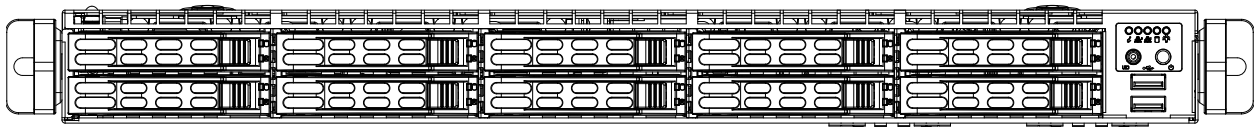# A+ Server
AS -1123US-TR4

USER'S MANUAL

Revision 1.0d

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Manual Revision 1.0d

Release Date: April 02, 2020   mk

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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 maintenance should be performed by experienced technicians only.

Please refer to the AS -1123US-TR4 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: www.supermicro.com/wftp/driver/AMD/SP3

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

If you have any questions, please contact our support team at:
support@supermicro.com

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

Secure Data Deletion

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

Warnings

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

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

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

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Appendix A Standardized Warning Statements for AC Systems

Appendix B System Specifications

Appendix C UEFI BIOS Recovery

Appendix D IPMI Crash Dump

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Chapter 1

Introduction

1.1 Overview

The Supermicro AS -1123US-TR4 A+ is a high-end enterprise server well suited for Virtualization and Cloud Computing with flexible networking options. It is based on the H11DSU-iN motherboard and the SC119UTS-R1K02P-T chassis. This chapter provides a brief outline of the functions and features.

In addition to the motherboard and chassis, several important parts are listed below.

Main Parts List		
Description	**Part Number**	**Quantity**
Power supply modules	PWS-1K02A-1R	2
Backplane	BPN-SAS3-116A-N2	1
LAN add-on card	AOC-UR-I4G	1
Riser card-1 for 1 PCI-E x 8 slot(LP)	RSC-R1UW-E8R	1
Riser card-2 for 2 PCI-E x16 slot(FH/9.5"L)	RSC-R1UW-2E16	1
Fans	FAN-0101L4	8
Air Shrouds	MCP-310-81914-0B	1 set
Heatsinks	SNK-P0062P	2
Rack mount rails	MCP-290-00062-0N	1 set
Software Out of Band License key included OOB BIOS management	SFT-OOB-LIC	1

1.2 Unpacking the System

Inspect the box the system 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 A.

1.3 System Features

The following table is an overview of the main features of the AS -1123US-TR4 server.

System Features
Motherboard
H11DSU-iN
Chassis
SC119UTS-R1K02P-T
CPU
Dual AMD EPYC 7001/7002* Series with SP3 sockets   * 7002 series drop-in support requires board revision 2.x
Chipset
System on Chip
Memory
Up to 4 TB 2666 MHz / 8 TB* 3200 MHz, ECC DDR4 RDIMM/LRDIMM/3DS/NVDIMM memory in 32 slots   * board revision 2.x with 7002 series CPU required Size up to 128 GB
Storage Drives

Ten hot-swap 2.5" bays for:
  Ten SATS3 (default)
  Eight SATA3 and two NVMe (optional)
  SAS3 and two SATA3 (optional SAS card)
(*Optional*) Up to two M. 2 SSDs

Expansion Slots
Two full height, 9.5"-length x16 PCIe 3.0, one low profile x8 PCIe 3.0, one internal low-profile PCIe 3.0 x8 (proprietary design)
Cooling
Eight mid-chassis 4-cm counter-rotating fans; two air shrouds, two CPU heatsinks
Power
1000 W redundant 80 Plus Titanium level modules
Input/Output

LAN: Four 1 Gbps ports by means of the Ultra card; one dedicated IPMI port
USB 3.0:
  Two ports on the rear I/O panel (USB0/1)
  Two ports on front control panel (USB3/4)
One COM port
One VGA port

Form Factor
1 U rackmount, (WxHxD) 17.2 x 1.7 x 27.8 in. (437 x 43 x 706 mm)

1.4 Chassis Features

Control Panel

Power switches and status LEDs are located on the control panel on the front of the chassis.
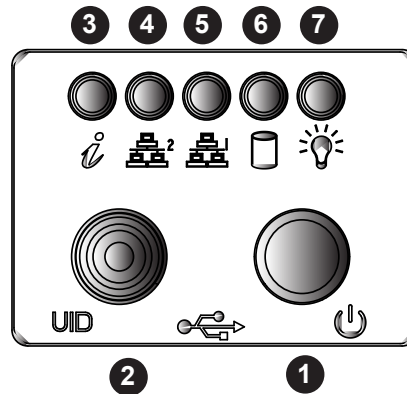
Figure 1-1. Control Panel

Control Panel Features		
Item	**Features**	**Description**
1	Power button	The main power switch applies or removes primary power from the power supply to the server but maintains standby power. To perform most maintenance tasks, unplug the system to remove all power..
2	UID button/LED	The unit identification (UID) button turns on or off the blue light function of the Information LED and a blue LED on the rear of the chassis. These are used to locate the server in large racks and server banks.
3	Information LED	Alerts operator to several states, as noted in the table below
4	NIC2 LED	Indicates network activity on the LAN2 port when flashing.
5	NIC1 LED	Indicates network activity on the LAN1 port when flashing.
6	HDD	Indicates activity on the hard drive when flashing
7	Power Fail LED	Indicates a power supply module has failed.

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.
Blinking red (0.25Hz)	Power failure, check for a non-operational power supply.
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.

Chassis Front

The illustration below shows the features included on the front of the chassis. Externally accessible hard drive carriers display status lights.
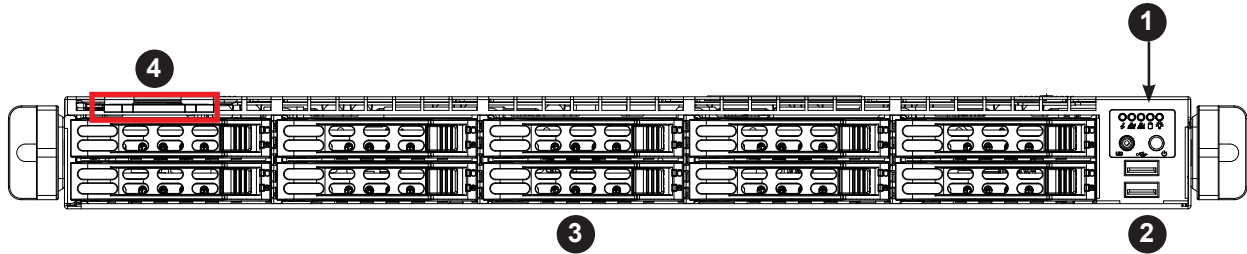
Figure 1-2. Front View

Chassis Front Features		
Item	**Features**	**Description**
1	Control Panel	see previous page
2	USB	Two USB 3.0 ports
3	Storage Drives	Ten 2.5" hot swap NVMe
4	Service/Asset Tag	Pull-out identifier (with BMC ADMIN default password underneath; see figure below)
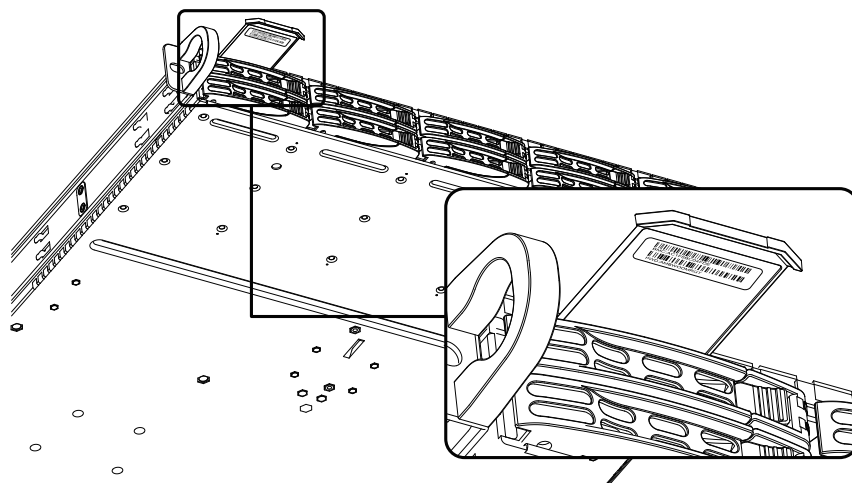
Figure 1-3. Location of the BMC Password Label

Chassis Rear

The illustration below shows the features included on the rear of the chassis. Power supply modules display status lights.
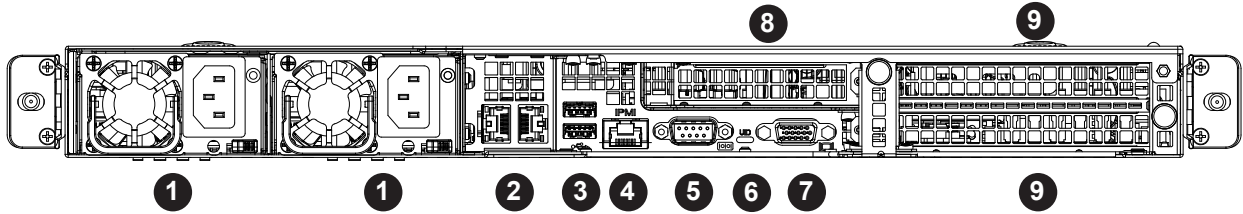
Figure 1-4. Rear View

Chassis Rear Features		
Item	**Features**	**Description**
1	Power Supply	Two redundant power supply modules
2	LAN ports	Two/four LAN ports by means of the Ultra card
3	USB ports	Two USB 3.0 ports
4	IPMI LAN port	Dedicated LAN for IPMI
5	COM port	Serial connector
6	UID LED	Unit ID button and indicator light
7	VGA port	Video connector
8	PCI slot	One PCIe low profile slot
9	PCI slot	Two PCIe, full height, full width slots

1.5 Motherboard Layout

Below is a layout of the H11DSU-iN 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.
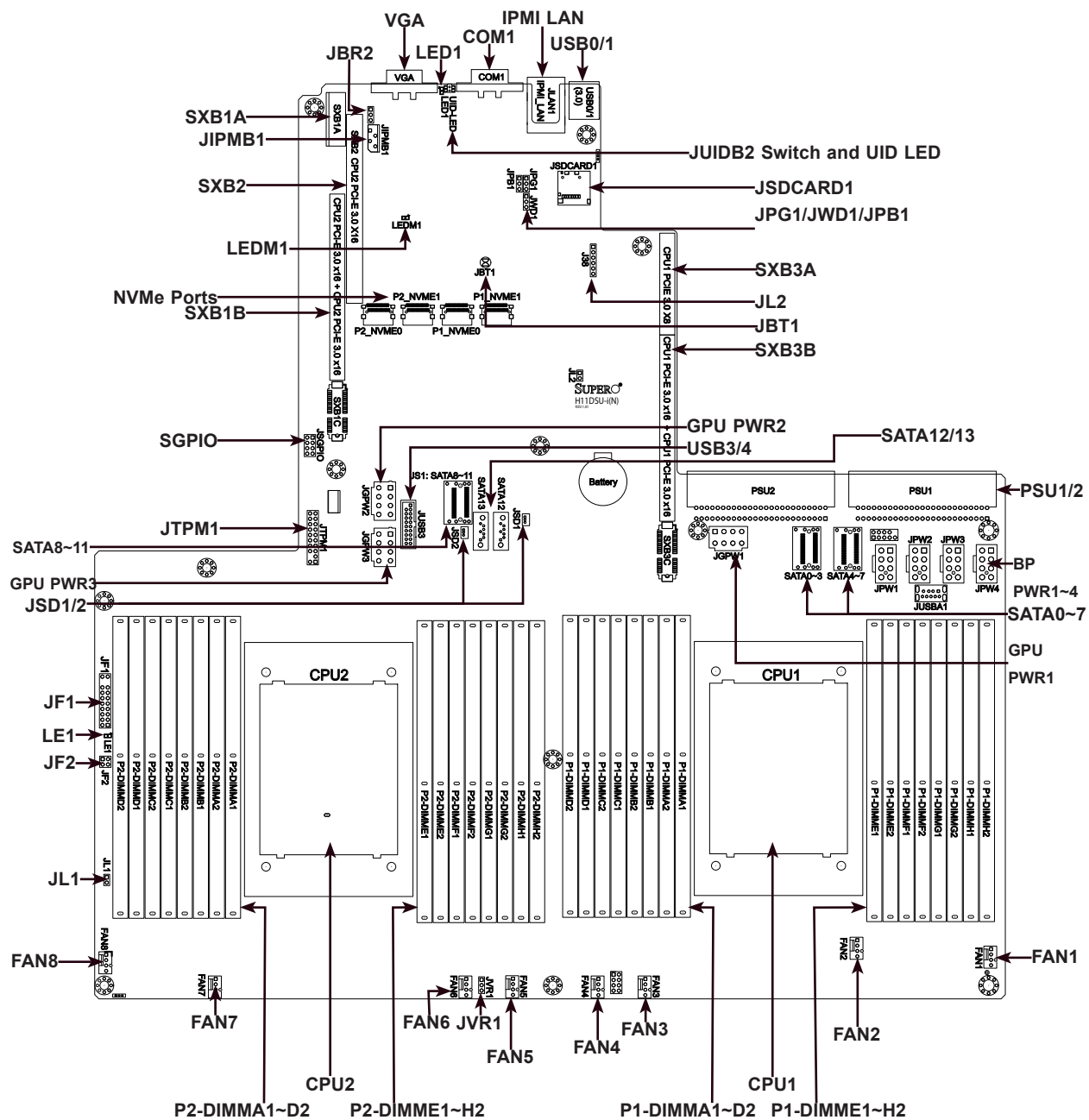
Figure 1-5. Motherboard Layout

Quick Reference

Jumper	Description	Default Setting
J38	CPLD Code Programming	NA
J39	Debug message through CPU UART0	NA
JBR2	Debug Mode for IPMI Use	Pins 1-2 (Normal)
JBT1	CMOS Clear	Open (Normal)
JPG1	VGA Enable/Disable	Pins 1-2 (Enabled)
JVR1	VRM Code Programming	Pin1: CLK, Pin2: DAT
JWD1	Watch Dog	Pins 1-2 (Reset)

Connector	Description
BT1	Onboard Battery
COM1	COM Port
FAN1~FAN8	4-pin System/CPU Fan Headers
SATA0~13	SATA 3.0 Ports
SGPIO	Serial Link General Purpose I/O Header
JF1	Front Control Panel Header 1
JF2	UltraIO Riser Card LAN LED Header
JIPMB1	System Management Bus Header
JL1	Chassis Intrusion Header
JLAN1	IPMI Gigabit LAN (RJ45) Port
GPU PWR1~3	12V 8-pin Power Connector for Riser Card GPU
BP PWR1~4	12V and 5V 8-pin Power Connector for Backplane
JSD1/JSD2	SATA DOM (Device on Module) power connectors 1/2
JSDCARD1	SD Card Port
JTPM1	Trusted Platform Module/Port 80 Connector
JUSBA1	USB 3.0 Type A Header
USB3	Front Panel USB3/4 3.0 ports
P1-NVME0/1	Processor 1 NVMe Ports
P2-NVME0/1	Processor 2 NVMe Ports
PSU1	Motherboard Main Power Supply Connector
PSU2	Motherboard Main Power Supply Connector
SXB1A/1B/1C	WIO-L Riser Card Support (CPU1 PCI-E 3.0 x16 and CPU2 PCI-E 3.0 x16)
SXB2	WIO-R Riser Card Support (CPU2 PCI-E 3.0 x16)
SXB3A/3B/3C	Ultra I/O Riser Card Support (CPU1 PCI-E 3.0 x 24, CPU2 PCI-E 3.0 x16)
USB0/1	Back panel Universal Serial Bus (USB) 3.0 Ports
VGA	VGA Video Port

LED	Description	State: Status
LE1	Power LED	Solid Green: Power On
LED1	UID LED	Solid Blue: UID Switch On
LEDM1	BMC Heartbeat LED	Blinks: Functioning normally

System Block Diagram

H11DSU-i(N)
AMD SP3 Rev. 1.02
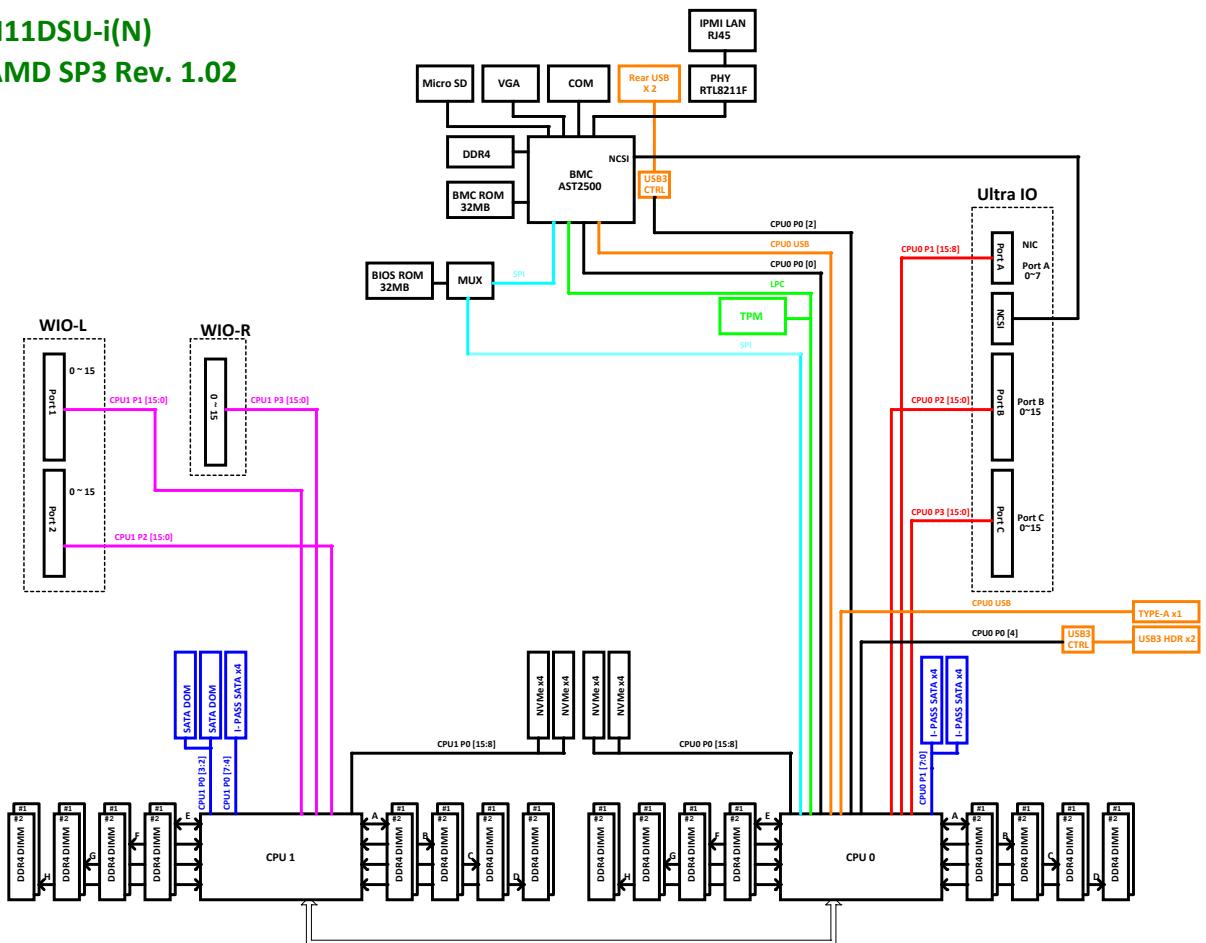
Figure 1-6. System on Chip Chipset: System Block Diagram

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.

1.6 Where to Get Replacement Components

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

1.7 Returning Merchandise for Service

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

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

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

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

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

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 acccording 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 in-stallations, 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 simul-taneously may cause the rack to become unstable.

Server Precautions

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

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

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

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

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

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

Rack Mounting Considerations

Ambient Operating Temperature

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

Airflow

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

Mechanical Loading

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

Circuit Overloading

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

Reliable Ground

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

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

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

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

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

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

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.

If you are installing into a two-post "telco" rack, skip to that section later in this chapter.

Identifying the Rails

The chassis comes with two sets of rack rails, one set for the right side of the chassis and one for the left. Each set consists of an inner rail that is pre-attached to the chassis, an outer rail that attaches to the rack, and a middle rail that slides forward in the outer rail.

Inner Rail--
pre-attached to
the chassis

Middle Rail (not shown)--
slides forward from the
outer rail

Outer Rail,
Front and Rear
Brackets
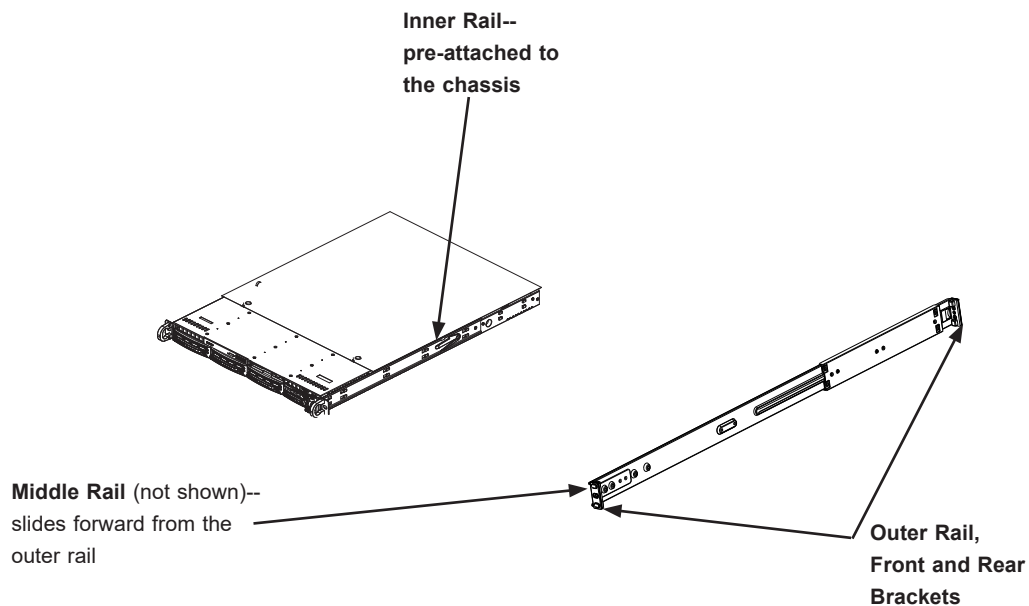
Figure 2-1. Identifying the Sections of the Rack Rails

Installing the Outer Rails onto the Rack

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.

