SuperServer®

AS -A126GS-TNBR

USER'S MANUAL

Revision 1.0 (MNL-2800)

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 AS -A126GS-TNBR system. Installation and maintenance should be performed by certified service technicians only.

Notes

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

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

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

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

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

- Frequently Asked Questions: https://www.supermicro.com/FAQ/index.php

- If you still have questions after referring to our FAQs, contact our support team. Region-specific Technical Support email addresses can be found at: "Contacting Supermicro" on page 11

- If you have any feedback on Supermicro product manuals, contact our writing team at: Techwriterteam@supermicro.com

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

Conventions Used in the Manual

Special attention should be given to the following symbols for proper installation and to prevent damage done to the components or injury to yourself.

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

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

Important: Important information given to ensure proper system installation or to relay safety precautions.

Note: Additional information given to differentiate various models or to provide information for proper system setup.

Contents

Contacting Supermicro

Headquarters

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

Europe

Address:	Super Micro Computer B.V.
	Het Sterrenbeeld 28, 5215 ML
	's-Hertogenbosch, The Netherlands
Tel:	+31 (0) 73-6400390
Fax:	+31 (0) 73-6416525
Email:	Sales_Europe@supermicro.com (Sales Inquiries)
	Support_Europe@supermicro.com (Technical Support)
	RMA_Europe@supermicro.com (RMA Support)
Website:	https://www.supermicro.nl

Asia-Pacific

Address:	Super Micro Computer, Inc.
	3F, No. 150, Jian 1st Rd.
	Zhonghe Dist., New Taipei City 235 Taiwan (R.O.C)
Tel:	+886 (2) 8226-3990
Fax:	+886 (2) 8226-3992
Email:	Sales-Asia@supermicro.com.tw (Sales Inquiries)
	Support@supermicro.com.tw (Technical Support)
	RMA@supermicro.com.tw (RMA Support)
Website:	https://www.supermicro.com.tw

Chapter 1:

Introduction

This chapter provides a brief outline of the functions and features of the AS -A126GS-TNBR system. It is based on the H14DSG-OD motherboard and the CSE-GP1001TS-R000NPF chassis.

1.1 Overview

This chapter provides a brief outline of the functions and features of the SuperServer AS -A126GS-TNBR. It is based on the H14DSG-OD motherboard and the CSE-GP1001TS-R000NPF chassis.

The following provides an overview of the specifications and capabilities.

System Overview	
Motherboard	H14DSG-OD
Chassis	CSE-GP1001TS-R000NPF
Processor	Dual AMD EPYC™ 9005/9004 Series Processors in Socket SP5 and a Thermal Design Power unit up to 500 W (Depending on thermal validation and system configuration. Contact a Supermicro representative for details.)
Memory	24 DIMM slots with 1DPC that support up to 6 TB registered ECC DDR5 4800 MT/s speed in 24 DIMM slots with AMD EPYC^{TM} 9004 Series processors installed 6 TB registered ECC DDR5 6400 MT/s speed in 24 DIMM slots with AMD EPYC^{TM} 9005 Series processors installed
Drive Support	10 2.5" SSDs Eight EDSFF E1.S drives Two M.2 SSD slots
Expansion Slots	Eight PCIe 5.0 x16 LP slots Two PCIe 5.0 x16 FHHL slots
I/O Ports	LAN: One 1 GbE Dedicated BMC LAN port USB: Two USB 3.0 Type-A ports Video: One VGA port
System Cooling	19 counter-rotating fans: Five 80-mm fans (front) 10 80-mm fans (rear) Four 60-mm internal fans
Power Supplies	Six 5250 W (3+3) Redundant Titanium Level (96%) Power Supplies (Power supply full redundancy based on configuration and application load)
Form Factor	10U rackmount; (WxHxD) (17.2" x 17.6" x 33.2") (438.8 x 449 x 843.28 mm)

Notes:

- A Quick Reference Guide can be found on the following page of the Supermicro website:

  https://www.supermicro.com/en/products/system/gpu/10u/as%20-a126gs-tnbr

- The following safety models associated with the AS -A126GS-TNBR have been certified as compliant with UL or CSA: GP1001-H52H14.

1.2 System Features

The following views of the system display the main features. Refer to the System Specifications appendix of this manual for additional specifications.

Front View

The illustration below shows the features included on the front of the chassis.
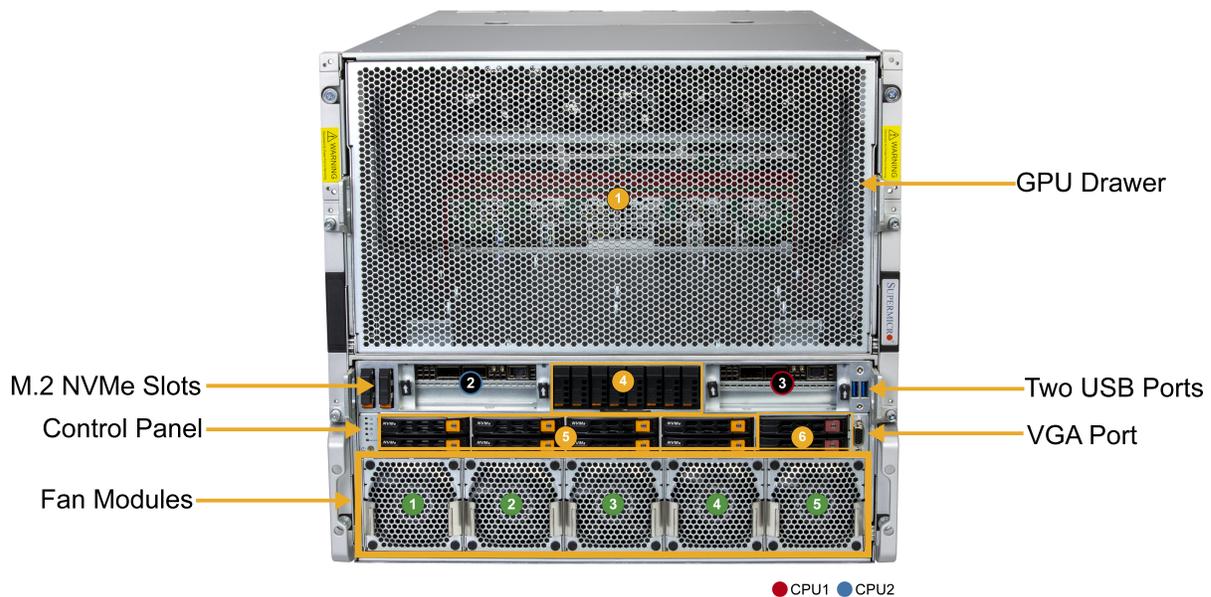
Figure 1-1. Chassis Front View

System Features: Front	
Feature	**Description**
GPU Drawer	This is where the system's GPUs reside.
PCIe Slot	PCIe 5.0 x16 FHHL via CPU2
PCIe Slot	PCIe 5.0 x16 FHHL via CPU1
EDSFF E1.S Storage	Eight external EDSFF E1.S (Short) NVMe SSDs
NVMe Drive Trays	Eight hot-swap 2.5" NVMe drive trays
SATA Drive Trays	Two hot-swap 2.5" SATA drive trays
M.2 Storage	Two M.2 Storage Slots
Control Panel	See next section
Front USB Ports	Two USB ports in the front
VGA Port	Legacy VGA video port

15

Fans		
Item	**Feature**	**Description**
1-5	System Fans	Five high-speed external system cooling fans

Control Panel
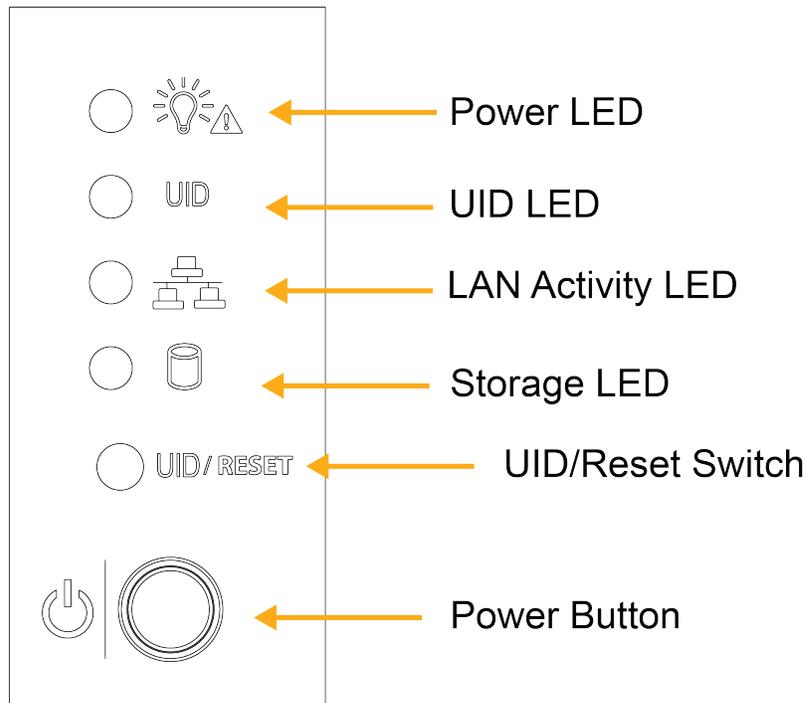
Figure 1-2. Control Panel

Chassis Features: Front	
Feature	**Description**
Power LED/OH	This LED activates when the system power is on, and flashes when a system overheat is detected.
UID LED	Unit Identifier indicator
LAN Activity LED	LAN activity indicator
Storage LED	Storage device activity indicator
UID/Reset Switch	UID/reset switch
Power Button	Power button to power on the system

Rear View

Shown below are the features included on the rear of the chassis. The rear of the AS -A126GS-TNBR chassis features three main sections: System Fans, Power Supplies and the LPIO Drawer. These components are discussed later in this manual.
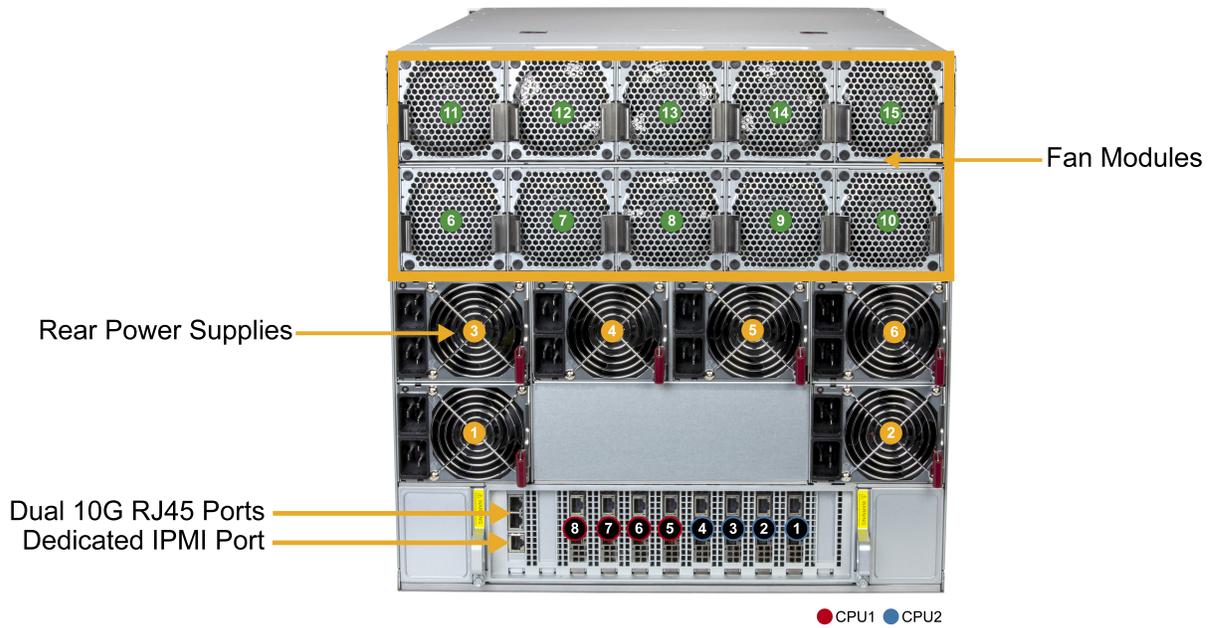
Figure 1-3. Rear View of the Chassis

System Features: Rear	
Feature	**Description**
LAN Ports	Dual 10G RJ45 ports and one dedicated IPMI port
LPIO Drawer	A drawer to house eight PCIe 5.0 x16 LP slots from PLX switch linked to GPUs

Fans		
Item	**Feature**	**Description**
6-15	System Fans	10 high-speed external system cooling fans

Power Supplies		
Item	**Feature**	**Description**
1-6	Power Supplies	Six redundant 5250 W Titanium Level power supplies

1.3 System Architecture

This section covers the locations of the system's main components and provides a system block diagram.

Main Components

4 PCIe Switches (covered)

4 Internal Fans

24 DIMM Slots
Dual AMD EPYC
9004/9005

Riser
Brackets
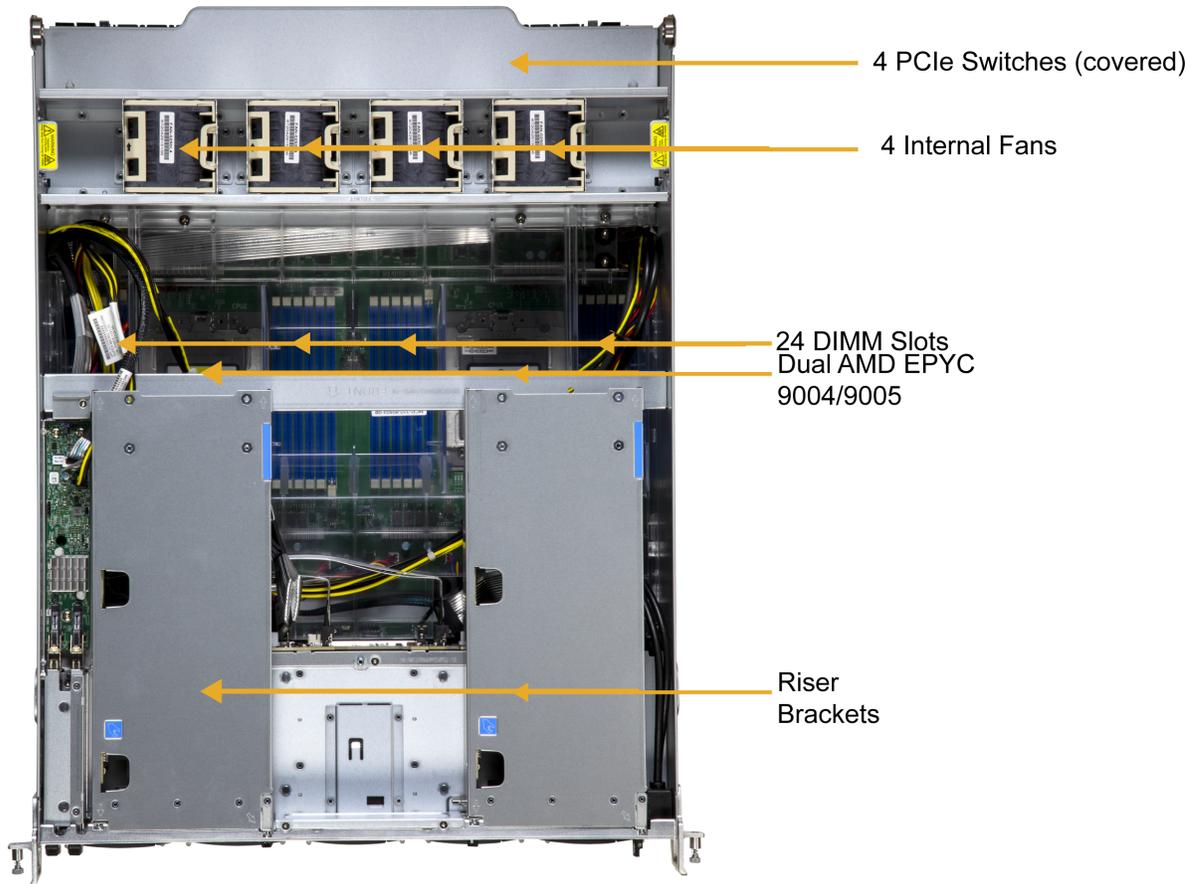
Figure 1-4. Motherboard Drawer Top View

Motherboard Drawer Features	
Feature	**Description**
PCIe Switches	Four PCIe switches
DIMM Slots	24 DIMM slots supporting up to 6400 MT/s
Processors	Dual AMD EPYC™ with Socket SP5
System Cooling	Four internal counter-rotating fans
Riser Brackets	Two riser brackets with riser cards supporting a total of four PCIe slots

18

Eight GPUs
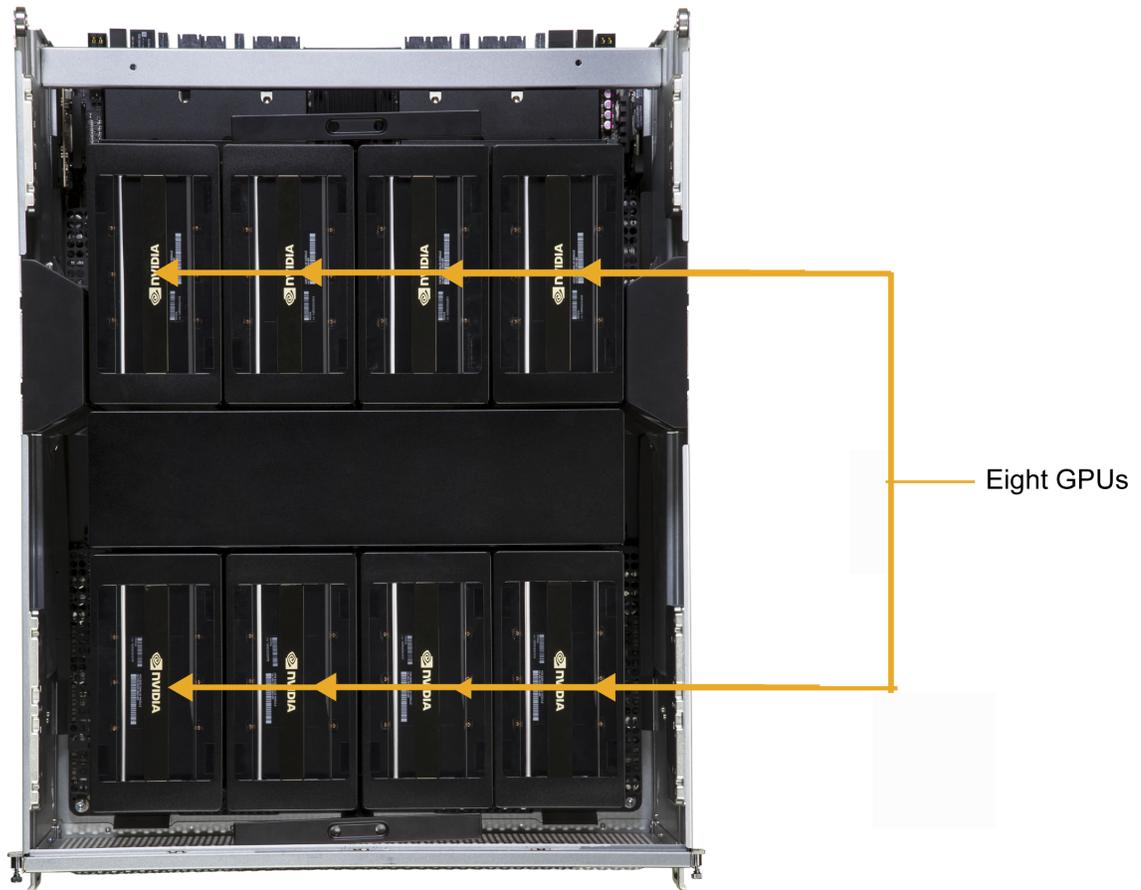
Figure 1-5. GPU Drawer Top View

GPU Drawer Features	
Feature	**Description**
GPUs	Eight NVIDIA B200 GPUs with SXM connectors

System Block Diagram
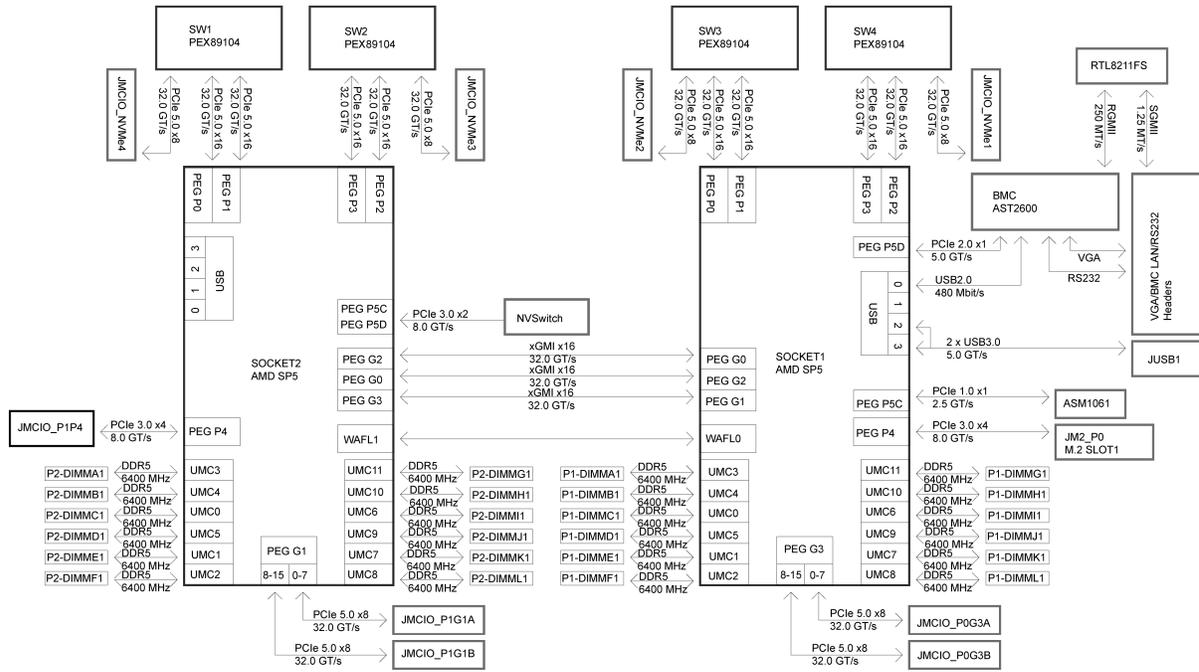
Figure 1-6. System Block Diagram

1.4 Motherboard Quick Reference

For details on the H14DSG-OD motherboard layout and other quick reference information, refer to the content below.

Motherboard Layout
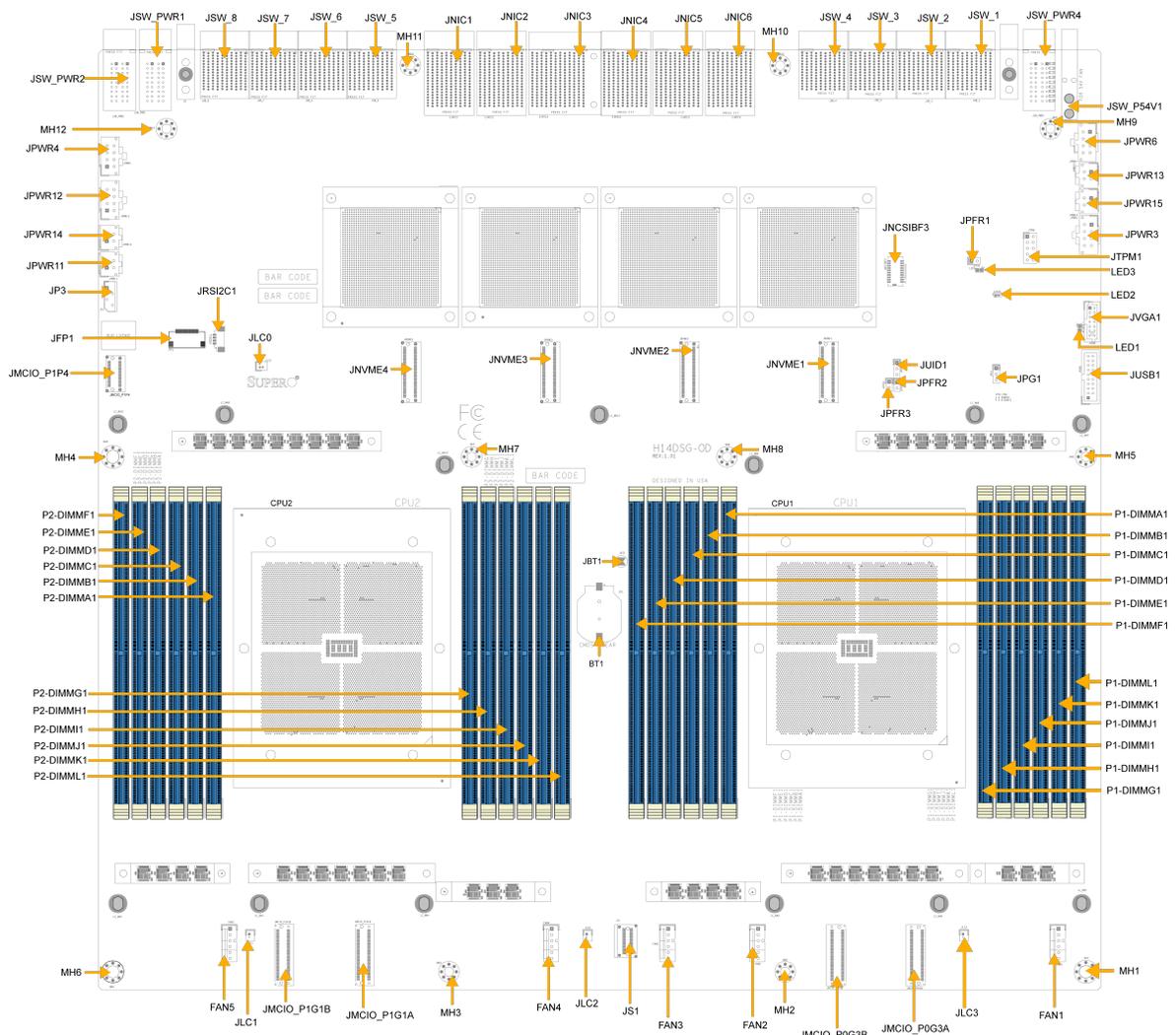
Figure 1-7. Motherboard Layout

Notes:

- For detailed information on jumpers, connectors, and LED indicators, see "Maintenance and Component Installation" on page 35.

