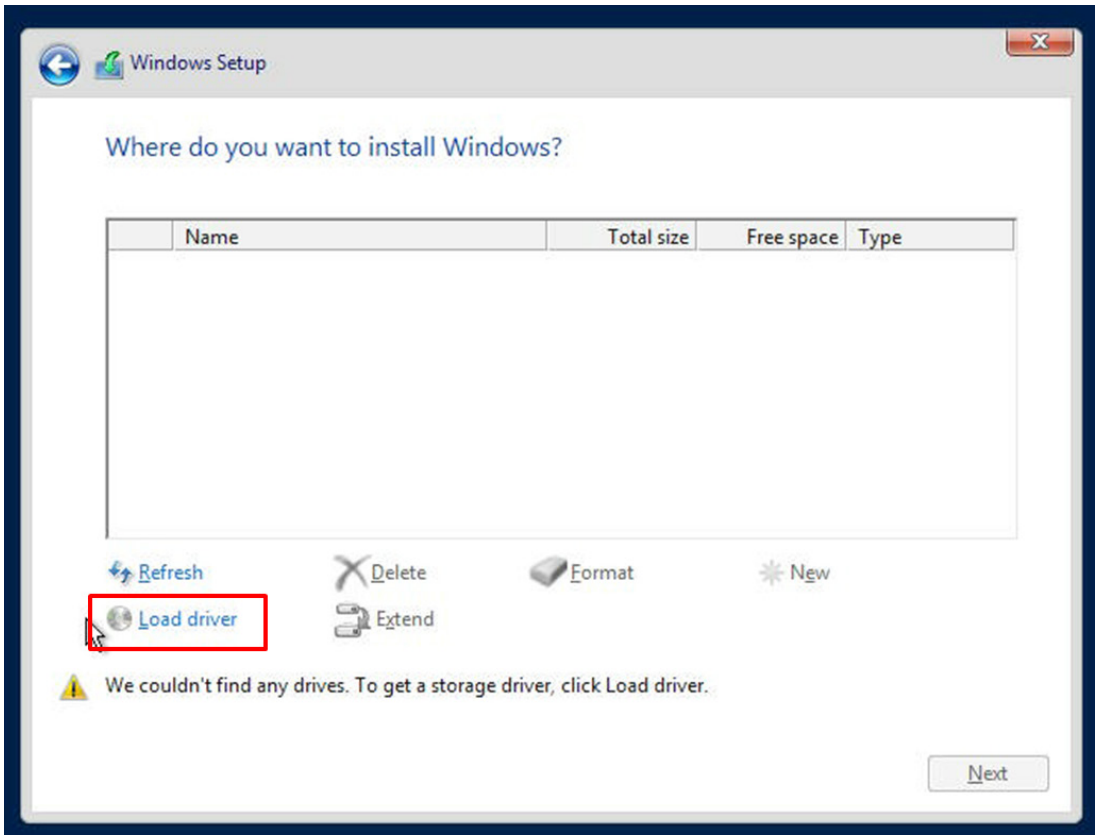


Figure 5-2. Load Driver Link

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/wftp/driver/AMD/SP3. 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 to a USB flash drive or a DVD. (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.

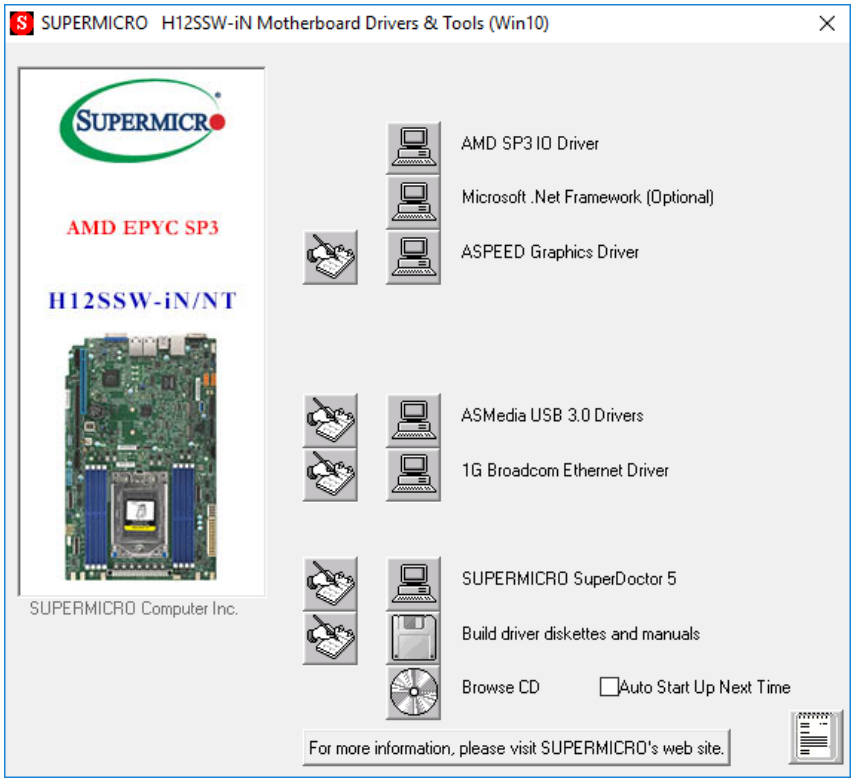


Figure 5-3. Driver & Tool Installation Screen

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 IPMI. SuperDoctor 5 Management Server monitors HTTP, FTP, and SMTP services to optimize the efficiency of your operation.

Note: The default User Name and Password for SuperDoctor 5 is ADMIN / ADMIN.

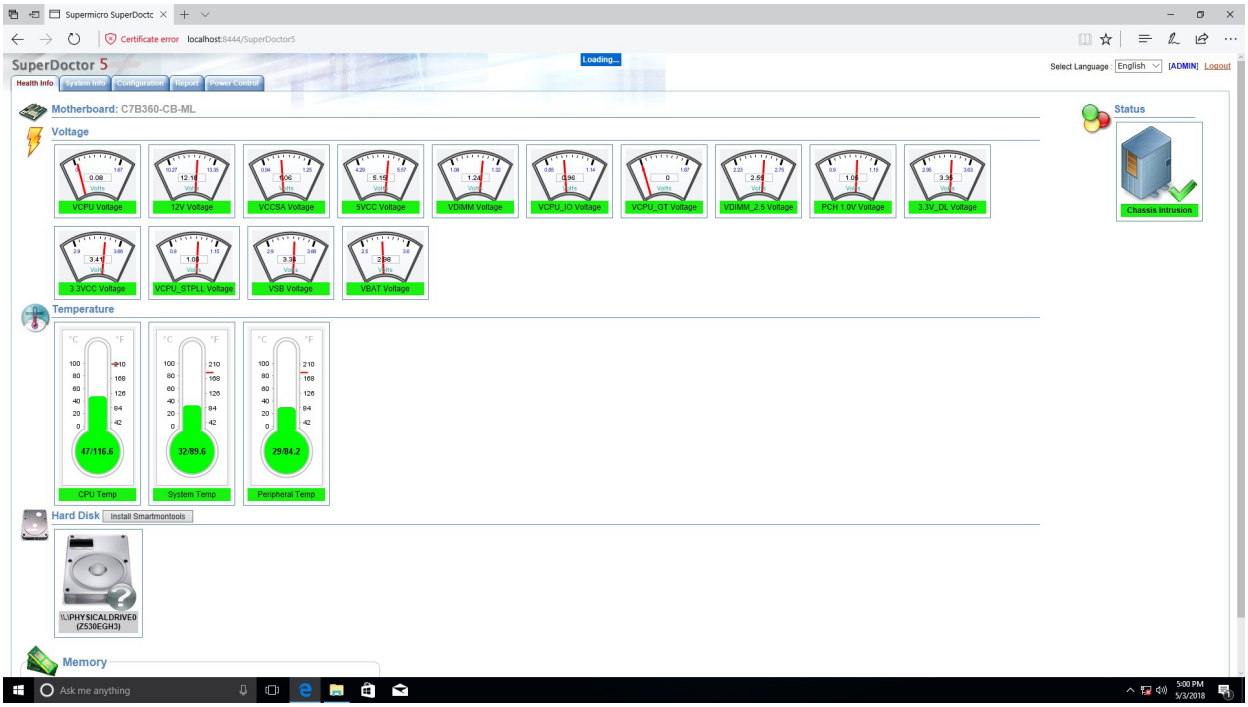


Figure 5-4. SuperDoctor 5 Interface Display Screen (Health Information)

5.4 IPMI

The H12SSW-NT supports the Intelligent Platform Management Interface (IPMI). IPMI is used to provide remote access, monitoring and management. There are several BIOS settings that are related to IPMI.

Supermicro ships standard products with a unique password for the BMC ADMIN user. This password can be found on a label on the motherboard.

For general documentation and information on IPMI, please visit our website at: http://www.supermicro.com/products/nfo/IPMI.cfm.

Chapter 6

UEFI BIOS

6.1 Introduction

This chapter describes the AMIBIOS™ Setup utility for the H12SSW-NT motherboard. The BIOS is stored on a chip and can be easily upgraded using a flash program.

Note: Due to periodic changes to the BIOS, some settings may have been added or deleted and might not yet be recorded in this manual. Please refer to the Manual Download area of our website for any changes to BIOS that may not be reflected in this manual.

Starting the Setup Utility

To enter the BIOS Setup Utility, hit the <Delete> key while the system is booting-up. (In most cases, the <Delete> key is used to invoke the BIOS setup screen. There are a few cases when other keys are used, such as <F1>, <F2>, etc.) Each main BIOS menu option is described in this manual.

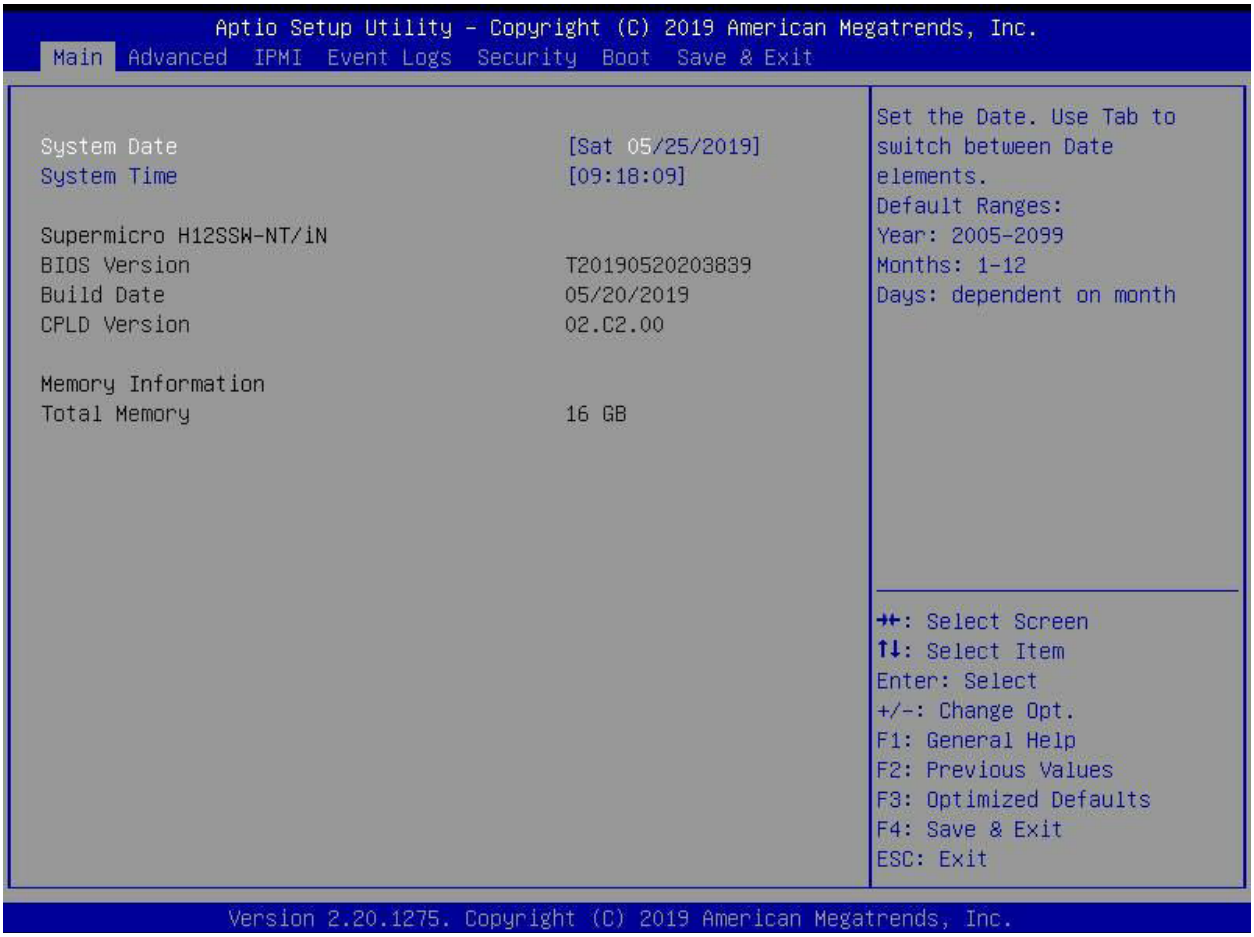
The Main BIOS screen has two main frames. The left frame displays all the options that can be configured. “Grayed-out” options cannot be configured. The right frame displays the key legend. Above the key legend is an area reserved for a text message. When an option is selected in the left frame, it is highlighted in white. Often a text message will accompany it. (Note that BIOS has default text messages built in. We retain the option to include, omit, or change any of these text messages.) Settings printed in **Bold** are the default values.