Bracket with Square Pegs
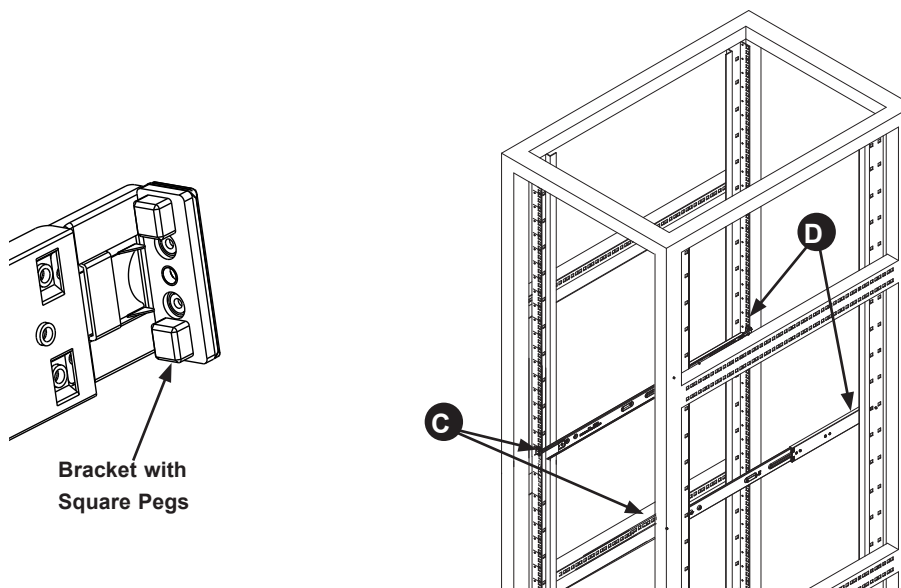
Figure 2-3. Installing the Outer Rails to the Rack

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 Chassis into a Rack

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

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

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

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

4. Optional screws may be used to hold the front of the chassis to the rack.
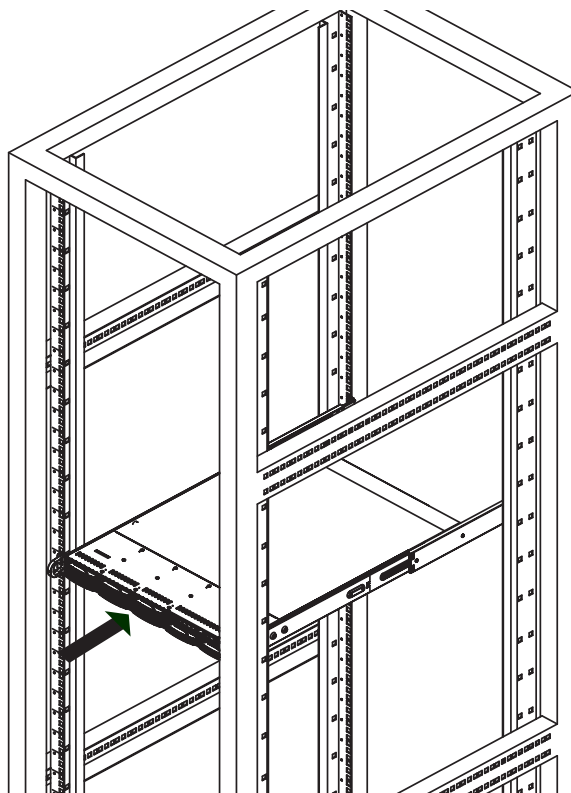
Figure 2-3. Installing the Server into the Rack

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

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

Removing the Chassis from the Rack

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

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

2. Press the release latches on each of the inner rails downward simultaneously and continue to pull the chassis forward and out of the rack.
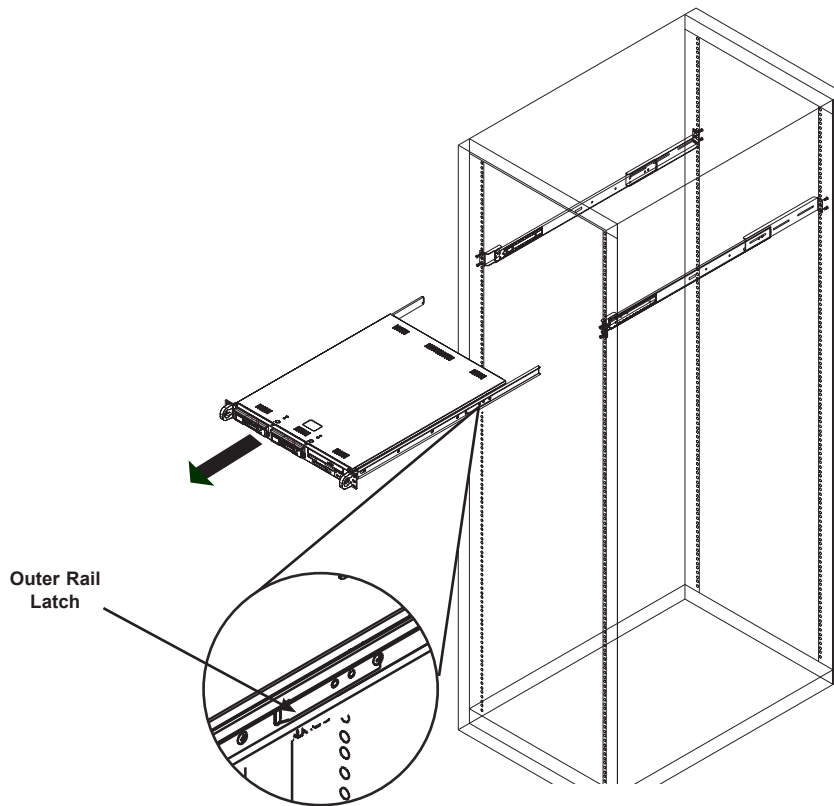
Figure 2-4. Removing the Chassis From the Rack

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

Installing the Server into a Telco Rack

To install the server into a Telco (or "open") type rack, use L-shaped brackets (p/n MCP-290-00015-0N) on either side of the chassis (four total).

1. Determine how far the server will extend out from the front of the rack. The chassis should be positioned so that the weight is balanced between front and back.

2. 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 rack.

3. Finish by sliding the chassis into the rack and tightening the brackets to the rack.
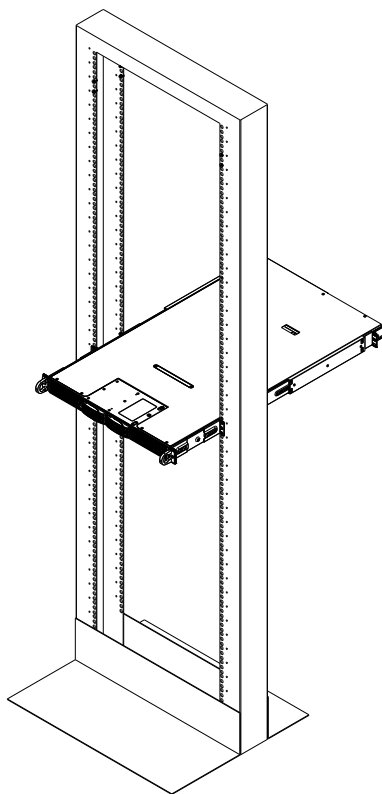
Figure 2-5. Installing the Server into a Telco Rack

Note: The figure above is for illustrative purposes only. Always install servers at the bottom of the 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 or when replacing a non-redundant power supply.

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

2. After the system has completely shut-down, disconnect the AC power cord(s) from the power strip or outlet. (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 module(s).

3.2 Accessing the System

The SC119U chassis features a removable top cover, which allows easy access to the inside of the chassis.

Removing the Top Cover

1. Press the two release buttons and slide the cover toward the rear.

2. Lift the top cover up.

Check that all ventilation openings on the top cover and the top of the chassis are clear and unobstructed.**Caution**: Except for short periods of time, do not operate the server without the cover in place. The chassis cover must be in place to allow for proper airflow and to prevent overheating.

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

Release Buttons
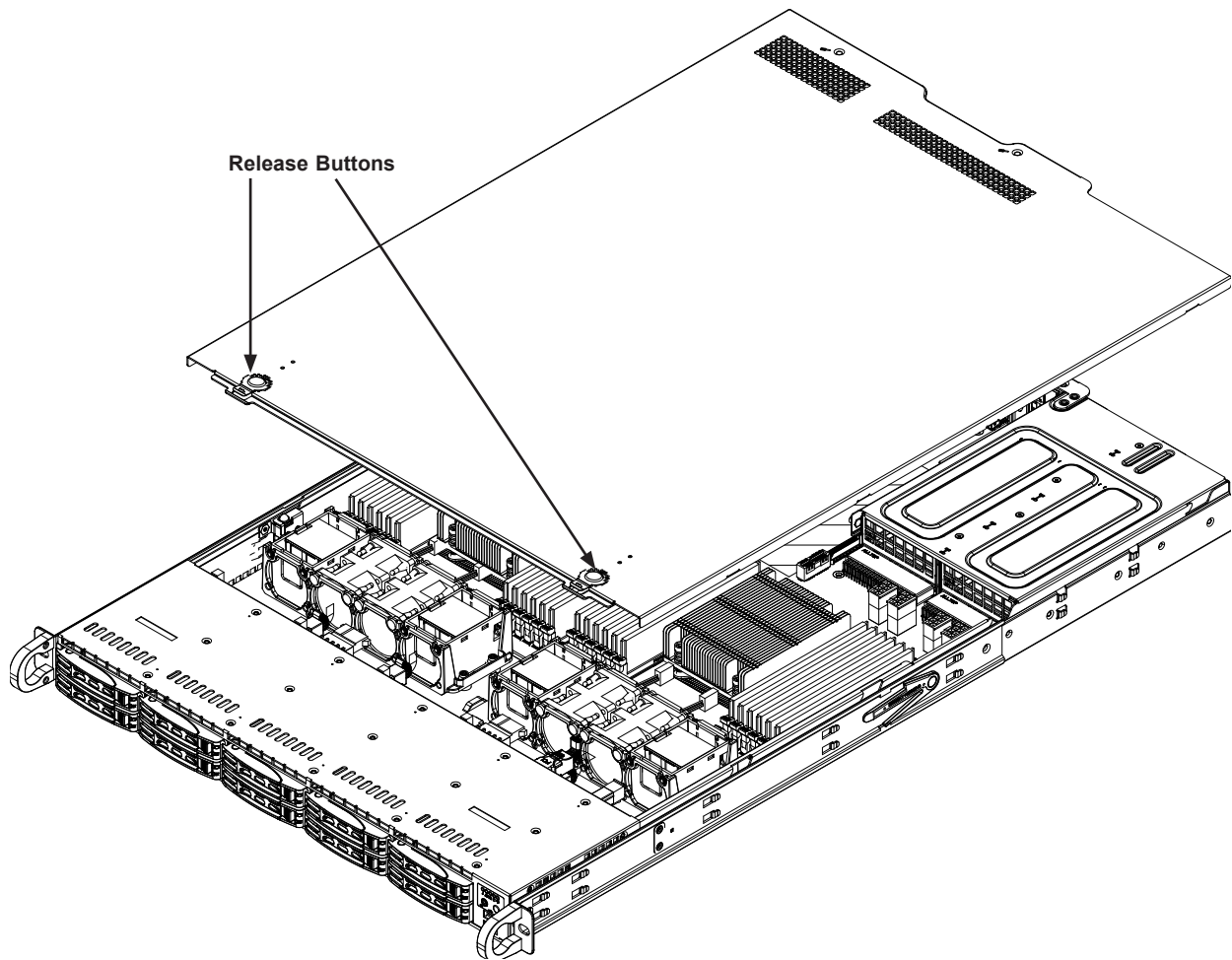
Figure 3-1. Removing the Chassis Cover

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:

• 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 that you 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.

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.
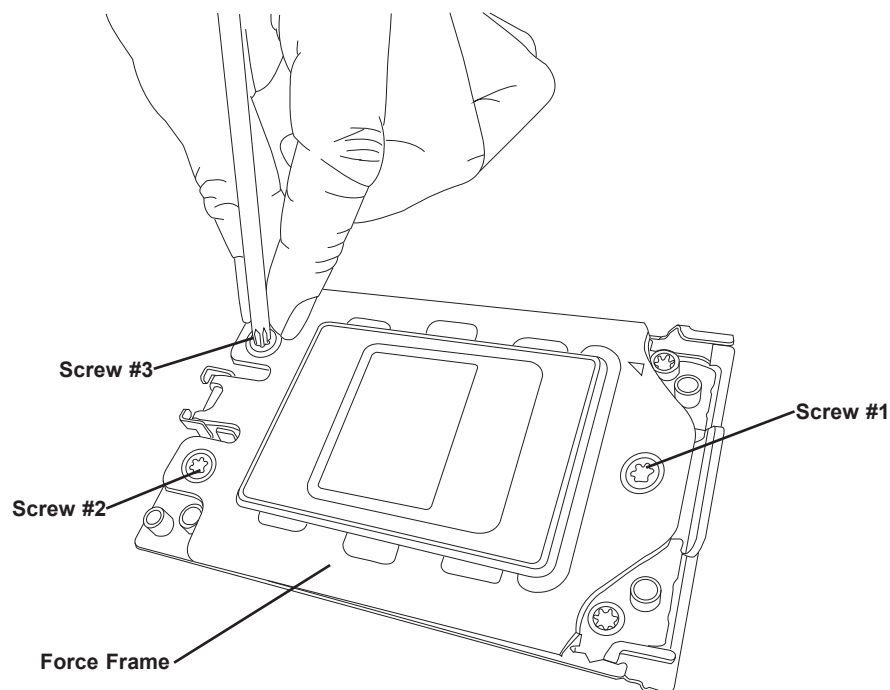
Figure 3-2. Removing the Processor Force Frame

2. The spring-loaded Force Frame will raise up after the last screw (#1) is removed. Gently allow it to lift up to its stopping position.
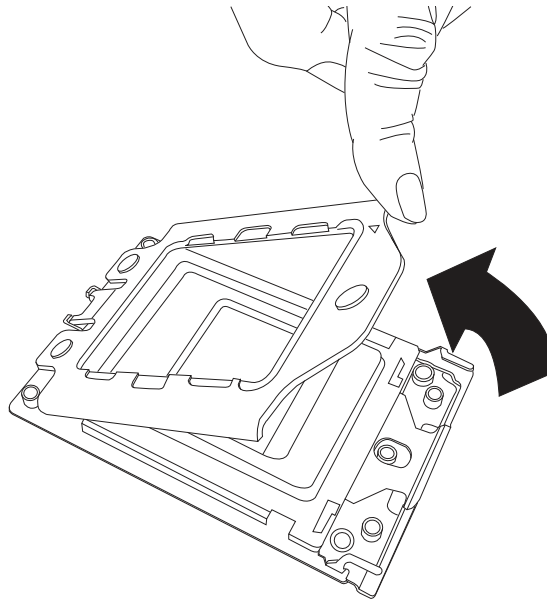
Figure 3-3. Raising the Force Frame

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.

Rail Frame

PnP Cover Cap
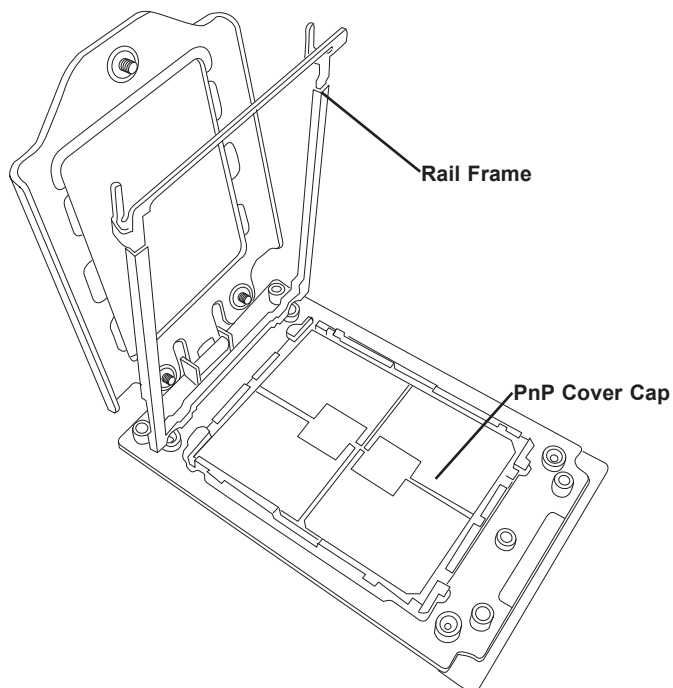
Figure 3-4. Lifting the Rail Frame

4. Remove the External Cap from the Rail Frame by pulling it upwards through the rail guides on the Rail Frame.

External Cap

PnP Cover Cap
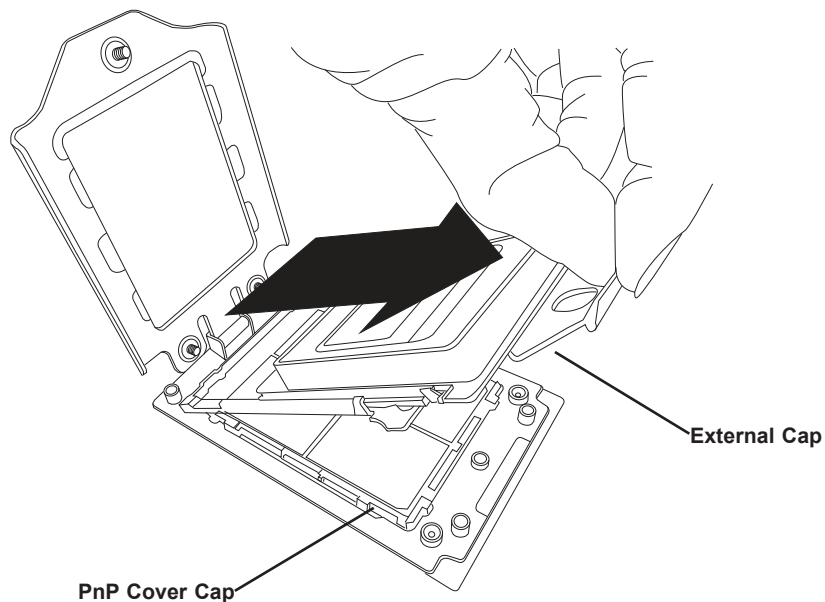
Figure 3-5. Removing the External Cap

5. The CPU Package is shipped from the factory with the blue 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.

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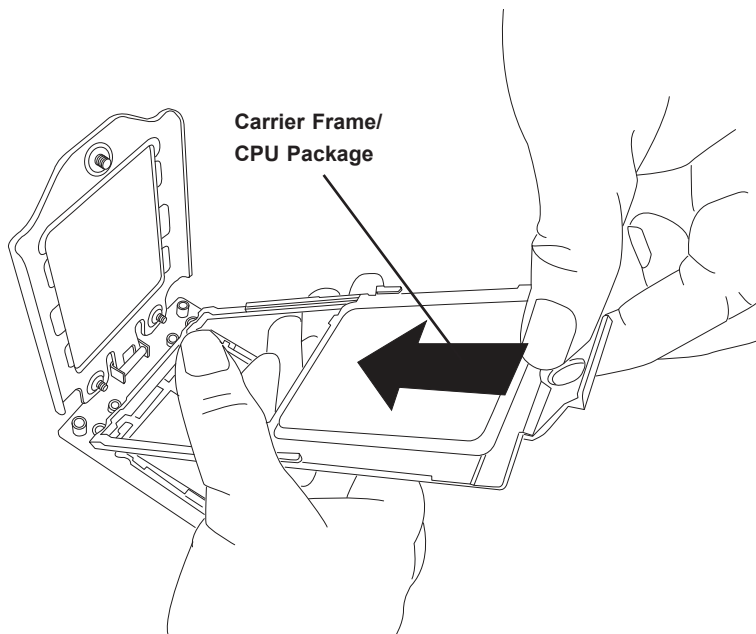
Figure 3-6. Inserting the Carrier Frame/CPU Package

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!

9. 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.
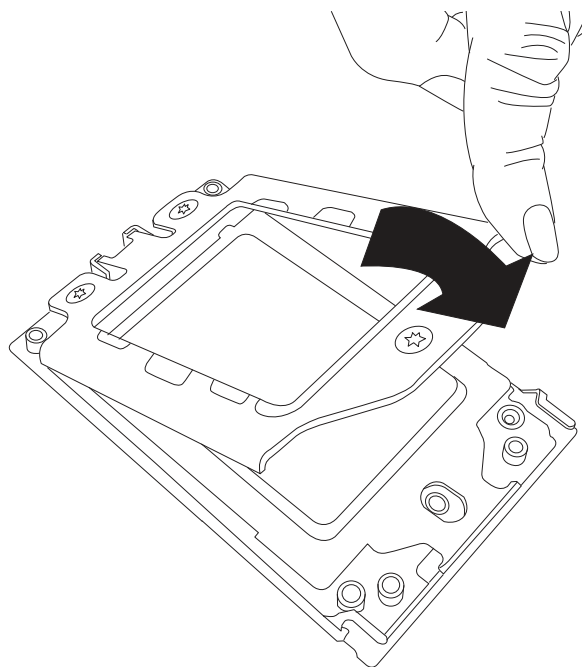
Figure 3-7. Lowering the Force Frame
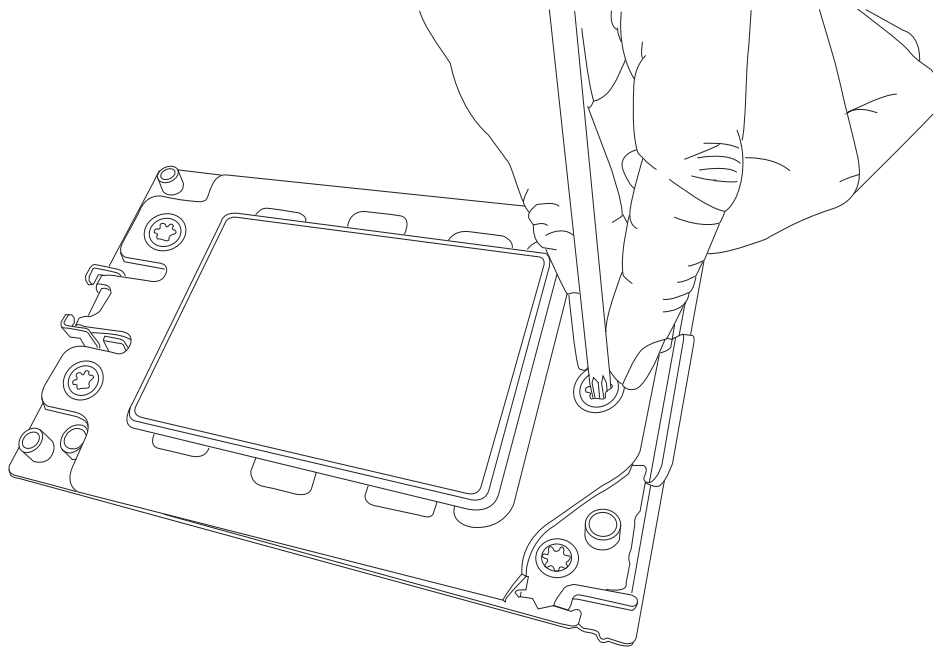
Figure 3-8. Securing the Force Frame

10. Replace the screws in the order 1-2-3, tightening to 16.1 kgf-cm (14 lbf-in) of torque. The Force Frame secures both the Rail Frame and CPU Package.