- "■" indicates the location of pin 1.

- "MH" indicates the location of a mounting hole.

- Components not documented are for internal testing purposes only.

- Use only the correct type of onboard CMOS battery as specified by the manufacturer. To avoid possible explosion, do not install the onboard battery upside down.

Quick Reference Table

Jumper	Description	Default Setting
JBT1	CMOS Clear	Open (Normal)
JPG1	VGA Enable/Disable	Pins 1-2 (Enable)
JUID1	Switch Function UID/Reset	Pins 1-2 (UID)

LED	Description	Status
LED1	Power LED	Solid Green: Power On
LED2	Rot Status LED	Off: Normal Red on: Fail
LED3	BMC Heartbeat LED	Green: Blinking (BMC Normal) Green: Fast Blinking (BMC Initializing)

Connector	Description
FAN1-FAN5	6-pin System Cooling Fan Headers
JFP1	Front Control Panel Connector
JLC0-3	2-pin 2.048 V Header for Liquid-Cooled Solution
JMCIO_P0G3A JMCIO_P0G3B	PCIe 5.0 x8 (Processor 1)
JMCIO_P1G1A JMCIO_P1G1B	PCIe 5.0 x8 (Processor 2)
JMCIO_P1P4	PCIe 3.0 x4 (Processor 2) for M.2 Module (AOC-SMG4-2M2 or AOM-S3808NI-4NM)
JNIC1-JNIC6	PCIe Connections to NIC Card Carrier Board (AOM-DP805-LPIO)
JNCSIBF3	NCSI Connector
JNVME1-4	PCIe 5.0 x8 Ports to Backplane (Vpp available through JNVME1 and JNVME3)
JP3	Front Fan Board I2C
JPWR3, JPWR12	12 V Power to BF3 Card

Connector	Description
JPWR4	12 V Power to Backplane (BPN-NVME5-HS119N-S8L or BPN-NVME5-LB16A-S10)
JPWR6	54 V Power to Front Fan Board (AOM-528G-FAN-CAS2)
JPWR11	12 V Power to E1.S (BPN-E1S5-GP101M)
JPWR13	12 V Power to M.2 Module (AOC-SMG4-2M2 or AOM-S3808NI-4NM)
JPWR14-15	12 V Power to BF3 Riser (RSC-G-6G5-GP805) and BF3 Bridge Board (AOM-BB-GP102-P) with Y cable
JRSI2C1	I2C Connector for SATA Backplane
JS1	SATA Connector to Backplane
JSW_P54V1	54 V Power Connector
JSW_PWR1 JSW_PWR2 JSW_PWR4	12 V Power to Motherboard
JSW_1~JSW_8	PCIe Connectors Connected to Middle Plane (BPN-GPU-GP403 or BPN-GPU-GP805)
JTPM1	Trusted Platform Module (TPM)
JUSB1	USB Port
JVGA1	VGA Port

Chapter 2:

Server Installation

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 "Maintenance and Component Installation" on page 35 for details on installing those specific components.

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

2.1 Unpacking the System

Inspect the box the AS -A126GS-TNBR system was shipped in and note if it was damaged in any way. If any equipment appears damaged, file a damage claim with the carrier who delivered it.

Decide on a suitable location for the rack unit that will hold the server. It should be situated in a clean, dust-free area that is well ventilated. Avoid areas where heat, electrical noise and electromagnetic fields are generated. It will also require a grounded AC power outlet nearby. Be sure to read the precautions and considerations noted in "Standardized Warning Statements for AC Systems" on page 158.

2.2 Preparing for Setup

The box in which the AS -A126GS-TNBR system was shipped should include the rackmount hardware needed to install it into the rack. Read this section in its entirety before you begin the installation.

Choosing a Setup Location

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

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

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

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

Rack Precautions

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

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

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

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

System Precautions

- Review the electrical and general safety precautions in "Standardized Warning Statements for AC Systems" on page 158.

- 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

Warning! Stability hazard. The rack may tip over causing serious personal injury. Before extending the rack to the installation position, read the installation instructions. Do not put any load on the slide-rail mounted equipment in the installation position. Do not leave the slide-rail mounted equipment in the installation position.

Avertissement!

Danger d'instabilité. Le rack peut basculer et provoquer des blessures corporelles graves.

Avant d'étendre le rack en position d'installation, lire les instructions d'installation. Ne pas charger l'équipement monté sur rail de glissière en position d'installation. Ne pas laisser l'équipement monté sur rail de glissière en position d'installation.

Important: 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:

- If this unit is the only unit in the rack, it should be mounted at the bottom of the rack.

- When mounting this unit in a partially filled rack, load the rack from the bottom to the top, placing 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 workspace.

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

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.).

2.3 Installing the Rails

This section provides information on installing the CSE-GP1001TS-R000NPF chassis into a rack unit with the rails provided. There are a variety of rack units on the market, which may mean that the assembly procedure will differ slightly from the instructions provided. You should also refer to the installation instructions that came with the rack unit you are using.

Note: This rail will fit a rack between 28" and 33.5" deep.

Identifying the Rails

The CSE-GP1001TS-R000NPF chassis package includes two rail assemblies. Each assembly consists of two sections: a front section which secures to the front post of the rack, and a rear section which adjusts in length and secures to the rear post of the rack. These assemblies are specifically designed for the left and right side of the chassis and labeled.

Important: The rails secure the server to the rack and are not intended to be sliding rails.
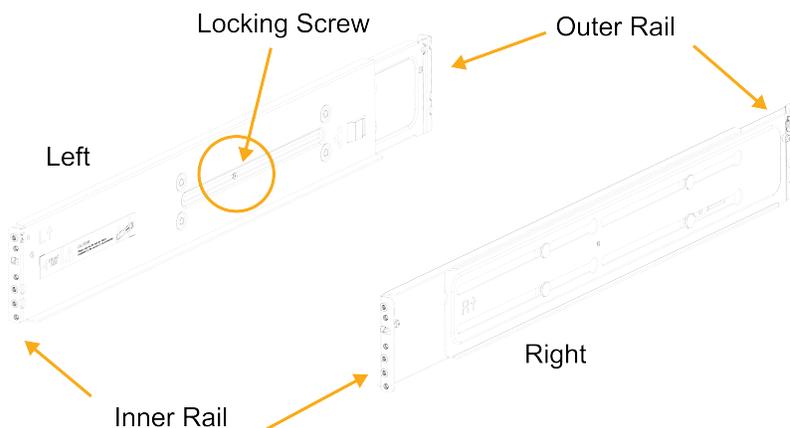
Figure 2-1. Identifying the Left and Right Rails

2.4 Installing the Chassis into a Rack

Once rails are attached to the chassis and the rack, the chassis is ready to be installed into a rack.

1. Align the chassis carefully and push it into the extension outer rail, as illustrated below.

2. Once the chassis is mounted in the outer rail, it can be pushed all the way into the rack.
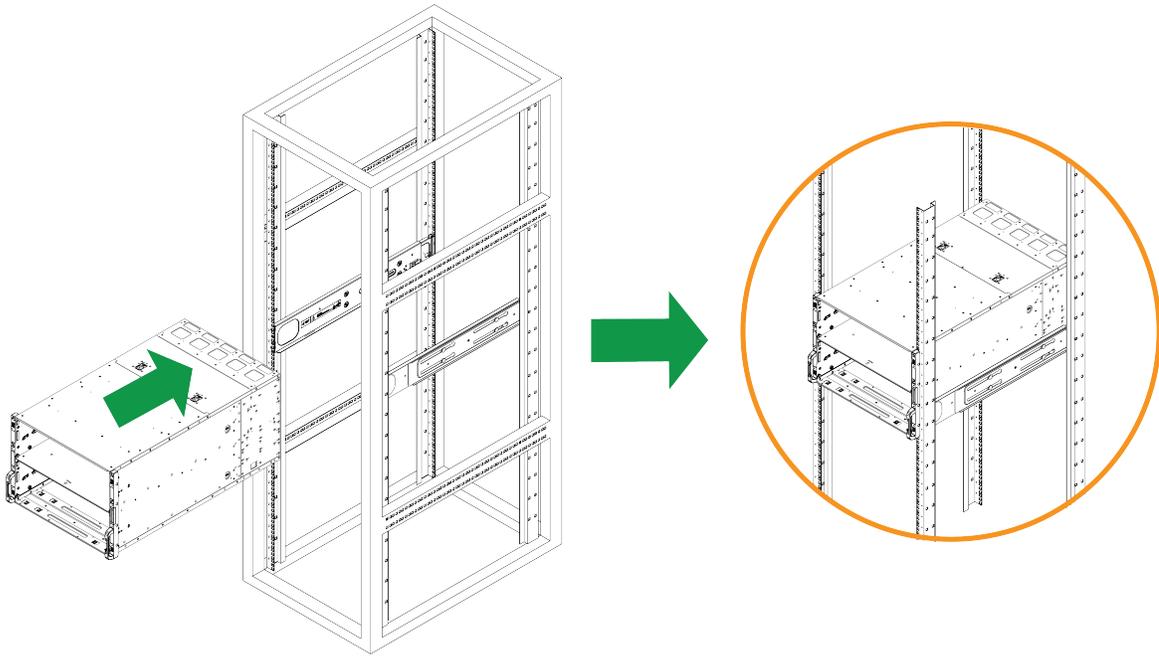
Figure 2-2. Installing the Enclosure into the Rack

3. After you've secured the main chassis to the rack, mount each drawer one at a time. Push each drawer to the back of the chassis and secure the drawer with two flathead screws to prevent them from sliding out.
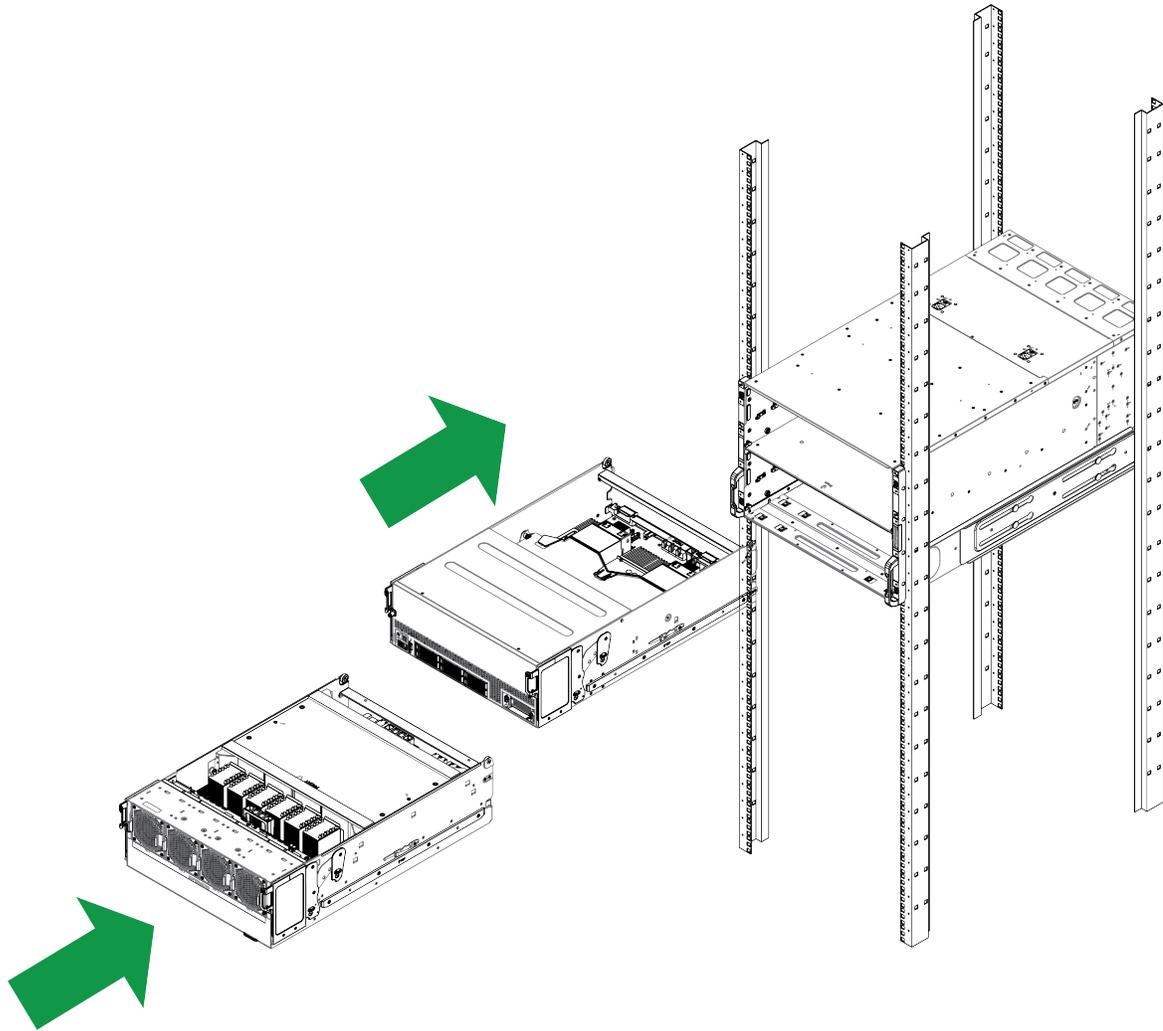
Figure 2-3. Installing the CPU and GPU Drawers into the Enclosure

Note: Images displayed are for illustrative purposes only. The components installed in your system may or may not look exactly the same as the graphics shown in the manual.

Removing the Chassis

The process of removing the chassis from the rack is basically the reverse of the installation procedure.

Important: Use caution when mounting or removing the system from the rack. For large systems, at least one other person must assist during installation or removal. Follow the safety recommendations printed on the rails. Depending on the size of the system, you might need to use a lift.

1. Begin by removing the power to your system. See the "Removing Power" on page 37 for more information.

2. Remove all cables connected to the system and all screws from the GPU and CPU drawer handles.

3. Pull the GPU and CPU drawers out one at a time until all the remaining drawers are removed.
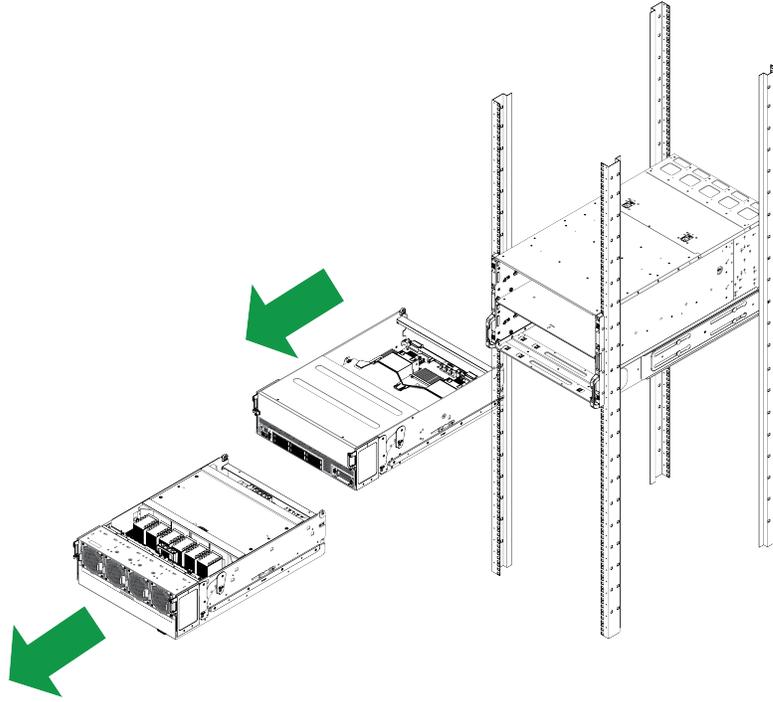
Figure 2-4. Removing the GPU and CPU Drawers

4. Remove the chassis as illustrated below.
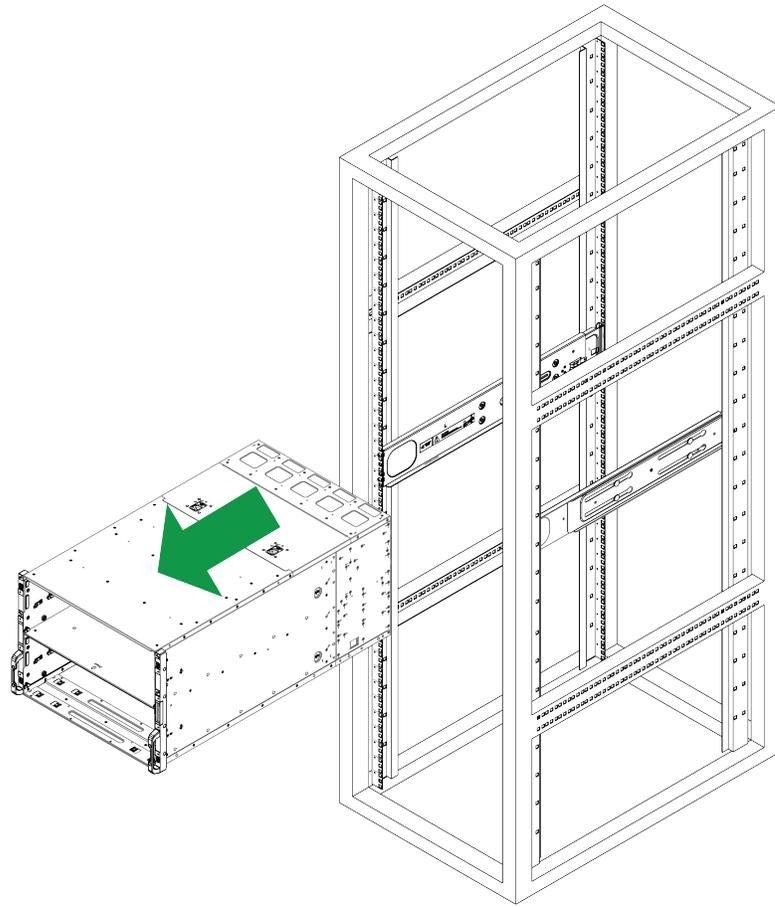
Figure 2-5. Unmounting the Chassis from the Rack

Chapter 3:

Maintenance and Component Installation

This chapter provides instructions on installing and replacing main system components for the AS -A126GS-TNBR system. 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. Follow the procedures given in each section.

3.1 Removing Power

Before performing some setup or maintenance tasks, use the following procedure to ensure that power has been removed from the AS -A126GS-TNBR 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.

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

3.2 Accessing the System

The AS -A126GS-TNBR system features a removable top cover, which allows easy access to the inside of the system.

Important: 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.

Removing the GPU Drawer Cover

You can access the GPU drawer by removing its cover. This GPU drawer has handles to help with carrying the unit safely. To use the GPU drawer, pull out handles.
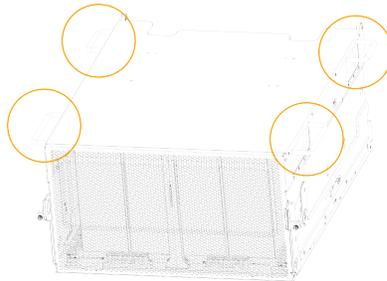
Figure 3-1. GPU Drawer Handles

1. First, remove the drawer from the chassis and remove the screws securing the cover to the GPU drawer.

2. Slide the cover toward the rear of the chassis.

3. Lift the top cover off of the chassis.
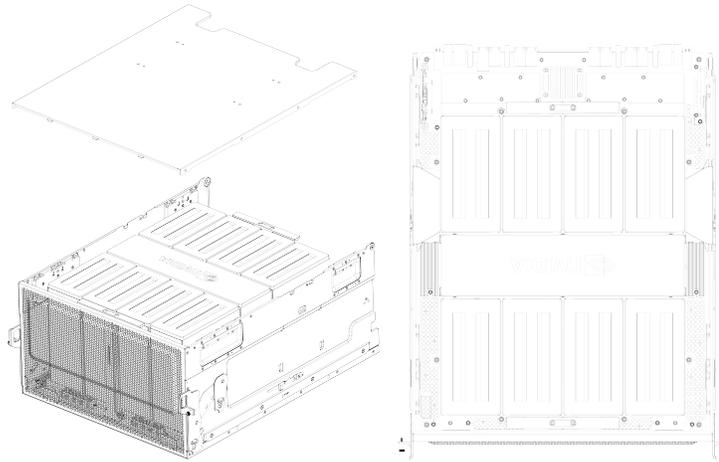
Figure 3-2. Removing the GPU Drawer Cover

Removing the CPU Drawer

The CPU drawer houses the system's motherboard, CPU, and related components. The CPU drawer may be removed from the chassis for maintenance.

1. There are two levers, one located directly on the left and right side of the CPU drawer. Pull these two levers down.
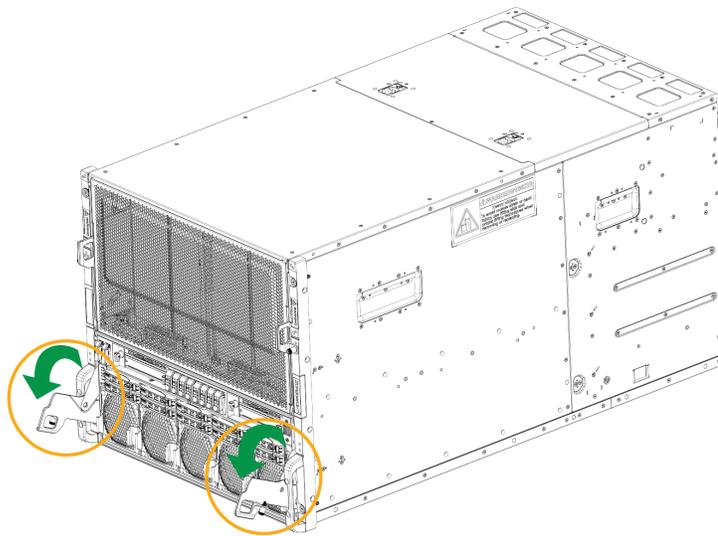
Figure 3-3. CPU Drawer Levers

2. Use these levers to pull the drawer out from the chassis.
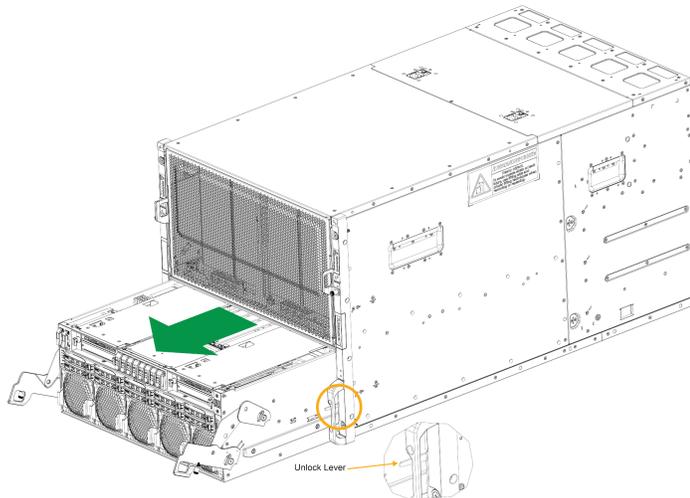
Figure 3-4. Removing the CPU Drawer

Removing the LPIO Drawer

The LPIO drawer supports low-profile PCIe slots. The LPIO drawer may be removed from the chassis for maintenance.

1. Begin by removing the system power. See "Removing Power" on page 37 for more information.

2. Locate the locking levers; there is one lever on the left and right side of the LPIO drawer. Pull these levers outward at the same time to unlock the drawer from the chassis.

3. Use these levers to pull the drawer out from the chassis.
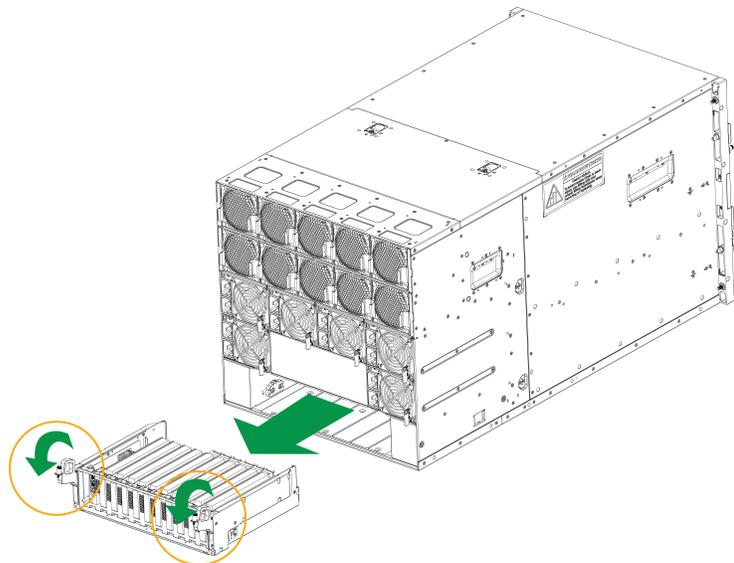
Figure 3 -5. Removing the LPIO Drawer

3.3 Static-Sensitive Devices

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

Precautions

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

- Touch a grounded metal object before removing the board from the antistatic bag.