A " ▶" indicates a submenu. Highlighting such an item and pressing the <Enter> key will open the list of settings within that submenu.

The BIOS setup utility uses a key-based navigation system called hot keys. Most of these hot keys (<F1>, <F2>, <F3>, <Enter>, <ESC>, <Arrow> keys, etc.) can be used at any time during the setup navigation process.

6.2 Main Setup

When you first enter the AMI BIOS setup utility, you will enter the Main setup screen. You can always return to the Main setup screen by selecting the Main tab on the top of the screen. The Main BIOS setup screen is shown below. The following Main menu items will be displayed:



System Date/System Time

Use this option to change the system date and time. Highlight *System Date* or *System Time* using the arrow keys. Enter new values using the keyboard. Press the <Tab> key or the arrow keys to move between fields. The date must be entered in MM/DD/YYYY format. The time is entered in HH:MM:SS format.

Note: The time is in the 24-hour format. For example, 5:30 P.M. appears as 17:30:00. The date's default value is 01/01/2015 after RTC reset.

Supermicro H12SSW-iN/NT

BIOS Version

This item displays the version of the BIOS ROM used in the system.

Build Date

This item displays the date when the version of the BIOS ROM used in the system was built.

CPLD Version

This item displays the CPLD version of the BIOS ROM used in the system.

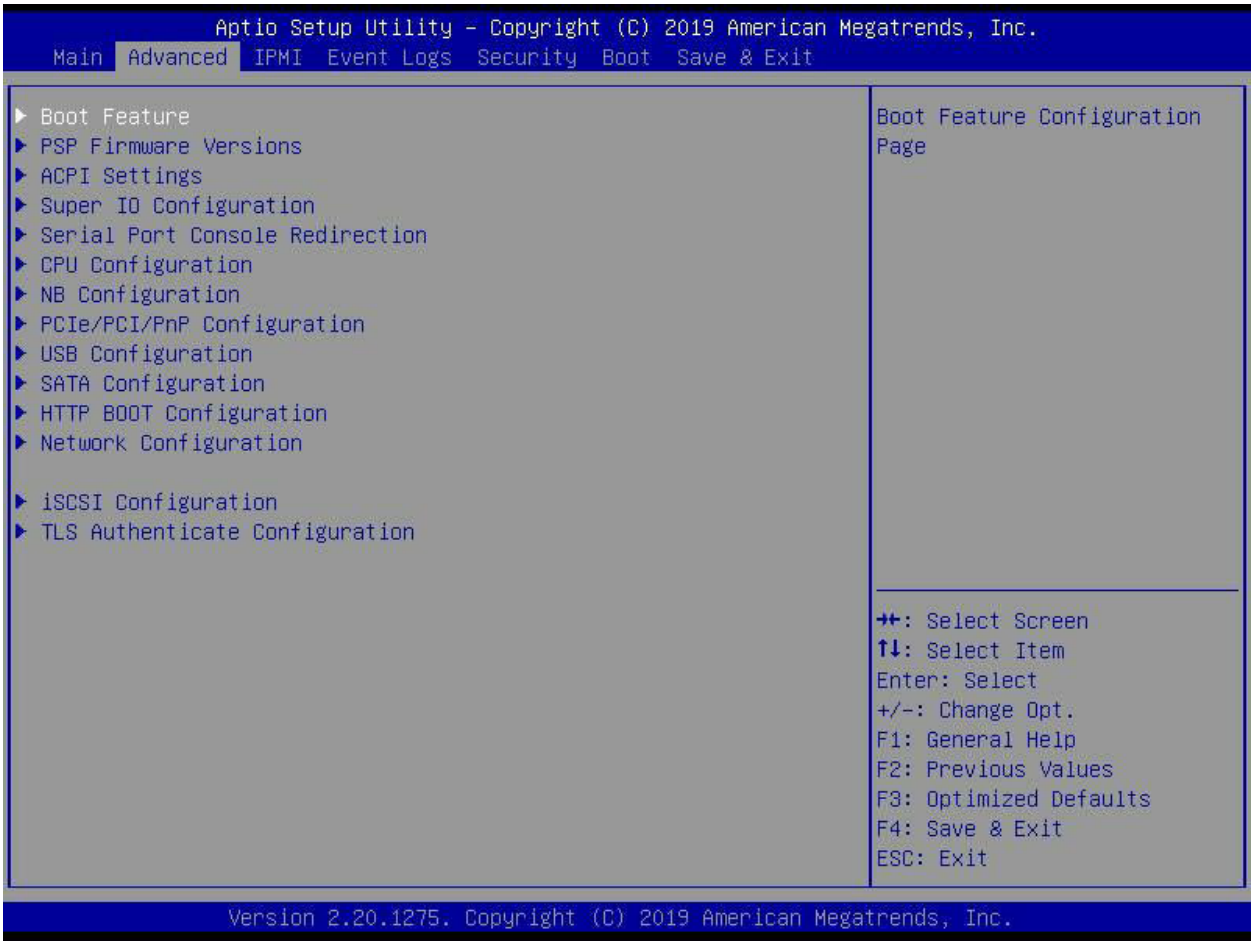
Memory Information

Total Memory

This feature displays the total system memory detected.

6.3 Advanced

Use the arrow keys to select a top item and press <Enter> to access the submenu items.



Warning: Take caution when changing the Advanced settings. An incorrect value, a very high DRAM frequency, or an incorrect DRAM timing setting may make the system unstable. When this occurs, revert to the default to the manufacture default settings.

▶Boot Feature

Quiet Boot

Use this feature to select the screen display between the POST messages and the OEM logo upon bootup. Select Disabled to display the POST messages. Select Enabled to display the OEM logo instead of the normal POST messages. The options are **Enabled** and Disabled.

Option ROM Messages

Use this feature to set the display mode for the Option ROM. Select Keep Current to display the current AddOn ROM setting. Select Force BIOS to use the Option ROM display set by the system BIOS. The options are **Force BIOS** and Keep Current.

Bootup NumLock State

Use this feature to set the Power on state for the <Numlock> key. The options are Off and **On**.

Wait For "F1" If Error

Use this feature to force the system to wait until the 'F1' key is pressed if an error occurs. The options are Disabled and **Enabled**.

INT19 (Interrupt 19) Trap Response

Interrupt 19 is the software interrupt that handles the boot disk function. When this item is set to Immediate, the ROM BIOS of the host adaptors will "capture" Interrupt 19 at bootup immediately and allow the drives that are attached to these host adaptors to function as bootable disks. If this item is set to Postponed, the ROM BIOS of the host adaptors will not capture Interrupt 19 immediately and allow the drives attached to these adaptors to function as bootable devices at bootup. The options are **Immediate** and Postponed.

Re-try Boot

If this item is enabled, the BIOS will automatically reboot the system from a specified boot device after its initial boot failure. The options are **Disabled**, Legacy Boot, and EFI Boot.

Power Configuration

Watch Dog Function

If enabled, the Watch Dog Timer will allow the system to reset or generate NMI based on jumper settings when it is expired for more than 5 minutes. The options are **Disabled** and Enabled.

Restore on AC Power Loss

Use this feature to set the power state after a power outage. Select Stay-Off for the system power to remain off after a power loss. Select Power-On for the system power to be turned on after a power loss. Select Last State to allow the system to resume its last power state before a power loss. The options are Stay Off, Power On, and **Last State**.

Power Button Function

This feature controls how the system shuts down when the power button is pressed. Select 4 Seconds Override for the user to power off the system after pressing and holding the power button for 4 seconds or longer. Select Instant Off to instantly power off the system as soon as the user presses the power button. The options are **Instant Off** and 4 Seconds Override.

▶Trusted Computing

Security Device Support

If this feature and the TPM jumper on the motherboard are both set to Enabled, onboard security devices will be enabled for TPM (Trusted Platform Module) support to enhance data integrity and network security. Please reboot the system for a change on this setting to take effect. The options are Disable and **Enable**.

TPM State

This software switch will enable or disable the installed security device. The options are Disable and **Enable**.

Pending Operation

This feature wil schedule an operation for the the security device, select TPM Clear to clear any pending operation. The options are **None** and TPM Clear

Device Select

Selecting TPM 1.2 will restrict support to TPM 1.2 devices, TPM 2.0 to TPM 2.0 devices and Auto will auto-select according to the version of the device installed, with the default set to TPM 2.0. The options are TPM 1.2, TPM 2.0 and **Auto**.

▶PSP Firmware Versions

This section displays the Platform Security Processor (PSP) firmware versions.

PSP Directory Level 1 (Fixed)

- PSP Recovery BL Ver
- SMU FW Version
- ABL Version
- APCB Version
- APOB Version
- APPB Version

PSP Directory Level 2 (Updateable)

- PSP Bootloader Version
- SMU FW Version
- ABL Version
- APCB Version
- APOB Version
- APPB Version

▶ ACPI Settings

High Precision Event Timer

The High Precision Event Timer (HPET) can produce periodic interrupts and is used to synchronize multimedia streams, providing smooth playback and reducing the need to use other timestamp calculations. The options are **Enabled** and Disabled.

NUMA Nodes Per Socket

This feature specifies the number of desired Non-Uniform Memory Access (NUMA) nodes per socket. Setting this to zero will attempt to interleave the two sockets together. The options are NPS0, NPS1, NPS2, NPS4 and **Auto**.

▶Super IO Configuration

The following Super IO information will display:

- Super IO Chip AST2500

▶Serial Port 1 Configuration

Serial Port

Select Enabled to enable the selected onboard serial port. The options are Disabled and **Enabled**.

Device Settings

This item displays the status of a serial part specified by the user.

Change Settings

This feature specifies the base I/O port address and the Interrupt Request address of a serial port specified by the user. Select Auto to allow the BIOS to automatically assign the base I/O and IRQ address. The options are **Auto**, (IO=3F8h; IRQ=4;); (IO=3F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;); (IO=2F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;); (IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;); and (IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;).

▶SOL Configuration

Serial Port

Select Enabled to enable the selected onboard serial port. The options are Disabled and **Enabled**.