Caution: Tightening must be executed in proper 1-2-3 sequence to avoid causing catastrophic damage to the socket or CPU Package.
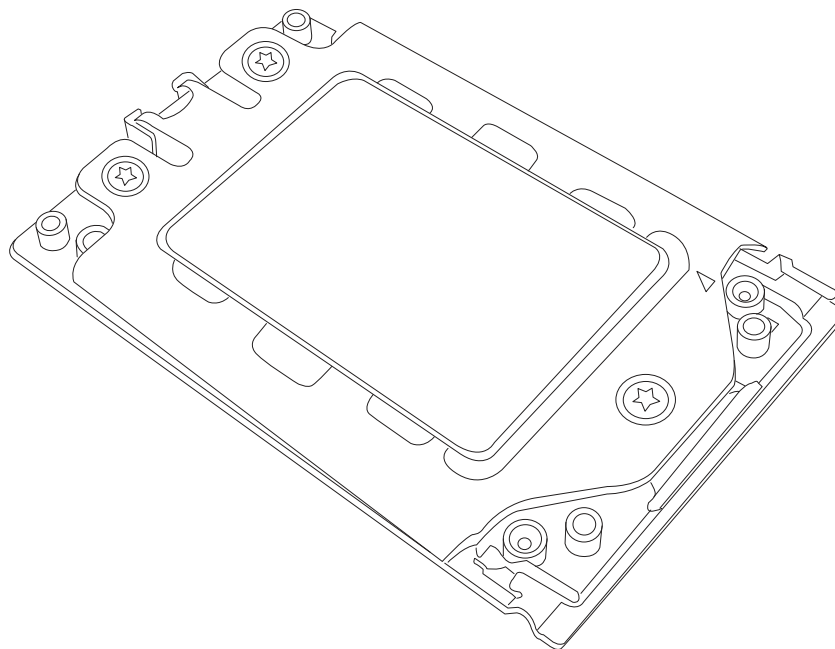
Figure 3-9. The Force Frame Secured

11. Lower the heatsink down till it rests securely on CPU Package over the four screw holes on the socket frame.
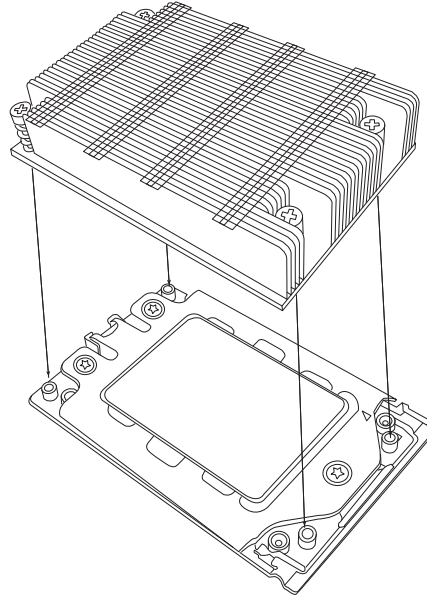
Figure 3-10. Mounting the Heatsink

12. Using a diagonal pattern and a Torx T20 driver, tighten the four heatsink screws evenly to 16.1 kgf-cm (14.0 lbf-in) of torque.
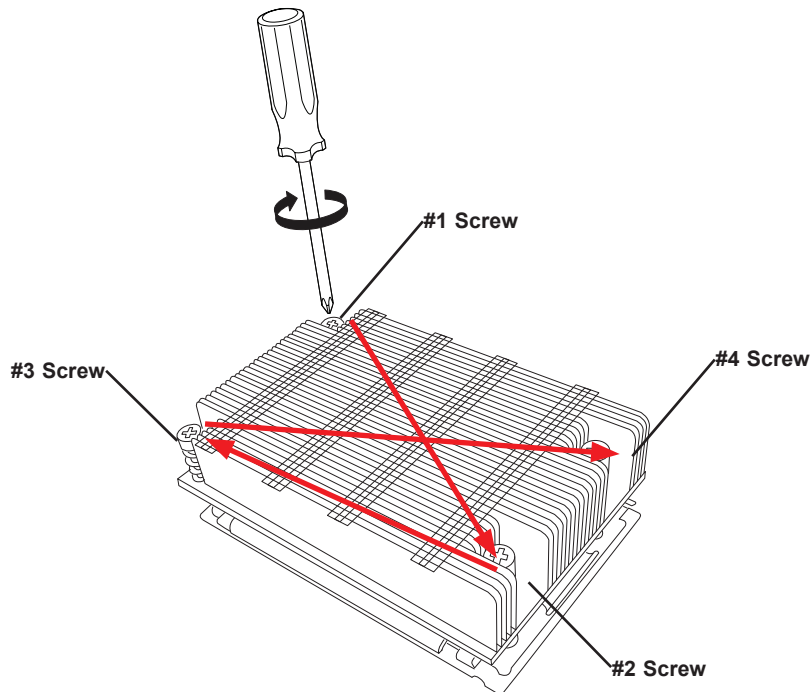
Figure 3-11. Securing the Heatsink

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 <u>gently</u> 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.

Memory Installation

Memory Support

The H11DSU-iN supports up to 4TB of ECC DDR4 2666 MHz speed or 8TB of ECC DDR4 3200 MHz speed (board reversion 2.x required), RDIMM/LRDIMM/3DS/NVDIMM memory in 32 slots . Refer to the table below for additional memory information.

Check the Supermicro website for possible updates to memory support.

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

Processors and their Corresponding Memory Modules																
CPU#	Channel 1		Channel 2		Channel 3		Channel 4		Channel 5		Channel 6		Channel 7		Channel 8	
8 DIMMS																
CPU1		A2		B2		C2		D2		E2		F2		G2		H2
16 DIMMS																
CPU1	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	F1	F2	G1	G2	H1	H2
16 DIMMS																
CPU1		A2		B2		C2		D2		E2		F2		G2		H2
CPU2		A2		B2		C2		D2		E2		F2		G2		H2
32 DIMMS																
CPU1	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	F1	F2	G1	G2	H1	H2
CPU2	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	F1	F2	G1	G2	H1	H2

Populating RDIMM/RDIMM 3DS/LRDIMM/LRDIMM 3DS DDR4 Memory Modules with 7001 Processor					
Type	**DIMM Population**		**Maximum DIMM Capacity (GB)**		**Maximum Frequency (MHz)**
	DIMM1	**DIMM2**	**1 Channel**	**8 Channel**	
RDIMM		1R	16GB	128GB	2666
	1R	1R	32GB	256GB	2133
		2R	64GB	512GB	2400
	1R	2R	48GB	384GB	2133
	2R	2R	128GB	1TB	2133
LRDIMM		4R	64GB	512GB	2666
	4R	4R	128GB	1TB	2133
		8R	128GB	1TB	2666
	4R	8R	192GB	1.5TB	2133
	8R	8R	256GB	2TB	2133
LRDIMM 3DS		2R2H	64GB	512GB	2400
	2R2H	2R2H	128GB	1TB	1866
		2R4H	128GB	1TB	2400
	2R2H	2R4H	192GB	1.5TB	1866
	2R4H	2R4H	256GB	2TB	1866

Populating RDIMM/RDIMM 3DS/LRDIMM/LRDIMM 3DS DDR4 Memory Modules with 7002 Processor					
Type	**DIMM Population**		**Maximum DIMM Capacity (GB)**		**Maximum Frequency (MHz)**
	DIMM1	**DIMM2**	**1 Channel**	**8 Channel**	
RDIMM		1R	32GB	256GB	3200
	1R	1R	64GB	512GB	2933
		2R or 2DR	64GB	512GB	3200
	1R	2R or 2DR	96GB	768GB	2933
	2R or 2DR	2R or 2DR	128GB	1TB	2933
LRDIMM		2S2R	128GB	1TB	3200
		2S4R	256GB	2TB	3200
	2S2R	2S2R	256GB	2TB	2933
	2S2R	2S4R	384GB	3TB	2933
	2S2R	2S4R	512GB	4TB	2933
LRDIMM 3DS		2S2R	128GB	1TB	2933
	2S2R	2S2R	256GB	2TB	2666
		2S4R	256GB	2TB	2933
	2S2R	2S4R	384GB	3TB	2666
	2S4R	2S4R	512GB	4TB	2666

DIMM Module Population Sequence

When installing memory modules, the DIMM slots should be populated in the following order: DIMMA2, DIMMB2, DIMMC2, DIMMD2, DIMME2, DIMMF2, DIMMG2, DIMMH2, then DIMMA1, DIMMB1, DIMMC1, DIMMD1, DIMME1, DIMMF1, DIMMG1, DIMMH1.

• The blue slots must be populated first.

• Always use DDR4 DIMM modules of the same type, size and speed.

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

• The motherboard supports an odd number of modules (1, 3, etc.). However, to achieve the best memory performance, a balanced memory population is recommended.
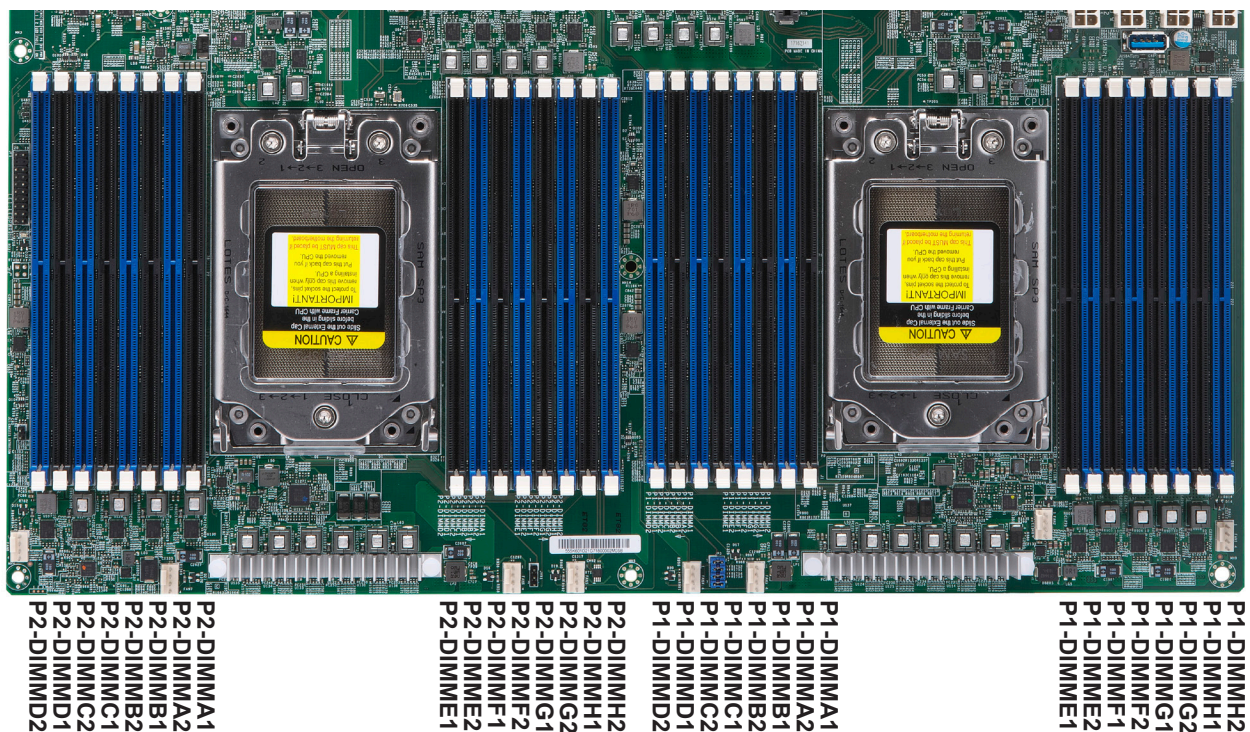
Figure 3-12. DIMM Numbering

Caution: In dual-CPU configurations, memory must be installed in the DIMM slots associated with the installed CPUs.

DIMM Installation

Insert the desired number of DIMMs into the memory slots in the order noted above.

1. Push the release tabs outwards on both ends of the DIMM slot to unlock it.

Notches
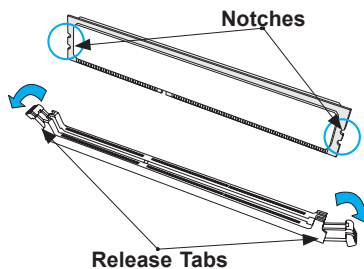
Release Tabs

2. Align the key of the DIMM with the receptive point on the memory slot and with your thumbs on both ends of the module, press it straight down into the slot until the module snaps into place.

Press both notches straight down into the memory slot.
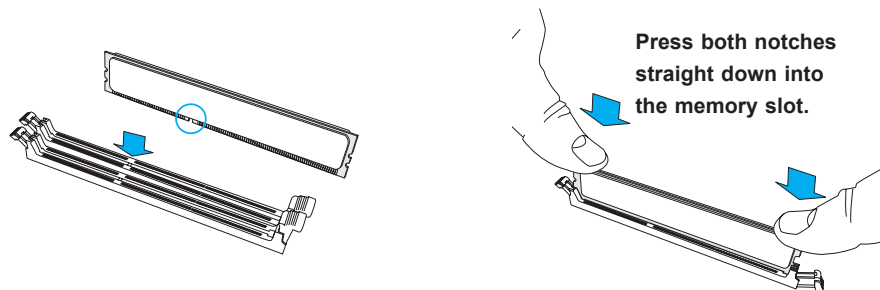
3. Press the release tabs to the lock positions to secure the DIMM module into the slot.

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.

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.

LITHIUM BATTERY

BATTERY HOLDER
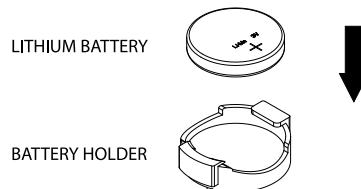
Figure 3-13. Installing the Onboard Battery

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

This section provides instructions on installing and replacing system components. To assure compatibility, only use components that match the specifications or part numbers given.

Installation or replacement of most components require that power first be removed from the system.

Storage Drives

The SC119U supports ten 2.5" storage drives in toolless drive carriers that simplify their removal from the chassis. These carriers also help promote proper airflow.

Your server may or may not have come with drives installed.

Drive Carrier Indicators

Each 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.

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

Note: Enterprise level hard disk drives are recommended for use in Supermicro chassis and servers. For information on recommended HDDs, visit the Supermicro website at http://www.supermicro.com/products/nfo/files/storage/SBB-HDDCompList.pdf.

Note: Installed drives must be either all SAS, all SATA,or all NVMe. Drive configurations consisting of mixed type drives are not supported.

Removing a Hot-Swap Drive Carrier from the Chassis

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

2. Use the drive carrier handle to pull the drive out of the chassis.
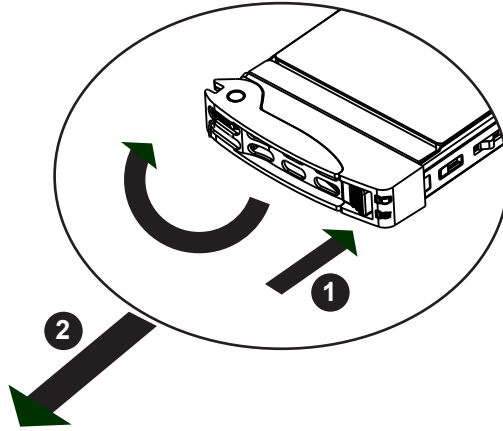
Figure 3-14. Removing a Drive Carrier

Installing a Drive

1. Remove the dummy drive, which comes pre-installed in the drive carrier, by removing the screws securing the dummy drive to the carrier. These screws are not used to mount the actual hard drive.
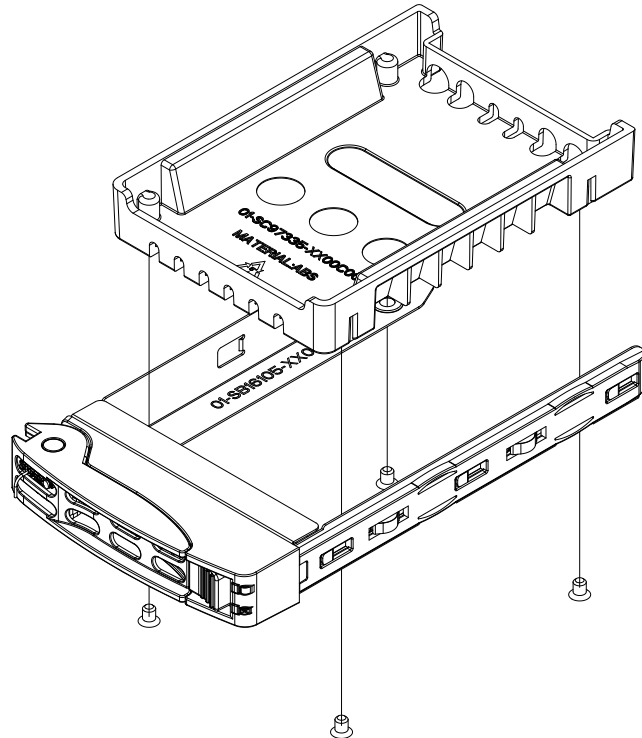
Figure 3-15. Removing the Dummy Drive from a Carrier

2. Insert a drive into the carrier with the PCB side facing down and the connector end toward the rear of the carrier. Align the drive in the carrier so that the screw holes line up. Note that there are holes in the carrier marked "SATA" to aid in correct installation.

3. Secure the drive to the carrier with four M3 screws as illustrated below. These screws are included in the chassis accessory box.

4. Insert the drive carrier with the disk drive 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.

5. Push the handle in until it clicks into its locked position

M.2 Solid State Drives (optional)

Up to two M.2 solid state drives (SSDs) can be installed on the RSC-UMR-8 riser card, with some restrictions. One M.2 socket supports PCI-E and one supports SATA.

Several SSD lengths are supported—42mm, 60mm 80mm or 110mm. For each length, there is an hole in the storage adapter card for a plastic standoff. The following combinations are supported:

* Two 42 or 60 mm

* One 42 and one 80 mm

* One 110 mm

To install two M.2 SSDs, you must order another standoff (P/N FST-SCRW-0074L)
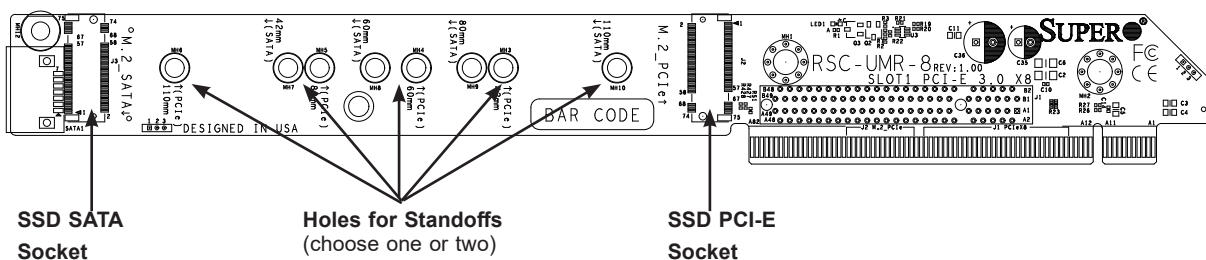
Figure 3-16. M.2 SSDs on the Riser Card

If using the M.2 SATA socket, connect the optional cable, CBL-SAST-0639, to the motherboard at connectors S-SATA4 or S-SATA5.

Installing an M.2 SSD

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

Locate the RSC-UMR-8 storage adapter card in the SXB2 slot on the motherboard. There is a plastic standoff in one of the holes. If it is the correct hole for your M.2 SSD, you can slide the SSD into the socket, and secure it by pushing the plug into the standoff.

If the plastic standoff is not in the correct hole, or if you want to install two M.2 SSDs, you must remove the storage adapter card to move or add the standoff.
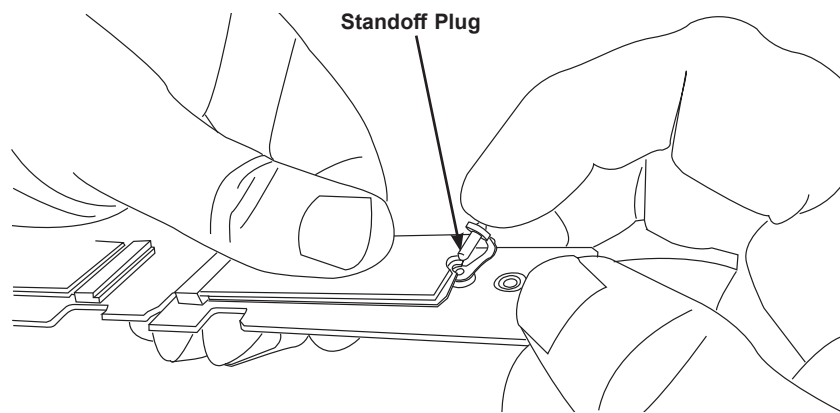
Figure 3-17. Inserting the Standoff Plug
(**Note:** Your card looks different, but the standoff functions the same.)

Removing the Storage Adapter Card to Mount M.2 SSDs

1. Remove the left riser card bracket as described in Figure 3-23.

2. Remove the screw in the small L bracket that holds the RSC-UMR-8 storage adapter card.

3. Pull the RSC-UMR-8 storage adapter card out of the motherboard slot.

4. Push the plastic standoffs out of the riser card. Push them into the correct holes for your SSD lengths.

5. Insert the SSD into the socket on the riser card. Then push it flat against the adapter card and the plastic standoff.

6. Secure the SSD by firmly inserting the standoff plug.

7. Replace the RSC-UMR-8 storage adapter card and the WIO riser card.

System Cooling

Eight 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 works to dampen vibration levels.