- Handle the motherboard only by its edges. Do not touch its components, peripheral chips, memory modules, or gold contacts.

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

- Put the motherboard and peripherals back into their antistatic bags when not in use.

- For grounding purposes, make sure that your computer chassis provides excellent conductivity between the power supply, the case, the mounting fasteners, and the motherboard.

- Use only the correct type of onboard CMOS battery. To avoid possible explosion, do not install the onboard battery upside down.

3.4 Processor and Heatsink Installation

This section provides procedures to install the processor(s) and heatsink(s).

Notes:

- Take industry standard precautions to avoid ESD damage. For details, see "Static-Sensitive Devices" on the previous page.

- Before starting, make sure that the plastic socket cap is in place and none of the socket pins are bent. If any damage is noted, contact your retailer.

- Do not connect the system power cord before the processor and heatsink installation is complete.

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

- When buying a processor separately, use only a Supermicro certified heatsink.

- Refer to the Supermicro website for the most recent processor support.

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

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

Preparing the Processor Socket

1. Remove the screw holding down the force frame. The spring-loaded force frame will raise up. Allow it to lift up to its stopped position.
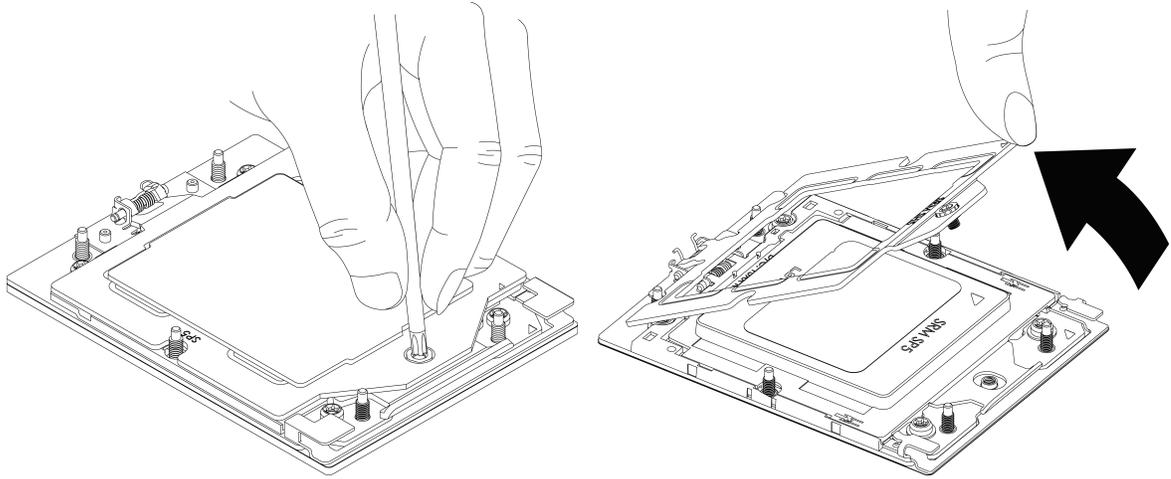
Figure 3-6. Removing Screw from the Force Frame

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

    Note: The rail frame is spring loaded, so keep a secure grip on it as you lift it so it does not snap up.
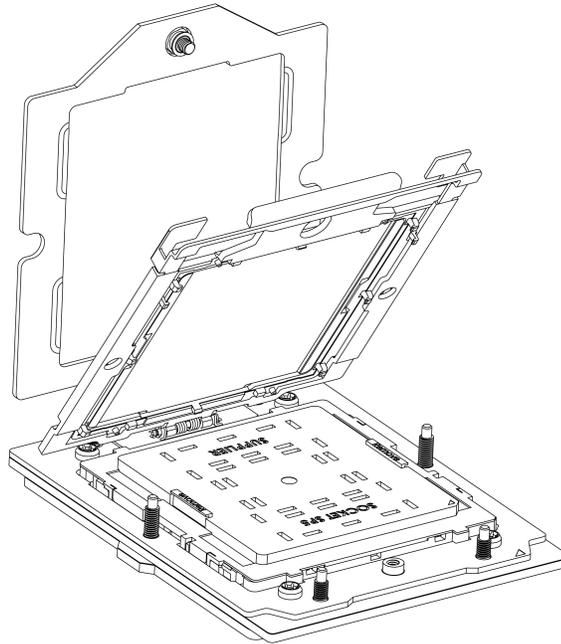
Figure 3-7. Lifting the Frame

3. Remove the external cap from the rail frame by pulling it upwards through the rail guides on the rail frame.
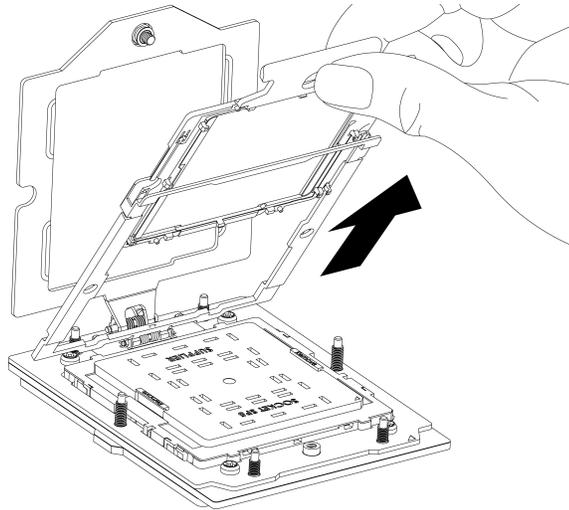
Figure 3-8. Removing the Cap

Installing the Processor into the Frame

1. The processor package is shipped from the factory with the carrier frame pre-assembled. Grip the handle of the carrier frame/processor 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.

2. Slide the carrier frame/processor assembly downwards to the bottom of the rail frame. Ensure the flanges are secure on the rails as you lower it downwards.

    Note: You can only install the processor inside the socket in one direction with the handle at the top. Make sure that it is properly inserted into the socket before closing the rail frame plate. If it doesn't close properly, do not force it as it may damage your processor. Instead, open the rail frame plate again, and double-check that the processor is aligned properly.
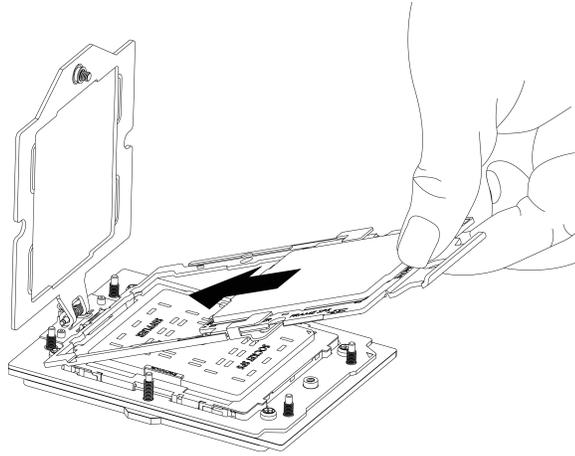
Figure 3-9. Installing into the Rail Frame

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

Important: 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 cover cap and when placing the rail frame over the socket.
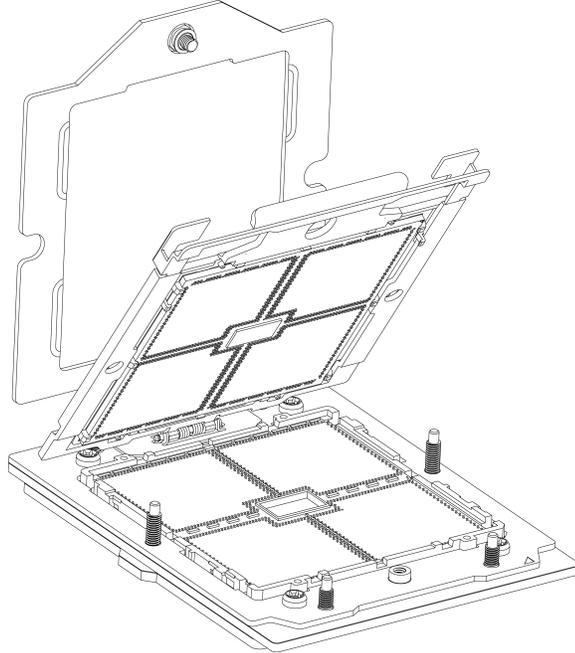
Figure 3-10. Removing the Cover Cap

4. 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! Note that the force frame is spring loaded and must be held in place before it is secured.
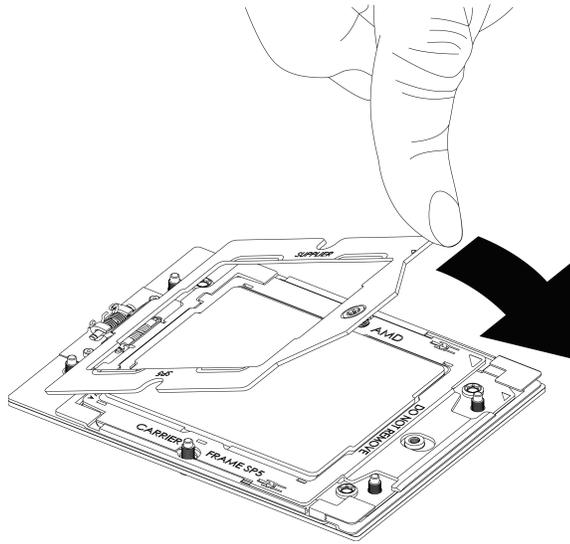
Figure 3-11. Securing the Force Frame

5. Use a T20 bit torque driver, set at 12.5–15.0 kgf-cm (10.8–13.0 lbf-in) to prevent damage to the processor. Replace and tighten the screws in the same order they were removed. When finished, the force frame will be secure over both the rail frame and processor package.
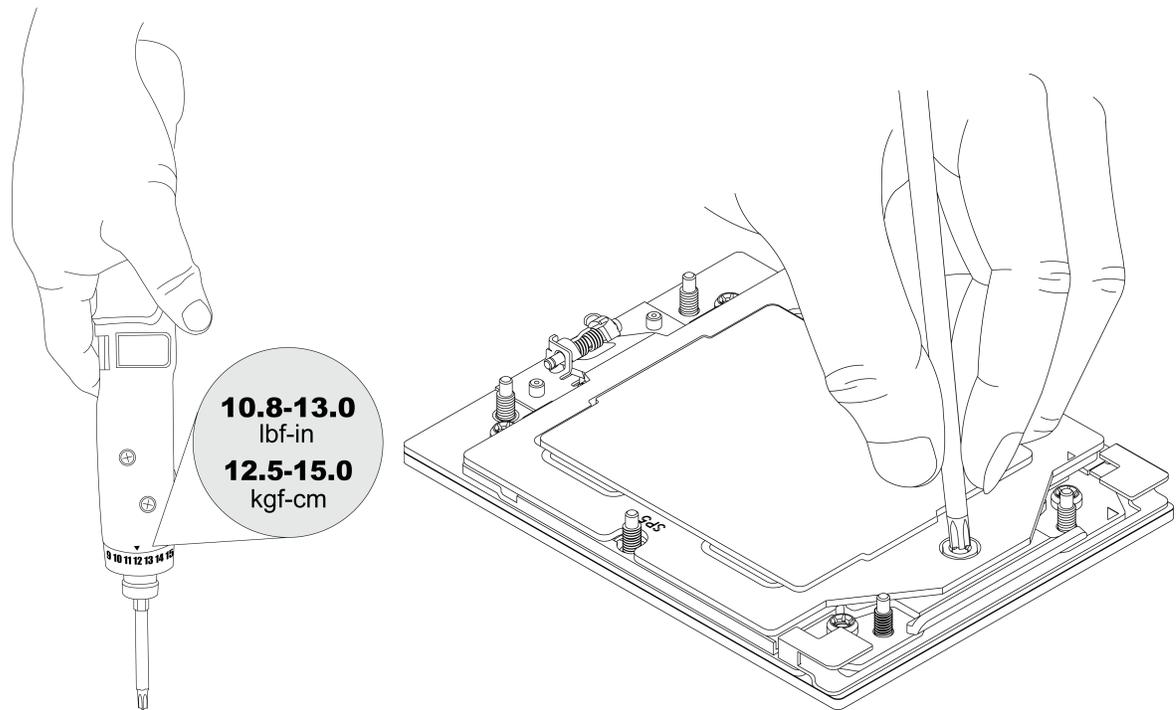
Figure 3-12. Replacing Screws with Torque Driver

Installing the Heatsink

After the force frame is secured and the processor is in place, install the heatsink onto the processor.

1. Place the heatsink so that it rests on the processor aligning the six screws on the socket frame.

Figure 3-13. Placing the Heatsink

2. Using a T20 torque driver, tighten the screws using the diagonal tightening pattern and torque specifications printed on the heatsink. Tighten the two center screws completely before tightening the four corner screws.

 The heatsink is now secured.

Uninstalling the Heatsink and Processor

1. Remove the screws holding the heatsink and gently work it loose.

2. Clean the thermal grease left by the heatsink on the processor assembly to limit the risk of contaminating the land pads or contacts in the socket housing.

3. Unscrew the plate and lift the force frame to the vertical position.

4. Lift the rail frame using the lift tabs near the front end of the rail frame. Note that the rail frame is spring loaded, so be careful lifting it up into a vertical position.

5. Grip the handle of the carrier frame and pull upwards to extract it from the rail frame. Return the processor assembly to its original shipping container.

6. Grip the handle on the external cap and return it to the rail frame, sliding it downwards until it rests in the frame.

7. Gripping the rail frame, rotate it downwards until it rests above and locks over the socket housing in its horizontal position.

8. Push and rotate down the force frame until it is over the external cap and rail frame in a horizontal position.

9. While holding down the force frame, secure it back to the socket frame by securing screw #1 in place.

3.5 Memory Support and Installation

Important: To prevent any damage, exercise extreme care when installing or removing memory modules.

Note: Check the Supermicro website for recommended memory modules.

Memory Support

The AS -A126GS-TNBR supports up to 6 TB of RDIMM/3DS ECC DDR5 memory with speeds of up to 6400 MT/s in 24 DIMM slots. Refer to the tables below for additional information.

Populating RDIMM/RDIMM 3DS DDR5 Memory Modules with AMD EPYC^{TM} 9004 Series Processors			
Type	**DIMM Population**	**Maximum Frequency (MT/s)**	
	DIMM1	**5600 MT/s Grade DIMM**	**4800 MT/s Grade DIMM**
RDIMM	1R (1 rank)	4800	4800
	2R (2 ranks)		
3DS RDIMM	2S2R (4 ranks)		
	2S4R (8 ranks)		

Populating RDIMM/RDIMM 3DS DDR5 Memory Modules with AMD EPYC^{TM} 9005 Series Processors				
Type	**DIMM Population**	**Maximum Frequency (MT/s)**		
	DIMM1	**6400 MT/s Grade DIMM**	**5600 MT/s Grade DIMM**	**4800 MT/s Grade DIMM**
RDIMM	1R (1 rank)	6400	5600	4800
	2R (2 ranks)			
3DS RDIMM	2S2R (4 ranks)			
	2S4R (8 ranks)			

Note: Please use Supermicro validated memory to achieve 6400 MT/s. Contact Supermicro representative for more details.

General Guidelines for Optimizing Memory Performance

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

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

- The motherboard will support an odd number amount of memory modules. However, to achieve the best memory performance, a balanced memory population is recommended.

DIMM Population

This table shows the recommended slots to populate.

DIMM Population Guide														
Types	One DIMM Per Channel													Supported Nodes Per Socket (NPS)
	F1	E1	D1	C1	B1	A1	(Occupied by CPU)	G1	H1	I1	J1	K1	L1	
1 DIMM						V								NPS1
2 DIMMs						V		V						NPS2, NPS1
4 DIMMs				V		V		V		V				NPS4, NPS2, NPS1
6 DIMMs				V	V	V		V	V	V				NPS2, NPS1
8 DIMMs		V		V	V	V		V	V	V		V		NPS4, NPS2, NPS1
10 DIMMs		V	V	V	V	V		V	V	V	V	V		NPS2, NPS1
12 DIMMs	V	V	V	V	V	V		V	V	V	V	V	V	NPS4, NPS2, NPS1

DIMM Population Guide														
Types (2 CPUs)		One DIMM per Channel												Supported Nodes per Socket (NPS)
		F1	E1	D1	C1	B1	A1	G1	H1	I1	J1	K1	L1	
2 DIMMs	CPU1						V							NPS1
	CPU2						V							
4 DIMMs	CPU1						V	V						NPS2, NPS1
	CPU2						V	V						
8 DIMMs	CPU1				V		V	V		V				NPS4, NPS2, NPS1
	CPU2				V		V	V		V				
12 DIMMs	CPU1				V	V	V	V	V	V				NPS2, NPS1
	CPU2				V	V	V	V	V	V				
16 DIMMs	CPU1		V		V	V	V	V	V	V		V		NPS4, NPS2, NPS1
	CPU2		V		V	V	V	V	V	V		V		
20 DIMMs	CPU1		V	V	V	V	V	V	V	V	V	V		NPS2, NPS1
	CPU2		V	V	V	V	V	V	V	V	V	V		
24 DIMMs	CPU1	V	V	V	V	V	V	V	V	V	V	V	V	NPS4, NPS2, NPS1
	CPU2	V	V	V	V	V	V	V	V	V	V	V	V	

Note: Fully populate the motherboard with validated memory modules to achieve the best memory performance. NPS setting based on applications. Selecting Auto in BIOS will default to NPS1.

DIMM Installation

Important: To avoid causing any damage to the memory module or the DIMM socket, do not use excessive force when pressing the release tabs on the ends of the DIMM socket. Handle memory modules with care. To avoid ESD-related damage to your memory modules or components, carefully follow all the instructions given in "Static-Sensitive Devices" on page 41.

1. Insert the desired number of DIMMs into the memory slots based on the recommended DIMM population table earlier in this section.

2. Push the release tabs outwards on both ends of the DIMM slot to unlock it.
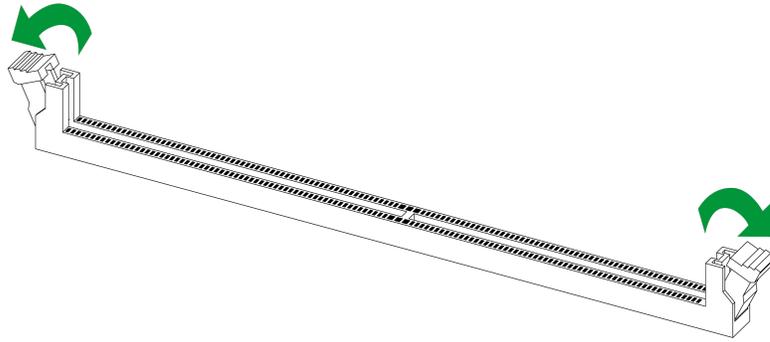
Figure 3-14. Unlocking the DIMM Slot

3. Align the key of the DIMM with the receptive point on the memory slot.
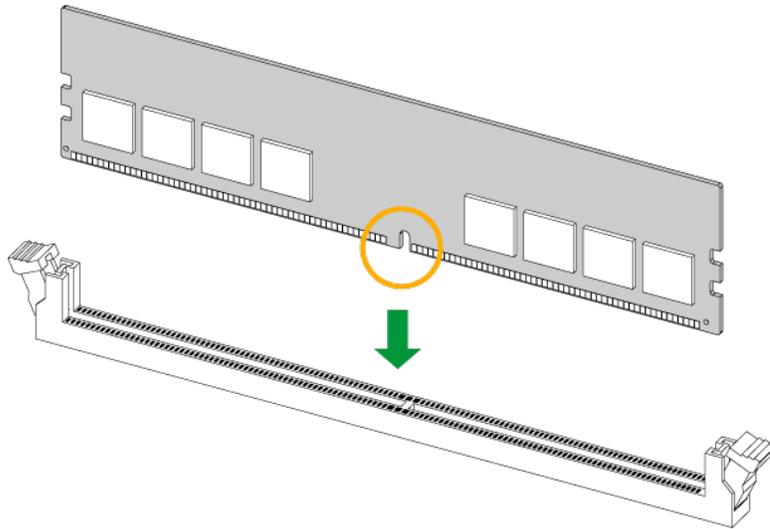
Figure 3-15. Aligning the DIMM Slot with the Receptive Point

4. Align the notches on both ends of the module against the receptive points on the ends of the slot.
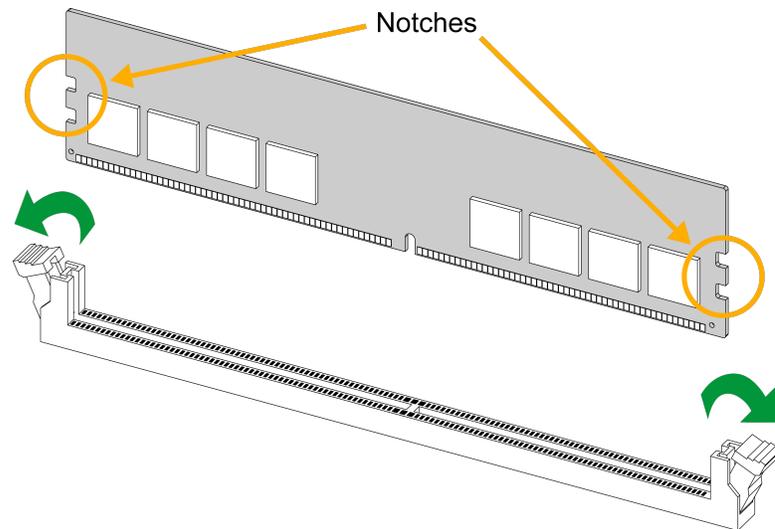
Figure 3-16. Aligning the Notches

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

6. Press the release tabs to the lock positions to secure the DIMM into the slot.

Push both ends straight down into the memory slot.
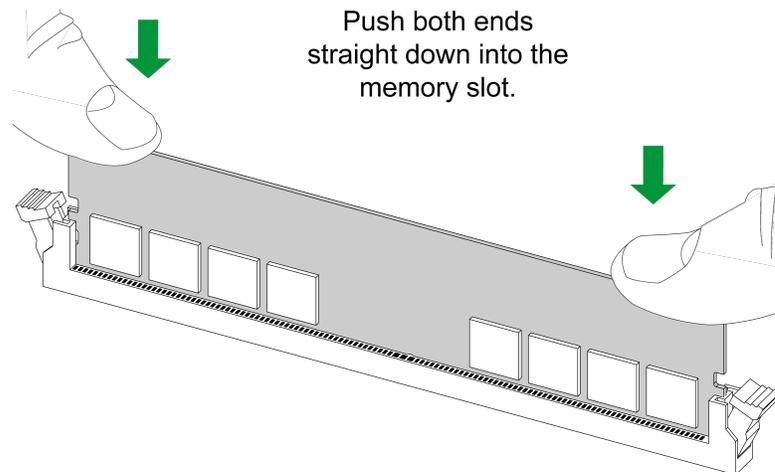
Figure 3-17. Securing the DIMM

For a detailed diagram of the H14DSG-OD motherboard, see the layout under "Motherboard Quick Reference" on page 21.

DIMM Removal

Important: To avoid causing any damage to the memory module or the DIMM socket, do not use excessive force when pressing the release tabs on the ends of the DIMM socket. Handle memory modules with care. To avoid ESD-related damage to your memory modules or components, carefully follow all the instructions given in "Static-Sensitive Devices" on page 41.

Press both release tabs on the ends of the DIMM socket to unlock it. Once the DIMM is loosened, remove it from the memory slot.
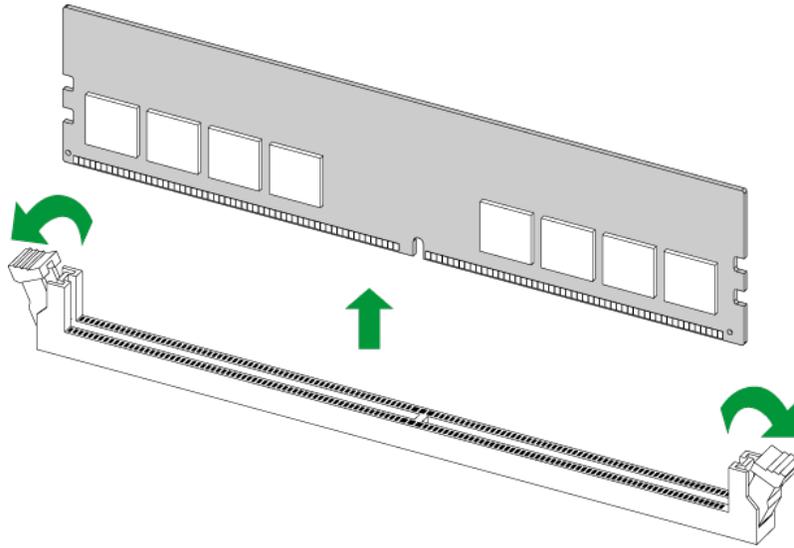
Figure 3-18. Unlocking the DIMM Slot

For a detailed diagram of the H14DSG-OD motherboard, see the layout under "Motherboard Quick Reference" on page 21.

3.6 Motherboard Battery Removal and Installation

Battery Removal

To remove the onboard battery, follow the steps below:

1. Power off your system and unplug your power cable.

2. Place the system on a workbench.

3. Remove the top cover from the system.

4. Locate the onboard battery as shown below.

5. Using a tool such as a pen or a small screwdriver, push the battery lock outwards to unlock it. Once unlocked, the battery will pop out from the holder.

6. Remove the battery.

Proper Battery Disposal

Important: 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. Comply with the regulations set up by your local hazardous waste management agency to dispose of your used battery properly.

Battery Installation

To install an onboard battery, follow steps 1 and 2 above and continue below:

Important: When replacing a battery, be sure to only replace it with the same type.

1. Identify the battery's polarity. The positive (+) side should be facing up.

2. Insert the battery into the battery holder and push it down until you hear a click to ensure that the battery is securely locked.