Change Settings

This feature specifies the base I/O port address and the Interrupt Request address of a serial port specified by the user. Select Auto to allow the BIOS to automatically assign the base I/O and IRQ address. The options are **Auto**, (IO=2F8h; IRQ=3;); (IO=3F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;); (IO=2F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;); (IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;); and (IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;).

▶Serial Port Console Redirection

COM1

Console Redirection

Select Enabled to enable console redirection support for a serial port specified by the user. The options are Enabled and **Disabled**.

If the item above set to Enabled, the following items will become available for user's configuration:

▶Console Redirection Settings

Terminal Type

This feature allows the user to select the target terminal emulation type for Console Redirection. Select VT100 to use the ASCII Character set. Select VT100+ to add color and function key support. Select ANSI to use the Extended ASCII Character Set. Select VT-UTF8 to use UTF8 encoding to map Unicode characters into one or more bytes. The options are VT100, **VT100+**, VT-UTF8, and ANSI.

Bits per second

Use this feature to set the transmission speed for a serial port used in Console Redirection. Make sure that the same speed is used in the host computer and the client computer. A lower transmission speed may be required for long and busy lines. The options are 9600, 19200, 38400, 57600 and **115200** (bits per second).

Data Bits

Use this feature to set the data transmission size for Console Redirection. The options are 7 and **8**.

Parity

A parity bit can be sent along with regular data bits to detect data transmission errors. Select Even if the parity bit is set to 0, and the number of 1's in data bits is even. Select Odd if the parity bit is set to 0, and the number of 1's in data bits is odd. Select None if you do not want to send a parity bit with your data bits in transmission. Select Mark to add a mark as a parity bit to be sent along with the data bits. Select Space to add a Space as a parity bit to be sent with your data bits. The options are **None**, Even, Odd, Mark, and Space.

Stop Bits

A stop bit indicates the end of a serial data packet. Select 1 Stop Bit for standard serial data communication. Select 2 Stop Bits if slower devices are used. The options are **1** and 2.

Flow Control

Use this feature to set the flow control for Console Redirection to prevent data loss caused by buffer overflow. Send a "Stop" signal to stop sending data when the receiving buffer is full. Send a "Start" signal to start sending data when the receiving buffer is empty. The options are **None** and Hardware RTS/CTS.

VT-UTF8 Combo Key Support

Select Enabled to enable VT-UTF8 Combination Key support for ANSI/VT100 terminals. The options are Disabled and **Enabled.**

Recorder Mode

Select Enabled to capture the data displayed on a terminal and send it as text messages to a remote server. The options are **Disabled** and Enabled.

Resolution 100x31

Select Enabled for extended-terminal resolution support. The options are Disabled and **Enabled**.

Putty KeyPad

This feature selects the settings for Function Keys and KeyPad used for Putty, which is a terminal emulator designed for the Windows OS. The options are **VT100**, LINUX, XTERMR6, SC0, ESCN, and VT400.

SOL

Console Redirection

Select Enabled to enable SOL console redirection support for a serial port specified by the user. The options are **Enabled** and Disabled.

If the item above set to Enabled, the following items will become available for user's configuration:

▶Console Redirection Settings

Terminal Type

This feature allows the user to select the target terminal emulation type for Console Redirection. Select VT100 to use the ASCII Character set. Select VT100+ to add color and function key support. Select ANSI to use the Extended ASCII Character Set. Select VT-UTF8 to use UTF8 encoding to map Unicode characters into one or more bytes. The options are VT100, **VT100+**, VT-UTF8, and ANSI.

Bits per second

Use this feature to set the transmission speed for a serial port used in Console Redirection. Make sure that the same speed is used in the host computer and the client computer. A lower transmission speed may be required for long and busy lines. The options are 9600, 19200, 38400, 57600 and **115200** (bits per second).

Data Bits

Use this feature to set the data transmission size for Console Redirection. The options are 7 and **8**.

Parity

A parity bit can be sent along with regular data bits to detect data transmission errors. Select Even if the parity bit is set to 0, and the number of 1's in data bits is even. Select Odd if the parity bit is set to 0, and the number of 1's in data bits is odd. Select None if you do not want to send a parity bit with your data bits in transmission. Select Mark to add a mark as a parity bit to be sent along with the data bits. Select Space to add a Space as a parity bit to be sent with your data bits. The options are **None**, Even, Odd, Mark, and Space.

Stop Bits

A stop bit indicates the end of a serial data packet. Select 1 Stop Bit for standard serial data communication. Select 2 Stop Bits if slower devices are used. The options are **1** and 2.

Flow Control

Use this feature to set the flow control for Console Redirection to prevent data loss caused by buffer overflow. Send a "Stop" signal to stop sending data when the receiving buffer is full. Send a "Start" signal to start sending data when the receiving buffer is empty. The options are **None** and Hardware RTS/CTS.

VT-UTF8 Combo Key Support

Select Enabled to enable VT-UTF8 Combination Key support for ANSI/VT100 terminals. The options are Disabled and **Enabled.**

Recorder Mode

Select Enabled to capture the data displayed on a terminal and send it as text messages to a remote server. The options are **Disabled** and Enabled.

Resolution 100x31

Select Enabled for extended-terminal resolution support. The options are Disabled and **Enabled**.

Putty KeyPad

This feature selects the settings for Function Keys and KeyPad used for Putty, which is a terminal emulator designed for the Windows OS. The options are **VT100**, LINUX, XTERMR6, SC0, ESCN, and VT400.

Legacy Console Redirection

▶Legacy Console Redirection Settings

Redirection COM Port

For this setting, select a COM port to display redirection of Legacy OS and Legacy OPROM messages. Options include **COM1** and SOL.

Resolution

For Legacy OS systems, use this setting to specify the number of Rows and Columns supported for redirection. Options include **80x24** and 80x25.

Redirect After Post

For this setting, when the Bootloader is selected, then the Legacy Console Redirection is disabled before booting to the legacy OS. If you select Always Enable, then the Legacy Console Redirection is enabled for legacy OS systems. Default option for this system is **Always Enable**.

Serial Port for Out-of-Band Management /
Windows Emergency Management Services (EMS)

Console Redirection

Select Enabled to enable EMS console redirection support for a serial port specified by the user. The options are **Enabled** and Disabled.

If the item above set to Enabled, the following items will become available for user's configuration:

▶ Console Redirection Settings

Out-of-Band Mgmt Port

The feature selects a serial port in a client server to be used by the Microsoft Windows Emergency Management Services (EMS) to communicate with a remote host server. The options are **COM1,** COM2 (Disabled), and AMT SOL.

Terminal Type

Use this feature to select the target terminal emulation type for Console Redirection. Select VT100 to use the ASCII character set. Select VT100+ to add color and function key support. Select ANSI to use the extended ASCII character set. Select VT-UTF8 to use UTF8 encoding to map Unicode characters into one or more bytes. The options are VT100, VT100+, **VT-UTF8**, and ANSI.

Bits per Second

This item sets the transmission speed for a serial port used in Console Redirection. Make sure that the same speed is used in the host computer and the client computer. A lower transmission speed may be required for long and busy lines. The options are 9600, 19200, 57600, and **115200** (bits per second).

Flow Control

Use this item to set the flow control for Console Redirection to prevent data loss caused by buffer overflow. Send a "Stop" signal to stop sending data when the receiving buffer is full. Send a "Start" signal to start sending data when the receiving buffer is empty. The options are **None,** Hardware RTS/CTS, and Software Xon/Xoff.

Data Bits

Parity

Stop Bits

▶CPU Configuration

SMT Control

Use this setting to specify Simultaneous Multithreading. The options are Disabled and **Auto**.

Core Performance Boost

This setting is used to configure for Core Performance Boost. Options include **Auto** and Disabled.

Global C-state Control

This setting is used to configure for Global C-state Control. Options include **Auto**, Disabled and Enabled.

Core Control

This sets the number of cores to be used by your system. Once this option has been used to remove any cores, a power cycle is required in order for the future selections to take effect. Options include TWO (1+1), Two (2 + 0), Three (3 + 0), Four (2 + 2), Four (4+0), Six (3 + 3) and **Auto**. If unsure, leave this to Auto.

L1 Stream HW Prefetcher / L2 Stream HW Prefetcher

This setting is used to enable or disable the L1/L2 Stream Hardware Prefetcher. The options are **Auto**, Disabled and Enabled.

SVM Mode

This setting **Enables** or Disables CPU Virtualization.

▶CPU Information

These sections are for informational purposes. They will display some details about the detected CPUs on the motherboard, such as:

- CPU Version
- Number of Cores Running
- Processor Family
- Processor Model
- Microcode Patch Level
- L1 Instruction Cache (Size/Method)
- L1 Data Cache (Size/Method)
- L2 Data Cache (Size/Method)
- L3 Cache per Scoket (Size/Method)

▶NB Configuration

Determinism Slider

Use this setting to configure the Determinism Slider. Options include **Auto**, Power and Performance.

cTDP Control

Use this setting to configure the cTDP Control. Options include Manual and **Auto**.

IOMMU

Use this setting to enable/disable IOMMU. Options include Enabled, **Disabled** and Auto.

ACS Enable

Use this setting to enable/disable ACS. Options include Enabled, Disabled and **Auto**.

▶Memory Configuration

Memory Clock

This setting allows you to select different memory clock speed. Options include **Auto** and supported frequencies.

Memory Interleaving

This setting controls fabric level memory interleaving. Note that the channel, die and socket have requirements on memory populations and it will be ignored if the memory doesn't support the selected option. The options are Disabled and **Auto**.

Memory Interleaving Size

This setting controls the memory interleaving size. This determines the starting address of the interleave (bit 8, 9, 10 or 11). The options are 256 Bytes, 512 Bytes, 1 KB, 2 KB or **Auto**.

Chipset Interleaving

This setting controls interleave memory blocks across the DRAM chip for node 0. The options are Disabled and **Auto**.

BankGroupSwap

This setting controls the Bank Group Swap. The options are Enabled, Disabled and **Auto**.

▶CPU1 Memory Information

These sections are for informational purposes. They will display some details about the detected memory according to each CPU on the motherboard, such as:

- Detected Size (per slot, in MB)
- Current Speed (MT/s)

▶PCIe/PCI/PnP Configuration

This menu provides PCIe/PCI/PnP configuration settings and information.

PCI Bus Driver Version

Above 4G Decoding

This setting **Enables** or Disables 64-bit capable devices ability to be decoded in above 4G address space (only if the system supports 64-bit PCI decoding).

SR-IOV Support

If the system has SR-IOV capable PCI-E devices, this setting will Enable or **Disable** the Single Root IO Virtualization Support for the system.

BME DMA Mitigatioin

Use this setting to re-enable the Bus Master Attribute that was disabled during PCI enumeration for PCI bridges after SMM is locked. The options are Enabled and **Disabled**.

ARI Forwarding

If supported by the hardware and set to 'enabled', the downstream port disables its traditional device number field, being 0 enforcement, when turning a type1 configuration request into a type0 configuration request. This permits access to extended functions in an ARI device immediately below the port. The options are Enabled and **Disabled.**

PCIe Spread Spectrum

Use this setting to Enable or **Disable** PCI-E Spread Spectrum for your system.

Target Link Speed

If supported by hardware and set to Force to x.S GT/S (x being a value of 2.5, 5.0 or 8.0) for Downstream Ports, this sets an upper limit on Link Operational Speed by restricting the values advertised by the UPstream component in its training sequences. When **Auto** is selected, the HW initialized data will be used.