Make sure the chassis top cover makes a good seal so the cooling air circulates properly through the chassis.
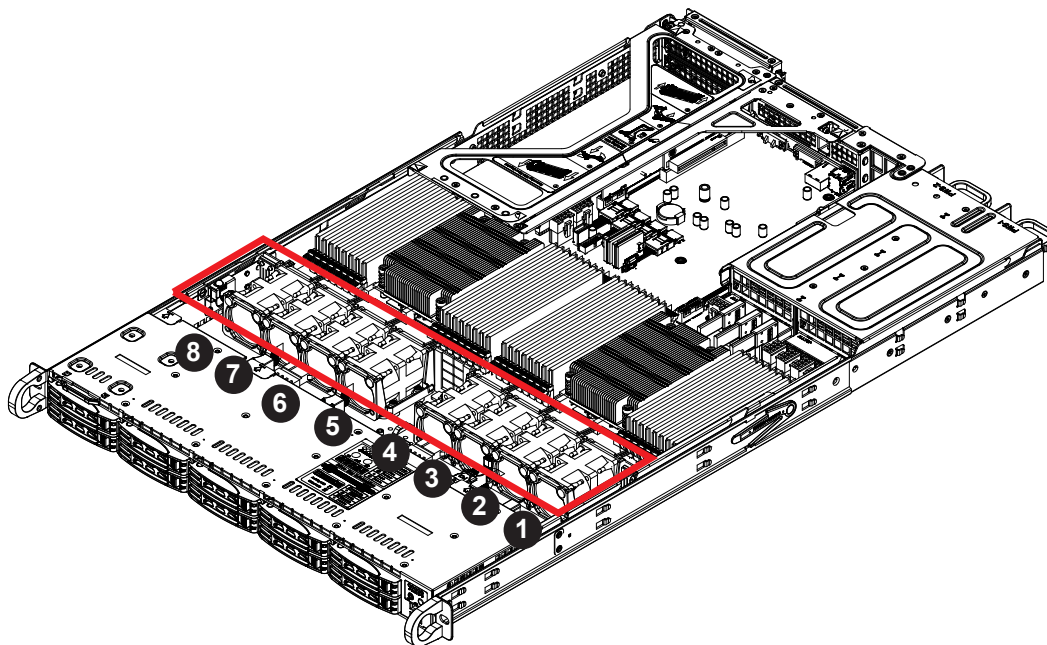
Figure 3-18. Fan Positions

System Fan Replacement

Fan speed is controlled by IPMI depending on the system temperature. If a fan fails, the remaining fans will ramp up to full speed. The system can continue to run with a failed fan. Replace any failed fan at your earliest convenience with the same model. Failed fans can be identified through the BIOS. The fan numbers are printed on the floor of the chassis.

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 3.2

3. Unplug the fan cable from the motherboard and remove the failed fan from the chassis.

4. Replace the failed fan with an identical 4cm 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.
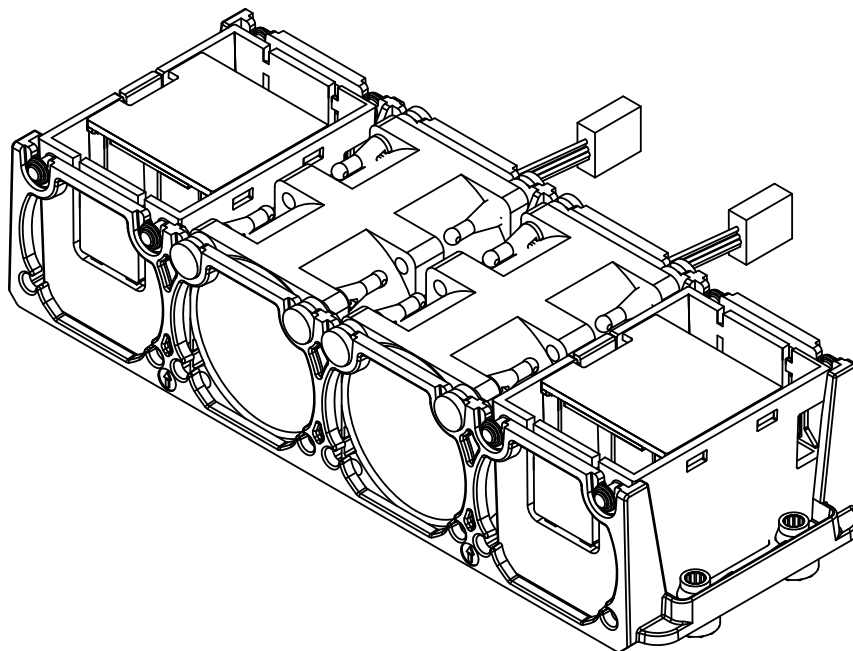
3-19. Fans in Housing

Installing the Air Shroud

Air shrouds concentrate airflow to maximize fan efficiency. The motherboard air shroud does not require screws to install.

Installing the Air Shroud

1. Position the air shroud in the chassis as illustrated in Figure 3-19.

2. Align the notch on the air shroud with the pin on the expansion card bracket.

3. Slide the pin into the back of the notch.

4. Lower the front of the air shroud over the fan tray, sliding the front notches over the pins on the fan tray.
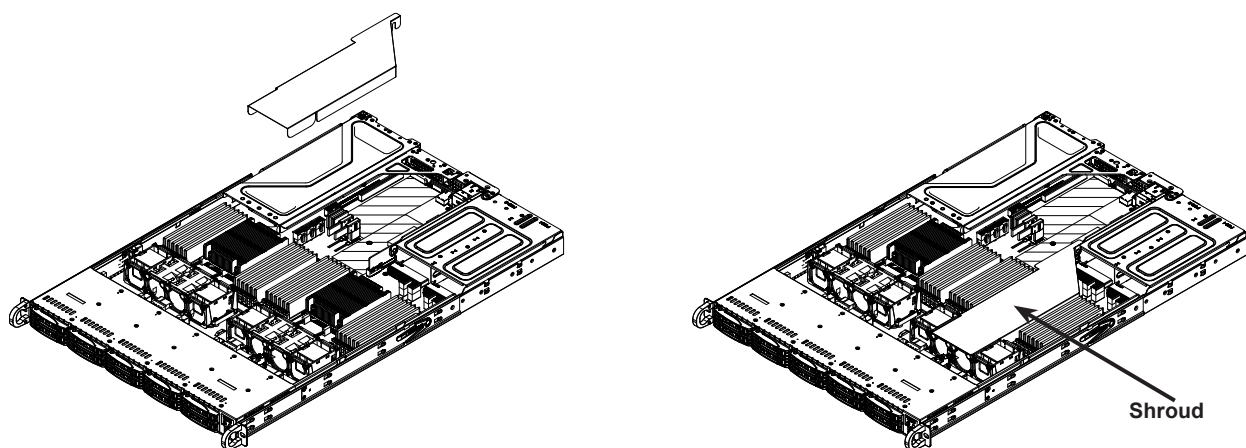
Figure 3-20. Installing the Air Shroud

Note: Drawings are for illustration only. Your components might look slightly different.

Checking the Server Air Flow

• Make sure there are no objects to obstruct airflow in and out of the server.

• If you are using a front bezel, make sure the bezel filter is replaced periodically.

• Do not operate the server without drives or drive trays in the drive bays.

• Use only recommended server parts.

• Make sure no wires or foreign objects obstruct air flow through the chassis. Pull all excess cabling out of the airflow path or use shorter cables.

The control panel LEDs display system heat status. See "Control Panel" in Chapter 1 for details.

Overheating

There are several possible responses if the system overheats.

Overheat Temperature Setting

Some backplanes allow the overheat temperature to be set at 45, 50, or 55 by changing a jumper setting. For more information, consult the backplane user manual at www.supermicro. com. (Click Support, then the Manuals link.)

Responses

If the server overheats:

1. Use the LEDs to determine the nature of the overheating condition.

2. Confirm that the chassis covers are installed properly.

3. Make sure all fans are present and operating normally.

4. Check the routing of the cables.

5. Verify that the heatsinks are installed properly.

Power Supply

The chassis features redundant power supplies. The system will continue to operate if one module fails. It should be replaced as soon as convenient. The power supply modules are hot-swappable, meaning they can be changed without powering down the system. New units can be ordered directly from Supermicro or authorized distributors.

These power supplies are auto-switching capable. This feature enables them to automatically sense the input voltage and operate at a 100-120v or 180-240v.

Power Supply LEDs

On the rear of the power supply module, an LED displays the status.

- **Solid Green**: When illuminated, indicates that the power supply is on.

- **Solid Amber**: When illuminated, indicates the power supply is plugged in and turned off, or the system is off but in an abnormal state.

- **Blinking Amber**: When blinking, this system power supply temperature has reached 63C. The system will automatically power-down when the power supply temperature reaches 70C and restart when the power supply temperature goes below 60C.

Changing the Power Supply Module:

1. Unplug the AC cord from the module to be replaced.

2. On the back of the module, push the release tab sideways, as illustrated.

3. Pull the module out using the handle.

4. Push the new power supply module into the power bay until it clicks. Replace with the same model.

5. Plug the AC power cord back into the module.
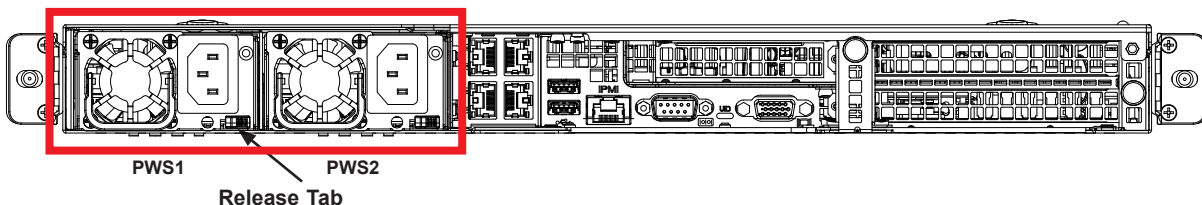
Figure 3-21. Replacing the Power Supply

Installing Expansion Cards

The system accepts two full-height full-length expansion cards and one low-profile card, mounted on a riser card and riser bracket. There is also an internal expansion slot in the center of the chassis. It supports only a proprietary Supermicro RAID card, and only under certain system configurations.
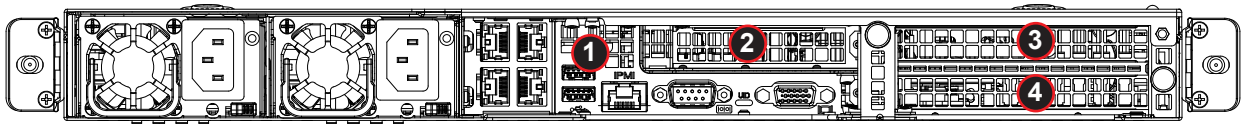
Figure 3-22. PCI Expansion Card Chassis Slots

Expansion Card Configurations		
Slot	Mechanical	Electrical
1*	Internal low-profile, half-length	x8 (CPU1)
2	Low-profile, half-length	x8 (CPU2)
3	Full-height, full-length	x16 (CPU2)
4	Full-height, full-length	x16 (CPU2)

Full-height = 4.2", Low-profile = 2.5",

Full-length = 10.5", Half-length = 6.6"

* This slot supports only Supermicro SAS Cards listed below.

Supermicro SAS Cards	
Part Number	Description
AOC-S3008L-L8e (8-port HBA)	Std LP, 8 internal ports, 12 Gb/s per port, Gen 3, 122HDD, HBA
AOC-S3008L-L8i (8-port SW RAID)	Std LP, 8 internal ports, 12 Gb/s per port, Gen 3, 63HDD, RAID 0, 1, 1E
AOC-S3108L-H8iR (8-port HW RAID)	Std LP, 8 internal ports, 12 Gb/s per port, Gen 3, 240HDD, RAID 0, 1, 5, 6, 10, 50 ,60
AOC-S3108L-H8iR-16DD (8-port HW RAID)	Std LP, 8 internal ports, 12 Gb/s per port, Gen 3, 16HDD, RAID 0, 1, 5, 6, 10, 50 ,60

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.
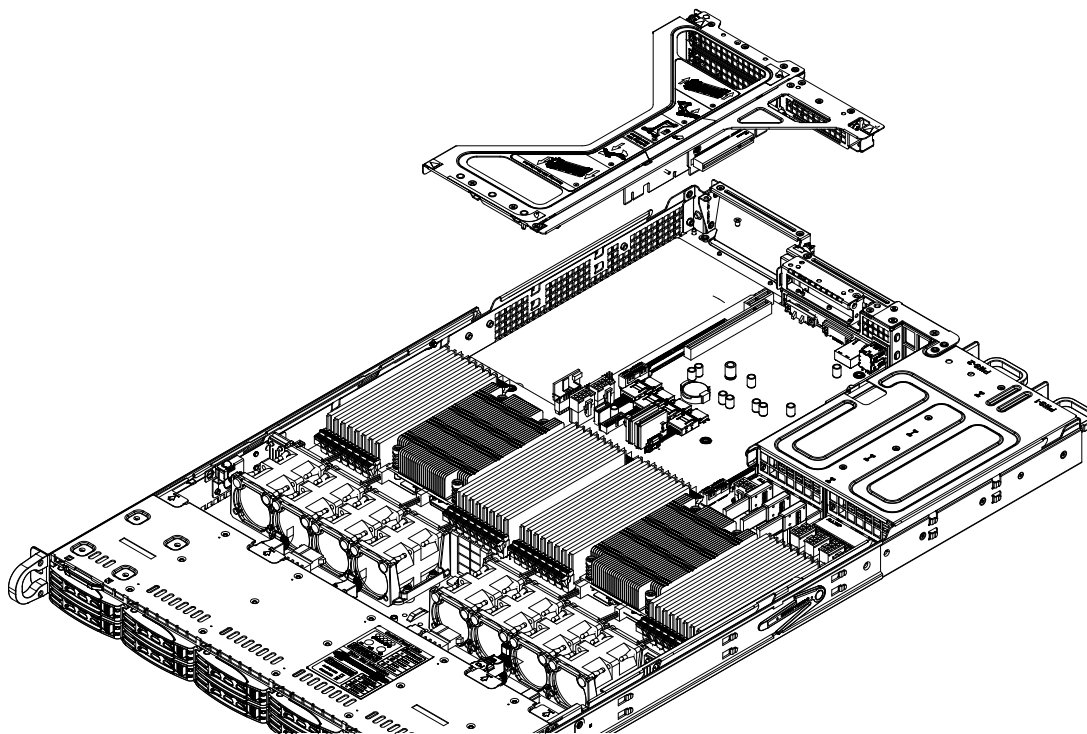
Figure 3-23. Riser Card Bracket and Expansion Slots
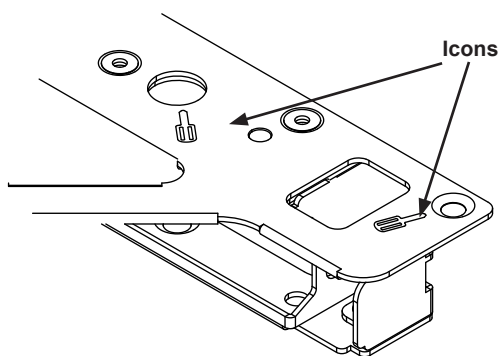
Icons

Figure 3-24. Example of Screwdriver Icons

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.
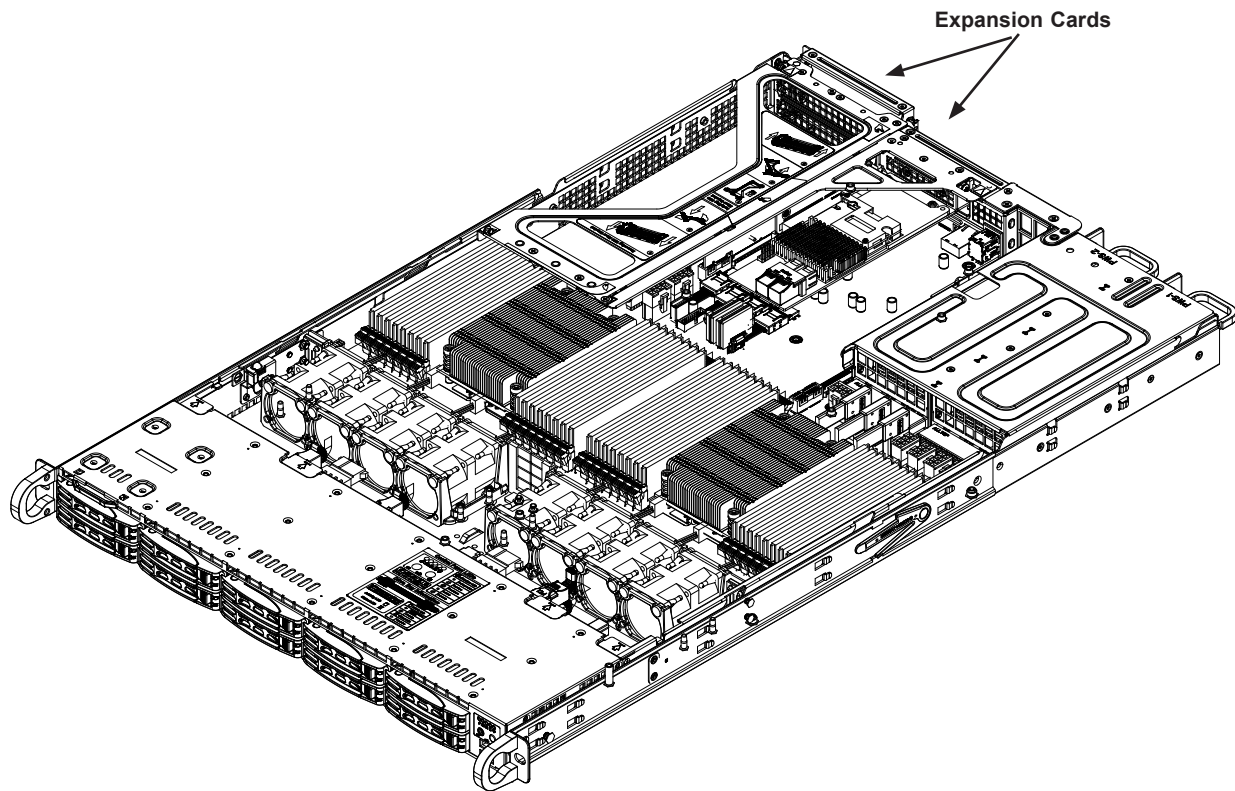
Expansion Cards

Figure 3-25. Expansion cards Installed

Internal Expansion Card

The pre-installed Ultra riser card that holds your LAN ports also offers another internal low profile card slot for Supermicro SAS only.

Installing the Internal Expansion Card

1. Remove the cover.

2. Locate the mounting bracket in the accessories box. Mount the bracket to hold the SAS expansion card onto the Ultra riser card.
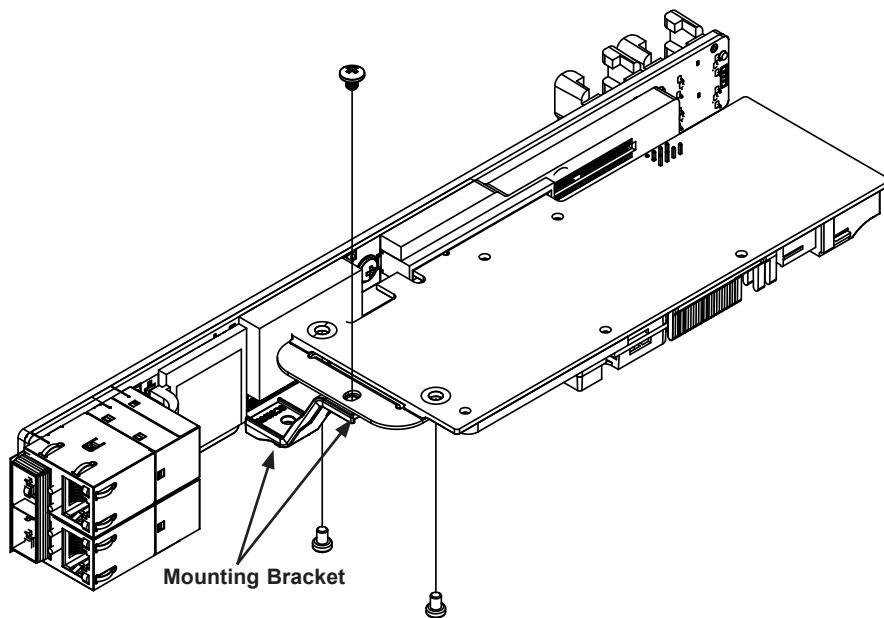
Mounting Bracket

Figure 3-26. Bracket for Mounting an Internal Expansion Card on the Ultra Riser Card
(four-port Ultra card shown in this example)

3. Insert the SAS card into the expansion slot on the Ultra riser card and secure it to the bracket.

Removing the Ultra Riser Card

To remove the Ultra riser card, use two hands. One hand lifts the mylar release tab and the other hand lifts at the PCI-E x8 slot at the same time. **Caution**: Lifting at only one of these points may cause damage to connectors on the motherboard.
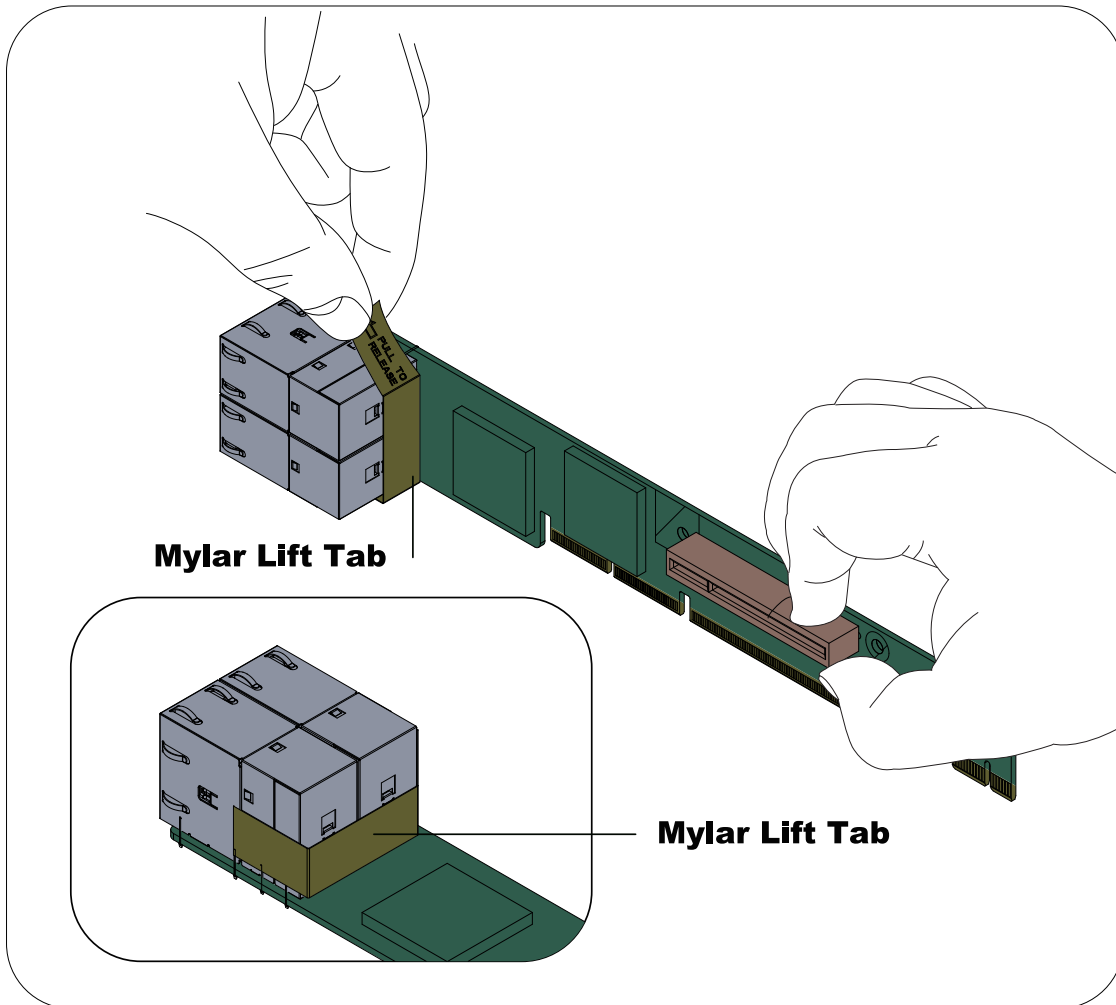
Figure 3-26. Removing the Ultra Riser Card

Chapter 4

Motherboard Connections

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

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

4.1 Power Connections

Two power connections on the H11DSU-iN must be connected to the power supply. The wiring is included with the power supply.