LITHIUM BATTERY

BATTERY HOLDER

OR

LITHIUM BATTERY

BATTERY HOLDER
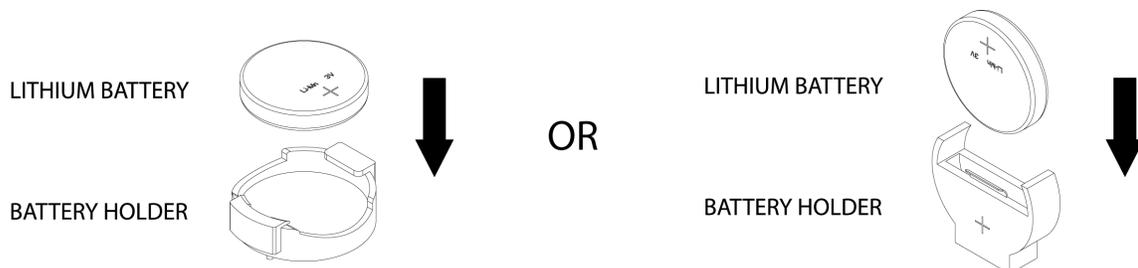
Figure 3-19. Installing a Battery

3.7 Storage Drives

The AS -A126GS-TNBR chassis supports several storage options, there are two M.2 slots, space for eight EDSFF E1.S storage devices, eight 2.5" form-factor NVMe SSD drives, and two 2.5" form-factor SATA drives.

Note: Enterprise-level storage modules are recommended for use in Supermicro servers.
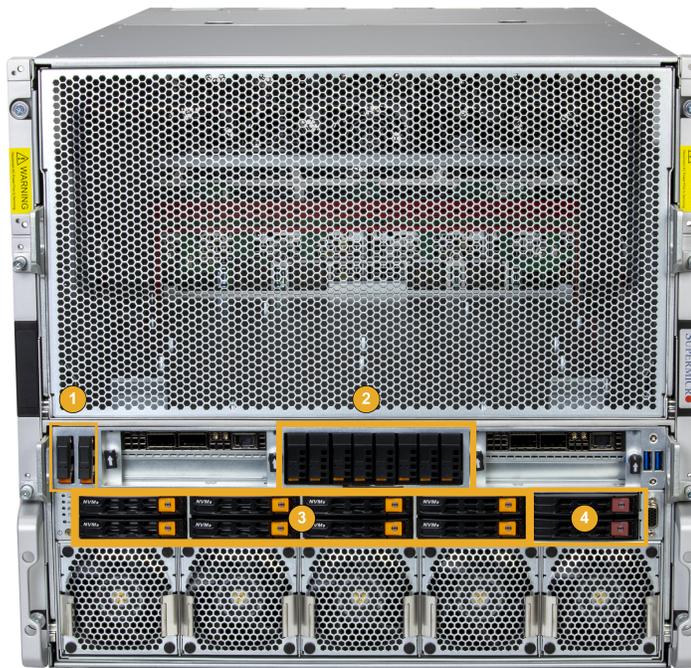
Figure 3-20. Location of System Storage Devices

System Features: Front		
Item	**Feature**	**Description**
1	M.2 Storage	Two M.2 storage slots
2	EDSFF E1.S Storage	Eight external EDSFF E1.S (short) NVMe SSDs
3	NVMe Drive Trays	Eight hot-swap 2.5" NVMe drive trays
4	SATA Drive Trays	Two hot-swap 2.5" SATA drive trays

2.5" Drive Trays

There are 10 trays for 2.5" SSDs in the chassis. Eight trays support NVMe drives and two support SATA drives. The drives are mounted in drive carriers that simplify their removal from the chassis. These carriers also help promote proper airflow.

Installing 2.5" SSDs

1. Remove power.

2. Remove the drive carrier from the chassis. Push the release button on the drive carrier. This releases and extends the drive carrier handle. If the button does not release it, the handle may be locked: using a flat-head screwdriver, rotate the screw counterclockwise 45 degrees to unlock the handle. Use the handle to pull the carrier out of the chassis as shown above.
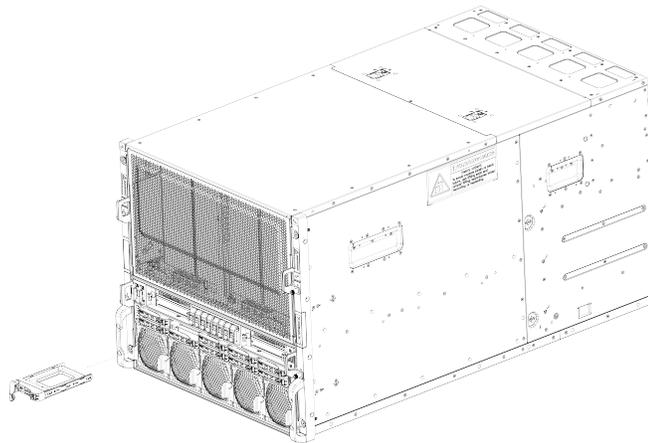
Figure 3-21. Removing a Drive Carrier

3. Insert the drive into the carrier and secure the drive to the carrier, as shown below. Orient the drive with the connector facing the bottom rear of the carrier as shown. The drive can be inserted from above the carrier and into the clips until a "click" is heard.
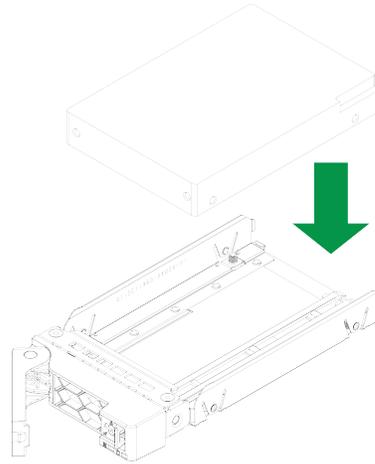
Figure 3-22. Placing a 2.5" Storage Drive into the Drive Carrier

4. Secure the storage drive on to the carrier with bottom screws, if needed.

5. Insert the carrier with the storage drive into the open drive bay.

Note: Enterprise level drives are recommended for use in Supermicro chassis and servers. For information on recommended storage drives, visit the Supermicro website product pages at www.supermicro.com/products.

Hot-Swap for NVMe Drives

Supermicro servers support NVMe surprise hot-swap. For even better data security, NVMe orderly hot-swap is recommended. NVMe drives can be ejected and replaced remotely using BMC.

Ejecting a Drive

1. **BMC > Server Health > NVMe SSD**

2. Select Device, Group, and Slot, and click **Eject**. After ejecting, the drive Status LED indicator turns green.

3. Remove the drive.

Note that Device and Group are categorized by the CPLD design architecture.

A Slot is the slot number on which the NVMe drives are mounted.
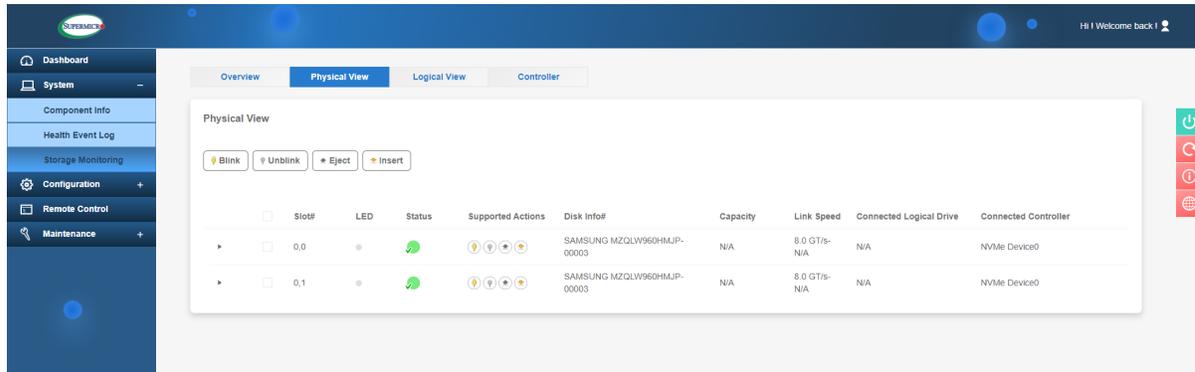
Figure 3-23. BMC Screenshot

Replacing a Drive

1. Insert the replacement drive.

2. **BMC > System > Storage Monitor > Physical View**

3. Select Device, Group, and slot and click **Insert**. The drive Status LED indicator flashes red, then turns off. The Activity LED turns blue.

E1.S SSDs

The EDSFF (Enterprise and Datacenter Standard Form Factor) storage standardizes SSD design for enterprise and data centers, enhancing density, performance, and thermal efficiency. It includes various form factors (E1.S, E1.L, E2, E3), leverages NVMe over PCIe, and supports scalability and interoperability for optimized, high-capacity storage solutions.

There are eight slots for EDSFF E1.S SSDs. Installing these devices is as simple as inserting them into the slot of choice. Be sure that it is mounted all the way in. Refer to the illustration below.
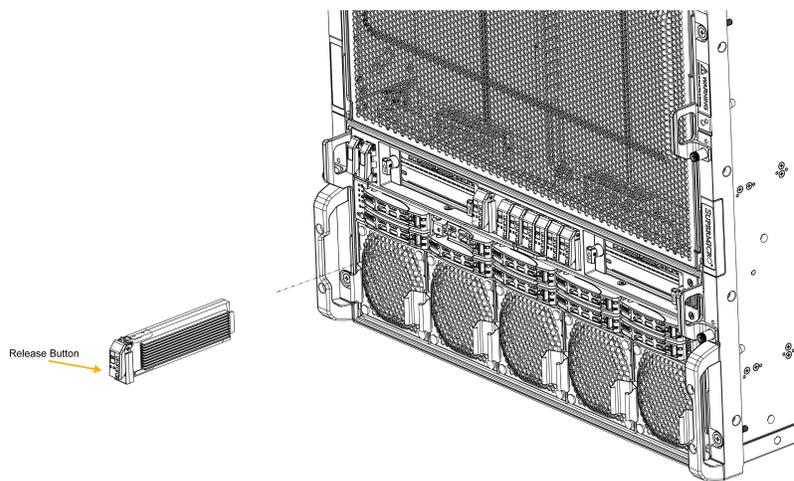
Figure 3-24. Installing an EDSFF E1.S Storage Device

M.2 SSDs

There are two slots for M.2 SSD storage devices at the front of the chassis. M.2 is a compact, high-performance SSD form factor used in modern devices. It supports the NVMe interface, offering fast data transfer rates and low latency. Its small size allows for flexible installation in laptops, desktops, and servers, enhancing overall storage efficiency and speed.

Insert the M.2 storage device as shown.
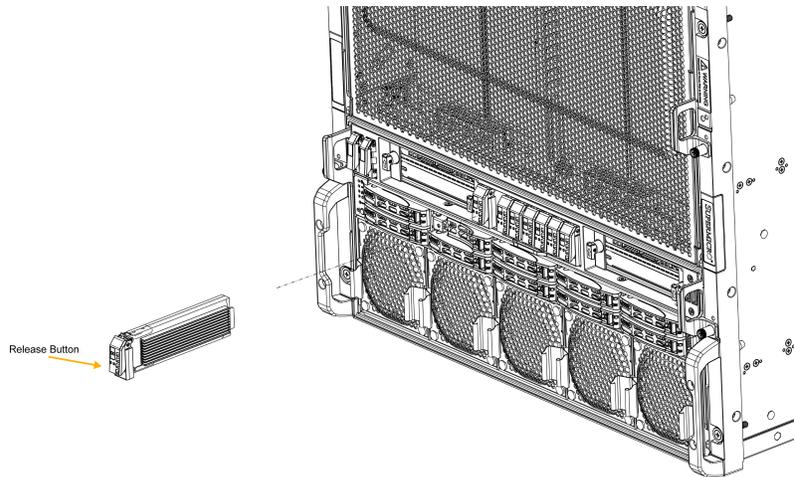
Figure 3-25. Installing an M.2 Storage Device

3.8 System Cooling

Refer to the following sections for information about the cooling capabilities of the AS - A126GS-TNBR system.

Fans

Fan speed is controlled by a system temperature setting in the BMC. 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 type and model. Failed fans can be identified through the BMC.

Replacing a System Fan

There are five high-speed system fans on the front of the chassis and 10 on the rear.

1. Determine which fan has failed using a remote management utility.

2. Remove the failed fan from chassis by squeezing the two release tabs together and pulling the fan out.

Release Tab
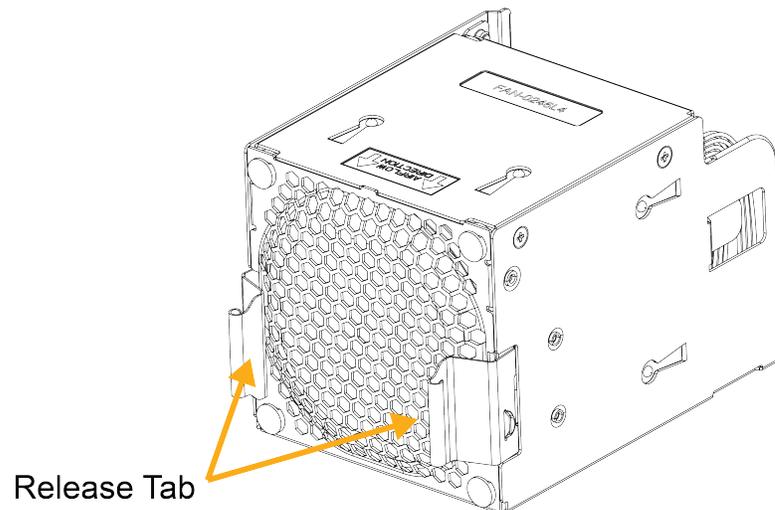
Figure 3-26. Releasing the Fan from the Chassis

3. Install a new fan.
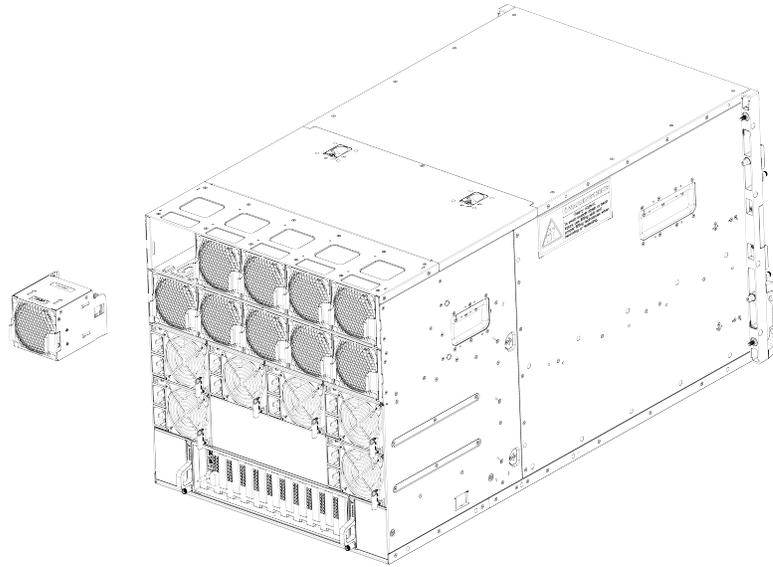
Figure 3-27. Installing a New Fan

- Make sure there are no objects to obstruct air flow 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.

Internal System Fans

The CPU drawer also has four internal system fans. They may be accessed and replaced after removing the CPU drawer from the chassis. Note that removing the CPU tray will require shutting down the server and removing power. See "Accessing the System" on page 38 for more details.
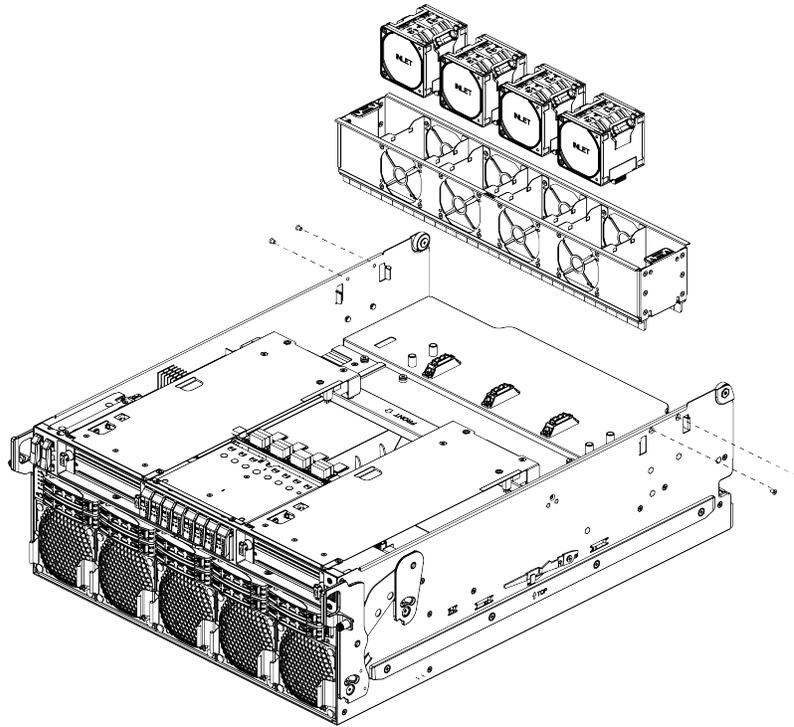
Figure 3-28. Replacing the Internal Fans in the CPU Drawer

Overheating

There are several possible responses if the system overheats.

If system 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. Push the replacement fan module straight inward into the fan slot until the left and right fan module finger tabs are locked into the fan slot.

Air Shrouds

The system requires air shrouds for each drawer to maximize airflow efficiency. The motherboard, any expansion cards, and all components must be installed in the chassis prior to installing the air shroud. Place the air shroud as pictured.
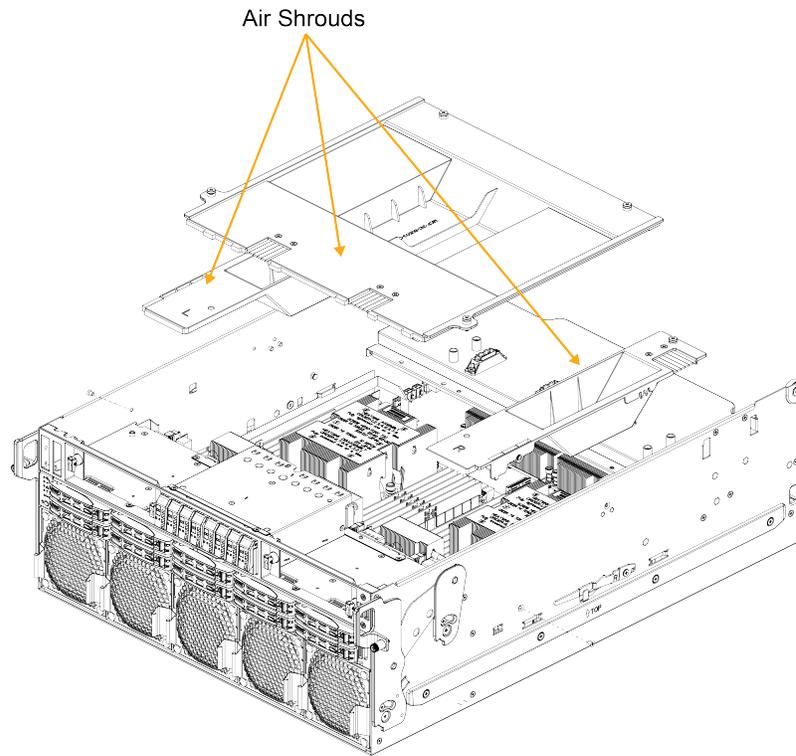
Air Shrouds

Figure 3-29. Installing the CPU Drawer Air Shroud

1. First, ensure the CPU, CPU heatsinks, and configured DIMMs are installed.

2. Align the air shroud with the motherboard.

3. Install directly onto the motherboard. Tighten the four screws on the top of the air shroud and two on the air shroud sides.

3.9 GPU

The AS -A126GS-TNBR features an NVIDIA SXM GPU-NVHGX-B200-8180-LC subsystem, which is oriented in the system as shown below.
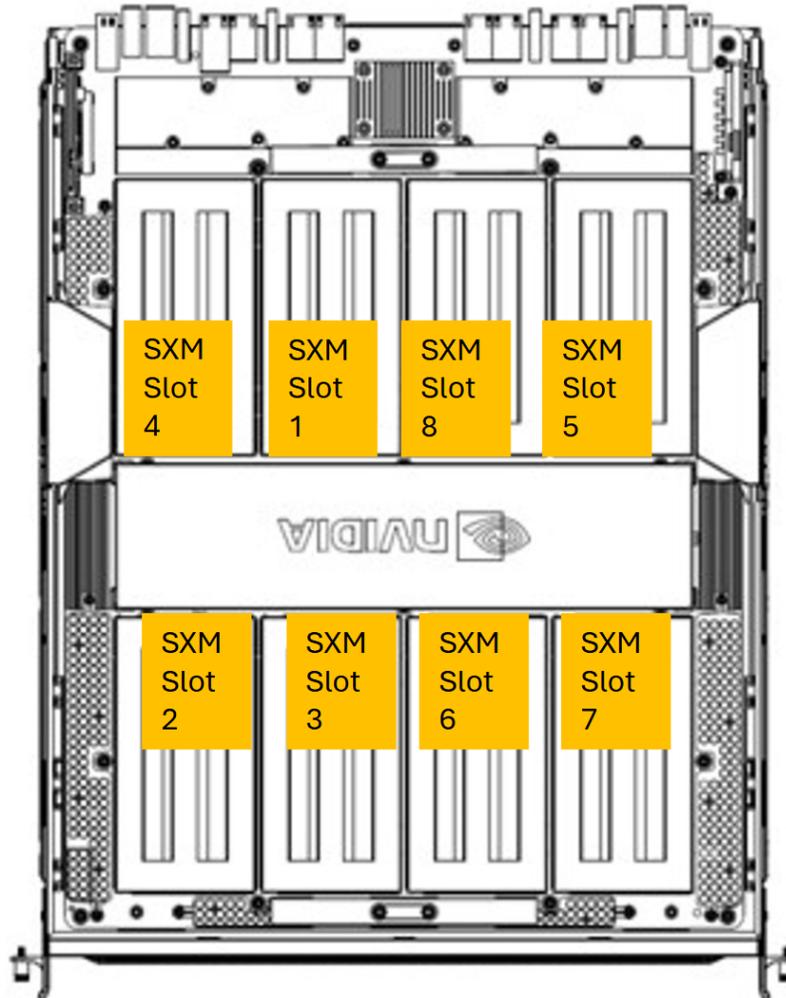
Figure 3-30. GPU SXM Slot Locations

GPU Mapping		
BMC Interface Numbering	GPU Slot Numbering	OS (NVIDIA-SMI) Numbering
GPU1	SXM8	GPU2
GPU2	SXM7	GPU0
GPU3	SXM6	GPU3
GPU4	SXM5	GPU1

GPU Mapping		
BMC Interface Numbering	**GPU Slot Numbering**	**OS (NVIDIA-SMI) Numbering**
GPU5	SXM4	GPU6
GPU6	SXM3	GPU4
GPU7	SXM2	GPU7
GPU8	SXM1	GPU5

3.10 Expansion Cards

Refer to the following sections for information on the expansion cards supported by the AS - A126GS-TNBR system.

Low-Profile PCIe Cards

The AS -A126GS-TNBR supports up to eight low-profile PCI expansion (PCIe) slots in a pull-out drawer for simple installation and maintenance.

LPIO Drawer

The LPIO drawer is located in the rear of the chassis along with the system fans and power supplies. Removing the drawer is as simple as unlocking two levers and pulling out the drawer.

Installing Low-Profile PCIe Cards

There are eight low-profile PCIe slots in the LPIO drawer.

1. Remove power as described in "Removing Power" on page 37

2. Remove the LPIO drawer as described in "Accessing the System" on page 38

3. Insert the PCIe card directly into a slot.

4. Secure with the provided screw.

5. Slide the LPIO drawer back into the chassis.

6. Lock using the locking levers.

7. Power up the system.
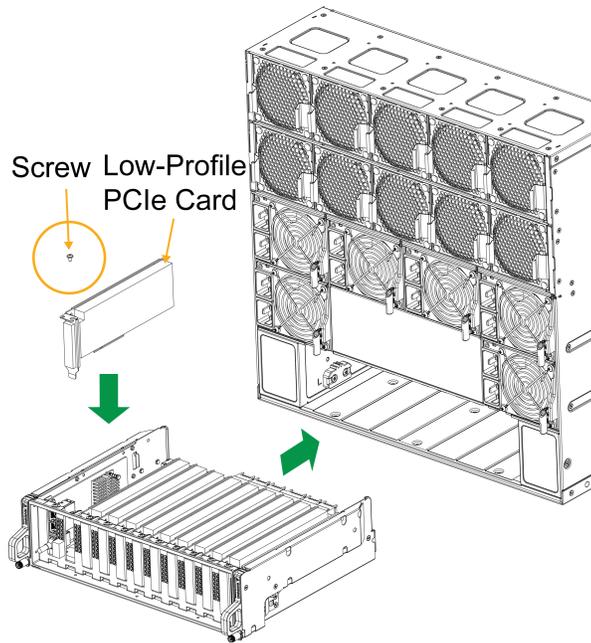
Figure 3-31. Installing Low-Profile PCIe Cards

Risers and I/O Cards

The CPU drawer has two sets of PCIe slots that are supported using riser cards (four total PCIe slots). These slots are most often used to house I/O devices such as network interface cards and/or host adapters to connect to other servers.