VGA Priority

Use this setting to select between onboard or offboard VGA support The options are **Onboard** and Offboard

NVMe Firmware Source

Use this setting to select between the AMI Native firmware support or the device vendor-defined firmware support. The options are AMI Native Support and **Vendor Defined Firmware.**

M.2 (AHCI) Firmware Source

Use this setting to select between the AMI Native firmware support or the device vendor-defined firmware support. The options are AMI Native Support and **Vendor Defined Firmware.**

M.2 HC1 PCI-E 3.0 X4/X2 OPROM
M.2 HC2 PCI-E 3.0 X2 OPROM
RSC-R1UW-2E16 SLOT1 PCI-E X16 OPROM
RSC-R1UW-2E16 SLOT2 PCI-E X16 OPROM
RSC-R1UW-E8R SLOT1 PCI-E X8 OPROM

This setting enables or disables the listed PCI-E Slot OPROM option. The options are Disabled, **Legacy** or EFI.

Onboard LAN

Use this setting to enable or disable the onboard LAN feature. The options are **Enabled** and Disabled..

Onboard LAN1 Option ROM

Use this setting to select which option ROM is to be loaded for onboard LAN1 on the system. Options include Disabled, **PXE** and EFI.

Onboard LAN2 Option ROM

Use this setting to select which firmware function is to be loaded for onboard LAN2 on the system. Options include Disabled and **PXE**.

Onboard Video Option ROM

Use this setting to select which firmware function is to be loaded for onboard LAN2 on the system. Options include Disabled, **Legacy** and EFI.

▶Network Stack Configuration

Network Stack

This setting allows you to **Enable** or Disable the UEFI Network Stack.

Ipv4 PXE Support

This setting allows you to **Enable** or Disable IPv4 PXE boot support. If disabled, IPv4 PXE boot support will not be available.

Ipv4 HTTP Support

This setting allows you to Enable or **Disable** IPv4 HTTP boot support. If disabled, IPv4 HTTP boot support will not be available.

Ipv6 PXE Support

This setting allows you to **Enable** or Disable IPv6 PXE boot support. If disabled, IPv6 PXE boot support will not be available.

Ipv6 HTTP Support

This setting allows you to Enable or **Disable** IPv6 HTTP boot support. If disabled, IPv6 HTTP boot support will not be available.

PXE Boot Wait Time

This setting allows you to set in a number field the wait time to press the ESC key to abort the PXE boot. Default is **0**.

Media Detect Count

This setting allows you set in a number field the number of times presence of media will be checked. Default is **1**.

▶USB Configuration

Legacy USB Support

Select Enabled to support onboard legacy USB devices. Select Auto to disable legacy support if there are no legacy USB devices present. Select Disable to have all USB devices available for EFI applications only. The options are **Enabled**, Disabled and Auto.

XHCI Hand-Off

This is a work-around solution for operating systems that do not support XHCI (Extensible Host Controller Interface) hand-off. The XHCI ownership change should be claimed by the XHCI driver. The options are **Enabled**, and Disabled.

USB Mass Storage Driver Support

This setting will enable or disable support for USB mass storage drivers. The options are **Enabled**, and Disabled.

Port 60/64 Emulation

Select Enabled for I/O port 60h/64h emulation support, which in turn, will provide complete legacy USB keyboard support for the operating systems that do not support legacy USB devices. The options are **Enabled**, and Disabled.

▶SATA Configuration

This section displays the detected SATA devices installed on the system.

▶ASMedia SATA Controller

This setting enables or disables the on chip SATA controller. The options are Enabled, Disabled or **Auto**.

Hot Plug

This setting enables or disables the on chip SATA hot plug feature. The options are **Enabled**, Disabled.

ASPM Support

This setting enables or disables the ASPM (Active State Power Management) feature. The options are Enabled, **Disabled**.

▶ASMedia SATA Information

This section displays information on the detected ASMedia SATA devices:

- SATA Mode

SATA Configuration

SATA Enable

This item enables or disables the onboard SATA controller supported by the Intel PCH chip. The options are **Enabled** and Disabled.

SATA Hotplug

This item enables or disables the

onboard SATA controller's hot plug feature (PCH). The options are **Enabled** and Disabled.

SATA Information

This item displays information on the detected SATA devices connected and are detected.

▶HTTP Boot Configuration

HTTP Boot One Time

When the HTTP boot option is created, this option when enabled, will allow the system to boot via HTTP the first time and revert to the default boot after. The options are Enabled and **Disabled**.

Input Description

This option is an input field that, when the HTTP boot option is created, can be used to enter text to describe or identify the HTTP connection.

Boot URI

This option is an input field used to enter a web or network address to point to the HTTP boot files. This supports the HTTP or HTTPS protocols only.

▶Network Configuration

(Available when EFI is selected in LAN OPROM after reboot.)

VLAN Configuration (LAN1 and LAN2)

▶Enter Configuration Menu

Create New VLAN

VLAN ID

This option is an input field used to enter a unique numeric VLAN ID. The valid range is from 0~4096.

Priority

This option is an input field used to enter a unique numeric VLAN 802.1Q priority. The valid range is from 0~7.

Add VLAN

Click this option to create the new VLAN.

Configuration VLAN List

Remove VLAN

Click this option to remove an existing VLAN.

IPv4 Network Configuration

Configure

Select Enabled to activate !Pv4 network configuration. The options are Enabled and **Disabled**.

If the item above is set to Enabled, the following item will become available for configuration:

Enable DHCP

This feature allows the user to select the source of the IP address for this computer. If Disabled is selected, you will need to know the local IP address of this computer and enter it to the system manually in the field. If Enabled is selected, the system will search for a DHCP (Dynamic Host Configuration Protocol) server in the network that it is attached to and request the next available IP address for this computer. The options are **Enabled** and Disabled.

If the item above is set to Disabled, the following items will become available for configuration:

Local IP Address

This item sets and displays the Local IP address for this computer. This should be in decimal and in dotted quad form.

Local Net Mask

This item sets the sub-network that this computer belongs to. The value of each three-digit number separated by dots should not exceed 255.

Local Gateway

This item sets the Gateway IP address for this computer. This should be in decimal and in dotted quad form (i.e., 172.31.0.1).

Local DNS

This item sets the address for the local DNS servers for this computer. This should be in decimal and in dotted quad form (i.e., 172.31.0.1).

Save Changes and Exit

Click this to save the changes above.

IPV6 Network Configuration

This section displays configuration features for IPV6 support.

IPV6 Support

Use this feature to enable IPV6 support. The options are **Enabled** and Disabled.

Configuration Address Source

This feature allows the user to select the source of the IP address for this computer. If Static is selected, you will need to know the IP address of this computer and enter it to the system manually in the field. If DHCP is selected, the BIOS will search for a DHCP (Dynamic Host Configuration Protocol) server in the network that is attached to and request the next available IP address for this computer. The options are **Unspecified**, Static, and DHCP.

If the item "Configuration Address Source" above is set to Static, the following items will become available for configuration:

- Station IPV6 Address
- Prefix Length
- IPV6 Router1 IP Address

▶iSCSI Configuration

iSCSI Initiator Name

This feature allows the user to enter the unique name of the iSCSI Initiator in IQN format. Once the name of the iSCSI Initiator is entered into the system, configure the proper settings for the following items.

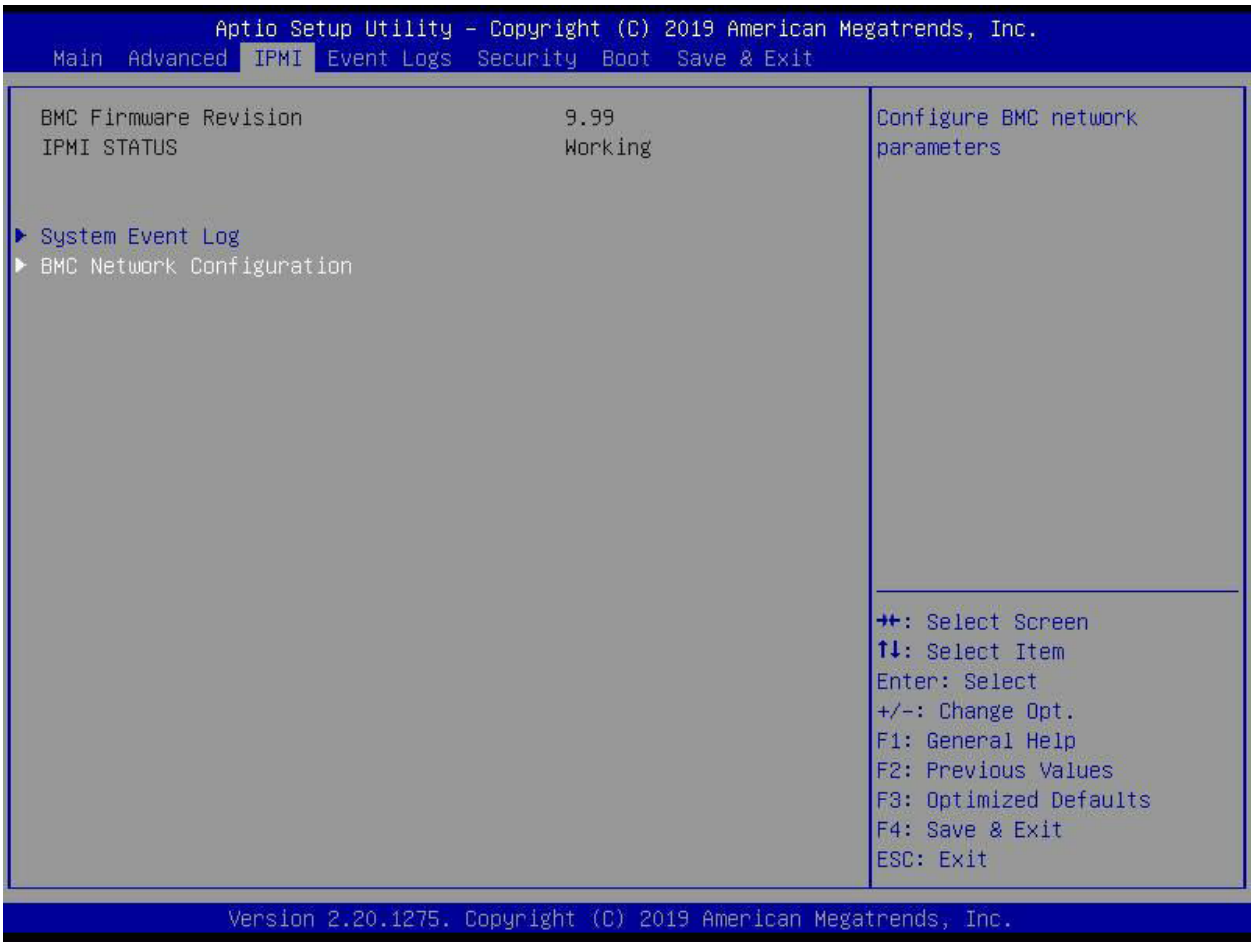
▶Add an Attempt

▶Delete Attempts

▶Change Attempt Order

6.4 IPMI

This tab allows you to configure the following IPMI settings for the system.



Use this feature to configure Intelligent Platform Management Interface (IPMI) settings.

BMC Firmware Revision

This item indicates the IPMI firmware revision used in your system.

IPMI Status (Baseboard Management Controller)

This item indicates the status of the IPMI firmware installed in your system.

▶System Event Log

Enabling/Disabling Options

SEL Components

Select Enabled for all system event logging at bootup. The options are **Enabled** and Disabled.

Erasing Settings

Erase SEL

Select Yes, On next reset to erase all system event logs upon next system reboot. Select Yes, On every reset to erase all system event logs upon each system reboot. Select No to keep all system event logs after each system reboot. The options are **No,** Yes, On next reset, and Yes, On every reset.

When SEL is Full

This feature allows the user to decide what the BIOS should do when the system event log is full. Select Erase Immediately to erase all events in the log when the system event log is full. The options are **Do Nothing** and Erase Immediately.

Note: After making changes on a setting, be sure to reboot the system for the changes to take effect.

▶BMC Network Configuration

BMC Network Configuration

Update IPMI LAN Configuration

Select Yes to enable BMC Network Configuration.

IPMI LAN Selection

This item displays the IPMI LAN setting. The default setting is **Failover**.