- Two 25-pin primary proprietary power (PSU1/PSU2)

- Four 8-pin backplane power (P PWR1, BP PWR2, BP PWR3, BP PWR4)

- Three 8-pin GPU power (GPU PWR1, GPU PWR2, GPU PWR3)

Main Power Connector

The primary power connector must be connected to your power supply.

Backplane 12V and 5V 8-pin Power Connectors

BP PWR1–4 are 8-pin 12V and 5V DC power inputs for the system backplane.

Backplane 8-pin Power Pin Definitions	
Pin#	Definition
1 - 4	Ground
5 - 6	+12V
7 - 8	+5V

GPU 12V 8-pin Power Connectors

GPU PWR1–3 are 8-pin 12V DC power inputs for GPUs that are installed in the system PCIe slots.

GPU 8-pin Power Pin Definitions	
Pin#	Definition
1 - 4	Ground
5 - 8	+12V

4.2 Headers and Connectors

The data cables in the system have been carefully routed to maintain airflow efficiency. If you disconnect any of these cables, take care to re-route them as they were originally.

Important! Make sure the the cables do not come into contact with the fans.

Fan Headers

There are eight 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 through the BIOS > Hardware Monitoring. **Note:** When using Thermal Management setting, use all 3-pin fans or all 4-pin fans.

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

SGPIO Header

The SGPIO1 (Serial General Purpose Input/Output) header is used to communicate with the enclosure management chip on the backplane.

JSGPIO Header Pin Definitions			
Pin#	Definition	Pin#	Definition
1	Ground	2	DATA IN
3	Ground	4	DATA Out
5	Load	6	Ground
7	Clock	8	NC

NC = No Connection

Chassis Intrusion

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	Intrusion Input
2	Ground

Disk-On-Module Power Connector

The Disk-On-Module (DOM) power connectors at JSD1 and JSD2 provide 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

TPM Header/Port 80 Connector

The JTPM1 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.

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	No Pin
5	LRESET#	6	NC
7	LAD3	8	LAD2
9	3.3V	10	LAD1
11	LAD0	12	GND
13	SMB_CLK4 (X)	14	SMB_DAT4 (X)
15	P3V3_STBY	16	SERIRQ
17	GND	18	LP_CLKRUN_L
19	P3V3_STBY	20	LDRQ0_L

IPMB System Management Bus Header

A System Management Bus header for IPMI 2.0 is located at JIPMB1. Connect the appropriate cable here to use the IPMB I²C connection on your system.

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

SD Card Port

The JSDCARD1 is the SD Card port for the system.

UltraO Riser Card LAN LED Header

JF2 is a header for the UltraO Riser Card LAN LED header.

SATA Ports

The H11DSU-iN has fourteen (14) SATA 3.0 ports (SATA0-13) that are supported by the System on Chip.

NVMe Connections

Four NVM Express (NVMe) ports are located on the motherboard (two for each processor). These ports provide high-speed, low-latency PCI-Exp. 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 resulted from direct PCI-E interface from the CPU to the NVMe SSD drives.

Control Panel

JF1 contains header pins for various control panel connections designed specifically for use with Supermicro chassis. See the figure below for the pin locations and definitions of the control panel buttons and LED indicators.

All JF1 wires have been bundled into a single cable to simplify this connection. Make sure the red wire plugs into pin 1 as marked on the motherboard. The other end connects to the control panel PCB board.

	20	19	
(Ground)	●	●	NMI (Control signal)
Key	●	●	Key
Power On LED (Control signal)	●	●	(5V standby)
HDD LED (Activity signal)	●	●	(Vcc)
NIC1 LED (Ground)	●	●	(Vcc)
NIC2 LED (Ground)	●	●	(Vcc)
OH/Fan Fail LED (Ground)	●	●	(Vcc)
Power Fail LED (Ground)	●	●	(Vcc)
(Ground)	●	●	Reset Button (Data signal)
(Ground)	●	●	Power Button (Data signal)
	2	1	
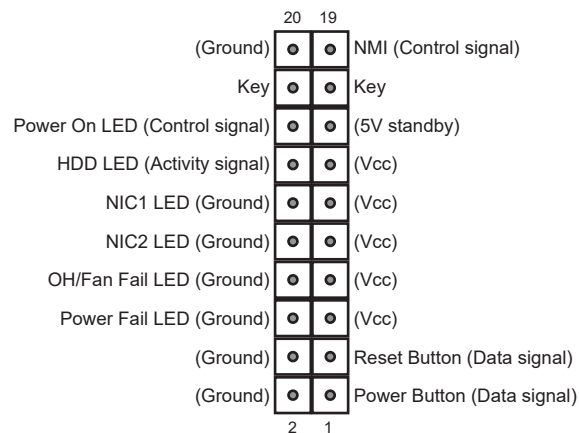
Figure 4-1. JF1: Control Panel Pins

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 7). To turn off the power when the system is in suspend mode, press the button for 4 seconds or longer.

Power Button Pin Definitions (JF1)	
Pin#	Definition
1	Signal
2	Ground

Reset Button

The Reset Button connection is located on pins 3 and 4 of JF1. Attach it to a hardware reset switch on the computer case.

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

Power Fail LED

The Power Fail LED connection is located on pins 5 and 6 of JF1.

Power Fail LED Pin Definitions (JF1)	
Pin#	Definition
5	3.3V
6	PWR Supply Fail

Overheat (OH)/Fan Fail

Connect an LED cable to pins 7 and 8 of JF1 to use the Overheat/Fan Fail LED connections. The LED on pin 8 provides warnings of overheat or fan failure.

OH/Fan Fail Indicator Status	
Status	Definition
Off	Normal
On	Overheat
Flashing	Fan Fail

OH/Fan Fail LED Pin Definitions (JF1)	
Pin#	Definition
7	Blue LED
8	OH/Fan Fail LED

NIC1/NIC2 (LAN1/LAN2)

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 here to display network activity.

LAN1/LAN2 LED Pin Definitions (JF1)	
Pin#	Definition
9	NIC2 Activity LED
10	NIC2 Link LED
11	NIC1 Activity LED
12	NIC1 Link LED

HDD LED/UID Switch

The HDD LED/UID Switch connection is located on pins 13 and 14 of JF1. Attach a cable to Pin 14 to show hard drive activity status. Attach a cable to Pin 13 to use UID switch. Refer to the table below for pin definitions.

HDD LED Pin Definitions (JF1)	
Pin#	Definition
13	3.3V Standby/UID Switch
14	HDD Active

Power LED

The Power LED connection is located on pins 15 and 16 of JF1.

Power LED Pin Definitions (JF1)	
Pin#	Definition
15	3.3V
16	Power LED

NMI Button

The non-maskable interrupt button header is located on pins 19 and 20 of JF1.

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

4.3 Ports

See the figure below for the locations and descriptions of the various I/O ports on the rear of the motherboard.
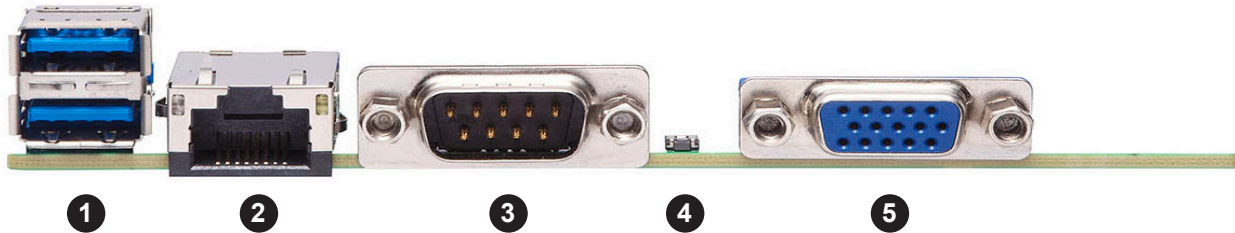
Figure 4-2. Rear I/O Ports

Rear I/O Ports			
#	Description	#	Description
1.	USB 0/1 Ports	4.	UID button and LED
2.	IPMI LAN Port	5.	VGA Port
3	COM1 Port		

Universal Serial Bus (USB) Ports

There are two Universal Serial Bus ports located on the rear I/O panel and an additional two USB headers and a USB Type A header on the motherboard. These can be used to provide front USB access (cables not included).

Unit Identifier Switch/UID LED Indicator

A rear Unit Identifier (UID) switch and LED indicator are located on the rear side of the system. When you press the UID switch, both front and rear UID LED indicators are illuminated. Press the UID switch again to turn off the LEDs. The UID indicators provide easy identification of a system among a rack of many.

Note: UID can also be triggered using IPMI.

LAN Ports

There are four LAN ports on the chassis rear provided by the Ultra add-on card. There is also a dedicated IPMI LAN port on the I/O back panel. For more information on IPMI, refer to the IPMI User's Guide posted on our website at http://www.supermicro.com.

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.
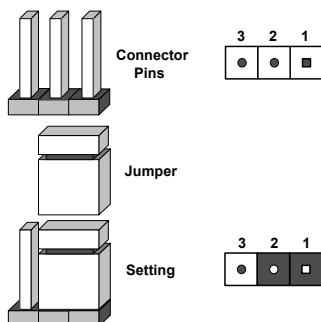
CMOS Clear

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.

JBT1 contact pads

VGA Enable/Disable

JPG1 allows you to enable or disable the VGA port using the onboard graphics controller. The default setting is Enabled.

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

Watch Dog

JWD 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 must to write their own application software to disable it.

Watch Dog Jumper Settings	
Jumper Setting	Definition
Pins 1-2	Reset
Pins 2-3	NMI
Open	Disabled

4.5 LED Indicators

LAN LEDs

The LAN ports are located on the I/O back panel on the motherboard. Each Ethernet LAN port has two LEDs. One LED blinks amber to indicate activity. The Link LED may be green, amber or off indicating the speed of the connection.

Link LED   Activity LED
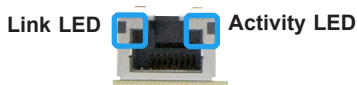
LAN Link Indicator LED Settings	
LED Color	**Definition**
Off	No connection or 10 Mbps
Green	100 Mbps
Amber	1 Gbps

IPMI LAN LED

The LED indicates activity, while the Link LED indicates the speed of the connection.

IPMI LAN
Link LED   Activity LED
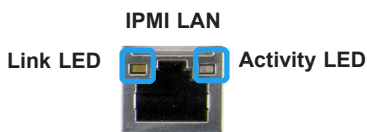
IPMI LAN LED Link LED (left)	
LED Color	**Definition**
Amber: Solid	1 Gb/s
Green: Solid	100 Mb/s

Onboard Power LED

LE1 is an Onboard Power LED. When this LED is illuminated, it means power is present on the motherboard. In suspend mode this LED will blink on and off.

BMC Heartbeat LED

A BMC Heartbeat LED (LEDM1) blinks to indicate BMC is functioning normally.

Chapter 5

Software

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

5.1 Microsoft Windows OS Installation

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. 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.
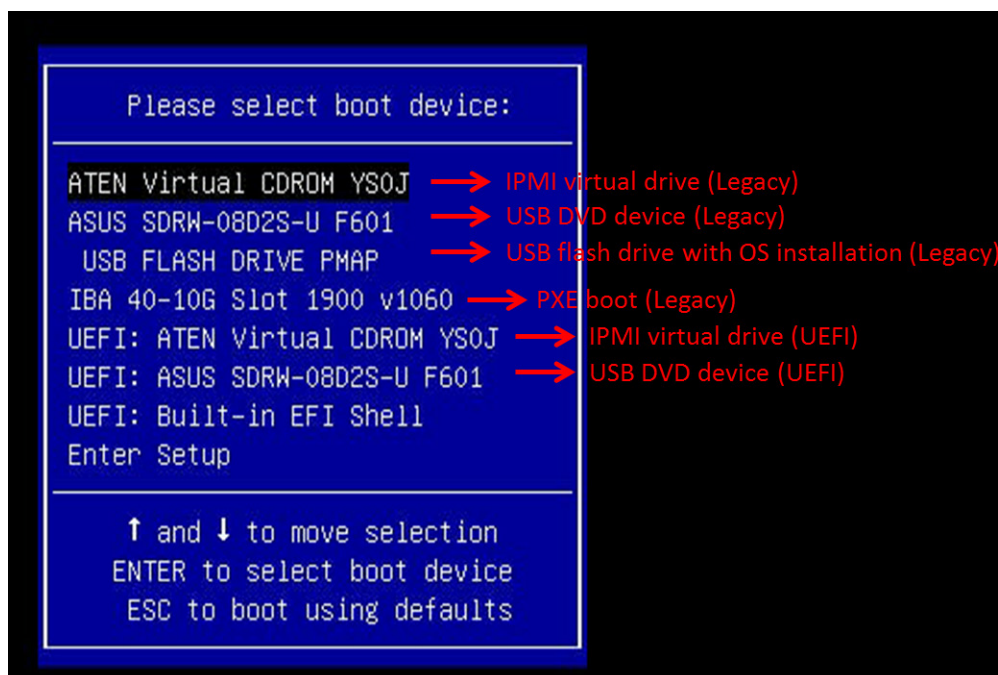
Figure 5-1. Select Boot Device

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.
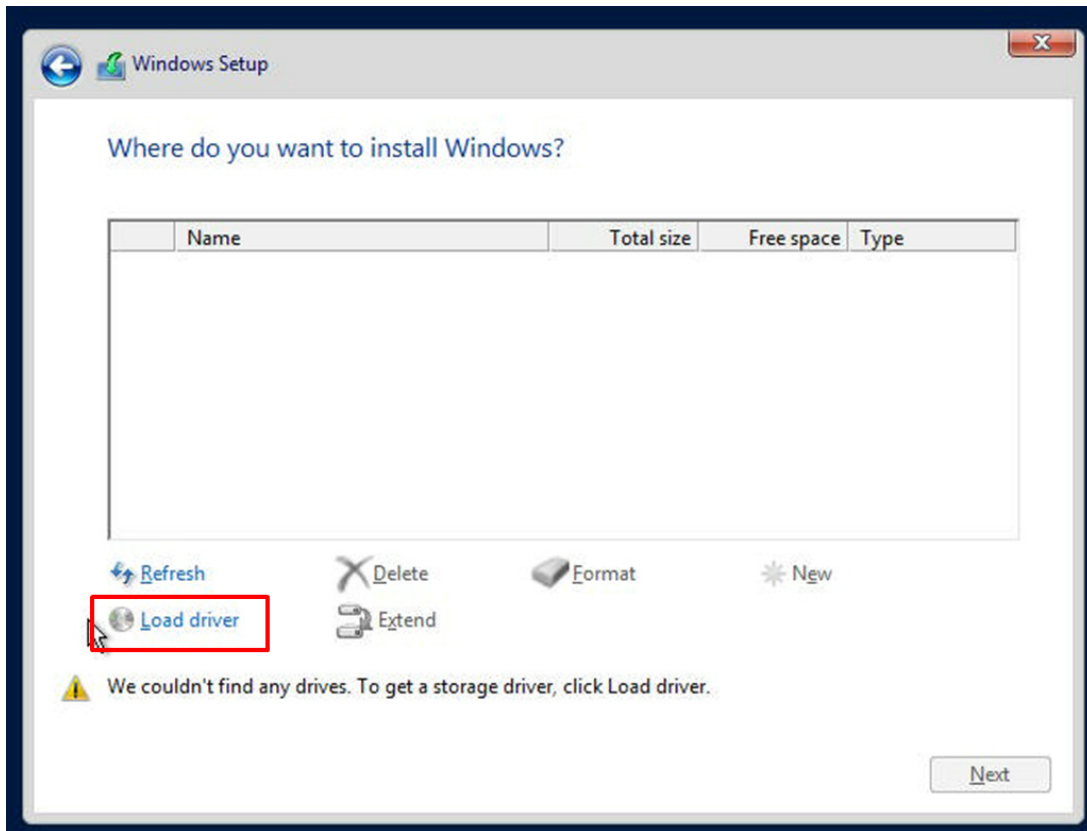
Figure 5-2. Load Driver Link

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

- 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 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.
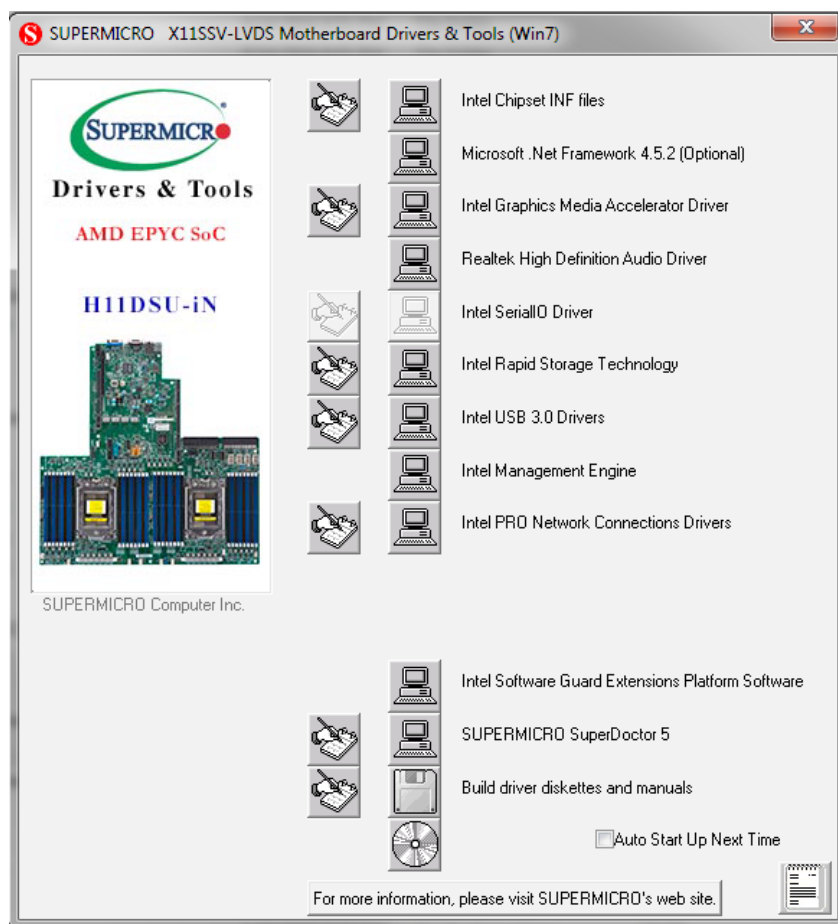
Figure 5-3. Driver & Tool Installation Screen

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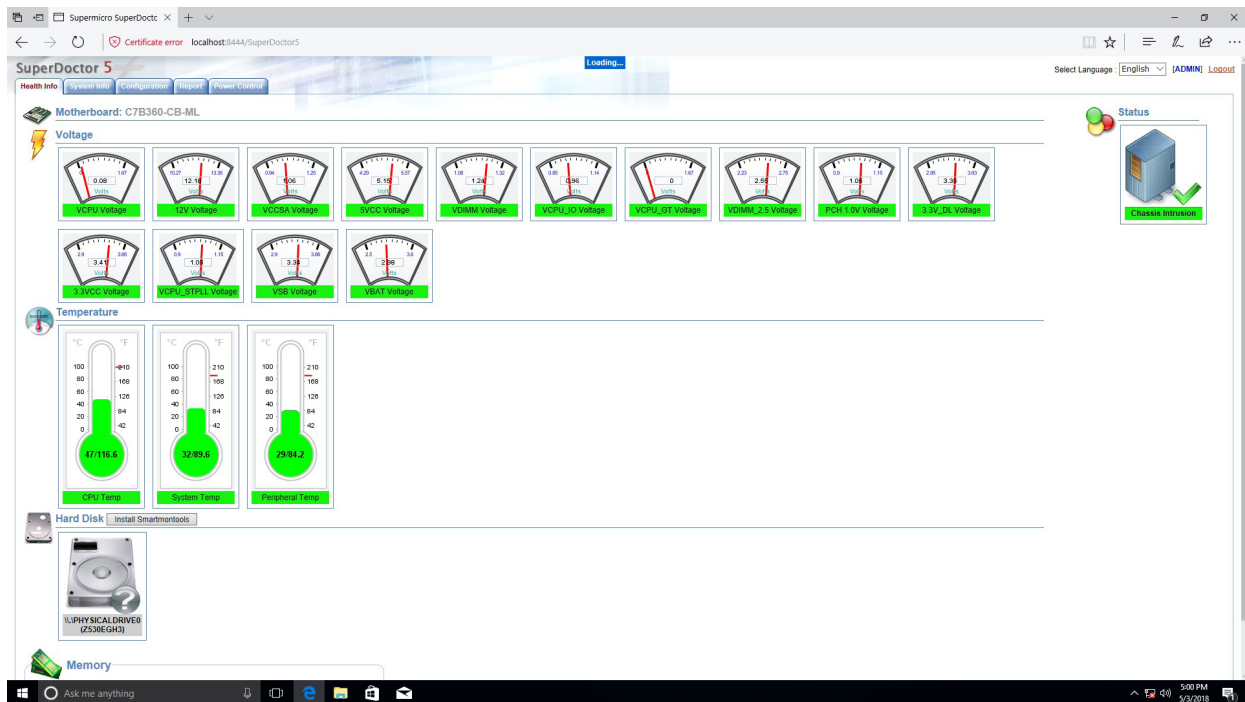
Figure 5-4. SuperDoctor 5 Interface Display Screen (Health Information)

5.4 IPMI

The H11DSU-iN supports the Intelligent Platform Management Interface (IPMI). IPMI provides remote access, monitoring and management through the baseboard management controller (BMC) and other management controllers distributed among different system modules.There are several BIOS settings that are related to IPMI. For general documentation and information on IPMI, visit our website at: http://www.supermicro.com/products/nfo/IPMI.cfm.

BMC ADMIN User Password

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

Figure 5-5. BMC Password Label

See Chapter 1 for the location of the label.

Chapter 6

UEFI BIOS
(for 7001 Processor)

6.1 Introduction

This chapter describes the AMI BIOS setup utility for the H11DSU-iN and provides the instructions on navigating the setup screens. The BIOS is stored in a Flash EEPROM and can be updated.

Note: Due to periodic changes to the BIOS, some settings may have been added or deleted since this manual was published.

Starting BIOS Setup Utility

To enter the AMI BIOS setup utility screens, press the <Delete> key while the system is booting up. (There are a few cases when other keys are used, such as <F1>, <F2>, etc.)

The BIOS screens have three main frames. The large left frame displays options can be configured by the user. These are blue. When an option is selected, it is highlighted in white. Settings printed in **Bold** are the default values.