Removing the Riser Cards

The riser cards where the PCIe cards are installed may be removed from the CPU drawer.
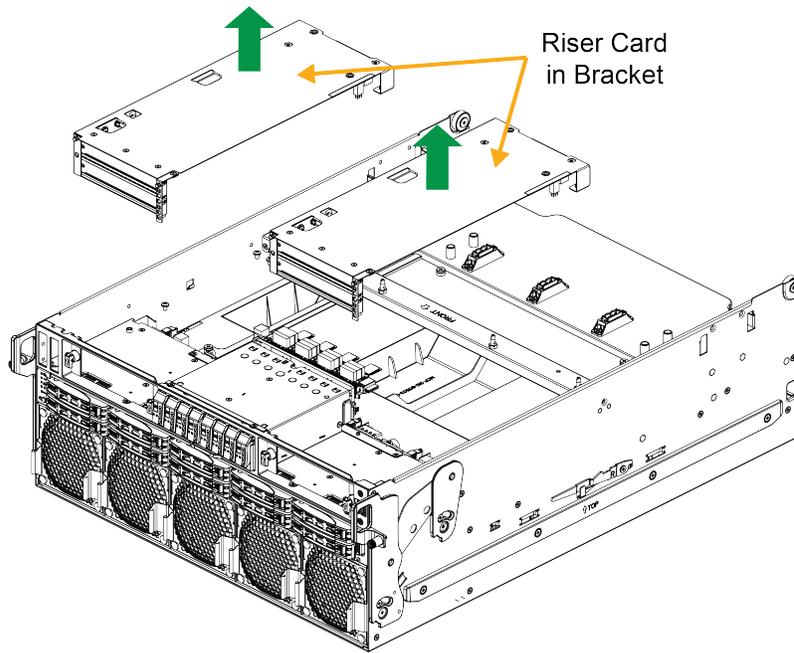
Figure 3-32. BF3 Riser Bracket with the Riser Card

Exploded View

Exploded view of the riser card in relation to the BF3 riser bracket or cage.
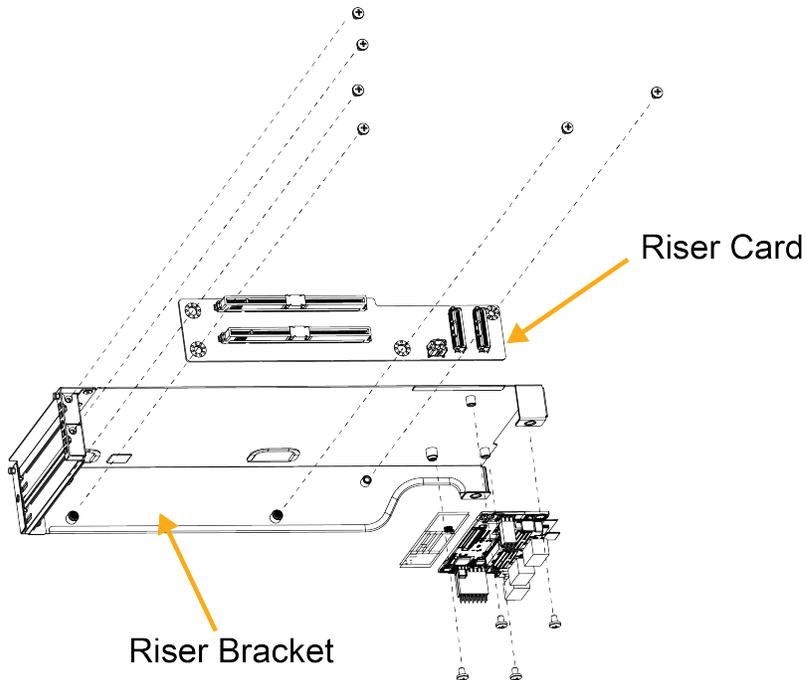
Figure 3-33. Exploded View of the Riser Card

3.11 Cable Routing Diagrams

The below diagrams indicate the cable routing for the storage, PCIe, I/O, and power cables. When disconnecting cables to add or replace components, refer to the diagrams so you can reroute them in the same manner. If cables are not connected or routed properly it may lead to device detection or performance issues.

Storage Cable Routing Diagram

🟥 MCIO port from CPU 1	🟩	Power port to AOC
🟦 MCIO port from CPU 2	🟨	SATA port
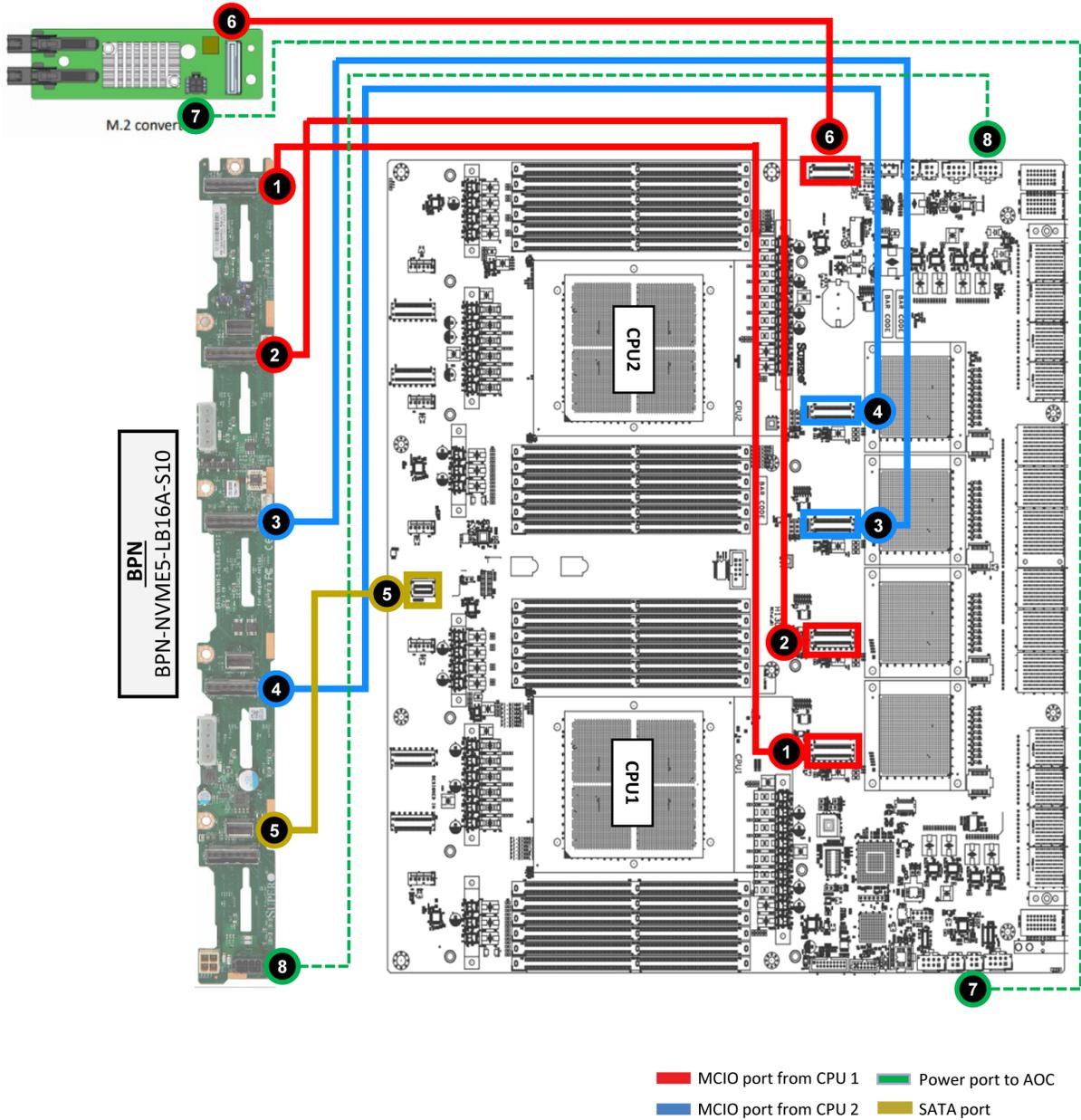
#	Description	Cable	MB	BPN/AOC
1	NVMe 0-1	CBL-MCIO-1480M5FHGPAB1 (Bundled)	JNVME1	BPN-NVME1
2	NVMe 2-3		JNVME2	BPN-NVME2
3	NVMe 4-5		JNVME3	BPN-NVME3
4	NVMe 6-7		JNVME4	BPN-NVME4
5	SATA 0-1	CBL-SAST-1245-100	JS1	BPN-CN3
6	M.2 AOC	CBL-MCIO-1430QQM5	JMCIO_P1P4	AOC-JPCIE1
7	M.2 AOC PWR	CBL-PWEX-1131-75	JPWR13	AOC-JPWR1
8	BPN Power	CBL-PWEX-1141B-82	JPWR4	BPN-JPWR1

Figure 3-34. Storage Cable Routing Diagram

Riser Cable Routing Diagram
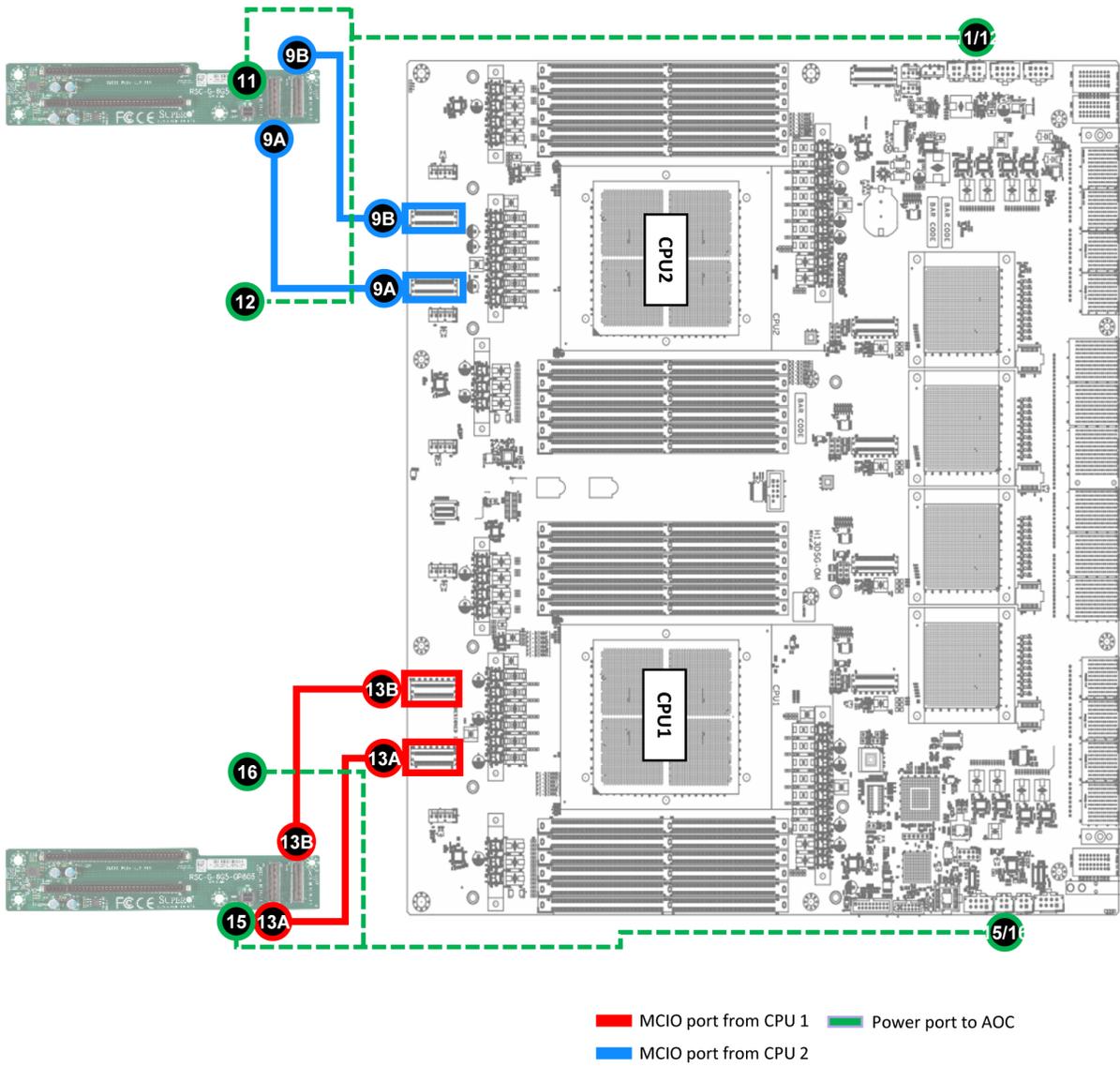
🟥 MCIO port from CPU 1	🟩 Power port to AOC
🟦 MCIO port from CPU 2	

#	Description	Cable	MB/BF3	BPN/AOC/RSC
9A	Left BF3 Riser MCIO	CBL-MCIO-1443M5FHGPA1	JMCIO_P1G1A	RSC-JMCIO1A
9B			JMCIO_P1G1B	RSC-JMCIO1B
11	Left BF3 Riser/Bridge Board Power	CBL-PWEX-1134YH-4550	JPWR14	RSC-JPWR1
13A	Right BF3 Riser MCIO	CBL-MCIO-1434M5FHGPA2	JMCIO_P0G3A	RSC-JMCIO1A
13B			JMCIO_P0G3B	RSC-JMCIO1B
15	Right BF3 Riser/Bridge Board Power	CBL-PWEX-1134YH-4550	JPWR15	RSC-JPWR1
18	E1.S BPN Power	CBL-PWEX-1133-65	JPWR11	BPN-JPWR1

Figure 3-35. Riser Cable Routing Diagram

IO Cable Routing Diagram
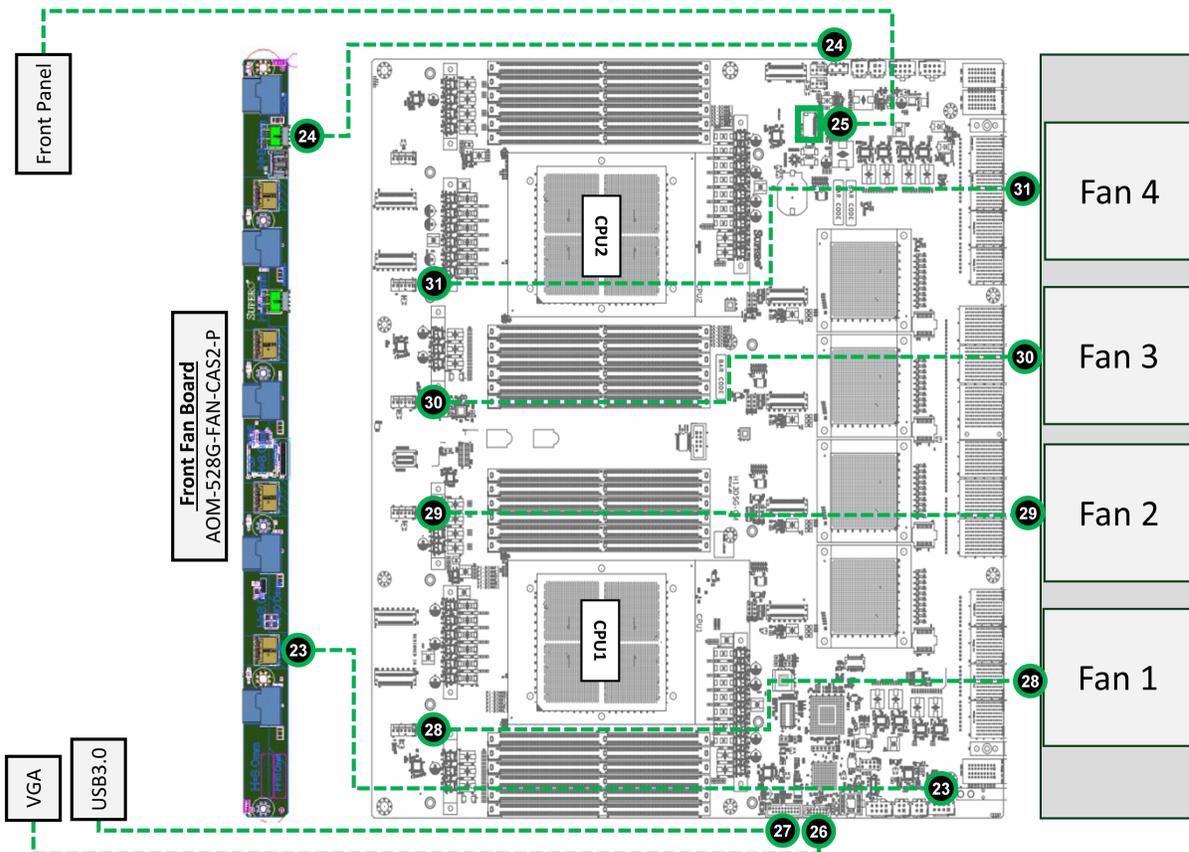
#	Description	Cable	MB	BPN/AOC
23	Front Fan PWR	CBL-PWEX-1444-55	JPWR5	-
24	Front Fan CBL	CBL-OTHR-0604-38	JP3	-
25	Front Panel CBL	CBL-CDAT-1052-70	JFP1	-
26	VGA	CBL-OTHR-1062-55	JVGA1	-
27	USB3.0	CBL-CUSB-0832-50	JUSB1	-
28	Internal Fan	CBL-PWEX-1112-70	FAN1	-
29	Internal Fan	CBL-PWEX-1112-70	FAN2	-
30	Internal Fan	CBL-PWEX-1112-70	FAN3	-
31	Internal Fan	CBL-PWEX-1112-70	FAN4	-

Figure 3-36. IO Cable Routing Diagram

3.12 Power Supply

The AS -A126GS-TNBR includes six hot-plug power supply modules. These modules will automatically sense and operate at an input voltage between 100–240 V. Note that different input voltages will result in different maximum power output levels.

In the event of a power module failure, the other power module will continue to power the system on its own. Failed power supply modules can be replaced without powering down the system. Replacement modules can be ordered directly from Supermicro.

Power Supply Indicators		
Power Supply Condition	**Green LED**	**Amber LED**
No AC power to power supply	Off	Off
Power supply critical events causing a shutdown/failure/OCP/OVP/Fan Fail/OTP/UVP	Off	On
Power supply warning events where the power supply continues to operate; high temperature; over voltage; under voltage, etc.	Off	1 Hz Blinking
AC present only 12 VSB ON (PS OFF)	1 Hz Blinking	Off
Output ON and OK	On	Off
AC cord unplugged and in redundant mode	Off	On

Replacing the Power Supply

1. Unplug the AC power cord from the failed power supply module.

2. Push and hold the release tab on the back of the power supply.

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

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

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

Push Tab to Release
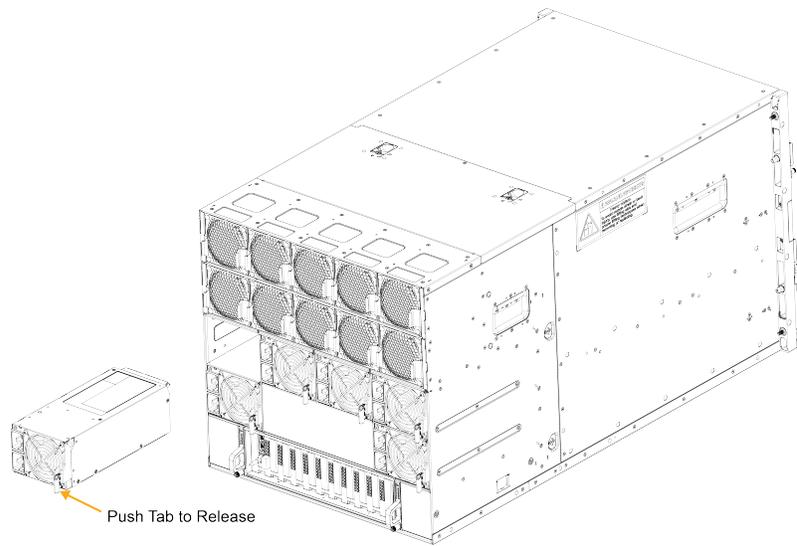
Figure 3-37. Installing a Power Supply Module

Chapter 4:

Motherboard Connections, Jumpers, and LEDs

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 the "Introduction" on page 12. More detail can be found in the H14DSG-OD motherboard manual.

Review the "Standardized Warning Statements for AC Systems" on page 158 before installing or removing components.

4.1 Power Connections

For information about the power connections of the AS -A126GS-TNBR system, refer to the following content.

Power Supply

As with all computer products, a stable power source is necessary for proper and reliable operation. It is even more important for processors that have high CPU clock rates where noisy power transmission is present.

Power Supply Connectors

For information about the power connections of the H14DSG-OD motherboard, refer to the following content.

Fan Board 54 V 8-pin Connector

JPWR6 is an 8-pin, 54 VDC power connector for the system's fan board. Refer to the table below for pin definitions.

Fan Board Power Pin Definitions			
Pin#	Definition	Pin#	Definition
1	Ground	5	+54 V
2	Ground	6	+54 V
3	Ground	7	+54 V
4	Ground	8	+54 V

Backplane and BlueField-3 Card 12 V 8-pin Power Connectors

JPWR3, JPWR4, and JPWR12 are 8-pin 12 VDC power inputs. JPWR3 and JPWR4 are for the system's left and right BlueField-3 cards. JPWR12 is for the system's backplane. Refer to the table below for pin definitions.

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

8-Pin Power Pin Definitions			
Pin#	Definition	Pin#	Definition
2	Ground	6	+12 V
3	Ground	7	+12 V
4	Ground	8	+12 V

E1.S Backplane, M.2 Module, BlueField-3 Risers, and BlueField-3 Bridge Boards 12 V 4-pin Power Connectors

JPWR11, JPWR13, JPWR14, and JPWR15 are 4-pin 12 VDC power inputs. JPWR11 provides power to the system's E1.S backplane. JPWR13 supplies power to the system's M.2 module. JPWR14 is used for the system's left BlueField-3 riser and BlueField-3 bridge board via a Y cable. JPWR15 powers the system's right BlueField-3 riser and BlueField-3 bridge board, also through a Y cable. Refer to the table below for pin definitions.

4-Pin Power Pin Definitions	
Pin#	Definition
1	Ground
2	Ground
3	12 V
4	12 V

4.2 Headers and Connections

For information about the headers on the H14DSG-OD motherboard, refer to the following content.

Fan Headers (FAN1 to FAN5)

There are five fan headers (FAN1 to FAN5) on the motherboard. These are 6-pin fan headers, with pins 1-3 being backward compatible with traditional 3-pin fans. The onboard fan speeds are controlled by Fan Mode in the BMC. When using Fan Mode setting, use all 6-pin fans.

Fan Header Pin Definitions	
Pin#	**Definition**
1	Ground (Black)
2	+12 V (Red)
3	Tachometer (Yellow)
4	PWM control (Blue)
5	12 V
6	Ground

TPM/Port 80 Header

The JTPM1 header on the H14DSG-OD motherboard is used to connect a Trusted Platform Module (TPM)/Port 80, which is available from Supermicro (optional). A TPM/Port 80 connector is a security device that supports encryption and authentication in storage drives. It allows the motherboard to deny access if the TPM associated with the storage drive is not installed in the system. Information on the TPM is available at the following page:

https://www.supermicro.com/manuals/other/AOM-TPM-9670V_9670H__X12_H12.pdf

For a detailed diagram of the H14DSG-OD motherboard, see the layout under "Motherboard Quick Reference" on page 21.

Trusted Platform Module Header Pin Definitions: 10 Total			
Pin#	**Definition**	**Pin#**	**Definition**
1	+3.3 V	2	SPI_CS#

Trusted Platform Module Header Pin Definitions: 10 Total			
Pin#	Definition	Pin#	Definition
3	RESET#	4	SPI_MISO
5	SPI_CLK	6	Ground
7	SPI_MOSI	8	No Connection
9	3V3_AUX	10	SPI_IRQ#

NC-SI Connection

The Network Controller Sideband Interface (NC-SI) connection is located at JNCSIBF3. This connection is used to connect a Network Interface Card (NIC) to the motherboard to allow the onboard Baseboard Management Controller (BMC) to communicate with a network.

Note: For detailed instructions on how to configure Network Interface Card (NIC) settings, refer to the Network Interface Card Configuration User's Guide posted on the web page under the link: https://www.supermicro.com/support/manuals.

For a detailed diagram of the H14DSG-OD motherboard, see the layout under "Motherboard Quick Reference" on page 21.

Fan Board I^{2}C Header

An I^{2}C fan header for the fan board is located at JP3. Fan speed control for this fan is supported by Thermal Management via the BMC 2.0 interface. See the table below for pin definitions.

Fan Board I^{2}C Header Pin Definitions	
Pin#	Definition
1	SDA
2	Ground
3	SCL
4	P3V3_AUX

NVMe/SATA I2C Header

The NVMe/SATA SMBus (I2C) header (JRSI2C1) provides hot-plug support via a dedicated SMBus interface. This feature is only available for a complete Supermicro system with a proprietary Supermicro NVMe/SATA add-on card and a proper cable installed. See the table below for pin definitions.

NVMe/SATA I2C Header Pin Definitions	
Pin#	Definition
1	SDA
2	Ground
3	SCL
4	P3V3_AUX

MCIO NVMe Connectors

The motherboard has four MCIO x8 connectors (JNVME1 to 4) supported by the PLX switches. Each of these connectors supports two PCIe 5.0 x4 NVMe connections.

Note: When connecting an NVMe device to the motherboard, please be sure to connect the first NVMe port (JNVME1) first for your system to work properly. In addition, there are four MCIO x8 connectors supported by the CPUs. JMCIO_P0G3A and JMCIO_P0G3B are supported by CPU1 while JMCIO_P1G1A and JMCIO_P1G1B are supported by CPU2. These MCIO connectors are used to connect to side switch boards for expansions.

Midplane and NIC Card Carrier Board Connectors

There are eight ExaMax connectors (JSW_1 to JSW_8) on the motherboard to connect to the midplane for the GPU system.

In addition, there are six PCIe 5.0 ExaMax connectors (JNIC1 to 6) to connect to the NIC card carrier board, which supports eight PCIe 5.0 x16 connections.