IPMI Network Link Status

This item displays the IPMI Network Link status. The default setting is **Shared LAN**.

Update IPMI LAN Configuration

Select Yes for the BIOS to implement all IP/MAC address changes at the next system boot. The options are **No** and Yes.

If the item above is set to Yes, the following item will become available for configuration:

Configuration Address Source

This feature allows the user to select the source of the IP address for this computer. If Static is selected, you will need to know the IP address of this computer and enter it to the system manually in the field. If DHCP is selected, the BIOS will search for a DHCP (Dynamic Host Configuration Protocol) server in the network that is attached to and request the next available IP address for this computer. The options are **DHCP** and Static.

If the item above is set to Static, the following items will become available for configuration:

Station IP Address

This item displays the Station IP address for this computer. This should be in decimal and in dotted quad form.

Subnet Mask

This item displays the sub-network that this computer belongs to. The value of each three-digit number separated by dots should not exceed 255.

Station MAC Address

This item displays the Station MAC address for this computer. Mac addresses are 6 two-digit hexadecimal numbers.

Gateway IP Address

This item displays the Gateway IP address for this computer. This should be in decimal and in dotted quad form (i.e., 172.31.0.1).

VLAN

This item displays the virtual LAN settings. The options are Disable and Enable.

Configure IPV6 Support

This section displays configuration features for IPV6 support.

IPV6 Support

Use this feature to enable IPV6 support. The options are **Enabled** and Disabled.

Configuration Address Source

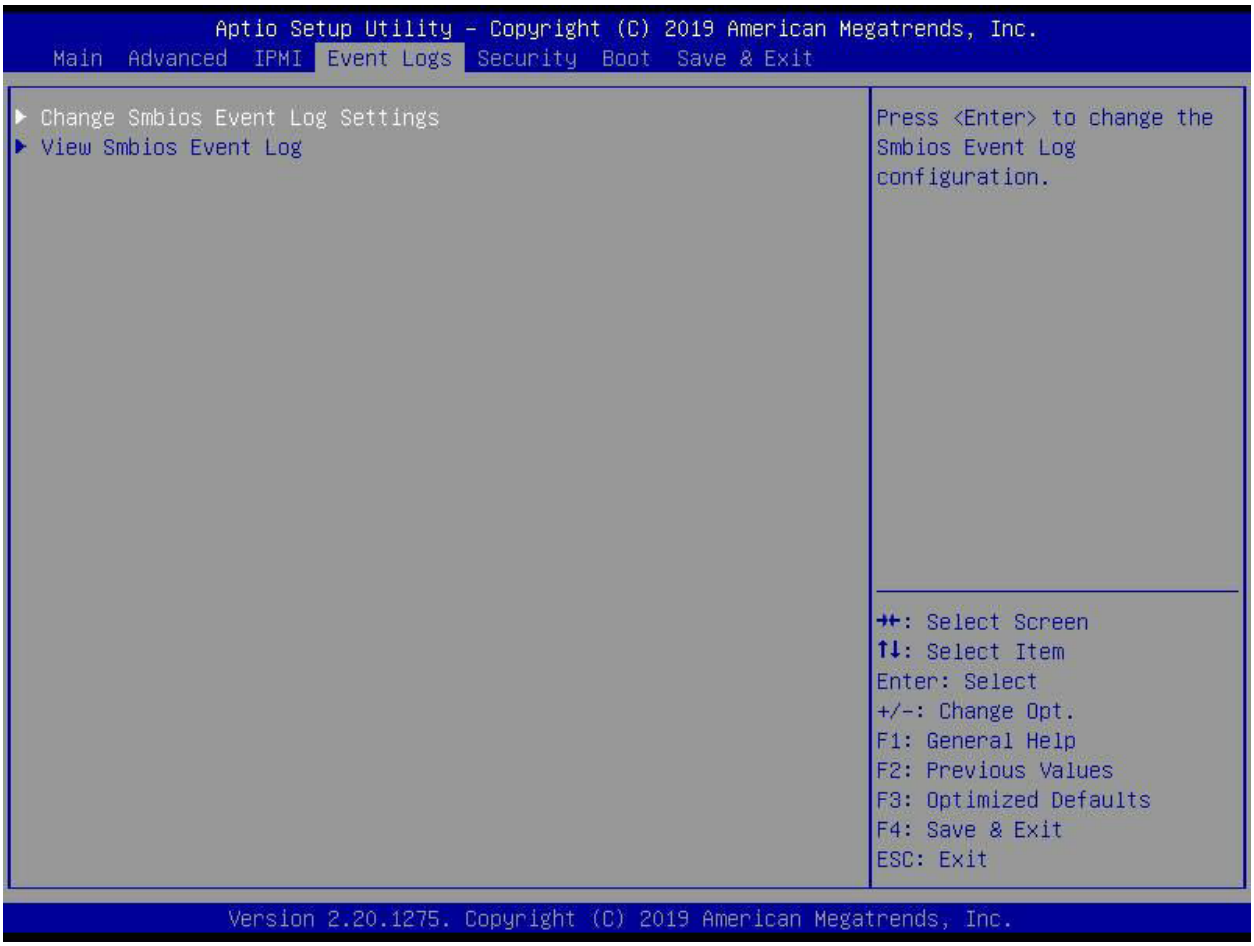
This feature allows the user to select the source of the IP address for this computer. If Static is selected, you will need to know the IP address of this computer and enter it to the system manually in the field. If DHCP is selected, the BIOS will search for a DHCP (Dynamic Host Configuration Protocol) server in the network that is attached to and request the next available IP address for this computer. The options are **Unspecified**, Static, and DHCP.

If the item "Configuration Address Source" above is set to Static, the following items will become available for configuration:

- Station IPV6 Address
- Prefix Length
- IPV6 Router1 IP Address

6.5 Event Logs

This tab allows the user to configure the following event logs settings for the system.



▶Change SMBIOS Event Log Settings

This feature allows the user to configure SMBIOS Event settings.

Enabling/Disabling Options

SMBIOS Event Log

Select Enabled to enable SMBIOS (System Management BIOS) Event Logging during system boot. The options are **Enabled** and Disabled.

Erasing Settings

Erase Event Log

Select Yes to erase all error events in the SMBIOS (System Management BIOS) log before an event logging is initialized at bootup. The options are **No**, Yes, Next reset, and Yes, every reset.

When Log is Full

Select Erase Immediately to immediately erase all errors in the SMBIOS event log when the event log is full. Select Do Nothing for the system to do nothing when the SMBIOS event log is full. The options are **Do Nothing** and Erase Immediately.

SMBIOS Event Log Standard Settings

Log System Boot Event

Select Enabled to log system boot events. The options are **Disabled** and Enabled.

MECI (Multiple Event Count Increment)

Enter the increment value for the multiple event counter. Enter a number between 1 to 255. The default setting is **1**.

METW (Multiple Event Count Time Window)

This item is used to determine how long (in minutes) the multiple event counter should wait before generating a new event log. Enter a number between 0 to 99. The default setting is **60**.

Note: Please reboot the system for these changes to take effect.

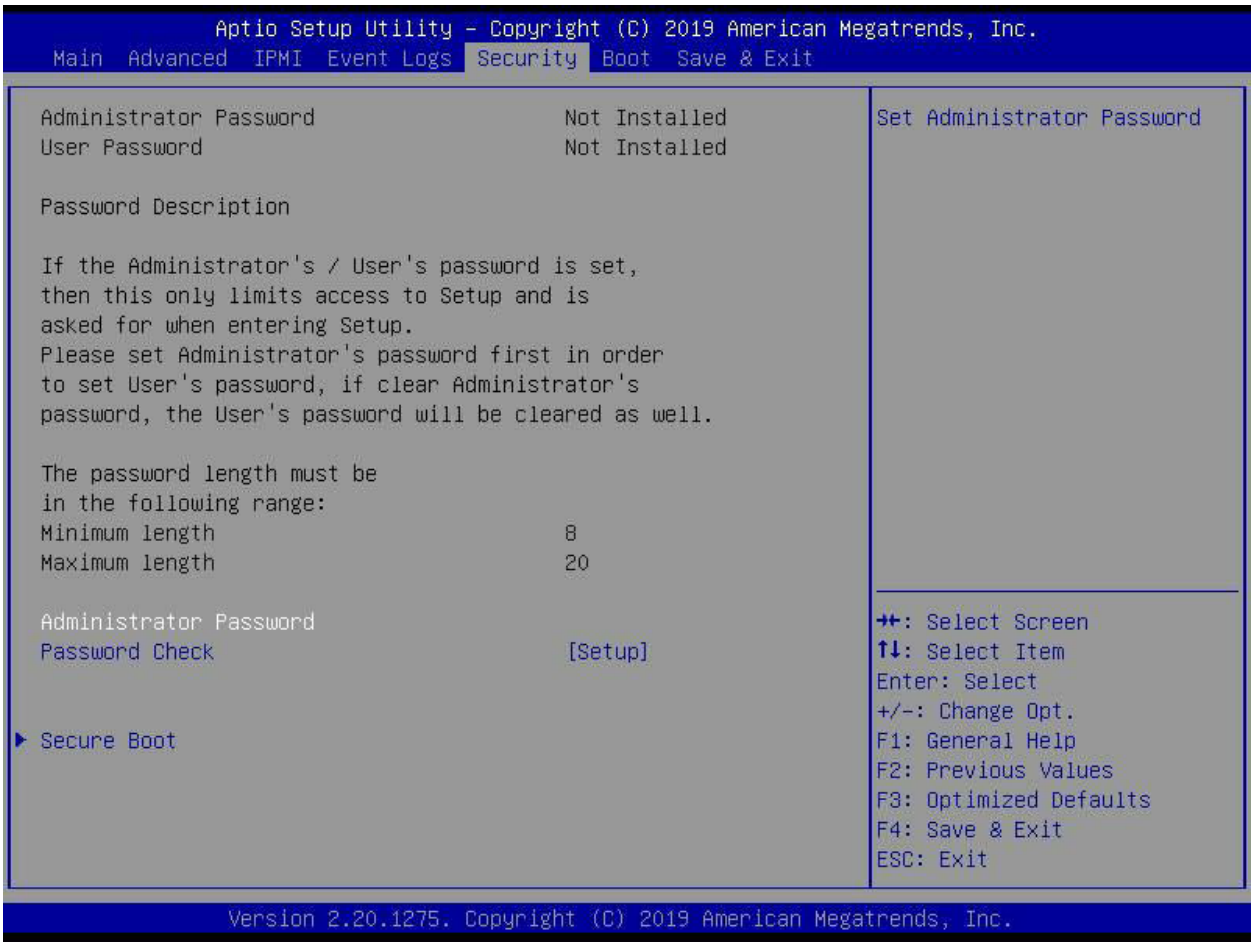
▶View SMBIOS Event Log

When Event Logging is on, this item allows the user to view the entries in the SMBIOS event log. The following categories are displayed:

Date/Time/Error Code/Severity

6.6 Security

This tab allows you to configure the following security settings for the system.



Administrator Password

Press Enter to create a new, or change an existing Administrator password. Note that if the Administrator Password is erased, the User Password will be cleared as well.

User Password

Press Enter to create a new, or change an existing User password.

Password Check

Select Setup for the system to check for a password at Setup. Select Always for the system to check for a password at bootup or upon entering the BIOS Setup utility. The options are **Setup** and Always.

▶Secure Boot

This section contains options and menus for securing your boot mode and for key management.

Secure Boot

This option allows you specify when the Platform Key (PK) is enrolled. When enabled, the System Mode is user deployed, and the CSM function is disabled. Options include Enabled and **Disabled**.

Secure Boot Mode

Use this item to select the secure boot mode. The options are Standard and **Custom**.

CSM Support

Select Enabled to support the EFI Compatibility Support Module (CSM), which provides compatibility support for traditional legacy BIOS for system boot. The options are Disabled and **Enabled**.

▶Key Management

This submenu allows the user to configure the following Key Management settings.