In the left frame, a " ▶" indicates a submenu. Highlighting such an item and pressing the <Enter> key opens the list of settings in that submenu.

The upper right frame displays helpful information for the user. The AMI BIOS has default informational messages built in. The manufacturer retains the option to include, omit, or change any of these informational messages.

The lower right frame lists navigational methods. The AMI BIOS setup utility uses a key-based navigation system called *hot keys*. Most of these hot keys can be used at any time during setup navigation. These keys include <F3>, <F4>, <Enter>, <ESC>, arrow keys, etc.

Some system parameters may be changed.

6.2 Main Setup

When running the AMI BIOS setup utility, it starts with the Main screen. You can always return to it by selecting the Main tab on the top of the screen.

```
                  Aptio Setup Utility - Copyright (C) 2018 American Megatrends, Inc.
   Main   Advanced  IPMI  Event Logs  Security  Boot  Save & Exit

                                                             Set the Date. Use Tab to
   System Date                      [Wed 07/27/2118]         switch between Date
   System Time                      [21:25:16]               elements.
                                                             Default Ranges:
   Supermicro H11DSU-iN                                      Year: 2005-2099
   BIOS Version                     T20180723142039          Months: 1-12
   Build Date                       07/23/2018               Days: dependent on month
   CPLD Version                     02.B1.01

   Memory Information
   Total Memory                     128 GB


                                                             ➜←: Select Screen
                                                             ↑↓: Select Item
                                                             Enter: Select
                                                             +/-: Change Opt.
                                                             F1: General Help
                                                             F2: Previous Values
                                                             F3: Optimized Defaults
                                                             F4: Save & Exit
                                                             ESC: Exit

                  Version 2.18.1264. Copyright (C) 2018 American Megatrends, Inc.
```

The Main tab page allows you to set the date and time, and it displays system information.

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 01/01/2016 after RTC reset.

Supermicro H11DSU-iN (Motherboard model)

BIOS Version

Build Date (of the BIOS)

CPLD (Complex Programmable Logic Device) Version: This item displays the CPLD version used in the system.

Memory Information

Total Memory (for the system)

Memory Speed

6.3 Advanced Setup Configurations

Use the arrow keys to select the Advanced tab and press <Enter> to access the submenu items.

```
            Aptio Setup Utility - Copyright (C) 2018 American Megatrends, Inc.
     Main  Advanced  IPMI  Event Logs  Security  Boot  Save & Exit

 ▶ Boot Feature                                      Boot Feature Configuration
 ▶ PSP Firmware Versions                             Page
 ▶ CPU Configuration
 ▶ NB Configuration
 ▶ ACPI Settings
 ▶ Super IO Configuration
 ▶ Serial Port Console Redirection
 ▶ PCIe/PCI/PnP Configuration
 ▶ SATA Configuration
 ▶ iSCSI Configuration
 ▶ Generic NVMe PCIe SSD Configuration Data
 ▶ Generic NVMe PCIe SSD Configuration Data
 ▶ Generic NVMe PCIe SSD Configuration Data
 ▶ Generic NVMe PCIe SSD Configuration Data
 ▶ Generic NVMe PCIe SSD Configuration Data
 ▶ Generic NVMe PCIe SSD Configuration Data
 ▶ Generic NVMe PCIe SSD Configuration Data
 ▶ Generic NVMe PCIe SSD Configuration Data          →←: Select Screen
 ▶ Generic NVMe PCIe SSD Configuration Data          ↑↓: Select Item
 ▶ Generic NVMe PCIe SSD Configuration Data          Enter: Select
 ▶ Generic NVMe PCIe SSD Configuration Data          +/-: Change Opt.
 ▶ Generic NVMe PCIe SSD Configuration Data          F1: General Help
                                                     F2: Previous Values
                                                     F3: Optimized Defaults
                                                     F4: Save & Exit
                                                     ESC: Exit

            Version 2.18.1264. Copyright (C) 2018 American Megatrends, Inc.
```

Caution: 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. If this occurs, revert 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.

▶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

▶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**.

▶CPU Configuration

SMT Mode

Use this setting to specify Simultaneous Multithreading. Options include Off for 1T single thread and **Auto** for 2T two-thread if your system is capable of it.

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.

Downcore 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.

SMEE

This setting **Enables** or Disables secure memory encryption control.

▶CPU1/CPU2 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
- Clock speed
- 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 speed settings from 1333Mhz to 2666Mhz.

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. Options include None, Channel, Die, Socket 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). Options include 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/CPU2 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)

▶ 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.

▶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

▶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.

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.**

RSC-W2-66 Slot 1 PCI-E x16 OPROM

This setting enables or disables the listed PCI/PCIX/PCIe Slot OPROM option. Options include Disabled, **Legacy** or EFI.

RSC-W2-66 Slot 2 PCI-E x16 OPROM

This setting enables or disables the listed PCI/PCIX/PCIe Slot OPROM option. Options include Disabled, **Legacy** or EFI.

RSC-WR-6 Slot 1 PCI-E 4.0 x16 OPROM

This setting enables or disables the listed PCI/PCIX/PCIe Slot OPROM option. Options include Disabled, **Legacy** or EFI.

AOC-2UR68-m2TS Slot 2 PCI-E x16 OPROM

This setting enables or disables the listed PCI/PCIX/PCIe Slot OPROM option. Options include Disabled, **Legacy** or EFI.

AOC-2UR68-m2TS Slot 3 PCI-E x8 OPROM

This setting enables or disables the listed PCI/PCIX/PCIe Slot OPROM option. Options include Disabled, **Legacy** or EFI.

AOC-2UR68-m2TS Slot 1 PCI-E x8 OPROM

This setting enables or disables the listed PCI/PCIX/PCIe Slot OPROM option. Options include Disabled, **Legacy** or EFI.

Onboard LAN Option ROM Type

Use this setting to select which firmware type to be loaded for onboard LAN on the system. Options include **Legacy** and EFI.

Onboard LAN1 Option ROM

Use this setting to select which firmware function is to be loaded for onboard LAN1 on the system. Options include Disabled and **Legacy**.

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 Legacy.

P1_NVMe0 OpROM

Use this setting to select which firmware function is to be loaded for P1_NVMe0 OpROM on the system. Options include Disabled, Legacy and **EFI**.

P1_NVMe1 OpROM

Use this setting to select which firmware function is to be loaded for P1_NVMe1 OpROM on the system. Options include Disabled, Legacy and **EFI**.

P2_NVMe0 OpROM

Use this setting to select which firmware function is to be loaded for P2_NVMe0 OpROM on the system. Options include Disabled, Legacy and **EFI**.

P2_NVMe1 OpROM

Use this setting to select which firmware function is to be loaded for P2_NVMe1 OpROM on the system. Options include Disabled, Legacy and **EFI**.

Onboard Video Option ROM

This setting selects which onboard video firmware type to be selected. 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**.

▶SATA Configuration

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

SATA Controller

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

SATA Hot Plug

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

▶SATA Information

This section displays information on the detected SATA devices:

- CPU1 SATA0 ~ CPU1 SATA7

▶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

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

```
            Aptio Setup Utility - Copyright (C) 2018 American Megatrends, Inc.
   Main  Advanced  IPMI  Event Logs  Security  Boot  Save & Exit

   BMC Firmware Revision              1.36              │ Press <Enter> to change the
   IPMI STATUS                        Working           │ SEL event log configuration.

 ▶ System Event Log
 ▶ BMC Network Configuration


                                                        ┌────────────────────────────
                                                        │ ↔: Select Screen
                                                        │ ↑↓: Select Item
                                                        │ Enter: Select
                                                        │ +/-: Change Opt.
                                                        │ F1: General Help
                                                        │ F2: Previous Values
                                                        │ F3: Optimized Defaults
                                                        │ F4: Save & Exit
                                                        │ ESC: Exit

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```

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

Configure IPV4 Support

This section displays static configuration features for IPV4 support.

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**.

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 configures the virtual LAN settings. The options are **Disabled** 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

- IPV6 Address Status

- IPV6 DHCP Algorithm

6.5 Event Logs

Use this tab page to configure Event Log settings.

```
            Aptio Setup Utility – Copyright (C) 2018 American Megatrends, Inc.
    Main  Advanced  IPMI  Event Logs  Security  Boot  Save & Exit

▶ Change SMBIOS Event Log Settings                          Press <Enter> to change the
▶ View SMBIOS Event Log                                     SMBIOS Event Log
                                                            configuration.


















                                                            ↔: Select Screen
                                                            ↑↓: Select Item
                                                            Enter: Select
                                                            +/-: Change Opt.
                                                            F1: General Help
                                                            F2: Previous Values
                                                            F3: Optimized Defaults
                                                            F4: Save & Exit
                                                            ESC: Exit

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```

▶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

Use this tab page to configure Security settings.

```
               Aptio Setup Utility - Copyright (C) 2018 American Megatrends, Inc.
    Main   Advanced   IPMI   Event Logs   Security   Boot   Save & Exit

 Administrator Password                    Not Installed          Set Administrator Password
 User Password                             Not Installed

 Password Description

 If the Administrator's / User's password is set,
 then this only limits access to Setup and is
 asked for when entering Setup.
 Please set Administrator's password first in order
 to set User's password, if clear Administrator's
 password, the User's password will be cleared as well.

 The password length must be
 in the following range:
 Minimum length                              3
 Maximum length                             20

 Administrator Password                                           →←: Select Screen
 Password Check                          [Setup]                  ↑↓: Select Item
                                                                  Enter: Select
 ▶ Secure Boot                                                    +/-: Change Opt.
                                                                  F1: General Help
                                                                  F2: Previous Values
                                                                  F3: Optimized Defaults
                                                                  F4: Save & Exit
                                                                  ESC: Exit

               Version 2.18.1264. Copyright (C) 2018 American Megatrends, Inc.
```

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.

▶Enroll All 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 page to configure Boot Settings.

```
          Aptio Setup Utility - Copyright (C) 2018 American Megatrends, Inc.
     Main  Advanced  IPMI  Event Logs  Security  Boot  Save & Exit

 Boot Configuration                                    ▲ Select boot mode LEGACY/UEFI

 Boot mode select                    [DUAL]
 LEGACY to EFI support               [Disabled]

 FIXED BOOT ORDER Priorities
 Boot Option #1                      [Network:FlexBoot
                                     v3.5.109 (PCI
                                     11:00.0)]
 Boot Option #2                      [CD/DVD]
 Boot Option #3                      [USB Hard Disk]
 Boot Option #4                      [USB CD/DVD]
 Boot Option #5                      [USB Key]
 Boot Option #6                      [USB Floppy]
 Boot Option #7                      [USB Lan]
 Boot Option #8                      [Hard Disk]
 Boot Option #9                      [UEFI Hard
                                     Disk:Windows Boot    ⟷: Select Screen
                                     Manager]             ↑↓: Select Item
 Boot Option #10                     [UEFI CD/DVD]        Enter: Select
 Boot Option #11                     [UEFI USB Hard Disk] +/-: Change Opt.
 Boot Option #12                     [UEFI USB CD/DVD]    F1: General Help
 Boot Option #13                     [UEFI USB Key]       F2: Previous Values
 Boot Option #14                     [UEFI USB Floppy]    F3: Optimized Defaults
 Boot Option #15                     [UEFI USB Lan]     ▼ F4: Save & Exit
                                                         ESC: Exit

          Version 2.18.1264. Copyright (C) 2018 American Megatrends, Inc.
```

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 Section

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

▶**Hard Disk Drive BBS Priorities**

This feature allows the user to specify which hard disk drive devices are boot devices.

6.8 Save & Exit

Use this tab page to configure Save & Exit settings.
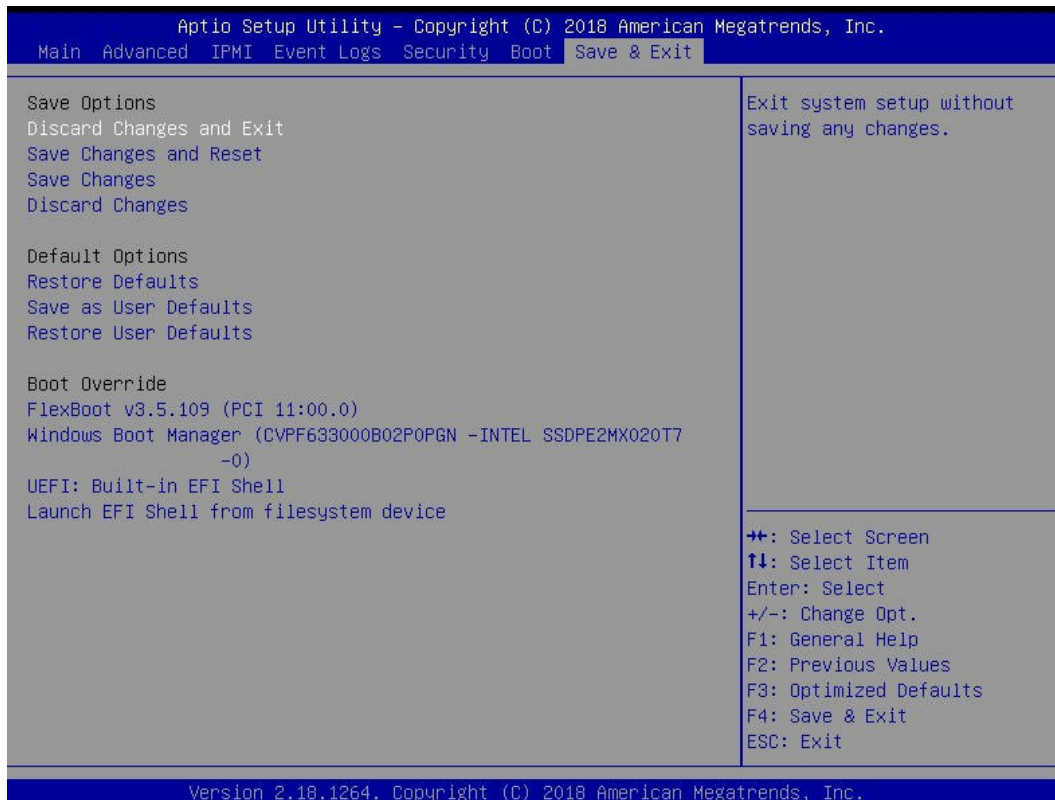
```
                  Aptio Setup Utility – Copyright (C) 2018 American Megatrends, Inc.
     Main  Advanced  IPMI  Event Logs  Security  Boot  Save & Exit

    Save Options                                              Exit system setup without
    Discard Changes and Exit                                  saving any changes.
    Save Changes and Reset
    Save Changes
    Discard Changes

    Default Options
    Restore Defaults
    Save as User Defaults
    Restore User Defaults

    Boot Override
    FlexBoot v3.5.109 (PCI 11:00.0)
    Windows Boot Manager (CVPF633000B02P0PGN -INTEL SSDPE2MX020T7
                    -0)
    UEFI: Built-in EFI Shell
    Launch EFI Shell from filesystem device
                                                              ↔: Select Screen
                                                              ↑↓: Select Item
                                                              Enter: Select
                                                              +/-: Change Opt.
                                                              F1: General Help
                                                              F2: Previous Values
                                                              F3: Optimized Defaults
                                                              F4: Save & Exit
                                                              ESC: Exit

                  Version 2.18.1264. Copyright (C) 2018 American Megatrends, Inc.
```

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**.
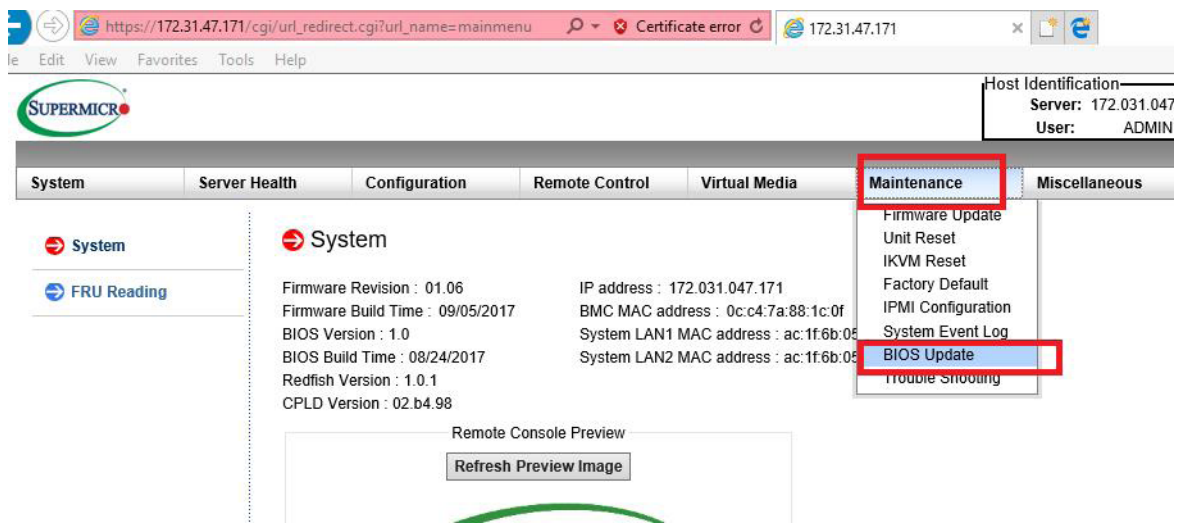
Figure 6-1. IPMI Maintenance Tab

4. **Browse** to select the saved BIOS file and click **Open**.
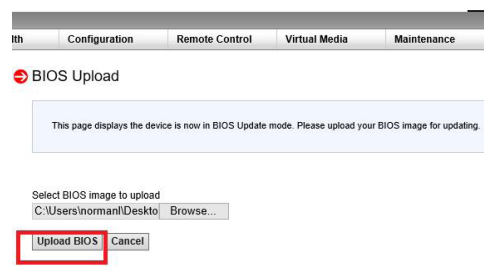
Figure 6-2. Browse and Upload Dialog

5. Click the **Upload BIOS** button. The message appears, "Uploading image & checking BIOS information… Please wait. This may take a while."
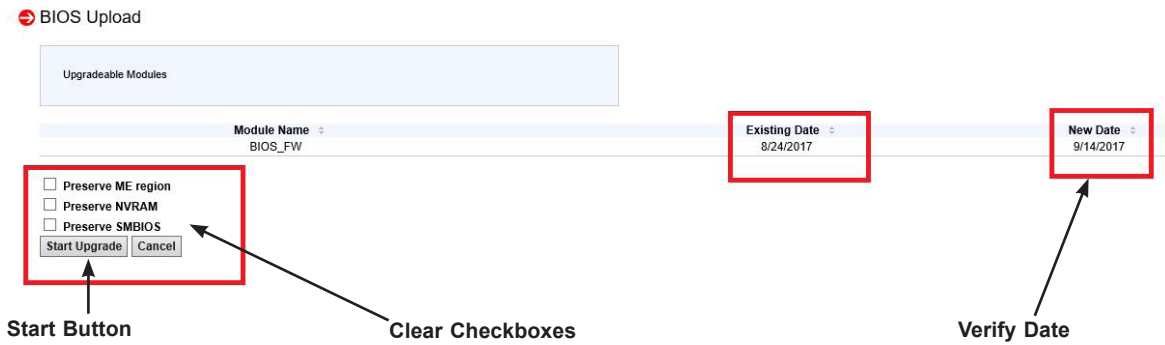
Figure 6-3. Start Upgrade Dialog

6. 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.

7. Click the **Start Upgrade** button.

Chapter 7

UEFI BIOS
(for 7002 Processor)

7.1 Introduction

This chapter describes the AMI BIOS setup utility for the H11DSU-iN and provides the instructions on navigating the setup screens. The BIOS is stored in a Flash EEPROM and can be updated.

Note: Due to periodic changes to the BIOS, some settings may have been added or deleted since this manual was published.

Starting BIOS Setup Utility

To enter the AMI BIOS setup utility screens, press the <Delete> key while the system is booting up. (There are a few cases when other keys are used, such as <F1>, <F2>, etc.)

The BIOS screens have three main frames. The large left frame displays options can be configured by the user. These are blue. When an option is selected, it is highlighted in white. Settings printed in **Bold** are the default values.

In the left frame, a " ▶" indicates a submenu. Highlighting such an item and pressing the <Enter> key opens the list of settings in that submenu.

The upper right frame displays helpful information for the user. The AMI BIOS has default informational messages built in. The manufacturer retains the option to include, omit, or change any of these informational messages.

The lower right frame lists navigational methods. The AMI BIOS setup utility uses a key-based navigation system called *hot keys*. Most of these hot keys can be used at any time during setup navigation. These keys include <F3>, <F4>, <Enter>, <ESC>, arrow keys, etc.

Some system parameters may be changed.

7.2 Main Setup

When running the AMI BIOS setup utility, it starts with the Main screen. You can always return to it by selecting the Main tab on the top of the screen.

```
                  Aptio Setup Utility - Copyright (C) 2018 American Megatrends, Inc.
       Main  Advanced  IPMI  Event Logs  Security  Boot  Save & Exit

                                                                    Set the Date. Use Tab to
       System Date                          [Wed 07/27/2118]        switch between Date
       System Time                          [21:25:16]              elements.
                                                                    Default Ranges:
       Supermicro H11DSU-iN                                         Year: 2005-2099
       BIOS Version                         T20180723142039         Months: 1-12
       Build Date                           07/23/2018              Days: dependent on month
       CPLD Version                         02.B1.01

       Memory Information
       Total Memory                         128 GB




                                                                    ⟶⟵: Select Screen
                                                                    ↑↓: Select Item
                                                                    Enter: Select
                                                                    +/-: Change Opt.
                                                                    F1: General Help
                                                                    F2: Previous Values
                                                                    F3: Optimized Defaults
                                                                    F4: Save & Exit
                                                                    ESC: Exit

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```

The Main tab page allows you to set the date and time, and it displays system information.

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 01/01/2016 after RTC reset.

Supermicro H11DSU-iN (Motherboard model)

BIOS Version

Build Date (of the BIOS)

CPLD (Complex Programmable Logic Device) Version: This item displays the CPLD version used in the system.

Memory Information

Total Memory (for the system)

Memory Speed

7.3 Advanced Setup Configurations

Use the arrow keys to select the Advanced tab and press <Enter> to access the submenu items.