SATA Port

The AS -A126GS-TNBR motherboard has one SATA 3.0 port (JS1) that is supported by ASMEDIA ASM1061.

4.3 I/O Module Connectors

Two connectors on the motherboard provide I/O module connections.

- **Rear I/O:** The BMC dedicated LAN port is supported through AOC-DP805-IO.

- **Front access:** The connector located at JFP1 provides connection to an I/O module. It supports one UID switch, and one UID LED indicator. Two USB 3.0 ports are supported with the JUSB1 connector. VGA is supported with the JVGA1 connector.

4.4 Jumper Settings

To modify the operation of the motherboard, jumpers can be used to choose between optional settings. Jumpers create shorts between two pins to change the function of the connector. Pin 1 is identified with a square solder pad on the printed circuit board. See the diagram below for an example of jumping pins 1 and 2. Refer to the motherboard layout page for jumper locations.

Note: On two-pin jumpers, "Closed" means the jumper is on and "Open" means the jumper is off the pins.
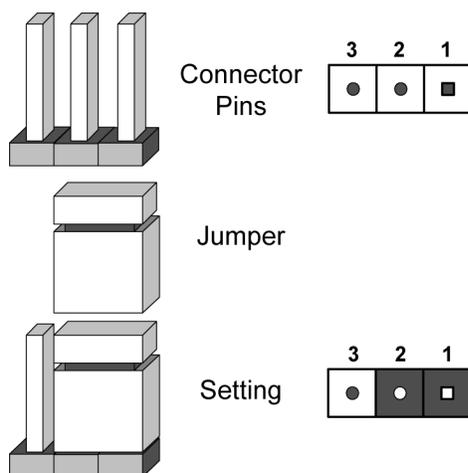
Figure 4-1. Jumping Connector Pins

CMOS Clear

JBT1 on the H14DSG-OD motherboard 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.

For a detailed diagram of the H14DSG-OD motherboard, see the layout under "Motherboard Quick Reference" on page 21.

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.

86

4. Short the CMOS pads, JBT1, with a metal object such as a small screwdriver for at least four seconds.

   Note: Clearing CMOS will also clear all passwords.

5. Remove the screwdriver (or shorting device).

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

JPG1

JPG1 enables or disables the VGA connector. The default setting is enabled.

JPG1	
Jumper Position	**Definition**
Pins 1–2	Enabled
Pins 2–3	Disabled

JUID1

JUID1 is used for a chassis that supports a front UID button. Setting JUID1 to pins 2-3 configures the front UID button as a reset button.

JUID1	
Jumper Position	**Definition**
Pins 1–2	Switch function UID
Pins 2–3	Reset

4.5 LED Indicators

For information about the LED indicators on the AS -A126GS-TNBR system, refer to the following content.

Onboard Power LED (LED1)

The Onboard Power LED is located at LED1 on the H14DSG-OD motherboard. When this LED is on, the system is on. Be sure to turn off the system and unplug the power cord before removing or installing components.

For a detailed diagram of the H14DSG-OD motherboard, see the layout under "Motherboard Quick Reference" on page 21.

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

RoT Status LED (LED2)

A RoT (Root-of-Trust) status LED is located at LED2 on the H14DSG-OD motherboard. When this LED is lit, it means the RoT check has failed. See the table below for more information.

RoT Status LED Indicator	
LED Color	**Definition**
Off	Normal
Red	Fail

BMC Heartbeat LED (LED3)

A BMC Heartbeat LED is located at LED3 on the H14DSG-OD motherboard. When this LED is blinking, the BMC is functioning normally.

For a detailed diagram of the H14DSG-OD motherboard, see the layout under "Motherboard Quick Reference" on page 21.

BMC Heartbeat LED Indicator	
LED Color	**Definition**
Solid On	BMC is not ready

BMC Heartbeat LED Indicator	
LED Color	**Definition**
Blinking	BMC Normal
Fast Blinking	BMC: Initializing

Chapter 5:

Software

After the AS -A126GS-TNBR system has been installed, you can install the Operating System (OS), configure RAID settings, and install the drivers.

5.1 Microsoft Windows OS Installation

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

Installing the OS

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

2. Retrieve the proper drivers. 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 bootup.

Please select boot device:

ATEN Virtual CDROM YS0J → IPMI virtual drive (Legacy)
ASUS SDRW-08D2S-U F601 → USB DVD device (Legacy)
USB FLASH DRIVE PMAP → USB flash drive with OS installation (Legacy)
IBA 40-10G Slot 1900 v1060 → PXE boot (Legacy)
UEFI: ATEN Virtual CDROM YS0J → IPMI virtual drive (UEFI)
UEFI: ASUS SDRW-08D2S-U F601 → USB DVD device (UEFI)
UEFI: Built-in EFI Shell
Enter Setup

↑ and ↓ to move selection
ENTER to select boot device
ESC to boot using defaults

Figure 5-1. Selecting the Boot Device

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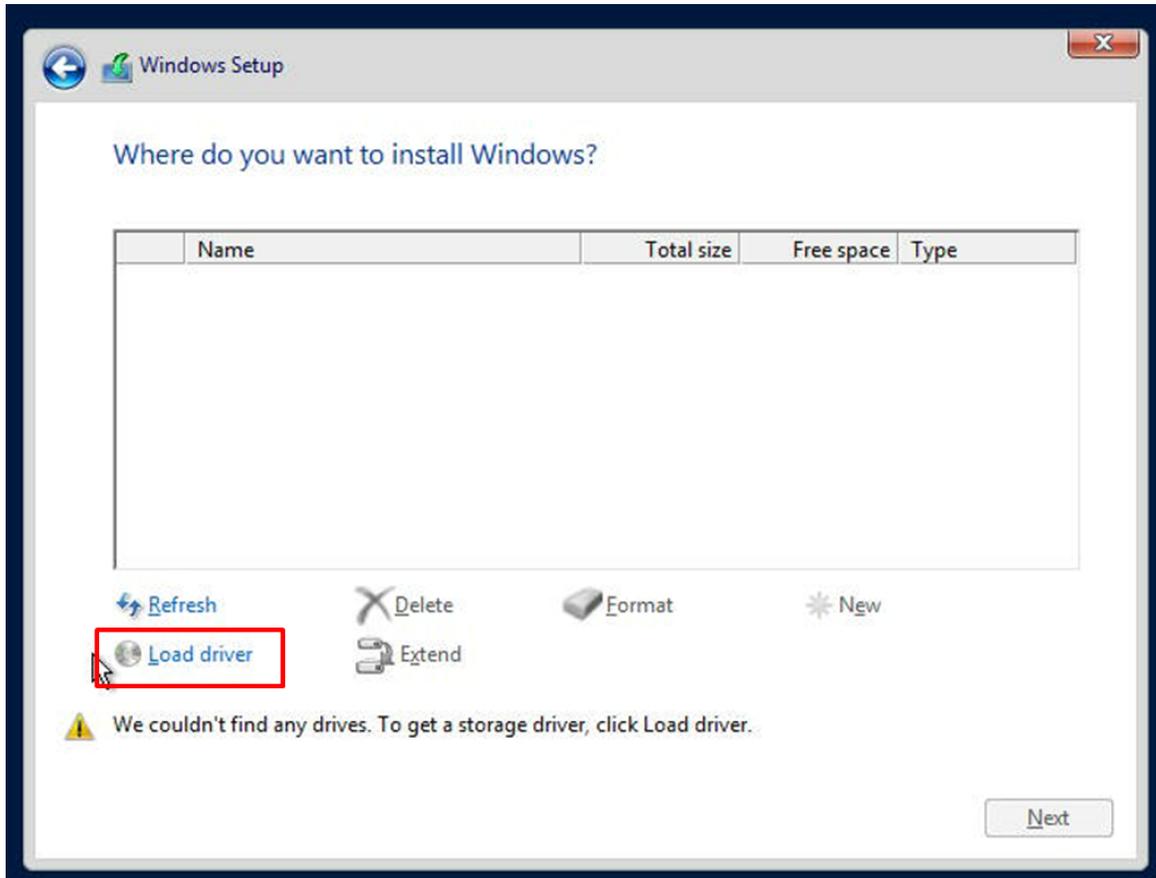
Figure 5-2. Loading the Driver Link

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

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 for system updates.

5.2 Driver Installation

The Supermicro website contains drivers and utilities for your system at the following page:

https://www.supermicro.com/wdl.

Some of these drivers and utilities must be installed, such as the chipset driver. After accessing the website, go into the CDR_Images (in the parent directory of the above link) and locate the ISO file for your motherboard. Download this file to a USB flash or media drive. You may also use a utility to extract the ISO file if preferred.

Another option is to go to the Supermicro website at https://www.supermicro.com. 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.
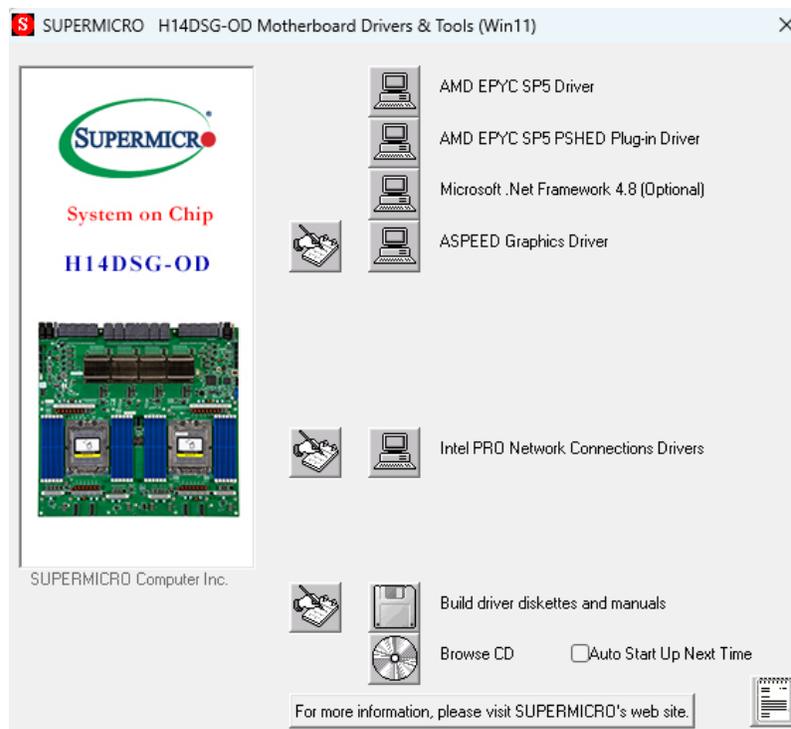
Figure 5-3. Driver Download Screenshot

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 bottom) one at a time. *After installing each item, you must reboot 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 BMC

The H14DSG-OD motherboard provides remote access, monitoring, and management through the baseboard management controller (BMC) and other management controllers distributed among different system modules. There are several BIOS settings that are related to BMC. For general documentation and information on BMC, visit our website at the following page:

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

BMC ADMIN User Password

For security, each system is assigned a unique default BMC password for the ADMIN user. The password can be found on a sticker on the motherboard and a sticker on the chassis, for Supermicro chassis. The sticker also displays the BMC MAC address. If necessary, the password can be reset using the Supermicro IPMICFG tool.

Figure 5-4. BMC Password Label

Chapter 6:

Optional Components

This chapter describes alternate configurations and optional system components for the AS - A126GS-TNBR system.

6.1 Optional Cable Routing Diagrams

The below diagrams indicate the cable routing for the BF3 and E1.S cables. When disconnecting cables to add or replace components, refer to the diagrams so you can reroute them in the same manner. If cables are not connected or routed properly it may lead to device detection or performance issues.

BF3 Cable Routing Diagram
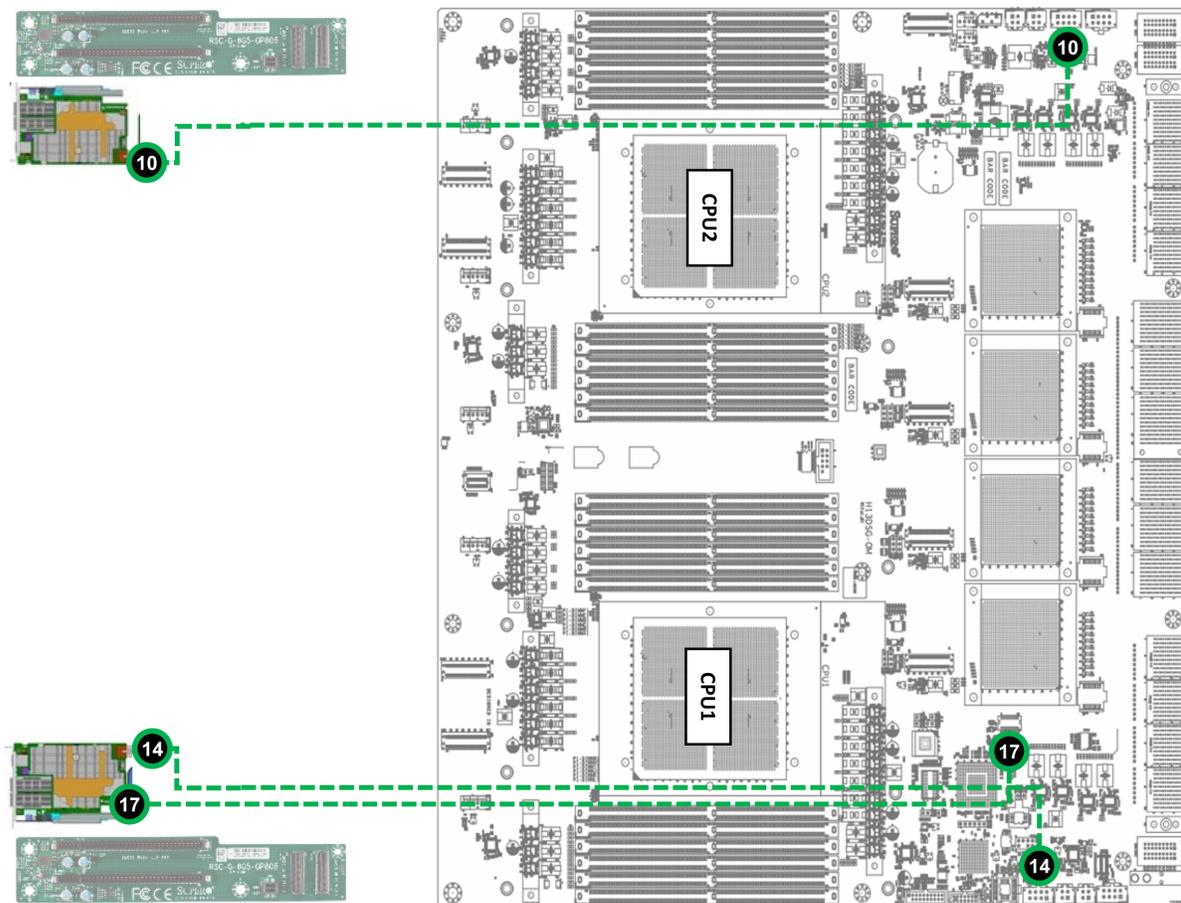
#	Description	Cable	MB/BF3	BPN/AOC/RSC
10	Left BF3 Power	CBL-PWEX-1174-60	JPWR12	JPWR1
14	Right BF3 Power	CBL-PWEX-1174-60	JPWR3	JPWR1
17	NCSI	CBL-CDAT-1120-60	JNCSIBF3	-

Figure 6-1. BF3 Cable Routing Diagram

E1.S Cable Routing Diagram
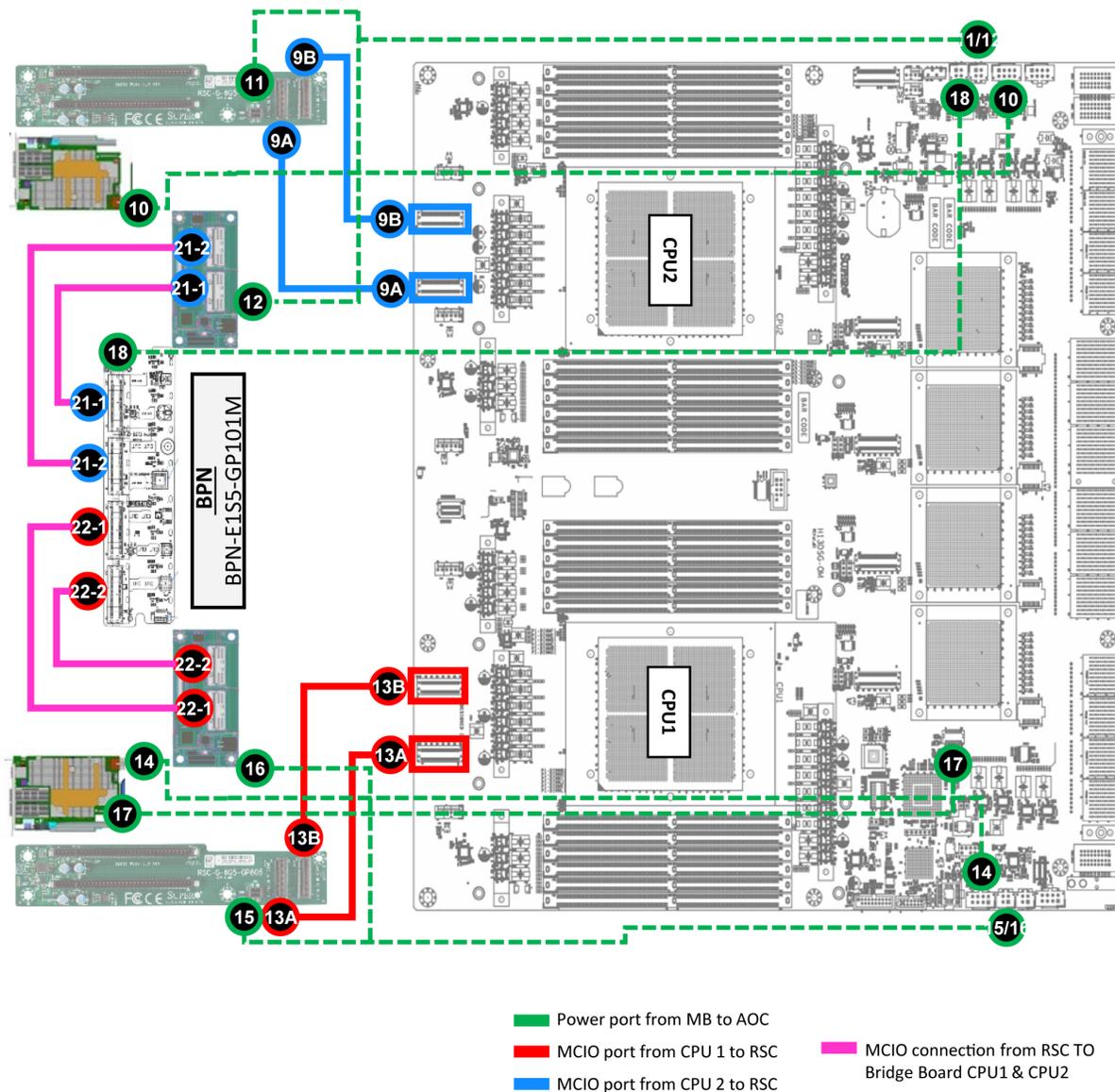
Power port from MB to AOC

MCIO port from CPU 1 to RSC

MCIO port from CPU 2 to RSC

MCIO connection from RSC TO Bridge Board CPU1 & CPU2

#	Description	Cable	MB/BF3	BPN/AOC/RSC
9A	Left BF3 Riser MCIO	CBL-MCIO-1443M5FHGPA1	JMCIO_P1G1A	RSC-JMCIO1A
9B			JMCIO_P1G1B	RSC-JMCIO1B
10	Left BF3 Power	CBL-PWEX-1174-60	JPWR12	JPWR1
11	Left BF3 Riser/Bridge Board Power	CBL-PWEX-1134YH-4550	JPWR14	RSC-JPWR1
12				BB-JPWR1
13A	Right BF3 Riser MCIO	CBL-MCIO-1434M5FHGPA2	JMCIO_P0G3A	RSC-JMCIO1A
13B			JMCIO_P0G3B	RSC-JMCIO1B
14	Right BF3 Power	CBL-PWEX-1174-60	JPWR3	JPWR1
15	Right BF3 Riser/Bridge Board Power	CBL-PWEX-1134YH-4550	JPWR15	RSC-JPWR1
16				BB-JPWR1
17	NCSI	CBL-CDAT-1120-60	JNCSIBF3	-
18	E1.S BPN Power	CBL-PWEX-1133-65	JPWR11	BPN-JPWR1
21-1	Left BF3 Bridge to E1.S BPN	CBL-MCIO-1439M5FXGP8B6	BF3-JMCIO1	BPN-MCN1
21-2			BF3-JMCIO2	BPN-MCN2
22-1	Right BF3 Bridge to E1.S BPN	CBL-MCIO-1333M5FXGP8B5-G	BF3-JMCIO1	BPN-MCN3
22-2			BF3-JMCIO2	BPN-MCN4

Figure 6-2. E1.S Cable Routing Diagram

6.2 TPM Security Module

This is an SPI-capable TPM 2.0 with Infineon 9672 controller.

The JTPM1 header is used to connect a Trusted Platform Module (TPM). A TPM is a security device that supports encryption and authentication in hard drives. It enables the H14DSG-OD motherboard to deny access if the TPM associated with the hard drive is not installed in the AS -A126GS-TNBR system.

For details and installation procedures, refer to the following page:

https://www.supermicro.com/en/products/accessories/addon/AOM-TPM-9672V.php

* AOM-TPM-9672V (TCG 2.0)

Chapter 7:

Troubleshooting and Support

The following content contains information on common issues and how to resolve them.

7.1 Online Resources

A great deal of information is available on the Supermicro website. From the top menu of the Supermicro home page at https://www.supermicro.com:

- Specifications for servers and other hardware are available by clicking **Products**.

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

Direct Links for the AS -A126GS-TNBR System

- AS -A126GS-TNBR system specifications pages

- H14DSG-OD motherboard page for links to the Quick Reference Guide, User Manual, validated storage drives, etc.

Direct Links for General Support and Information

- Frequently Asked Questions: https://www.supermicro.com/FAQ/index.php

- TPM User Guide: https://www.supermicro.com/manuals/other/AOM-TPM-9670V_9670H__X12_H12.pdf

- BMC User Guide: https://www.supermicro.com/manuals/other/BMC_IPMI_X14_H14.pdf

- Product Resources page for validated memory details: https://www.supermicro.com/support/resources/mem.cfm

- Product Matrices page for links to tables summarizing specs for systems, motherboards, power supplies, riser cards, add-on cards, and more: https://www.supermicro.com/en/support/product-matrices

- Security Center for recent security notices: https://www.supermicro.com/en/support/security_center

- Supermicro Phone and Addresses: https://www.supermicro.com/en/about/contact

7.2 Baseboard Management Controller (BMC)

The AS -A126GS-TNBR system supports the Baseboard Management Controller (BMC). BMC is used to provide remote access, monitoring, and management. There are several BIOS settings that are related to BMC.

For general documentation and information on BMC, visit our website at the following page:

https://www.supermicro.com/en/solutions/management-software/bmc-resources
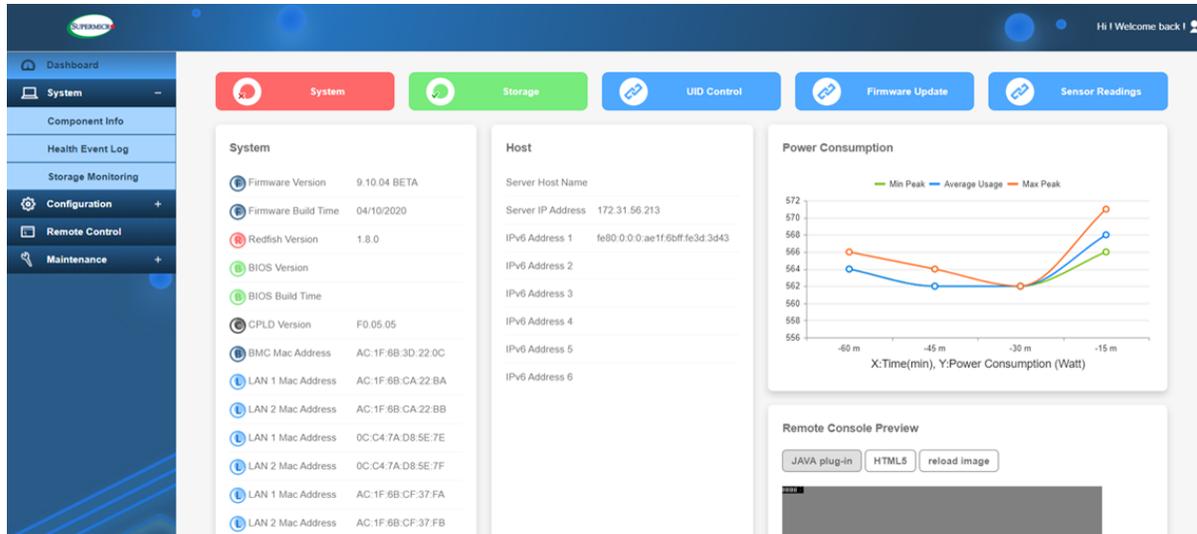
Figure 7-1. BMC Dashboard

7.3 Troubleshooting Procedures

Use the following procedures to troubleshoot your system. If you have followed all of the procedures below and still need assistance, refer to the "Technical Support Procedures" on page 109 section in this chapter. Always disconnect the AC power cord before adding, changing or installing any non hot-swap hardware components. If the below steps do not fix the setup configuration problem, contact your vendor for repairs.