▶Install Factory Default Keys

Select Yes to install all default secure keys set by the manufacturer. The options are **Yes** and No.

▶Enroll EFI Image

This allows the image to run in Secure Boot Mode, and enroll SHA256 hash of the binary into an Authorized Signature Database (db).

▶Save All Secure Boot Variables

This feature allows the user to decide if all secure boot variables should be saved.

▶Platform Key (PK)

This feature allows the user to configure the settings of the platform keys.

Set New Key

Select Yes to load the new platform keys (PK) from the manufacturer's defaults. Select No to load the platform keys from a file. The options are **Yes** and No.

Provision Factory Default Keys

Select Enabled to install the default Secure-Boot keys set by the manufacturer. The options are **Disabled** and Enabled.

▶Key Exchange Keys

Set New Key

Select Yes to load the KEK from the manufacturer's defaults. Select No to load the KEK from a file. The options are Yes and No.

Append Key

Select Yes to add the KEK from the manufacturer's defaults list to the existing KEK. Select No to load the KEK from a file. The options are Yes and No.

▶Authorized Signatures

Set New Key

Select Yes to load the database from the manufacturer's defaults. Select No to load the DB from a file. The options are Yes and No.

Append Key

Select Yes to add the database from the manufacturer's defaults to the existing DB. Select No to load the DB from a file. The options are Yes and No.

▶Forbidden Signatures

Set New Key

Select Yes to load the DBX from the manufacturer's defaults. Select No to load the DBX from a file. The options are Yes and No.

Append Key

Select Yes to add the DBX from the manufacturer's defaults to the existing DBX. Select No to load the DBX from a file. The options are Yes and No.

▶Authorized TimeStamps

Set New Key

Select Yes to load the DBT from the manufacturer's defaults. Select No to load the DBT from a file. The options are Yes and No.

Append Key

Select Yes to add the DBT from the manufacturer's defaults list to the existing DBT. Select No to load the DBT from a file. The options are Yes and No.

▶OsRecovery Signature

This item uploads and installs an OSRecovery Signature. You may select options for Set New for a factory default key, or select Append to get it from a file. The file formats accepted are:

1) Public Key Certificate

a. EFI Signature List

b. EFI CERT X509 (DER Encoded)

c. EFI CERT RSA2048 (bin)

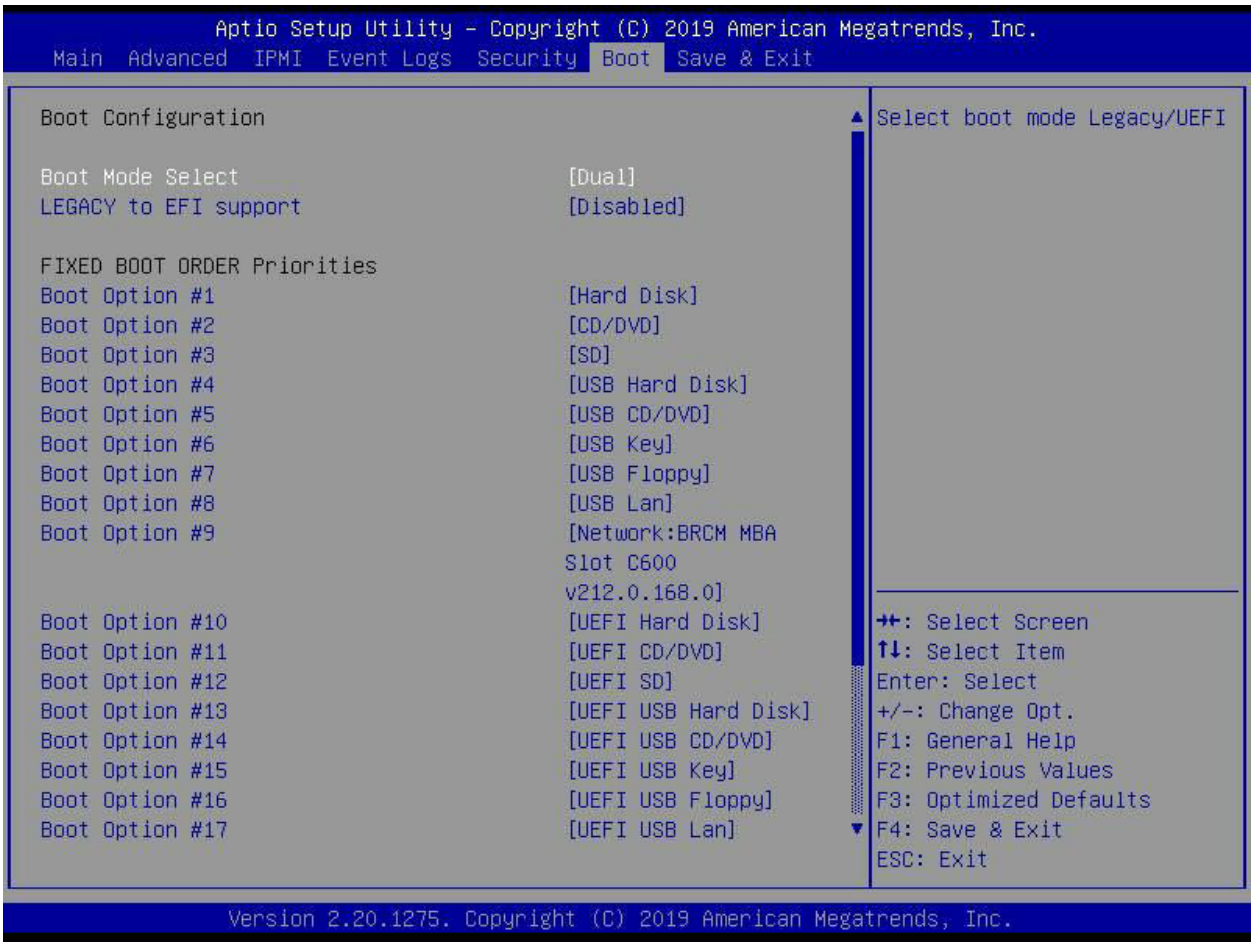
d. EFI SERT SHA256 (bin)

2) EFI Time Based Authenticated Variable

When prompted, select "Yes" to load Factory Defaults or "No' to load from a file.

6.7 Boot

Use this tab to configure Boot Settings:



Boot Mode Select

Use this item to select the type of device that the system is going to boot from. The options are LEGACY, UEFI, and **DUAL.** The default setting is DUAL.

Legacy to EFI Support

This option Enables or **Disables** the system to boot to an EFI OS after the boot failed from the legacy boot order.

FIXED BOOT ORDER Priorities

This option prioritizes the order of bootable devices that the system to boot from. Press <Enter> on each entry from top to bottom to select devices.

▶Delete Boot Option

Use this feature to remove a pre-defined boot device from which the system will boot during startup. The settings are [any pre-defined boot device].

▶UEFI Application Boot Priorities

This feature allows the user to specify which UEFI devices are boot devices.

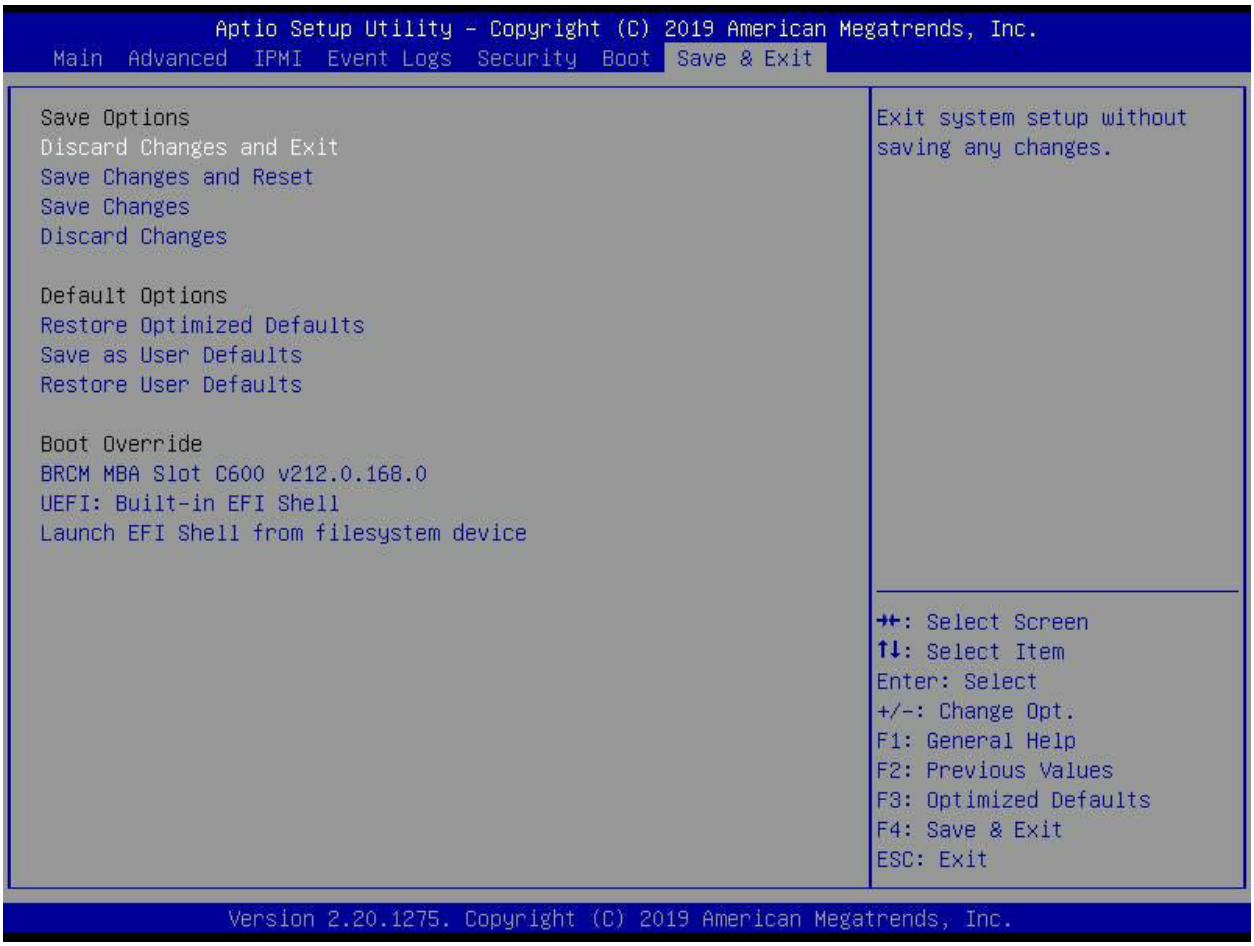
- UEFI Boot Order #1

▶NETWORK Drive BBS Priorities

This feature allows the user to specify which UEFI network drive devices are boot devices.

6.8 Save & Exit

Select the Save & Exit tab to enter the Save & Exit BIOS Setup screen.



Discard Changes and Exit

Select this option to quit the BIOS Setup without making any permanent changes to the system configuration, and reboot the computer. Select Discard Changes and Exit from the Exit menu and press <Enter>.

Save Changes and Reset

Select this option to reset the system after saving the changes.

Save Changes

After completing the system configuration changes, select this option to save the changes you have made. This will not reset (reboot) the system.

Discard Changes

Select this option and press <Enter> to discard all the changes and return to the AMI BIOS utility Program.

Default Options

Restore Defaults

To set this feature, select Restore Defaults from the Save & Exit menu and press <Enter>. These are factory settings designed for maximum system stability, but not for maximum performance.

Save as User Defaults

To set this feature, select Save as User Defaults from the Exit menu and press <Enter>. This enables the user to save any changes to the BIOS setup for future use.

Restore User Defaults

To set this feature, select Restore User Defaults from the Exit menu and press <Enter>. Use this feature to retrieve user-defined settings that were saved previously.