```
              Aptio Setup Utility - Copyright (C) 2018 American Megatrends, Inc.
        Main  Advanced  IPMI  Event Logs  Security  Boot  Save & Exit

    ▶ Boot Feature                                       Boot Feature Configuration
    ▶ PSP Firmware Versions                              Page
    ▶ CPU Configuration
    ▶ NB Configuration
    ▶ ACPI Settings
    ▶ Super IO Configuration
    ▶ Serial Port Console Redirection
    ▶ PCIe/PCI/PnP Configuration
    ▶ SATA Configuration
    ▶ iSCSI Configuration
    ▶ Generic NVMe PCIe SSD Configuration Data
    ▶ Generic NVMe PCIe SSD Configuration Data
    ▶ Generic NVMe PCIe SSD Configuration Data
    ▶ Generic NVMe PCIe SSD Configuration Data
    ▶ Generic NVMe PCIe SSD Configuration Data
    ▶ Generic NVMe PCIe SSD Configuration Data
    ▶ Generic NVMe PCIe SSD Configuration Data
    ▶ Generic NVMe PCIe SSD Configuration Data          ⇄: Select Screen
    ▶ Generic NVMe PCIe SSD Configuration Data          ↑↓: Select Item
    ▶ Generic NVMe PCIe SSD Configuration Data          Enter: Select
    ▶ Generic NVMe PCIe SSD Configuration Data          +/-: Change Opt.
    ▶ Generic NVMe PCIe SSD Configuration Data          F1: General Help
                                                        F2: Previous Values
                                                        F3: Optimized Defaults
                                                        F4: Save & Exit
                                                        ESC: Exit

              Version 2.18.1264. Copyright (C) 2018 American Megatrends, Inc.
```
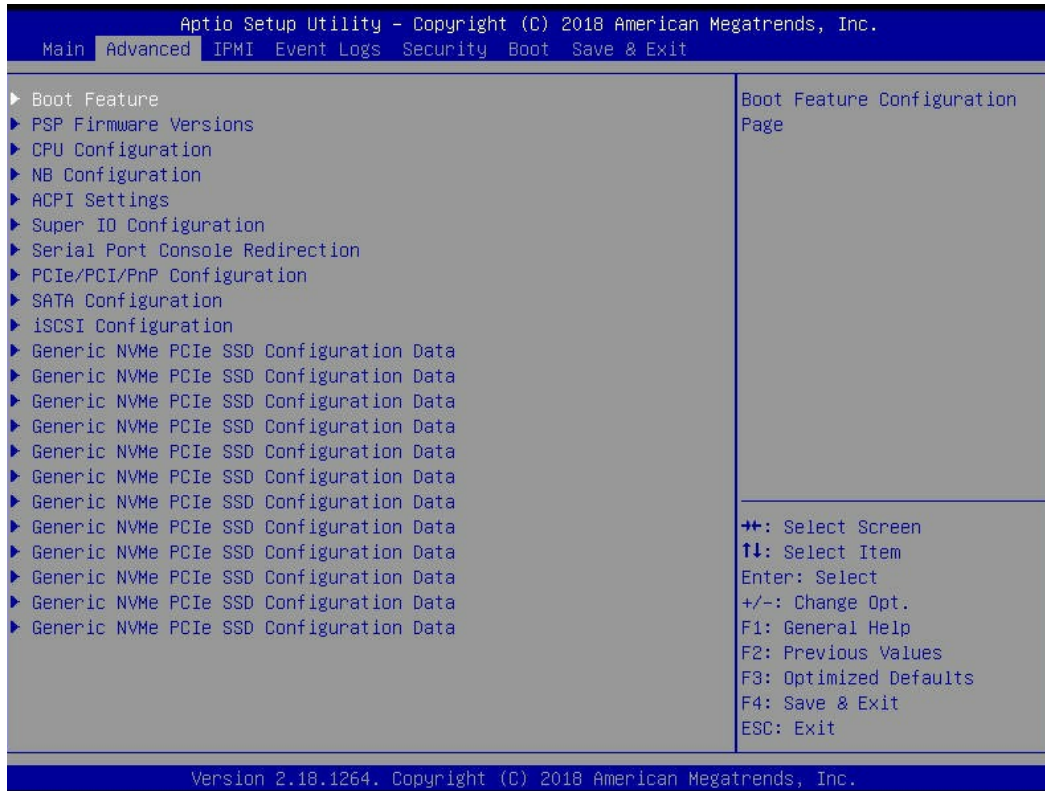
Caution: Take caution when changing the Advanced settings. An incorrect value, a very high DRAM frequency, or an incorrect DRAM timing setting may make the system unstable. If this occurs, revert to the manufacture default settings.

▶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 Disabled and **Enabled**.

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 **On** and Off.

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.

▶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

PSP Directory Level 2 (Updateable)

• PSP Bootloader Version

• SMU FW Version

• ABL Version

▶ACPI Settings

PCI AER Support

Use this setting to enable/disable PCI AER Support. The options are **Disabled** and Enabled.

High Precision Event Tmber

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 Disabled and **Enabled**.

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**.

ACPI SRAT L3 Cache As NUMA Domain

Use this setting to enabe/disable ACPI SRAT L3 Cache As NUMA Domain. The options are Disabled, Enabled and **Auto**.

▶Super IO Configuration

The following Super IO information will display:

• Super IO Chip

▶Serial Port 1 Configuration

Serial Port

Select 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; IO=2E8h; IRQ=3,4,5,6,7,9,10,11,12;

Sol Configurationf

Serial Port

The options are Disabled and **Enabled**.

Device Settings

Change Settings

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; 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 **Disabled** and Enabled.

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-UTFB** 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-UTFB 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 **Disabled** and Enabled.

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-UTFB** 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-UTFB 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. The options are **COM1** and SOL.

Resolution

For Legacy OS systems, use this setting to specify the number of Rows and Columns supported for redirection. The options are **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. The options are **Always Enable** and BootLoader.

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 **Disabled** and Enabled.

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

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.

▶CPU Configuration

SMT Control

Use this setting to specify Simultaneous Multithreading. Options include Disabled for 1T single thread and **Auto** for 2T two-thread if your system is capable of it.

Core Performance Boost

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

Global C-state Control

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

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 **Auto**, TWO (1+1), Four (2 + 2) and Six (3 + 3). 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 Disabled, Enabled and **Auto**.

SVM Mode

This setting enables or disables CPU Virtualization. The options are Disabled and **Enabled**.

SMEE

This setting enables or disables secure memory encryption control. The options are **Disabled** and Enabled.

▶CPU1 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

- Clock speed

- Processor Family

- Processor Model

- Microcode Patch Level

- L1 Instruction Cache (Size/Method)

- L1 Data Cache (Size/Method)

- L2 Cache (Size/Method)

- L3 Cache per Scoket (Size/Method)

▶CPU2 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

- Clock speed

- Processor Family

- Processor Model

- Microcode Patch Level

- L1 Instruction Cache (Size/Method)

- L1 Data Cache (Size/Method)

- L2 Cache (Size/Method)

- L3 Cache per Scoket (Size/Method)

▶NB Configuration

Determinism Control

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 **Disabled**, Enabled, and Auto.

ACS Enable

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

Package Power Limit Control

Use this setting for Package Power Limit Control. Options include Manual and Auto.

APBDIS

Use this setting to set APBDIS. Options include 0, 1. and **Auto**.

DF Cstates

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

4-link xGMI max speed

Use this setting to adjust 4-link xGMI max speed. Options include **10.667Gbps**, **13Gbps, 16Gbps, 18Gbps and Auto.**

Preferred IO

Use this setting for Preferred IO. Options include Manual and **Auto**.

▶**Memory Configuration**

Memory Clock

This setting allows you to select different memory clock speed. The options include **Auto** and speed settings.

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 include 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 include 256 Bytes, 512 Bytes, 1 KB, 2 KB or **Auto**.

Chipselect 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**.

DRAM Scrub Time

This setting provides a value that is the number of hours to scrub memory. The options are Disabled, 1 hour, 4 hours, 8 hours, 16 hours, 24 hours, 48 hours 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)

▶**CPU2 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.

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.**

RSC-W2-66 Slot 1 PCI-E x16 OPROM

This setting enables or disables the listed PCI/PCIX/PCIe Slot OPROM option. Options include Disabled, **Legacy** or EFI.

RSC-W2-66 Slot 2 PCI-E x16 OPROM

This setting enables or disables the listed PCI/PCIX/PCIe Slot OPROM option. Options include Disabled, **Legacy** or EFI.

RSC-WR-6 Slot 1 PCI-E 4.0 x16 OPROM

This setting enables or disables the listed PCI/PCIX/PCIe Slot OPROM option. Options include Disabled, **Legacy** or EFI.

AOC-2UR68-m2TS Slot 2 PCI-E x16 OPROM

This setting enables or disables the listed PCI/PCIX/PCIe Slot OPROM option. Options include Disabled, **Legacy** or EFI.

AOC-2UR68-m2TS Slot 3 PCI-E x8 OPROM

This setting enables or disables the listed PCI/PCIX/PCIe Slot OPROM option. Options include Disabled, **Legacy** or EFI.

AOC-2UR68-m2TS Slot 1 PCI-E x8 OPROM

This setting enables or disables the listed PCI/PCIX/PCIe Slot OPROM option. Options include Disabled, **Legacy** or EFI.

Onboard LAN Option ROM Type

Use this setting to select which firmware type to be loaded for onboard LAN on the system. Options include **Legacy** and EFI.

Onboard LAN1 Option ROM

Use this setting to select which firmware function is to be loaded for onboard LAN1 on the system. Options include Disabled and **Legacy**.

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 Legacy.

P1_NVMe0 OpROM

Use this setting to select which firmware function is to be loaded for P1_NVMe0 OpROM on the system. Options include Disabled, Legacy and **EFI**.

P1_NVMe1 OpROM

Use this setting to select which firmware function is to be loaded for P1_NVMe1 OpROM on the system. Options include Disabled, Legacy and **EFI**.

P2_NVMe0 OpROM

Use this setting to select which firmware function is to be loaded for P2_NVMe0 OpROM on the system. Options include Disabled, Legacy and **EFI**.

P2_NVMe1 OpROM

Use this setting to select which firmware function is to be loaded for P2_NVMe1 OpROM on the system. Options include Disabled, Legacy and **EFI**.

Onboard Video Option ROM

This setting selects which onboard video firmware type to be selected. Options include Disabled, **Legacy** and EFI.

▶Network Stack Configuration

Network Stack

This setting allows you to enable or disable the UEFI Network Stack. The options are Disabled and **Enabled**.

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. The options are Disabled and **Enabled**.

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. The options are **Disabled** and Enabled.

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. The options are Disabled and **Enabled**.

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. The options are **Disabled** and Enabled.

PXE boot wait time

This setting allows you to set in a number field the wait time to press <ESC> 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 include **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 include **Enabled** and Disabled.

USB Mass Storage Driver Support

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

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 include Disabled and **Enabled**.

▶SATA Configuration

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

SATA Enable

This item enables or disables the onboard SATA controller supported by the Intel PCH chip.

The options include Disabled, Enabled and **Auto**.

SATA Hotplug

This item enables or disables the onboard SATA controller's hot plug feature (PCH). The options include Disabled and **Enabled**.

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 include **Disabled** and Enabled.

Input the 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

If EFI is selected in LAN OPROM after reboot, the following items will become available for configuration.

▶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**

▶TLS Authenticate Configuration

This submenu allows the user to configure Transport Layer Security (TLS) settings.

▶**Server CA Configuration**

▶**Enroll Certification**

Enroll Certification using File

Use this feature to enroll certification from a file.

Certification GUID

Use this feature to input the certification GUID.

Commit Changes and Exit

Use this feature to save all changes and exit TLS settings.
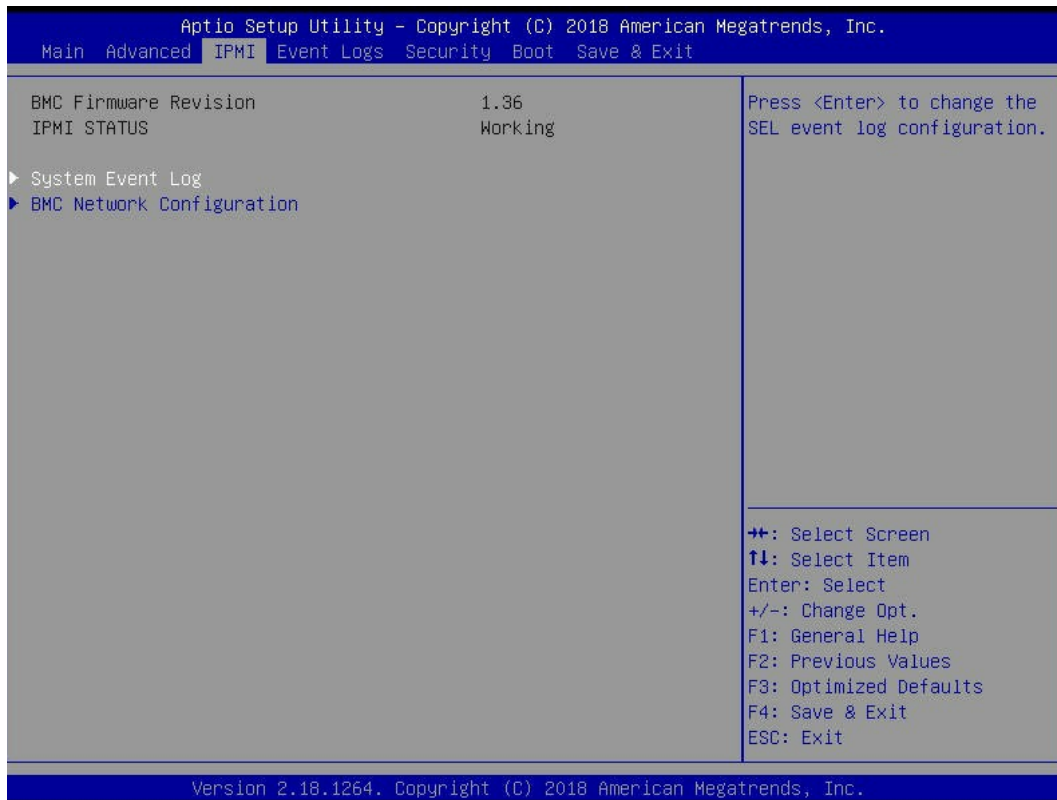
Discard Changes and Exit

Use this feature to discard all changes and exit TLS settings.

▶**Delete Certification**

Use this feature to delete certification. The options include **Disabled** and Enabled.

7.4 IPMI

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

```
                    Aptio Setup Utility – Copyright (C) 2018 American Megatrends, Inc.
       Main  Advanced  IPMI  Event Logs  Security  Boot  Save & Exit

       BMC Firmware Revision               1.36                     Press <Enter> to change the
       IPMI STATUS                         Working                  SEL event log configuration.

    ▶ System Event Log
    ▶ BMC Network Configuration




                                                                    ←→: Select Screen
                                                                    ↑↓: Select Item
                                                                    Enter: Select
                                                                    +/-: Change Opt.
                                                                    F1: General Help
                                                                    F2: Previous Values
                                                                    F3: Optimized Defaults
                                                                    F4: Save & Exit
                                                                    ESC: Exit

                    Version 2.18.1264. Copyright (C) 2018 American Megatrends, Inc.
```

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

Configure IPV4 Support

This section displays static configuration features for IPV4 support.

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 **Dedicated LAN**.

*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 Static and **DHCP**.

*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 configures the virtual LAN settings. The options are **Disabled** 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 **DHCP** and Static.

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

7.5 Event Logs

Use this tab page to configure Event Log settings.

▶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 Disabled and **Enabled**.

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 Enabled and **Disabled**.

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**.

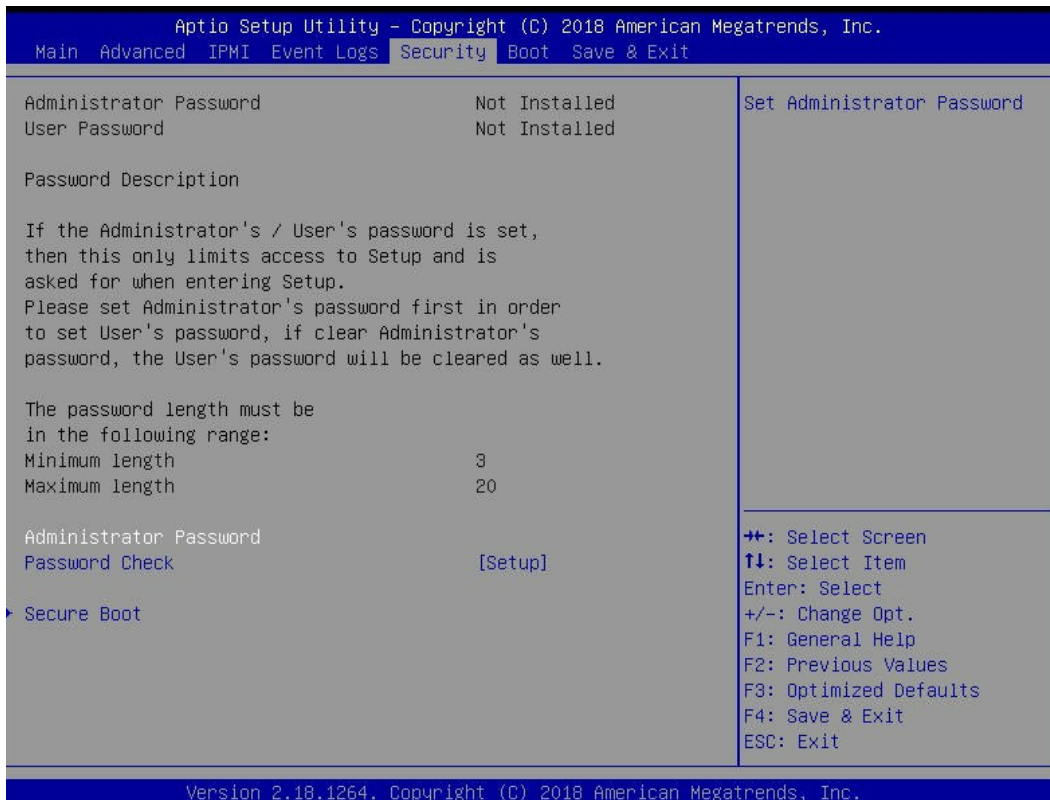**Note**: Please reboot the system for these changes to take effect.

▶**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

7.6 Security

Use this tab page to configure Security settings.

```
              Aptio Setup Utility - Copyright (C) 2018 American Megatrends, Inc.
    Main  Advanced  IPMI  Event Logs  Security  Boot  Save & Exit

    Administrator Password                 Not Installed        Set Administrator Password
    User Password                          Not Installed

    Password Description

    If the Administrator's / User's password is set,
    then this only limits access to Setup and is
    asked for when entering Setup.
    Please set Administrator's password first in order
    to set User's password, if clear Administrator's
    password, the User's password will be cleared as well.

    The password length must be
    in the following range:
    Minimum length                    3
    Maximum length                    20
                                                            ─────────────────────────────
    Administrator Password                                   →←: Select Screen
    Password Check                    [Setup]                ↑↓: Select Item
                                                            Enter: Select
  ▶ Secure Boot                                             +/-: Change Opt.
                                                            F1: General Help
                                                            F2: Previous Values
                                                            F3: Optimized Defaults
                                                            F4: Save & Exit
                                                            ESC: Exit

              Version 2.18.1264. Copyright (C) 2018 American Megatrends, Inc.
```

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 **Disabled** and Enabled .

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.

Provision Factory Defaults

Install factory default Secure Boot keys after the platform reset and while the system is in Setup mode. The options include **Disabled** and Enabled.

▶Restore Factory 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).

▶Secure Boot Variable

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.

Update

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.

▶Key Exchange Keys

Update

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

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**

Update

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

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**

Update

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

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**

Update

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

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.
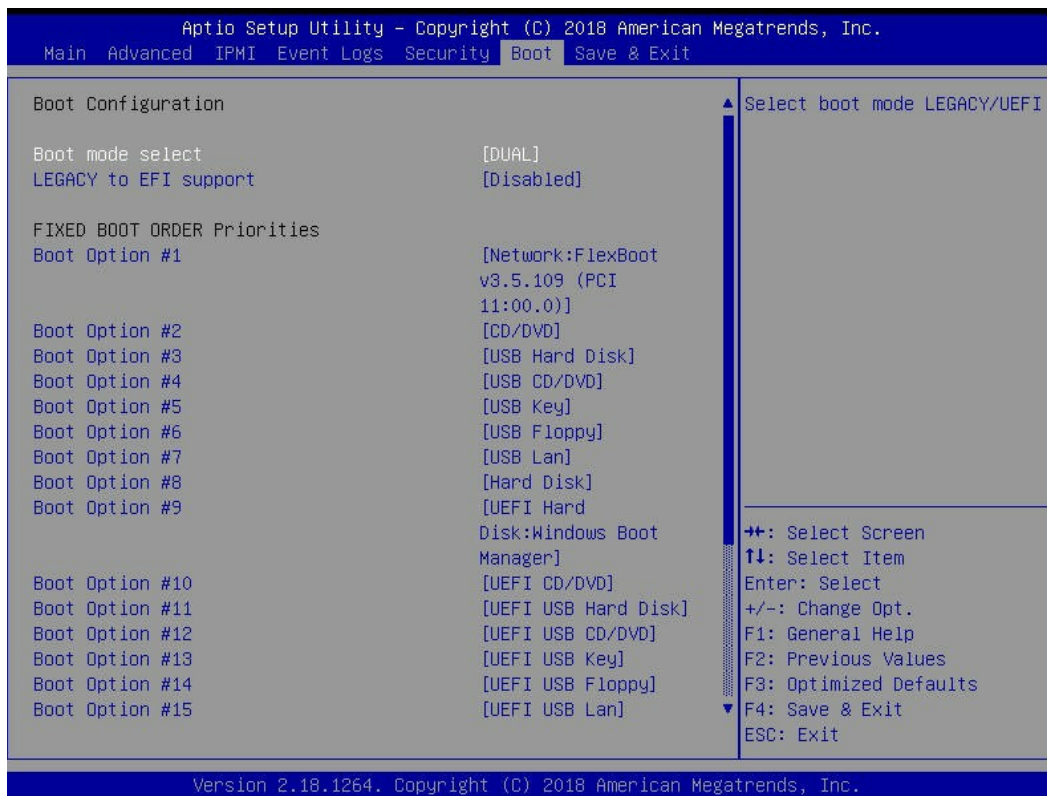
►**OsRecovery Signature**

This item uploads and installs an OSRecovery Signature. You may select Update 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.

7.7 Boot

Use this tab page to configure Boot Settings.