Before Power On

1. Make sure that there are no short circuits between the motherboard and chassis.

2. Disconnect all ribbon/wire cables from the motherboard, including those for the keyboard and mouse.

3. Remove all add-on cards.

4. Install the processor (making sure it is fully seated) and connect the front panel connectors to the motherboard.

No Power

1. Make sure that there are no short circuits between the motherboard and the chassis.

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

No Video

1. If the power is on, but you do not have video, remove all add-on cards and cables.

2. Remove all memory modules and turn on the system (if the alarm is on, check the specs of memory modules, reset the memory, or try a different one).

System Boot Failure

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

1. Remove all components from the motherboard, especially the DIMMs. Power on the system and check if the power-on LED and the BMC Heartbeat LED are on, and system fans are spinning.

2. Turn on the system with only one DIMM installed. If the system boots, check for bad DIMMs or slots by following the Memory Errors Troubleshooting procedure in this chapter.

Memory Errors

When suspecting faulty memory is causing the system issue, check the following:

1. Make sure that the memory modules are compatible with the system and are properly installed. See "Maintenance and Component Installation" on page 35 for installation instructions. (For memory compatibility, refer to the "Tested Memory List" link on the motherboard's product page to see a list of supported memory.)

2. Check if different speeds of DIMMs have been installed. It is strongly recommended that you use the same RAM type and speed for all DIMMs in the system.

3. Make sure that you are using the correct type of DIMMs recommended by the manufacturer.

4. Check for bad DIMMs or slots by swapping a single module among all memory slots and check the results.

Losing the System's Setup Configuration

1. Make sure that you are using a high-quality power supply. A poor-quality power supply may cause the system to lose the CMOS setup information. Refer to "Introduction" on page 12 for details on recommended power supplies.

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

If the System Becomes Unstable

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

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

2. Memory support: Make sure that the memory modules are supported. Refer to the product page on our website at https://www.supermicro.com. Test the modules using memtest86 or a similar utility.

    Note: Click on the "Tested Memory List" link on the motherboard's product page to see a list of supported memory.

3. Storage Drive support: Make sure that all storage drives work properly. Replace the failed storage drives with good ones.

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

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

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

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

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

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

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

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

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

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

7.4 CMOS Clear

JBT1 on the H14DSG-OD motherboard is used to clear CMOS, which will also clear any passwords. For information on clearing CMOS, refer to "CMOS Clear" on page 86 earlier in this manual.

7.5 Motherboard Battery

For information on removing, disposing of, and replacing the motherboard battery of your system, refer to "Motherboard Battery Removal and Installation" on page 56.

7.6 Where to Get Replacement Components

If you need replacement parts for your AS -A126GS-TNBR 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 on the Supermicro website:

https://www.supermicro.com

Under the "Buy" menu, click the "Where to Buy" link.

7.7 Technical Support Procedures

Before contacting Technical Support, take the following steps. Also, note that as a motherboard manufacturer, Supermicro also sells motherboards through its channels, so it is best to first check with your distributor or reseller for troubleshooting services. They should know of any possible problems with the specific system configuration that was sold to you.

1. Refer to "Troubleshooting Procedures" on page 103 or see the FAQs on our website (https://www.supermicro.com/FAQ/index.php) before contacting Technical Support.

2. BIOS upgrades can be downloaded from our website (https://www.supermicro.com/support/resources/bios_ipmi.php).

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

    • Motherboard model and PCB revision number

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

    • System configuration

4. An example of a Technical Support form is on our website at https://webpr3.supermicro.com/SupportPortal.

5. Distributors: For immediate assistance, have your account number ready when placing a call to our Technical Support department. For Supermicro contact information, refer to "Contacting Supermicro" on page 11.

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 the system to the manufacturer, the RMA number should be prominently displayed on the outside of the shipping carton, and the shipping package is 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 can be requested online at the following page:

https://www.supermicro.com/RmaForm

Whenever possible, repack the system in the original Supermicro carton, using the original packaging material. If these are no longer available, be sure to pack the system securely, using packaging material to surround the system 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 alternation, misuse, abuse or improper maintenance of products.

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

7.8 Feedback

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

Chapter 8:

UEFI BIOS

The following content contains information on BIOS configuration with the AS -A126GS-TNBR system.

8.1 Introduction

This chapter describes the AMIBIOS™ Setup utility for the motherboard. The BIOS is stored on a chip and can be easily upgraded using the UEFI script (flash.nsh), the BMC WebUI, or the SuperServer Automation Assistant (SAA) utility.

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

Updating BIOS

It is recommended that you do not upgrade your BIOS if you are not experiencing any problems with your system. Updated BIOS files are located on our website at the following page:

https://www.supermicro.com/support/resources/bios_ipmi.php

Check our BIOS warning message and the information on how to update your BIOS on our website. Select your motherboard model and download the BIOS file to your computer. Also, check the current BIOS revision to make sure that it is newer than your BIOS before downloading.

Important: Do not shut down or reset the system while updating the BIOS to prevent possible system boot failure! Read the motherboard README file carefully before you perform the BIOS update.

To update the BIOS under the UEFI Shell, unzip the BIOS file onto a bootable USB device and then boot into the built-in UEFI Shell. For motherboards with BMC support, type "flash.nsh <BIOS filename><BMC Username><BMC Password>" to start the BIOS update. The flash.nsh script will invoke the SAA (EFI) tool automatically to perform the BIOS update, beginning with uploading the BIOS image to BMC. After uploading the BIOS image, the system will reboot to continue the process. The BMC will take over and continue the BIOS update in the background. The process will take 3–5 minutes. Refer to the README file for more information.

Starting the Setup Utility

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

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

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

The BIOS Setup utility uses a key-based navigation system called hot keys. Most of these hot keys (<F1>, <F2>, <F3>, <F4>, <F5>, <F6>, <Enter>, <ESC>, the arrow keys, etc.) can be used at any time during the setup navigation process.

8.2 Main Setup

The Main setup screen appears when the AMI BIOS Setup utility is first entered. To return to the Main setup screen, select the Main tab at the top of the screen. The Main BIOS setup screen is shown below.

```
                          Aptio Setup - AMI
   Main  Advanced  BMC  Event Logs  Security  Boot  Save & Exit

                                                  Set the Date. Use Tab to
   System Date                  [Mon 12/09/2024]  switch between Date elements.
   System Time                  [01:56:53]        Default Ranges:
                                                  Year: 1998-9999
   Supermicro H14DSG-OD                           Months: 1-12
   BIOS Version                 1.0               Days: Dependent on month
   Build Date                   10/11/2024        Range of Years may vary.
   CPLD Version                 F2.65.06

   Memory Information
   Total Memory                 1572864 MB

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

                    Version 2.22.1294 Copyright (C) 2024 AMI
```

Figure 8-1. UEFI BIOS Main Screen Tab

System Date/System Time

Use the two features 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.

Supermicro H14DSG-OD

BIOS Version

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

115

Build Date

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

CPLD Version

This feature displays the version of the Complex-Programmable Logical Device (CPLD) used in the system.

Memory Information

Total Memory

This feature displays the total size of memory available in the system.

8.3 Advanced Setup Configuration

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

```
                              Aptio Setup - AMI
    Main  Advanced  BMC  Event Logs  Security  Boot  Save & Exit

 ▶ Boot Feature                                    Boot Feature Configuration Page
 ▶ CPU Configuration
 ▶ NB Configuration
 ▶ ACPI Settings
 ▶ Super IO Configuration
 ▶ Serial Port Console Redirection
 ▶ PCIe/PCI/PnP Configuration
 ▶ USB Configuration
 ▶ Network Configuration
 ▶ SATA Configuration
 ▶ HTTP Boot Configuration
 ▶ Supermicro KMS Server Configuration
 ▶ Super-Guardians Configuration
 ▶ Intel(R) Ethernet Controller X710 for 10GBASE-T -   →←: Select Screen
   90:5A:08:0C:45:90                               ↑↓: Select Item
 ▶ Intel(R) Ethernet Controller X710 for 10GBASE-T -   Enter: Select
   90:5A:08:0C:45:91                               +/-: Change Opt.
 ▶ TLS Authenticate Configuration                  F1: General Help
 ▶ RAM Disk Configuration                          F2: Previous Values
 ▶ BROADCOM <SAS 3808N> Configuration Utility - 07.30.02.00  F3: Optimized Defaults
 ▶ Driver Health                                   F4: Save & Exit
                                                   ESC: Exit



                      Version 2.22.1294 Copyright (C) 2024 AMI
```

Figure 8-2. Advanced Setup Configuration Screen Tab

Important: Use caution when changing the Advanced settings. An incorrect value, an improper DRAM frequency, or a wrong BIOS timing setting may cause the system to malfunction. When this occurs, revert the settings to the default manufacturing settings.

Boot Feature

►Boot Configuration

Quiet Boot

Use this feature to select the screen between displaying the Power-on Self Test (POST) messages or 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**.

Note: BIOS POST messages are always displayed regardless of the setting of this feature.

Option ROM Messages

Use this feature to set the display mode for the Option ROM. Select Keep Current to display the current AddOn ROM display settings. Select Force BIOS to use the Option ROM display mode 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 <NumLock> key. The options are **On** and Off.

Wait For "F1" If Error

Select Enabled to force the system to wait until the <F1> key is pressed if an error occurs. The options are Disabled and **Enabled**.

INT19 Trap Response

Interrupt 19 is the software interrupt that handles the boot disk function. When this feature 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 feature is set to Postponed, the ROM BIOS of the host adaptors will not capture Interrupt 19 immediately to 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 feature is set to Enabled, the system BIOS will automatically reboot the system from an Extensible Firmware Interface (EFI) boot device after an initial boot failure. The options are **Disabled**, Legacy Boot, and EFI Boot.

Power Configuration

Watch Dog Function

Select Enabled to allow the Watch Dog timer to reboot the system when it is inactive for more than five 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 to power off the system after pressing and holding the power button for four seconds or longer. Select Instant Off to instantly power off the system as soon as you press the power button. The options are **Instant Off** and 4 Seconds Override.

CPU Configuration

CPU Configuration

Workload Profile

This function allows configuring the BIOS settings to match the selected workload. The options are **Disabled**, HPC, I/O, Virtualization, Telco NFVI, Telco NFVI-FP, and Telco FlexRAN.

SMT Control

This setting controls whether symmetric multithreading (SMT) is enabled. To activate SMT after disabling it, it is required to restart the computer. To use the default setting, set to Auto. The options are Disabled, Enabled, and **Auto**.

Core Performance Boost

This setting control whether the CPU's Core Performance Boost feature is enabled. This feature can help improve performance in certain situations. The options are Disabled and **Auto**.

Global C-state Control

This setting manages power-saving states (C-states) for input-output devices and deep sleep (DF) states. The options are Disabled, Enabled, and **Auto**.

ACPI CST C2 Latency

This setting sets the latency for C2 state transitions in microseconds, increasing this value reduces the frequency of C2 transitions and the time spent in C2 state. The default value is **100.**

PPIN Opt-in

Select Unlock/Enabled to use the Protected Processor Inventory Number (PPIN) in the system. The PPIN is a unique number set for tracking a given Intel Xeon server processor. The options are Disabled, Enabled, and **Auto**.

SMEE

This setting controls Secure Memory Encryption (SME) for the system. The options are Disabled, Enabled, and **Auto**.

Fast Short REP MOVSB (FSRM)

 This setting controls whether a specific memory copy instruction (REP MOVSB) is optimized for speed. The options are **Auto**, Enabled, and Disabled.

Enhanced REP MOVSB/STOSB (ERSM)

This setting optimizes CPU string operations. Disabling ERSM (setting it to 0) can be useful for performance analysis if supported by the operating system. The options are Disabled, Enabled, and **Auto**.

AVX512

This setting enables or disables AVX-512 (Advanced Vector Extensions 512), which is used for high-performance computing tasks. The options are **Auto**, Enabled, and Disabled.

Monitor and MWAIT Disable

This setting controls the availability of the MONITOR, MWAIT, MONITORX, and MWAITX opcodes, which are used for power management and synchronization. The options are Enabled, Disabled, and **Auto**.

L1 Stream HW Prefetcher

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

L2 Stream HW Prefetcher

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

CCD Control

This setting allows you to control the number of Core Complex Dies (CCDs) active in the CPU to optimize performance and power usage. The options are **Auto**, 2 CCDs, 4 CCDs, 6 CCDs, 8 CCDs, and 10 CCDs.

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. The options are **Auto**, ONE (1+0), TWO (2+0), THREE (3+0), FOUR (4+0), FIVE (5 +0), SIX (6+0), SEVEN (7+0), Two (1+1), FOUR (2+2), SIX (3+3), EIGHT (4+4), TEN (5+5), TWELVE (6+6), and FOURTEEN (7+7).

SVM Mode

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

►CPU1 Information

CPU Configuration

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

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

CPU1 PCIe Package Group P2

This setting selects the PCIe port bifurcation configuration for the selected slot. The options are **Auto**, x4x4x4x4, x4x4x8, x8x4x4, x8x8, and x16.

CPU1 PCIe Package Group G2

This setting selects the PCIe port bifurcation configuration for the selected slot. The options are **Auto**, x4x4x4x4, x4x4x8, x8x4x4, x8x8, and x16.

CPU1 PCIe Package Group P3

This setting selects the PCIe port bifurcation configuration for the selected slot. The options are **Auto**, x4x4x4x4, x4x4x8, x8x4x4, x8x8, and x16.

CPU1 PCIe Package Group G3

This setting selects the PCIe port bifurcation configuration for the selected slot. The options are **Auto**, x4x4x4x4, x4x4x8, x8x4x4, x8x8, x16, and SATA.

CPU1 PCIe Package Group P1

This setting selects the PCIe port bifurcation configuration for the selected slot. The options are **Auto**, x4x4x4x4, x4x4x8, x8x4x4, x8x8, and x16.

CPU1 PCIe Package Group G1

This setting selects the PCIe port bifurcation configuration for the selected slot. The options are **Auto**, x4x4x4x4, x4x4x8, x8x4x4, x8x8, and x16.

CPU1 PCIe Package Group P0

This setting selects the PCIe port bifurcation configuration for the selected slot. The options are **Auto**, x4x4x4x4, x4x4x8, x8x4x4, x8x8, x16, and SATA.

CPU1 PCIe Package Group 01

This setting selects the PCIe port bifurcation configuration for the selected slot. The options are **Auto**, x4x4x4x4, x4x4x8, x8x4x4, x8x8, and x16.

►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

- Processor Family

- Processor Model

- Microcode Patch Level

- L1 Instruction Cache (Size/Method)

- L1 Data Cache (Size/Method)

- L2 Cache (Size/Method)

- L3 Cache per Socket (Size/Method)

CPU2 PCIe Package Group P2

This setting selects the PCIe port bifurcation configuration for the selected slot. The options are **Auto**, x4x4x4x4, x4x4x8, x8x4x4, x8x8, and x16.

CPU2 PCIe Package Group G2

This setting selects the PCIe port bifurcation configuration for the selected slot. The options are **Auto**, x4x4x4x4, x4x4x8, x8x4x4, x8x8, and x16.

CPU2 PCIe Package Group P3

This setting selects the PCIe port bifurcation configuration for the selected slot. The options are **Auto**, x4x4x4x4, x4x4x8, x8x4x4, x8x8, and x16.

CPU2 PCIe Package Group P3

This setting selects the PCIe port bifurcation configuration for the selected slot. The options are **Auto**, x4x4x4x4, x4x4x8, x8x4x4, x8x8, x16, and SATA.

CPU2 PCIe Package Group P1

This setting selects the PCIe port bifurcation configuration for the selected slot. The options are **Auto**, x4x4x4x4, x4x4x8, x8x4x4, x8x8, and x16.

CPU2 PCIe Package Group G1

This setting selects the PCIe port bifurcation configuration for the selected slot. The options are **Auto**, x4x4x4x4, x4x4x8, x8x4x4, x8x8, and x16.

CPU2 PCIe Package Group P0

This setting selects the PCIe port bifurcation configuration for the selected slot. The options are **Auto**, x4x4x4x4, x4x4x8, x8x4x4, x8x8, x16, and SATA.

CPU2 PCIe Package Group G0

This setting selects the PCIe port bifurcation configuration for the selected slot. The options are **Auto**, x4x4x4x4, x4x4x8, x8x4x4, x8x8, and x16.

NB Configuration

North Bridge Configuration

IOMMU

Use this setting to enable or disable IOMMU. The options are Disabled, Enabled, and **Auto**.

DMAr Support

Use this setting to enable DMAr system protection during POST (Power-On Self-Test). The options are Disabled, Enabled, and **Auto**.

DRTM Virtual Device Support

This enables or disables the DRTM ACPI Virtual device. The options are Disabled, Enabled, and **Auto**.

DRTM Memory Reservation

Reserve 128 MB memory below Bottom IO for DRTM. It is required to be enabled for Secured-Core Server function. The options are Disabled, Enabled, and **Auto**.

ACS Enable

This setting enables Access Control Service (ACS) functionality, which requires AER to be active. The options are Enabled, Disabled, and **Auto**.

TDP Control

Use this setting to set the processor's power consumption (TDP). The options are Manual and **Auto**.

Package Power Limit Control

Use Auto to apply the default power limit (PPT) or Manual to set a custom PPT. The options are Manual and **Auto**.

Determinism Control

Use this setting to configure the level of performance determinism. The options are Manual and **Auto**.

APBDIS

Use this setting to control the APBDIS feature. A value of 0 indicates "not APBDIS" (mission mode). The options are 0, 1, and **Auto**.

Power Profile Selection

Use this setting to select a power profile to optimize performance or efficiency. The options are **High Performance Mode**, Efficiency Mode, Maximum IO Performance Mode, Balanced Memory Performance Mode, Balanced Core Performance Mode, Balanced Core Memory Performance Mode, and Auto.

DF Cstates

This setting controls the power-saving states of the data fabric.The options are Disabled, Enabled, and **Auto**.

Data Link Feature Cap

This setting controls the activation of advanced data link features for PCIe devices, which can improve link performance and reliability. The options are Enabled, Disabled, and **Auto**.

SEV-SNP Support

This setting controls the activation of Secure Encrypted Virtualization - Secure Nested Paging (SEV-SNP) security features. The options are Disabled, Enabled, and **Auto**.

Periodic Training Mode

This setting controls the method for managing power-saving states. The options are Disabled and **Legacy**.

EQ Bypass To Highest Rate

This setting determines whether the system can bypass equalization steps at lower data rates and directly attempt equalization at the highest supported rate during the link setup process. The options are Disable, Enable, and **Auto**.

CXL Memory Attribute

This setting determines the memory type for CXL devices. The options are Enabled, Disabled, **Auto**,

Sync Header Bypass

This setting controls the inclusion of synchronization headers in data transmissions. The options are Enabled, Disabled, and **Auto**.

►xGMI Configuration

xGMI Link Width Control

This setting controls the number of lanes used for the xGMI interface. When the setting is set to **Manual**, the "xGMI Force Link Width Control" and "xGMI Max Link Width Control" items becomes available. The options are Manual and **Auto**.

xGMI Link Max Speed

This setting controls the maximum speed of the xGMI link. The options are 10.667 Gbps, 11 Gbps, 12 Gbps, 13 Gbps, 14 Gbps, 15 Gbps, 16 Gbps, 17 Gbps, 18 Gbps, 19 Gbps, 20 Gbps, 21 Gbps, 22 Gbps, and **Auto**.

►Memory Configuration

Memory Target Speed

Use this setting to specify the memory target speed in MT/s. The options are **Auto**, DDR3600, DDR4000, DDR4400, DDR4800, DDR5200, DDR5600, DDR6000, and DDR6400.

Memory Interleaving

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

Chipselect Interleaving

This setting allows memory blocks to be interleaved across the DRAM chip selects for node 0, which can enhance memory performance. The options are Disabled and **Auto**.

BankSwapMode

This setting determines the operation of memory banks in relation to CPU usage. The options are **Auto**, Disabled, and Swap CPU.

Power Down Enable

Use this setting to enable or disable DDR power down mode. The options are Disabled, Enabled, and **Auto**.

DRAM Scrub Time

This setting specifies the frequency of memory scrubbing, which helps maintain data integrity by refreshing memory contents. The options are Disabled, 1 hour, 4 hours, 6 hours, 8 hours, 12 hours, 16 hours, **24 hours**, and 48 hours.

TSME

This setting controls the Transparent Secure Memory Encryption feature. The options are Enabled, Disabled, and **Auto**.

Enhanced PPR

Use this setting to enable a full memory test during system setup. While this thorough testing can enhance system stability, it will also increase the overall boot time. The options are **Disabled** and Enabled.

►CPU1 Memory Information

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

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

ACPI Settings

High Precision Event Timer

The High Precision Even Timber (HPET) is a hardware timer that provides high-resolution time stamps and periodic interrupts, used by the operating system for various timing-related tasks. The options are Disabled and **Enabled**.

PCI AER Support

This setting controls the Advanced Error Reporting (AER) capability for PCIe devices in the system. The options are Enabled and **Disabled**.

NUMA Nodes Per Socket

Use this setting to specify the number of desired NUMA (Non-Uniform Memory Access) nodes per socket. 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

This setting determines how the system's NUMA (Non-Uniform Memory Access) domains are defined in relation to the L3 cache. The options are Disabled, Enabled, and **Auto**.

Super IO Configuration Menu

►Super IO Configuration

Note: This submenu is available when your system supports this feature.

The following information is displayed.

- Super IO Chip

Serial Port 1 Configuration Menu

►Serial Port 1 Configuration

Serial Port 1

Select Enabled to enable serial port 1. The options are Disabled and **Enabled**.

Device Settings (Available when "Serial Port 1" above is set to Enabled)

This feature displays the base I/O port address and the Interrupt Request address of serial port 1.

Change Settings (Available when "Serial Port 1" above is set to Enabled)

Use this feature to specify the base I/O port address and the Interrupt Request address of serial port 1. Select Auto for the BIOS to automatically assign the base I/O and IRQ address to serial port 1. 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;).

Serial Port 2 Configuration Menu

►Serial Port 2 Configuration

Note: It can be "Serial Port 2 Configuration" or "SOL Configuration" based on your system support.

Serial Port 2/SOL ("Serial Port 2" or "SOL" based on your system support)

Select Enabled to enable serial port 2 (or SOL). The options are Disabled and **Enabled**.

Device Settings (Available when "Serial Port 2/SOL" above is set to Enabled)

This feature displays the base I/O port address and the Interrupt Request address of serial port 2 (or SOL).

Change Settings (Available when "Serial Port 2/SOL" above is set to Enabled)

Use this feature to specify the base I/O port address and the Interrupt Request address of serial port 2 (or SOL). Select Auto for the BIOS to automatically assign the base I/O and IRQ address to serial port 2 (or SOL). 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 2 Attribute (Available for Serial Port 2 only)

Select SOL to use serial port 2 as a Serial Over LAN (SOL) port for console redirection. The options are **SOL** and COM.

Serial Port Console Redirection Menu

COM1 (Available when your system supports the serial port of COM1)

Console Redirection

Select Enabled to enable COM port 1 for Console Redirection, which allows a client machine to be connected to a host machine at a remote site for networking. The options are **Disabled** and Enabled.

Note: This feature will be set to Enabled if there is no BMC support.

►Console Redirection Settings

Note: This submenu is available when "Console Redirection" for COM1 or SOL/COM2 is set to Enabled.

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

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** (bits).

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

►Legacy Console Redirection Settings

Legacy Serial Redirection Port

Select a COM port to display redirection of legacy os and legacy oprom messages. The options are **COM1** and SOL.

Resolution

On legacy os, the number of rows and columns supported redirection. The options are 80x24 and **80x25**.

Redirection After BIOS Post

When bootloader is selected, then legacy console redirection is disabled before booting to legacy OS. When always is select, then legacy console redirection is enabled ofr legacy os.. The options are **Always Enable** and BootLoader.

Console Redirection EMS

Select Enabled to use the SOL port for Console Redirection. The options are **Disabled** and Enabled.

PCIe/PCI/PnP Configuration Menu

Above 4G Decoding

This setting enables 64-bit PCI device access to memory beyond 4 GB for improved memory utilization and performance. The options are Disabled and **Enabled**.

Re-Size BAR Support

This setting enables or disables the Re-Size Base Address Register feature for compatible PCIe devices, which allows the system to allocate more memory to the device. The options are **Disabled** and Enabled.

SR-IOV Support

This setting enables or disables Single Root I/O Virtualization support for the system's PCIe devices. The options are **Disabled** and Enabled.

BME DMA Mitigation

This setting enables or disables Bus Mastering Error (BME) Direct Memory Access (DMA) mitigation for protection during the pre-boot process. The options are **Disabled** and Enabled.

PCIe ARI Support

This setting enables alternative routing- ID interpretation. The options are Disabled, Enabled, and **Auto**.

PCIe ARI Enumeration

This setting controls the forwarding of Alternate Routing-ID Interpretation (ARI) information for each downstream port, which is essential for device identification in PCIe systems. The options are Disabled, Enabled, and **Auto**.

Relaxed Ordering

This setting determines whether PCI Express devices are permitted to bypass strict transaction ordering, which can lead to potential performance improvements. The options are Disabled and **Enabled**.

Clock Spread Spectrum

This setting allows the BIOS to monitor and reduce the level of Electromagnetic Interference (EMI) generated by system components. The options are **Disabled** and Enabled.

No Snoop

This setting configures the No Snoop option for PCI Express devices, determining whether memory accesses bypass the cache. The options are Disabled and **Enabled**.

VGA Priority

This setting allows you to choose the primary video output source for the system. The options are **Onboard** and External.

PCIe Ten Bit Tag Support

This setting enables the use of ten-bit tags for PCIe devices, which can improve data handling and management. The options are Disabled, Enabled, and **Auto**.

NVMe Firmware Source

This setting determines the source of firmware for NVMe devices, allowing you to select between native support or vendor-specific firmware. The options are Vendor Defined Firmware and **AMI Native Support**.

PCI Devices Option ROM Setting

CPU SLOT3-10 PCIe 5.0 x16 OPROM

This setting enables or disables the Option ROM for the SLOT3 PCIe 5.0 x16 interface. The options are Disabled and **EFI**.