Boot Override Section

Listed on this section are other boot options for the system (i.e., Built-in EFI shell). Select an option and press <Enter>. Your system will boot to the selected boot option.

6.9 BIOS Update Using IPMI

If necessary, the system BIOS can be updated using IPMI. Documentation on IPMI is available at http://www.supermicro.com/products/nfo/IPMI.cfm.

1. Download the BIOS file using the link on the server web page. Unzip and save it.
2. Access the IPMI web interface. Enter the IP address and log in. The default username and password are ADMIN/ADMIN. (For details on IPMI, use the link above.)
3. Click the **Maintenance** tab, then **BIOS Update**.

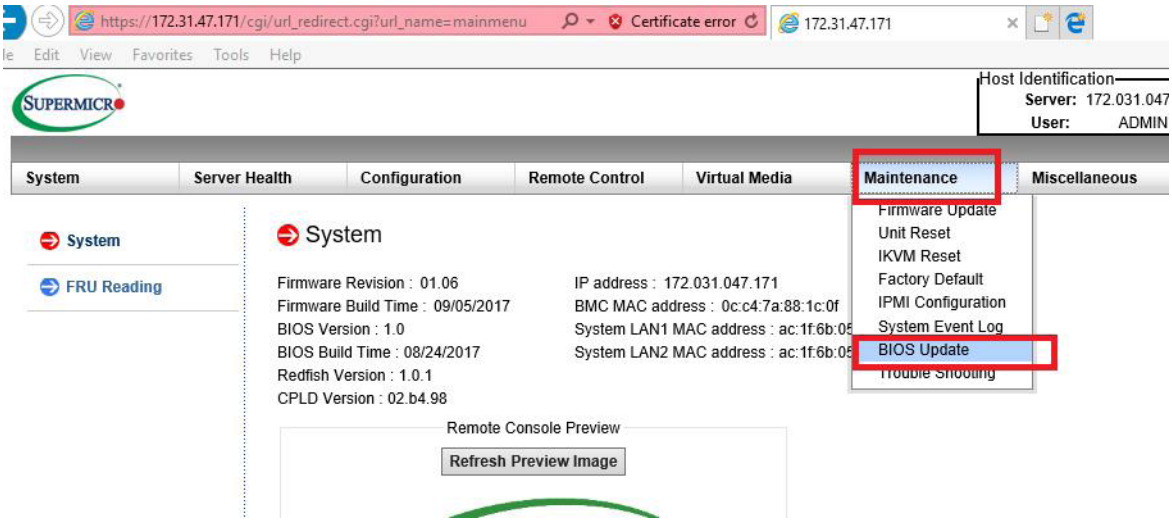


Figure 6-1. IPMI Maintenance Tab

4. **Browse** to select the saved BIOS file and click **Open**.

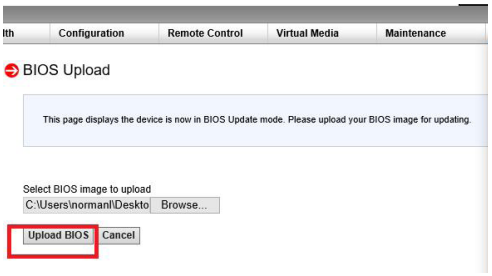


Figure 6-2. Browse and Upload Dialog

5. Click the **Upload BIOS** button. The message appears, "Uploading image & checking BIOS information… Please wait. This may take a while."

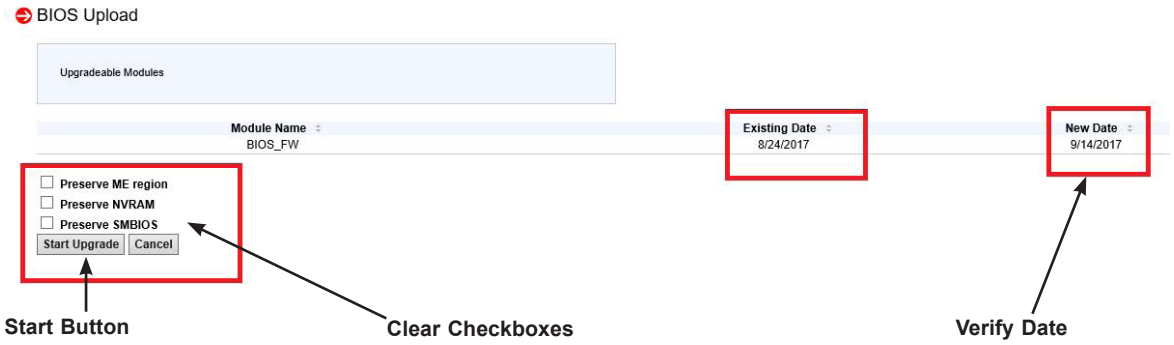


Figure 6-3. Start Upgrade Dialog

1. In the Start Upgrade dialog, make sure the three checkboxes are not checked, and verify the date of the BIOS file you uploaded before proceeding.

2. Click the **Start Upgrade** button.

Appendix A

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/.

Appendix B

Standardized Warning Statements for AC Systems

B.1 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.

ا كً ف حالة وٌكي أى تتسبب ف اصابة جسد ةٌ هذا الزهز عٌ خطز !تحذ زٌ .
قبل أى تعول على أي هعذات،كي على علن بالوخاطز ال ٱجوة عي الذوائز
الكهزبائ ةٍ
وكي على درا ةٌ بالووارسات البقائ ةٍ لو عٌ وقع أي حادث
استخذم رقن الب إٍى الو صٌص ف هًا ةٌ كل تحذ زٌ للعشر تزجوتها

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.

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 نتثبيج 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 trained and qualified personnel 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
Das Installieren, Ersetzen oder Bedienen dieser Ausrüstung sollte nur geschultem, qualifiziertem Personal gestattet werden.

¡Advertencia!
Solamente el personal calificado debe instalar, reemplazar o utilizar este equipo.

Attention

Il est vivement recommandé de confier l'installation, le remplacement et la maintenance de ces équipements à des personnels qualifiés et expérimentés.

אזהרה!

צוות מוסמך בלבד רשאי להתקין, להחליף את הציוד או לתת שירות עבור הציוד.

والمدربيه لتزكيب واستبدال أو خدمة هذا الجهاس يجب أن يسمح فقط للمظفيه المؤهليه

경고!

훈련을 받고 공인된 기술자만이 이 장비의 설치, 교체 또는 서비스를 수행할 수 있습니다.

Waarschuwing

Deze apparatuur mag alleen worden geïnstalleerd, vervangen of hersteld door geschoold en gekwalificeerd personeel.

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 انصبل إن منطقت محظورة فقط من خلال استخذاو أداة خاصت
أو أ وس هُت أخري نلالأمما قفم 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



Warning! There is the danger of explosion if the battery is replaced incorrectly. 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

電池交換が正しく行われなかった場合、破裂の危険性があります。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

电池更换不当会有爆炸危险。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

電池更換不當會有爆炸危險。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

Bei Einsetzen einer falschen Batterie besteht Explosionsgefahr. Ersetzen Sie die Batterie nur durch den gleichen oder vom Hersteller empfohlenen Batterietyp. Entsorgen Sie die benutzten Batterien nach den Anweisungen des Herstellers.

Attention

Danger d'explosion si la pile n'est pas remplacée correctement. 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 peligro de explosión si la batería se reemplaza de manera incorrecta. 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 של הסוללה במידה והוחלפה בדרך לא תקינה. יש להחליף
את הסוללה בסוג התואם מחברת יצרן מומלצת.
סילוק הסוללות המשומשות יש לבצע לפי הוראות היצרן.

هناك خطر من انفجار في حالة اسحبذال البطارية بطريقة غير صحيحة فعليل
اسحبذال البطارية
فقط بنفس النبع أو ما يعادلها مما أوصث به الشرمة المصنعة
جخلص من البطاريات المسحعملة وفقا لحعليمات الشرمة الصانعة

경고!

배터리가 올바르게 교체되지 않으면 폭발의 위험이 있습니다. 기존 배터리와 동일하거나 제조사에서 권장하는 동등한 종류의 배터리로만 교체해야 합니다. 제조사의 안내에 따라 사용된 배터리를 처리하여 주십시오.

Waarschuwing

Er is ontploffingsgevaar indien de batterij verkeerd vervangen wordt. 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 خطر مه التيار الكهزبائي أوالطاقة المجبدة على اللحة
عندما يكن النظام يعمل كه 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 والبطية 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 البطنية 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.

Hot Swap Fan Warning



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・ホットスワップの警告

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

危險的可移動性零件。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 והמאוררים 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 조림품 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 code) 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/CSE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!

אשר נרכשו או הותאמו לצורך ההתקנה, ואשר הותאמו לדרישות AC כאשר מתקינים את המוצר, יש להשתמש בכבלים, ספקים ומתאמים הבטיחות המקומיות, כולל מידה נכונה של הכבל והתקע . שימוש בכל כבל או מתאם מסוג אחר, עלול לגרום לתקלה או קצר חשמלי. בהתאם כאשר מופיע עליהם קוד) CSA-או ב UL -לחוקי השימוש במכשירי החשמל וחוקי הבטיחות, קיים איסור להשתמש בכבלים המוסמכים ב בלבד Supermicro עבור כל מוצר חשמלי אחר, אלא רק במוצר אשר הותאם ע"י UL/CSA) של.

عند تركيب المنتج، قم باستخدام التوصيلات المتوفرة أو المحددة أو قم بشراء الكابلات 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 Supermicro. مع أي معدات أخرى غير المنتجات المعنية والمحددة من قبل (UL/CSA) والتي تحمل علامة CSA أو UL من قبل

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 C

System Specifications

Processors

Single EPYC 7002 series processor in an SP3 socket
Note: Please refer to the motherboard specifications pages on our website for updates to supported processors.

Chipset

SoC chipset

BIOS

256 Mb AMI® Flash

Memory

Supports up to 2 TB of ECC DDR4-3200 RDIMM/LRDIMM/3DS/NVDIMM memory in 8 DIMM slots
Note: See the memory section in Chapter 3 for details and our website for updates to supported memory.

SATA Controller

On-chip (SoC chipset) controller

Drive Bays

Four 3.5" hot-swap drive bays to house ten SATA drives

PCI Expansion Slots

Two PCI-E 4.0 x16 slots (FHFL) with riser card (RSC-W-66G4)
One PCI-E 4.0 x16 slot (low-profile) with riser card (RSC-WR-6)
M.2 Interface: 2 SATA/ PCI-E 3.0 x2
M.2 Form Factor: 2280, 22120
M.2 Key: M-key

Motherboard

H12SSW-NT; WIO form factor (13 x 8 in. / 330.2 x 203.2 mm.)

Chassis

SC815TS-R504WBP4; 1U Rackmount, 17.25 x 1.72 x 25.58 in. / 438.4 x 43.6 x 649.9 mm. (W x H x D)

System Cooling

Four 4-cm counter-rotating PWM fans

Power Supply

Model: PWS-504P-1R
AC Input Voltages: 100-240 VAC
Rated Input Current: 6.2A to 2.6A
Rated Input Frequency: 50-60 Hz
Rated Output Power: 500W
Rated Output Voltages: +12V (42A), +5Vsb (3A)

Operating Environment

Operating Temperature: 5º to 35º C (41º to 95º F)
Non-operating Temperature: -40º to 60º C (-40º to 140º F)
Operating Relative Humidity: 8% to 90% (non-condensing)
Non-operating Relative Humidity: 5% to 95% (non-condensing)

Regulatory Compliance

Electromagnetic Emissions: FCC Class A, EN 55032 Class A, EN 61000-3-2/3-3, CISPR 32 Class A
Electromagnetic Immunity: EN 55024/CISPR 24, (EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11)
Safety: CSA/EN/IEC/UL 60950-1 Compliant, UL or CSA Listed (USA and Canada), CE Marking (Europe)
Other: VCCI-CISPR 32 and AS/NZS CISPR 32
Environmental: Directive 2011/65/EU and Directive 2012/19/EU

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”

Appendix D

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.