```
         Aptio Setup Utility – Copyright (C) 2018 American Megatrends, Inc.
    Main  Advanced  IPMI  Event Logs  Security   Boot   Save & Exit

  Boot Configuration                                    ▲ Select boot mode LEGACY/UEFI

  Boot mode select                      [DUAL]
  LEGACY to EFI support                 [Disabled]

  FIXED BOOT ORDER Priorities
  Boot Option #1                        [Network:FlexBoot
                                        v3.5.109 (PCI
                                        11:00.0)]
  Boot Option #2                        [CD/DVD]
  Boot Option #3                        [USB Hard Disk]
  Boot Option #4                        [USB CD/DVD]
  Boot Option #5                        [USB Key]
  Boot Option #6                        [USB Floppy]
  Boot Option #7                        [USB Lan]
  Boot Option #8                        [Hard Disk]
  Boot Option #9                        [UEFI Hard
                                        Disk:Windows Boot      ▶◀: Select Screen
                                        Manager]               ↑↓: Select Item
  Boot Option #10                       [UEFI CD/DVD]          Enter: Select
  Boot Option #11                       [UEFI USB Hard Disk]   +/-: Change Opt.
  Boot Option #12                       [UEFI USB CD/DVD]      F1: General Help
  Boot Option #13                       [UEFI USB Key]         F2: Previous Values
  Boot Option #14                       [UEFI USB Floppy]      F3: Optimized Defaults
  Boot Option #15                       [UEFI USB Lan]       ▼ F4: Save & Exit
                                                              ESC: Exit

         Version 2.18.1264. Copyright (C) 2018 American Megatrends, Inc.
```

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. The options include **Disabled** and Enabled.

FIXED BOOT ORDER Priorities Section

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 setting is [Select one to Delete].

▶**UEFI Application Boot Priorities**

This feature allows the user to specify which UEFI devices are boot devices.
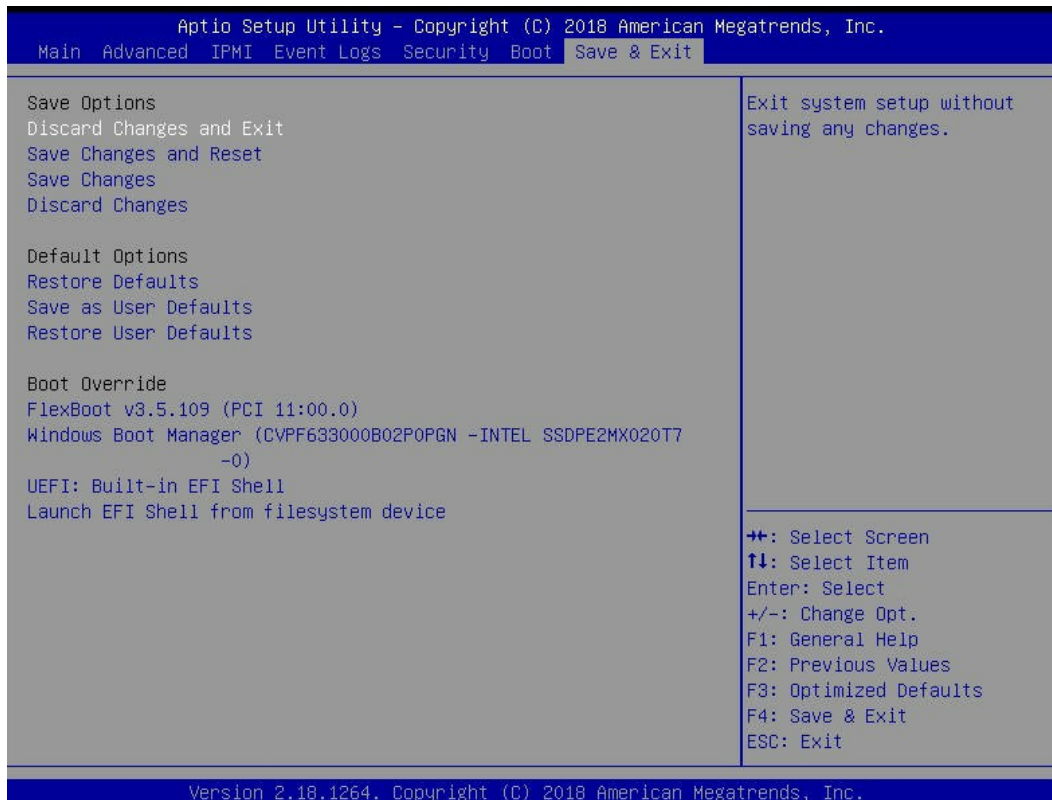
• Boot Option #1

▶**Hard Disk Drive BBS Priorities**

This feature allows the user to specify which hard disk drive devices are boot devices.

▶**NETWORK Drive BBS Priorities**

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

7.8 Save & Exit

Use this tab page to configure Save & Exit settings.

```
           Aptio Setup Utility - Copyright (C) 2018 American Megatrends, Inc.
    Main   Advanced   IPMI   Event Logs   Security   Boot   Save & Exit

    Save Options                                              Exit system setup without
    Discard Changes and Exit                                  saving any changes.
    Save Changes and Reset
    Save Changes
    Discard Changes

    Default Options
    Restore Defaults
    Save as User Defaults
    Restore User Defaults

    Boot Override
    FlexBoot v3.5.109 (PCI 11:00.0)
    Windows Boot Manager (CVPF633000B02P0PGN -INTEL SSDPE2MX020T7
                         -0)
    UEFI: Built-in EFI Shell
    Launch EFI Shell from filesystem device
                                                              ++: Select Screen
                                                              ↑↓: Select Item
                                                              Enter: Select
                                                              +/-: Change Opt.
                                                              F1: General Help
                                                              F2: Previous Values
                                                              F3: Optimized Defaults
                                                              F4: Save & Exit
                                                              ESC: Exit

              Version 2.18.1264. Copyright (C) 2018 American Megatrends, Inc.
```

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 Optimized 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.

7.9 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**.
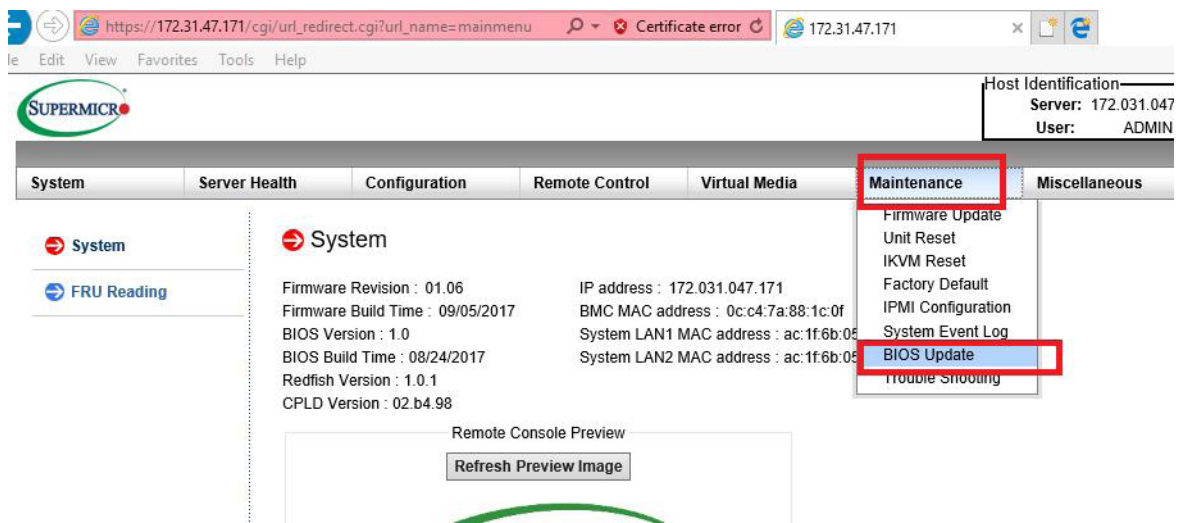
Figure 7-1. IPMI Maintenance Tab

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

Figure 7-2. 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 7-3. Start Upgrade Dialog

6. 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.

7. Click the **Start Upgrade** button.

Appendix A

Standardized Warning Statements for AC Systems

About Standardized Warning Statements

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

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

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

Warning Definition

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

警告の定義

この警告サインは危険を意味します。

人身事故につながる可能性がありますので、いずれの機器でも動作させる前に、

電気回路に含まれる危険性に注意して、標準的な事故防止策に精通して下さい。

此警告符号代表危险。

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

此警告符號代表危險。

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

Warnung

WICHTIGE SICHERHEITSHINWEISE

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

BEWAHREN SIE DIESE HINWEISE GUT AUF.

INSTRUCCIONES IMPORTANTES DE SEGURIDAD

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

GUARDE ESTAS INSTRUCCIONES.

IMPORTANTES INFORMATIONS DE SÉCURITÉ

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

CONSERVEZ CES INFORMATIONS.

תקנון הצהרות אזהרה

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

احَكَ فَ حالة وُي أى تتسبب فَ اصابة جسذ ةٌ هذا الزهز عٌ خطز !تحذ زٌ .
قبل أى تعول على أي هعذات،كي على علن بالوخاطز ال اُجوة عي الذوائز
الكهزبائِ ةٍ
وكي على درا ةٌ بالووارسات النقائِ ةٍ لو عٌ وقع أي حادث
استخذم رقن الب إِى الو صُص فَ 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 للمضظفيه 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 النع 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.

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هناك خطز مه التيار الكهزبائي أوالطاقة المجددة على اللحة

عندما يكن النظام يعمل كه حذرا عند خدمة هذا الجهاس

</div>

경고!

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

Waarschuwing

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

Comply with Local and National Electrical Codes

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

地方および国の電気規格に準拠

機器の取り付けはその地方および国の電気規格に準拠する必要があります。

警告

设备安装必须符合本地与本国电气法规。

警告

設備安裝必須符合本地與本國電氣法規。

Warnung

Die Installation der Geräte muss den Sicherheitsstandards entsprechen.

¡Advertencia!

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

Attention

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

תיאום חוקי החשמל הארצי

אזהרה!

התקנת הציוד חייבת להיות תואמת לחוקי החשמל המקומיים והארציים.

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

Warnung

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

¡Advertencia!

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

Attention

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

אזהרה!

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

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

경고!

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

Waarschuwing

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

Power Cable and AC Adapter

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

電源コードとACアダプター

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

電気用品安全法は、ULまたはCSA認定のケーブル(UL/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!

כאשר מתקינים את המוצר, שי להשתמש בכבלים, ספקים ומתאמים אשר נרכשו או שכרנו אשר AC לצורל וכאל שומיש . עקתהו לבכה לש הנוכנ הדימ ללוכ ,תוימוקמה תוחיטבה תושירדל ומאתוה רשאו ,הנקתהה לבכ וא םאתמ גוסמ רחא ,לולע לורגל הלקתל וא רצק חי במ .םלשמל יקוחל השימוש ירישכמב הסמחמל וחוקי הביטחתמ ,קייפ איסור להשתמש בכבלים מסומכים ב- UL וא ב-CSA (כאשר רשא מופיע עליהם דוק לש UL/CSA) רובע לכ רצומ ילמשח רחא, אלא רק רצומאב רשא םאתוה ע"י Supermicro דבלב.

عند تركيب المنتج، قم باستخدام التوصيلات المتوفرة أو المحددة قم بشراء الكابلات كذلك في ما بهذه الملائمة للسلامة المحلية بقوانين متطابقة ومتوافقين مع الالتزام الترددي التيار ومحولات الكهربائية حجم الموصل والقابس السليم. استخدام أي كابلات ومحولات أخرى قد يتسبب في عطل أو حريق. يحظر قانون السلامة للأجهزة الكهربائية واستخدام المعدات استخدام الكابلات المعتمدة من قبل UL أو CSA وحامل تعالم) UL/CSA (أي مع أخرى معدات غير المنتجات المعنية والمحددة من قبل Supermicro.

전원 케이블 및 AC 어댑터

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

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

Stroomkabel en AC-Adapter

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

Appendix B

System Specifications

Processors
Dual AMD EPYC 7001/7002* Series with socket SP3 **Note**: 7002 series drop-in support requires board revision 2.x

Chipset
System on Chip

BIOS
128Mb SPI AMI BIOS (board Rev. 1.x); 256Mb SPI AMI BIOS (board Rev. 2.x)
  ACPI 6.1, SMBIOS 3.1.1, Plug-and-Play (PnP), RTC (Real Time Clock) wakeup, Riser Card Auto-Detection Support

Memory
4TB of ECC DDR4 2666 MHz speed/ 8TB of ECC DDR4 3200 MHz* speed, RDIMM/LRDIMM/3DS/NVDIMM memory in 32 slots (*Board reversion 2.x required); Size up to 128 GB
Note: See the memory section in Chapter 3 for details and our website for updates to supported memory.

SATA Controller
On-chip

Drive Bays
Ten hot-swap 2.5" bays for choice of:
   Ten SATS3 (default)
   Eight SATA3 and two NVMe (optional)
   SAS3 and two SATA3 (optional SAS card)

PCI Expansion Slots
Two full height, half-length x8 PCIe slots, one low profile x8 PCIe slot, one internal low profile x8 PCIe slot (proprietary design)

Motherboard
H11DSU-iN; 17" x 16.8" (431.8 mm x 426.72 mm)

Chassis
SC119UTS-R1K02P-T; 1U rackmount, (WxHxD) 17.2 x 1.7 x 27.8 in. (437 x 43 x 706 mm)

Weight
Net Weight: 26 lbs (11.8 kg)
Gross Weight: 41 lbs (18.6 g)

System Cooling
Eight 4-cm counter-rotating heavy duty PWM fans; two air shrouds; two CPU heatsinks

Power Supply
Model: PWS-1K02A-1R; 80Plus level Titanium
Total Output Power: 800 W/1000 W
Input:
   100-127 Vac / 9.8 - 7 A / 50-60 Hz
   200-240 Vac / 7 - 5 A / 50-60 Hz
Output +12V
   Max: 66.7 A / Min: 0 A (100-127 Vac)
   Max: 83 A / Min: 0 A (200-240 Vac)
12 V standby: Max: 2.1 A / Min: 0 A

Operating Environment
Operating Temperature: 10º to 35º C (50º to 95º F)
Non-operating Temperature: -40º to 70º C (-40º to 158º F)
Operating Relative Humidity: 8% to 90% (non-condensing)
Non-operating Relative Humidity: 5% to 95% (non-condensing)

Regulatory Compliance

Electromagnetic Emissions: FCC Class A, EN 55032 Class A, EN 61000-3-2/3-3, CISPR 22 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)

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 C

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 need to update the BIOS, do not shut down or reset the system while the BIOS is updating. Doing so may cause a boot failure.

C.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 for add-on card initialization to allow the UEFI OS loader, which is stored in the add-on card, to boot the system. The UEFI offers clean, hands-off control to a computer system at bootup.

C.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 boot block contains critical BIOS codes, including memory detection and recovery codes for the user to flash a new BIOS image if the original main BIOS image is corrupted. When the system power is on, the boot block codes execute first. Once it is completed, the main BIOS code will continue with system initialization and bootup.

C.3 Recovering the BIOS Block with a USB Device

If the BIOS file is corrupted and the system is not able to boot up, this feature will allow you to recover the BIOS image using a USB-attached device. A USB flash drive or a USB CD/DVD ROM drive may be used for this purpose. Please note that a USB hard disk drive is NOT supported. Follow the procedures on the next page to recover the BIOS.

1. Using a different system, copy the standard BIOS binary image file into the root directory of a USB flash drive with FAT16 or FAT32 format and rename the file to SUPER.ROM.

    Note: If you cannot locate the "SUPER.ROM" file in your driver disk, visit our website at www.supermicro.com to download the correct BIOS image into a USB flash device and rename it "SUPER.ROM".
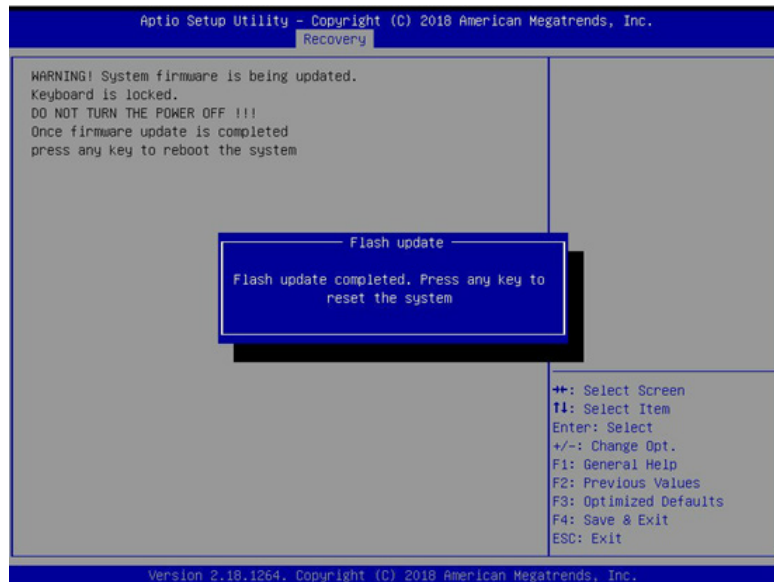
2. While the system is turned off, insert the USB device that contains the new BIOS binary image (SUPER.ROM).

3. Power on the system.

4. After the system is turned on, the system will enter the BIOS Recovery menu. Select "Proceed with flash update" to start the BIOS recovery process. DO NOT INTERRUPT THIS PROCESS UNTIL IT FINISHED!
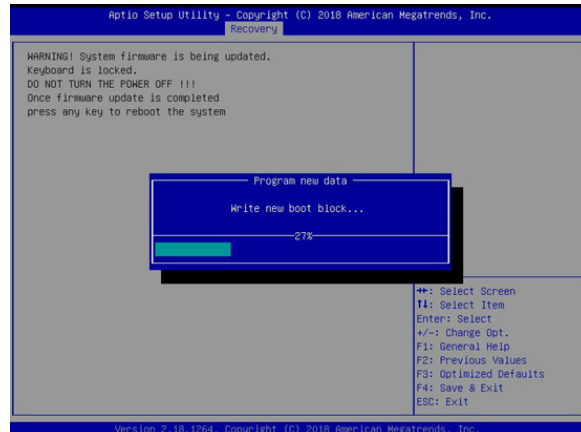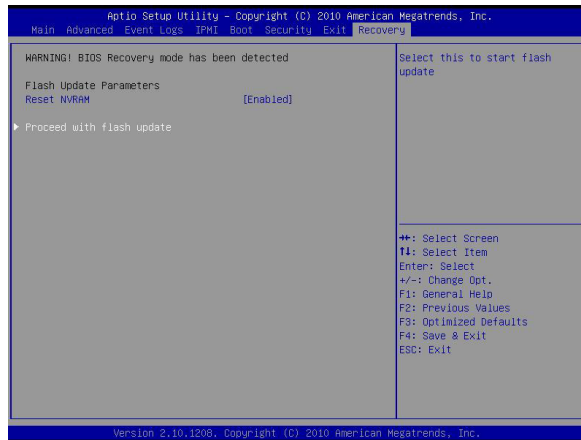
5. After the Boot Sector Recovery Process is complete, press any key to reboot the system.

```
Aptio Setup Utility - Copyright (C) 2018 American Megatrends, Inc.
                              Recovery

WARNING! System firmware is being updated.
Keyboard is locked.
DO NOT TURN THE POWER OFF !!!
Once firmware update is completed
press any key to reboot the system


                    ──── Flash update ────

              Flash update completed. Press any key to
                       reset the system




                                              →←: Select Screen
                                              ↑↓: Select Item
                                              Enter: Select
                                              +/-: Change Opt.
                                              F1: General Help
                                              F2: Previous Values
                                              F3: Optimized Defaults
                                              F4: Save & Exit
                                              ESC: Exit

        Version 2.18.1264. Copyright (C) 2018 American Megatrends, Inc.
```

Notes:

* The BIOS recovery (SUPER.ROM) will not work if BIOS has a multi-block crash.

* If you have purchased an OOB license, you can do a BIOS flash again through BMC WebGUI or SUM. Please refer to these SUPERMICRO software-related videos:

Activate OOB license: https://www.youtube.com/watch?v=V4spX_DOV7I

SUPERMICO BIOS Update: https://www.youtube.com/watch?v=S8z6iOEHGwY

* If the BIOS flash recovery fails, contact our RMA Department to have the BIOS chip reprogrammed. This will require shipping the board to Supermicro for repair.

Submit your RMA request at https://www.supermicro.com/support/rma

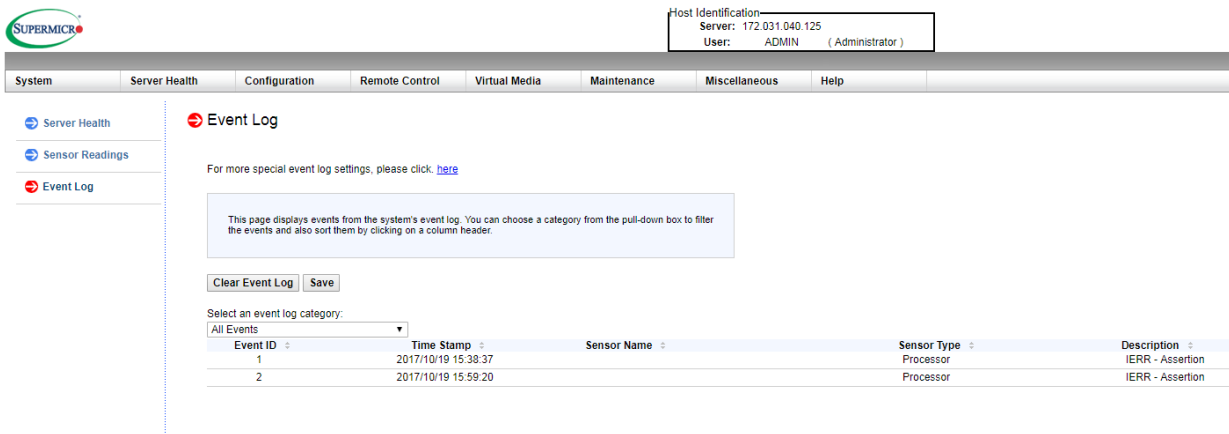Please make sure to follow all instructions when returning the motherboard.

Appendix D

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 D-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 confirmation message will appear.)

3. Click the **Download** button and a Save As dialog appears.

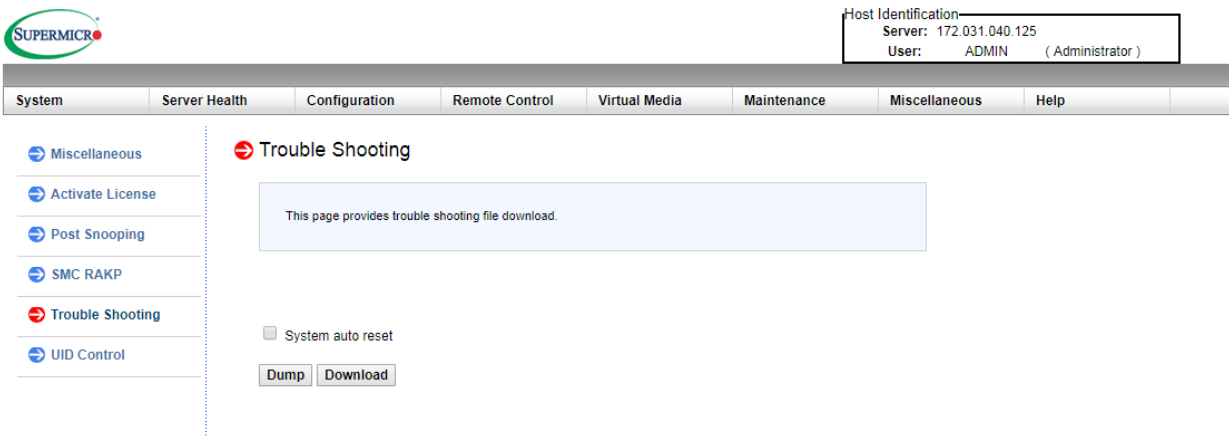4. Save the zipped dump file, noting the name and location.

Figure D-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.