D.1 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.

D.2 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. (For a RMA request, please see section 3.5 for more information). Also, you may use the Supermicro Update Manager (SUM) Out-of-Band (OOB) (https://www.supermicro.com.tw/products/nfo/SMS_SUM.cfm) to reflash the BIOS.

D.3 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 Hard Disk 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.

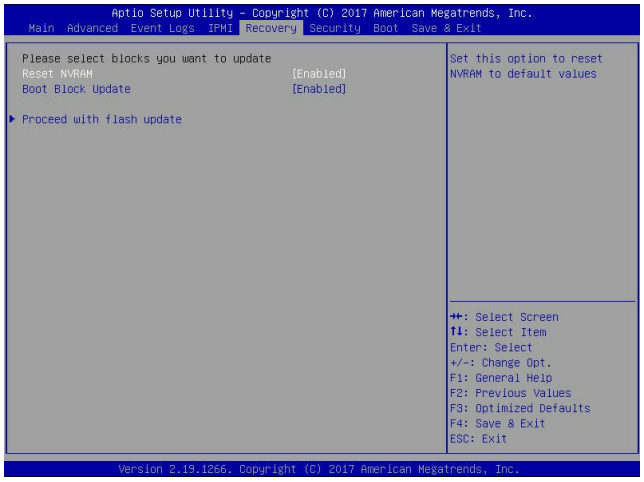
   Note 1: If you cannot locate the "Super.ROM" file in your drive disk, visit our website at www.supermicro.com to download the BIOS package. Extract the BIOS binary image into a USB flash device and rename it "Super.ROM" for the BIOS recovery use.

   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.



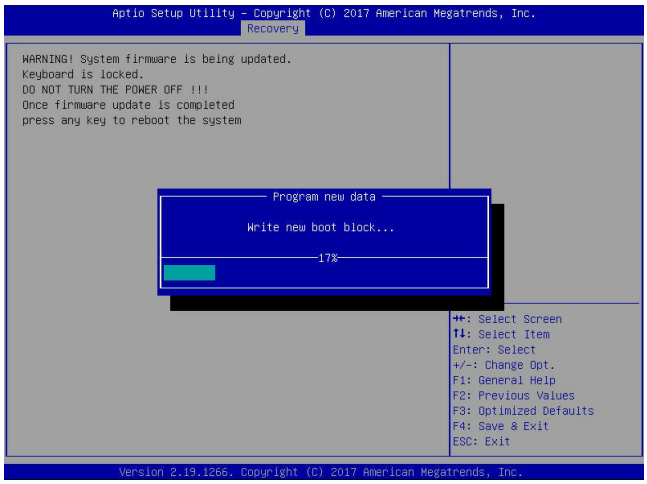
3. After locating the healthy BIOS binary image, the system will enter the BIOS Recovery menu as shown below.



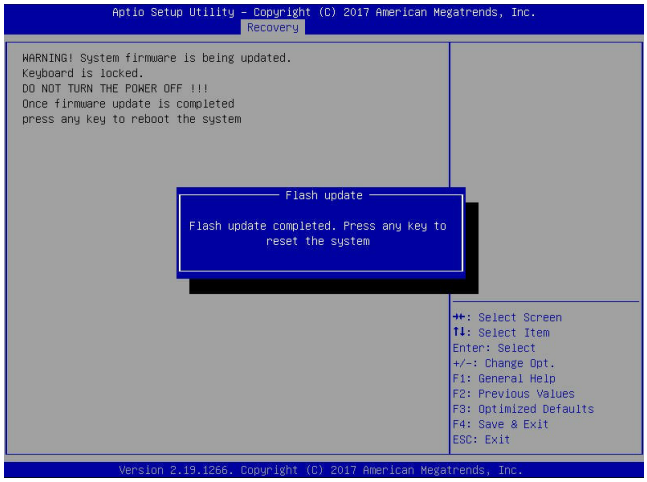
Note: At this point, you may decide if you want to start the BIOS recovery. If you decide to proceed with BIOS recovery, follow the procedures below.

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*.

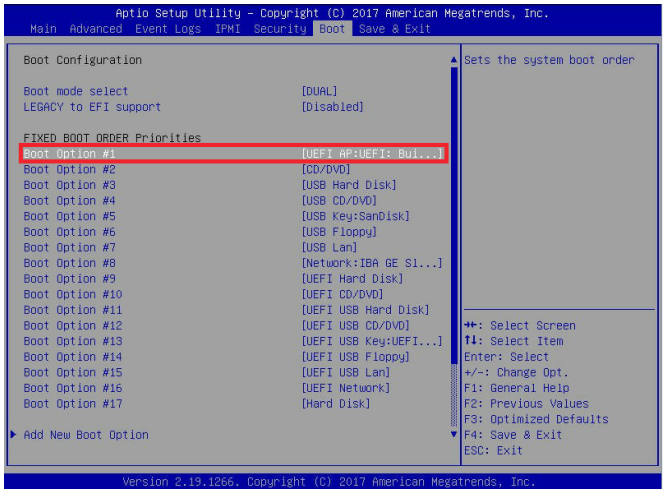


5. After the BIOS recovery process is complete, press any key to reboot the system.

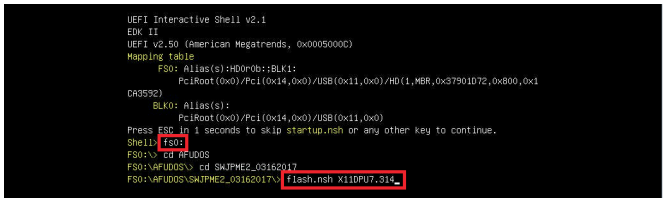


6. Using a different system, extract the BIOS package into a USB flash drive.

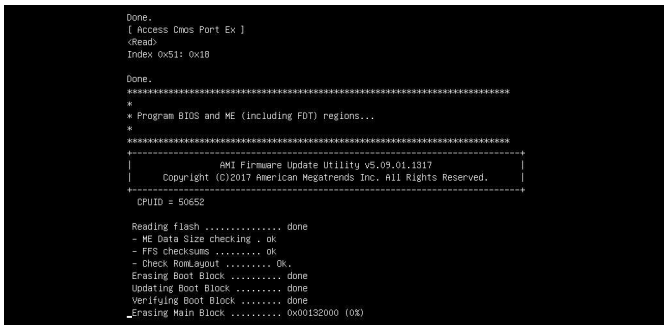
7. Press <Del> continuously during system boot to enter the BIOS Setup utility. From the top of the tool bar, select Boot to enter the submenu. From the submenu list, select Boot Option #1 as shown below. Then, set Boot Option #1 to [UEFI AP:UEFI: Built-in EFI Shell]. Press <F4> to save the settings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



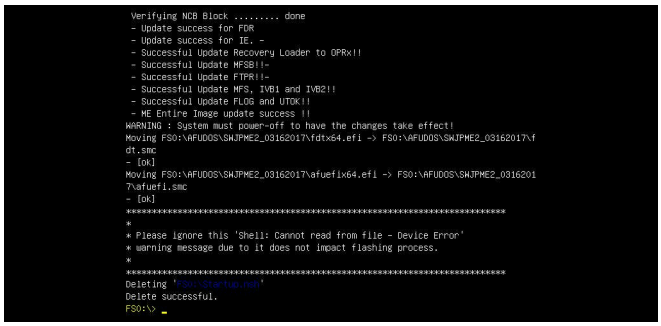
8. When the UEFI Shell prompt appears, type fs# to change the device directory path. Go to the directory that contains the BIOS package you extracted earlier from Step 6. Enter flash.nsh BIOSname.### at the prompt to start the BIOS update process.



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.

Appendix E

IPMI Crash Dump

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 IPMI. The IPMI manual is available at https://www.supermicro.com/solutions/IPMI.cfm.

Check IPMI Error Log

1. Access the IPMI web interface.
2. Click the Server Health tab, then Event Log to verify an IERR error.

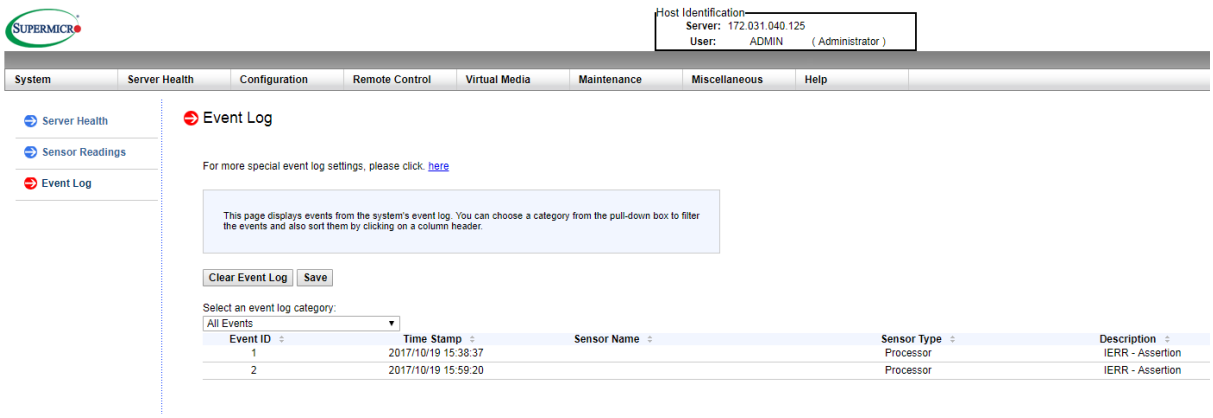


Figure E-1. IPMI Event Log

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

Downloading the Crash Dump File

1. In the IPMI interface, click the **Miscellaneous** tab, then the **Trouble Shooting** option.
2. Click the **Dump** button and wait five minutes for the file to be created. (No confirm ation message will appear.)
3. Click the **Download** button and a Save As dialog appears.
4. Save the zipped dump file, noting the name and location.

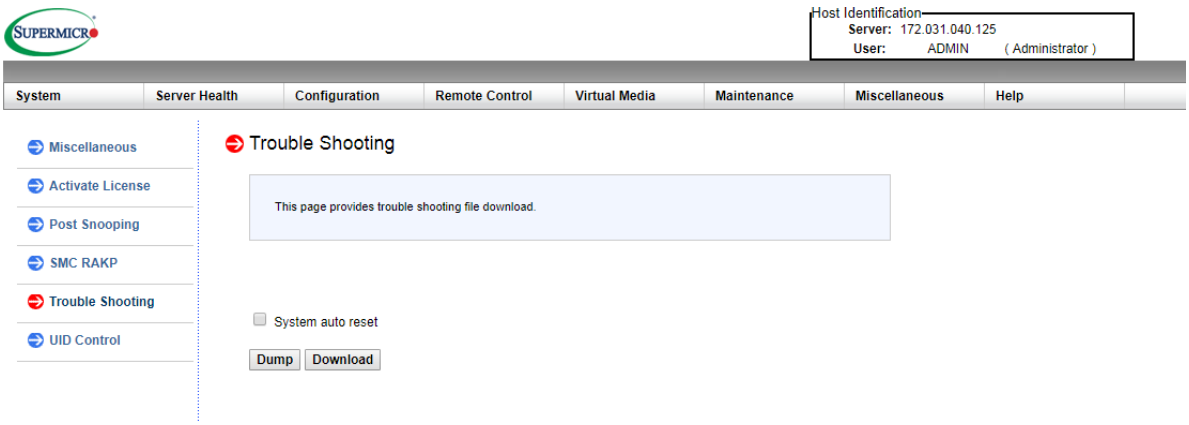


Figure E-2. IPMI Crash Dump Download

Note: The **System auto reset** check box dictates behavior after an IERR. If checked, the system will restart automatically, and the dump file will be erased. If not, the system remains in a failed state. Do not check this box until after the dump file has been sent to Support.