M.2-C1 OPROM

This setting enables or disables the Option ROM for the M.2-C1 slot. The options are Disabled and **EFI**.

M.2-C2 OPROM

This setting enables or disables the Option ROM for the M.2-C2 slot. The options are Disabled and **EFI**.

Onboard Video Option ROM

This setting selects the type of firmware to be loaded for onboard video. The options are Disabled and **EFI**.

AOM-PTG-I2T OPROM

This setting allows you to select the firmware function to be loaded for the onboard LAN1 interface. The options are Disabled and **EFI**.

USB Configuration

USB Configuration

USB Module Version 29

USB Controllers: 3 XHCIs

USB Devices: 1 Keyboard, 1 Mouse, 1 Hub

XHCI Hand-off

This setting provides a workaround for operating systems that do not support XHCI hand-off. The XHCI ownership change must be claimed by the XHCI driver.The options are Enabled and **Disabled**.

Legacy USB Support

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

Network Configuration Menu

Network Stack

Select Enabled to enable Preboot Execution Environment (PXE) or Unified Extensible Firmware Interface (UEFI) for network stack support. The options are Disabled and **Enabled**.

IPv4 PXE Support (Available when "Network Stack" is set to Enabled)

Select Enabled to enable IPv4 PXE boot support. If this feature is disabled, it will not create the IPv4 PXE boot option. The options are Disabled and **Enabled**.

IPv4 HTTP Support (Available when "Network Stack" is set to Enabled)

Select Enabled to enable IPv4 HTTP boot support. If this feature is disabled, it will not create the IPv4 HTTP boot option. The options are **Disabled** and Enabled.

IPv6 PXE Support (Available when "Network Stack" is set to Enabled)

Select Enabled to enable IPv6 PXE boot support. If this feature is disabled, it will not create the IPv6 PXE boot option. The options are Disabled and **Enabled**.

IPv6 HTTP Support (Available when "Network Stack" is set to Enabled)

Select Enabled to enable IPv6 HTTP boot support. If this feature is disabled, it will not create the IPv6 HTTP boot optiont. The options are **Disabled** and Enabled.

PXE Boot Wait Time (Available when "Network Stack" is set to Enabled)

Use this feature to set the wait time (in seconds) upon which the system BIOS will wait for you to press the <ESC> key to abort PXE boot instead of proceeding with PXE boot by connecting to a network server immediately. Press the <+> or <-> key on your keyboard to change the value. The default setting is **0**.

Media Detect Count (Available when "Network Stack" is set to Enabled)

Use this feature to set the wait time (in seconds) for the BIOS ROM to detect the presence of a LAN media either via the Internet connection or via a LAN port. Press the <+> or <-> key on your keyboard to change the value. The default setting is **1**.

►**IPv6 Network Configuration**

►**Enter Configuration Menu**

Interface Name

Interface Type

MAC address

Host addresses

Route Table

Gateway addresses

DNS addresses

Interface ID

DAD Transmit Count

The number of consecutive Neighbor Solicitation messages sent while performing Duplicate Address Detection on a tentative address. A value of zero indicates that Duplicate Address Detection is not performed. The default value is **1**.

Policy

Use this feature to select how the policy is to be configured. The options are **Automatic** and Manual.

Save Changes and Exit

The options are **Yes** and No.

▶**IPv4 Network Configuration**

▶**Configured (Available when set Enabled)**

Enable DHCP

The options are **Disabled** and Enabled.

Local IP Address

Enter IP address in dotted-decimal notation. Example: 192.168.10.12

Local NetMask

Enter NetMask in dotted-deimal notation. Exmaple: 255.255.255.0

Local Gateway

Enter Gateway in dotted-decimal notation. Example: 192.168.10.1

Local DNS Servers

Enter DNS Servers in dotted-decimal notation. Example: 192.168.10.8

Save Changes and Exit

The options are **Yes** and No.

SATA Configuration Menu

ASMedia SATA Configuration

►ASMedia SATA Controller

Hot-Plug

Enable or disable hot-plug support for SATA devices, allowing them to be connected or disconnected while the system is running. The options are **Disabled** and Enabled.

►Serial ATA Contoller 0 Settings

SATA Enable

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

►SATA Information

HTTP Boot Configuration Menu

HTTP Boot Configuration

HTTP Boot Policy

Use this feature to set the HTTP boot policy. The options are Apply to all LANs, **Apply to each LAN**, and Boot Priority #1 instantly.

HTTP Boot Checks Hostname

Enable this feature for HTTPS boot to check the hostname of the TLS certificates to see if it matches the host name provided by the remote server. The options are **Enabled** and Disabled (WARNING: Security Risk!).

Priority of HTTP Boot

Instance of Priority 1: (Available when your motherboard supports this feature)

This feature sets the rank target port. The default setting is **1**.

Select IPv4 or IPv6

This feature specifies which connection the target LAN port should boot from. The options are **IPv4** and IPv6.

Boot Description

Use this feature to enter a boot description, which cannot be longer than 75 characters. Please be sure to enter a boot description; otherwise, the boot option for the URI cannot be created.

135

Boot URI

Enter a Boot Uniform Research Identifier (URI) with 128 characters or shorter. This Boot URI determines how IPv4 Boot Option and IPv6 Boot Option will be created. This feature is only supported on Dual or EFI Boot Mode.

Supermicro KMS Server Configuration

Supermicro KMS Server IP address

Use this feature to set the Supermicro Key Management Service (KMS) server IPv4 address in dotted-decimal notation.

Second Supermicro KMS Server IP address

Use this feature to set the second Supermicro KMS server IPv4 address in dotted-decimal notation.

Supermicro KMS TCP Port number

Use this feature to set the TCP port number used in Supermicro KMS Server. The valid range is 100–9999. The default setting is **5696**. Do not change the default setting unless a different TCP port number has been specified and used in the Supermicro KMS Server.

KMS Time Out

Use this feature to enter the KMS server connecting time-out (in seconds). The default setting is **5** (seconds).

TimeZone

Use this feature to set the correct time zone. The default setting is **0** (not specified).

Client UserName

Press <Enter> to set the client identity (UserName). The username can be between 0 and 63 characters in length.

Client Password

Press <Enter> to set the client identity (Password). The password can be between 0 and 31 characters in length.

►CA Certificate

This setting provides options for managing the Certificate Authority (CA) certificate.The options are **Update**, Delete, and Export.

►Client Certificate

This setting provides options for managing the client certificate.The options are **Update**, Delete, and Export.

►Client Private Key

Use the three features to enroll factory defaults or load the KMS Transport Layer Security (TLS) certificates, which are generated by the KMS Server, from the file stored in the USB flash drive as shown below.

```
                              Aptio Setup — AMI
        Advanced

   Supermicro KMS Server IP address                    Enroll factory defaults or
   Second Supermicro KMS Server IP address             load the KMS TLS
   Supermicro KMS TCP Port number        5696          certificates from the file
   KMS Time Out                          5
   TimeZone                              0

   Client UserName
   Client Password

   KMS TLS Certificate | Size
 ▶ CA Certificate     |    0          Client Private Key
 ▶ Client Certificate |    0
 ▶ Client Private Key |    0      Update
                                  Delete
                                  Export

                                                   ↔: Select Screen
                                                   ↑↓: Select Item
                                                   Enter: Select
                                                   +/−: Change Opt.
                                                   F1: General Help
                                                   F2: Previous Values
                                                   F3: Optimized Defaults
                                                   F4: Save & Exit
                                                   F5: Keyword Search
                                                   ESC: Exit

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```

Figure 8-3. Private Key Password (Available when "Client Private Key" above has been set)

Private Key Password (Available when "Client Private Key" above has been set)

Use this feature to change the password for the client private key.

137

Super-Guardians Configuration

Super-Guardians Protection Policy

Use this feature to enable the Super-Guardians Protection Policy. The options are **Storage**, System, and System and Storage. Set this feature to Storage to protect and have secure access to Trusted Computing Group (TCG) NVMe devices with the Authentication-Key (AK). Set this feature to System to protect and have secure access to your system/motherboard with the AK. Set this feature to System and Storage to protect and have secure access to your system/motherboard/storage devices with the AK.

KMS Security Policy (Available when "TPM Security Policy" and "USB Security Policy" are set to Disabled)

Set this feature to Enabled to enable the KMS Security Policy. When this feature has not previously been set to Enabled, the options are **Disabled** and Enabled. Changes take effect after you save settings and reboot the system.

When this feature has previously been set to Enabled, the options are **Enabled**, Reset, and Key Rotation. Set this feature to Key Rotation to obtain an existing AK from the KMS server and create a new AK. To disable the KMS Security Policy, set this feature to Reset. When this feature is set to Reset, the system and TCG NVMe devices chosen in "Super-Guardians Protection Policy" will be in the unprotected mode.

Notes:
- Be sure that the KMS server is ready before configuring this feature.

- Use the professional KMS server solutions (e.g., Thales Server) or the Supermicro PyKMIP Software Package to establish the KMS server.

KMS Server Retry Count (Available when "TPM Security Policy" and "USB Security Policy" are set to Disabled)

Use this feature to specify how many times the system will attempt reconnecting to the KMS server. The valid range is 0–10. Press the <+> or <-> key on your keyboard to change the value. The default setting is **5**. If the value is 0, the system will retry infinitely.

TPM Security Policy (Available when "KMS Security Policy" and "USB Security Policy" are set to Disabled)

Set this feature to Enabled to enable the TPM Security Policy. When this feature has not previously been set to Enabled, the options are **Disabled** and Enabled. Changes take effect after you save settings and reboot the system.

When this feature has previously been set to Enabled, the options are **Enabled** and Reset. To disable the TPM Security Policy, set this feature to Reset. When this feature is set to reset, the system and TCG NVMe devices chosen in "Super-Guardians Protection Policy" will be in the unprotected mode.

Note: Be sure to install a TPM 2.0 device to your system before configuring this feature.

Load Authentication- Key (Available when "KMS Security Policy," "TPM Security Policy," and "USB Security Policy" are set to Disabled)

The options are **Disabled** and Enabled. Set this feature to Enabled. Changes take effect after you save settings and reboot the system. While booting, the BIOS will automatically load the Authentication-Key (filename: TPMAuth.bin) from the USB flash drive. Afterwards, the default setting will be set to Disabled by the BIOS.

Notes:
- Be sure to connect a USB flash drive with the Authentication-Key (filename: TPMAuth.bin) to your system before the system reboot.

- Be sure to save the Authentication-Key (filename: TPMAuth.bin) to the USB flash drive and have a backup. Please load the Authentication-Key (filename: TPMAuth.bin) after installing a TPM device. Otherwise, the TPM function can not work properly.

Save Authentication-Key (Available when "TPM Security Policy" is set to Enabled)

The options are **Disabled** and Enabled. Set this feature to Enabled. Changes take effect after you save settings and reboot the system. While booting, the BIOS will automatically save the Authentication- Key (filename: TPMAuth.bin) to the USB flash drive. Afterwards, the default setting will be set to Disabled by the BIOS.

Note: Be sure to connect a USB flash drive to your system before the system reboot.

USB Security Policy (Available when "KMS Security Policy" and "TPM Security Policy" are set to Disabled)

Use this feature to enable the USB Security Policy. The options are **Disabled** and Enabled. Set this feature to Enabled. Changes take effect after you save settings and reboot the system. Connect a USB flash drive to your system before the system reboot. While booting, the BIOS will automatically create the USB Authentication-Key (filename: USBAuth.bin) and save it to the USB flash drive.

When this feature has been previously set to Enabled, the options are **Enabled** and Reset. To disable the USB Security Policy, set this feature to Reset. When this feature is set to Reset, the system and TCG NVMe devices chosen in "Super-Guardians Protection Policy" will be in the unprotected mode.

Note: Be sure to connect a USB flash drive to your system before configuring this feature. Save the USB Authentication-Key (filename: USBAuth.bin) to the USB flash drive and keep a backup.

TLS Authenticate Configuration

►Server CA Configuration

This feature allows you to configure the client certificate that is to be used by the server.

►Enroll Certification

This feature allows you to enroll the certificate in the system.

►Enroll Certification Using File

This feature allows you to enroll the security certificate in the system by using a file.

Certification GUID

Press <Enter> and input the certification Global Unique Identifier (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

This feature is used to delete the certificate if a certificate has been enrolled in the system.

►Client Certification Configuration

RAM Disk Configuration

Disk Memory Type

This setting specifies the type of memory to use from the available memory pool in the system to create a disk. the options are **Boot Service Data** and Reserved.

Create raw

Size (Hex):

Set the size of the RAM disk. The valid size should be multiples of the RAM disk block size.

Create & Exit or **Discard & Exit**.

Create from file

Created RAM disk list:

This displays a list of the created RAM disks.

Created RAM disk list:

Remove selected RAM disk(s)

BROADCOM Configuration Utility

►Main Menu

The menu options are as below:

►Configuration Management

Clear Configuration: **No**

►Controller Management

Basic Properties: Product Name/Controller Status/Personality Mode/Select Boot Device/PCI ID/PCI Segment/PCI Slot Number/Package Version/Firmware Version/NVDATA Version/Supported Device Interfaces/Drive Count/JBOD Count/Virtual Drive Count

Advanced Controller Management

Advanced Controller Properties

►Virtual Drive Management

►Drive Management

►Hardware Components

►Help

The setting shows context sensitive help message.

Properties:

Status / Backplane / CacheVault / Enclosure / JBODs / Drive Groups / Virtual Drives

►**View Server Profile**

The setting shows the UEFI spec version that this system supports and menu options as below:

Server:

UEFI Spec Version

►**Controller Management**

►**Hardware Components**

►**Drive Management**

►**Virtual Drive Management**

Actions:

►**Configure**

The setting displays configuration options. Some options appear only if the controller supports them.

►**Set Factory Defaults**

The setting restores factory default values for all the controller properties.

►**Update Firmware**

The setting allows users to update the controller firmware to a newer version.

►**Manage MegaRAID Advanced Software Options**

The setting displays the activated Advanced Software Options on the controller and allows the user to configure the MegaRAID Advanced Software Options to use the advanced features.

Driver Health Menu

►**Driver Health**

This feature displays the health information of the drivers installed in your system, including LAN controllers, as detected by the BIOS. Select one and press <Enter> to see the details.

Note: This section is provided for reference only, for the driver health status will differ depending on the drivers installed in your system. It's also based on your system configuration and the environment that your system is operating in.

8.4 BMC

Use this menu to configure Baseboard Management Console (BMC) settings.

```
                        Aptio Setup – AMI
    Main  Advanced  BMC  Event Logs  Security  Boot  Save & Exit

  BMC Firmware Revision              01.00.21.18          Press <Enter> to change the
  BMC 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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```

Figure 8-4. BMC Screen Tab

BMC Firmware Revision

This feature indicates the BMC firmware revision used in your system.

BMC STATUS

This feature indicates the status of the BMC firmware installed in your system.

System Event Log Menu

►System Event Log

Note: All values changed in this submenu do not take effect until computer is restarted.

SEL Components

Select Enabled to enable all system event logging upon system boot. The options are Disabled and **Enabled**.

Erasing Settings

Erase SEL (Available when "SEL Components" is set to Enabled)

Select (Yes, On next reset) to erase all system event logs upon next system boot. 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 (Available when "SEL Components" is set to Enabled)

This feature defines 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.

BMC Network Configuration Menu

►BMC Network Configuration

Update BMC LAN Configuration

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

****

Configure IPv4 Support

****

BMC LAN Selection

This feature displays the type of the BMC LAN.

BMC Network Link Status:

This feature displays the status of the BMC network link for this system.

Configuration Address Source (Available when "Update BMC LAN Configuration" is set to Yes)

Use this feature to select the source of the IPv4 connection. If Static is selected, note the IP address of the IPv4 connection and enter it to the system manually in the field. If DHCP is selected, the BIOS will search for a Dynamic Host Configuration Protocol (DHCP) server in the network that is attached to and request the next available IP address for this computer. The options are Static and **DHCP**.

Station IP Address

This feature displays the Station IP address in decimal and in dotted quad form (i.e., 172.29.176.131). It is available for configuration when "Configuration Address Source" above is set to Static.

Subnet Mask

This feature displays the sub- network that this computer belongs to. It is available for configuration when "Configuration Address Source" above is set to Static.

Station MAC Address

This feature displays the Station MAC address for this computer. MAC addresses are six two-digit hexadecimal numbers.

Gateway IP Address

This feature displays the Gateway IP address for this computer. This should be in decimal and in dotted quad form (i.e., 172.29.0.1). It is available for configuration when "Configuration Address Source" above is set to Static.

****

Configure IPv6 Support

****

IPv6 Address Status

This feature displays the status of the IPv6 address.

IPv6 Support (Available when "Update BMC LAN Configuration" is set to Yes)

Use this feature to enable IPv6 support. The options are **Enabled** and Disabled.

Configuration Address Source (Available when "IPv6 Support" is set to Enabled)

Use this feature to select the source of the IPv6 connection. If Static Configuration is selected, note the IP address of IPv6 connection and enter it to the system manually in the field. If the other two options are selected, the BIOS will search for a DHCP server in the network that is attached to and request the next available IP address for this computer. The options are Static Configuration, **DHCPv6 Stateless**, and DHCPv6 Stateful.

IPv6 Address ("Static," "DHCPv6 Stateless," or "DHCPv6 Stateful," depending on the option you selected for "Configuration Address Source" above)

This feature displays the station IPv6 address.

Prefix Length

This feature displays the prefix length. It is available for configuration when "Configuration Address Source" above is set to Static Configuration.

Gateway IP

This feature displays the IPv6 gateway IP address. It is available for configuration when "Configuration Address Source" above is set to Static Configuration.

Advanced Settings (Available when "Configuration Address Source" is set to DHCPv6 Stateless)

Use this feature to set the DNS server IP. The default setting allows this system to obtain the DNS server IP automatically. The options are **Auto obtain DNS server IP** and Manually obtain DNS server IP.

Preferred DNS server IP (Available when "Advanced Settings" above is set to Manually obtain DNS server IP)

This feature displays the preferred DNS server IP. It can be configured via Redfish.

Alternative DNS server IP (Available when "Advanced Settings" above is set to Manually obtain DNS server IP)

This feature displays the alternative DNS server IP. It can be configured via Redfish.

****

Configure VLAN Support

****

Lan channel 1

VLAN Support (Available when "Update BMC LAN Configuration" is set to Yes)

Use this feature to enable the virtual LAN (VLAN) support. The options are Enabled and **Disabled**.

8.5 Event Logs

Use this menu to configure Event Logs settings.

```
                          Aptio Setup - AMI
      Main  Advanced  BMC  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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```

Figure 8-5. Event Logs Screen Tab

Note: After you've made any changes in this section, please be sure to reboot the system for the changes to take effect.

►Change SMBIOS Event Log Settings

Note: Reboot the system for the changes in this section to take effect.

Enabling/Disabling Options

SMBIOS Event Log

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

148

Erasing Settings

Erase Event Log (Available when "SMBIOS Event Log" is set to Enabled)

Select No to keep the event log without erasing it upon next system bootup. Select (Yes, Next reset) to erase the event log upon next system reboot. The options are **No**, (Yes, Next reset), and (Yes, Every reset).

When Log is Full (Available when "SMBIOS Event Log" is set to Enabled)

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 (Available when "SMBIOS Event Log" is set to Enabled)

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

MECI (Available when "SMBIOS Event Log" is set to Enabled)

Enter the increment value for the multiple event counter. Enter a number between 1 and 255. The default setting is **1**. (MECI is the abbreviation for Multiple Event Count Increment.)

METW (Available when "SMBIOS Event Log" is set to Enabled)

Use this feature to determine how long (in minutes) should the multiple event counter wait before generating a new event log. Enter a number between 0 and 99. The default value is **60**. (METW is the abbreviation for Multiple Event Count Time Window.)

►**View SMBIOS Event Log**

Use this feature to view the event in the system event log. Select this feature and press <Enter> to view the status of an event in the log. The following information is displayed: DATE / TIME / ERROR CODE / SEVERITY.

8.6 Security

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

```
                          Aptio Setup - AMI
   Main  Advanced  BMC  Event Logs  Security  Boot  Save & Exit

                                                      ▲  Set Administrator Password
   Administrator Password            Not Installed
   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                          ►←: Select Screen
   in the following range:                              ↑↓: Select Item
   Minimum length                    8                  Enter: Select
   Maximum length                    20                 +/-: Change Opt.
                                                         F1: General Help
   Administrator Password                                F2: Previous Values
   Password Check                    [Setup]            F3: Optimized Defaults
                                                         F4: Save & Exit
   ► Supermicro Security Erase Configuration            ESC: Exit

   Disable Sanitize Freeze Lock      [Disabled]
                                                      ▼

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```

Figure 8-6. Security Screen Tab

Disable Block Sid and Freeze Lock (Available when your storage devices support TCG)

Select Enabled to allow SID authentication to be performed in TCG storage devices. The options are **Disabled** and Enabled.

The following information is displayed:

- Administrator Password
- User Password
- Password Description

Administrator Password

This feature indicates if an administrator password has been installed. Use this feature to set the administrator password, which is required to enter the BIOS Setup utility. The length of the password can be between three and 20 characters long.

User Password (Available when "Administrator Password" has been set)

This feature indicates if a user password has been installed. Use this feature to set the user password which is required to enter the BIOS Setup utility. The length of the password can be between three and 20 characters long.

Password Check

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

Hard Drive Security Frozen

Select Enabled to freeze the Lock Security feature for HDD to protect key data in hard drives from being altered. The options are **Disabled** and Enabled.

►Supermicro Security Erase Configuration

Use this submenu to configure the Supermicro-proprietary Security Erase settings. When this submenu is selected, the following information is displayed. Please note that the order of the following information may differ based on the storage devices being detected.

- HDD Name: This feature displays the name of the storage device that is detected by the BIOS.

- HDD Serial Number: This feature displays the serial number of the storage device that is detected by the BIOS.

- Security Mode: This feature displays the security mode of the storage device that is detected by the BIOS.

- Estimated Time: This feature displays the estimate time needed to perform the selected Security Erase features.

- HDD User Pwd Status: This feature indicates if a password has been set as a storage device user password which enables configuring Supermicro Security Erase settings on the storage device by using this user password.

Security Function

Select Set Password to set a storage device password which enables configuring the security settings of the storage device. Select Security Erase - Password to enter a storage device user password to enable erasing the password and the contents previously stored in the storage device. Select Security Erase - Without Password to use the manufacturer default password "111111111" as the storage device user password and enable erasing the contents of the storage device by using this default password. The options are **Disabled**, Set Password, Security Erase - Password, and Security Erase - Without Password.

Password

Disable Sanitize Freeze Lock

If this option is enabled, then sending Sanitize Freeze Lock command to HDDs will be skipped in next boot. The options are **Disabled** and Enabled.

Lockdown Mode (Available when the DCMS key is activated)

Select Enabled to support the Lockdown Mode, which prevents the existing data or keys stored in the system from being altered or changed in an effort to preserve system integrity and security. The options are **Disabled** and Enabled.

HDD Security Configuration:

►Secure Boot

The following information is displayed:

- System Mode

- Secure Boot

Note: For detailed instructions on configuring Security Boot settings, refer to the Security Boot Configuration User's Guide at https://www.supermicro.com/support/manuals.

8.7 Boot

Use this menu to configure Boot settings.

```
                           Aptio Setup - AMI
      Main  Advanced  BMC  Event Logs  Security  Boot  Save & Exit

     Boot Configuration                              ▲ Select boot mode Legacy/UEFI

     Boot Mode Select               [UEFI]
     LEGACY to EFI Support          [Disabled]

     FIXED BOOT Option Priorities
     Boot Option #1                 [UEFI Hard Disk:RedHat
                                    Boot Manager (P1:
                                    INTEL SSDSC2BB080G6]
     Boot Option #2                 [UEFI CD/DVD]
     Boot Option #3                 [UEFI USB Hard Disk]
     Boot Option #4                 [UEFI USB CD/DVD]
     Boot Option #5                 [UEFI USB Key]            ──────────────
     Boot Option #6                 [UEFI USB Floppy]      ➜←: Select Screen
     Boot Option #7                 [UEFI USB Lan]         ↑↓: Select Item
     Boot Option #8                 [UEFI                  Enter: Select
                                    Network:(B81/D0/F0)    +/-: Change Opt.
                                    UEFI PXE IPv4 Intel(R) F1: General Help
                                    Ethernet Controller    F2: Previous Values
                                    X710 for               F3: Optimized Defaults
                                    10GBASE-T(MAC:905A080C4 F4: Save & Exit
                                    590)]                  ESC: Exit
     Boot Option #9                 [UEFI AP:UEFI:
                                    Built-in EFI Shell]
                                                        ▼

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```

Figure 8-7. Boot Screen Tab

Boot Configuration

 Boot Mode Select

Use this feature to select boot mode. The options are Legacy, **UEFI**, and Dual.

Legacy to EFI Support

Use this feature to enable system to boot to EFI OS after boot failed from legacy boot order. The options are **Disabled** and Enabled.

FIXED BOOT ORDER Priorities

Use this feature to prioritize the order of a bootable device from which the system will boot. Press <Enter> on each item sequentially to select the device.

- Boot Option #1 – Boot Option #9

►Add New Boot Option

Use this feature to add a new boot option to the boot priority features for system boot.

Note: This submenu is available when any storage device is detected by the BIOS.

Add boot option

Use this feature to specify the name for the new boot option.

Path for boot option

Use this feature to enter the path for the new boot option in the format fsx:\path\filename.efi.

Boot option File Path

Use this feature to specify the file path for the new boot option.

Create

After setting the name and the file path for the boot option, press <Enter> to create the new boot option in the boot priority list.

►Delete Boot Option

Use this feature to select a boot device to delete from the boot priority list.

Delete Boot Option

Use this feature to remove an EFI boot option from the boot priority list.

►UEFI Hard Disk Drive BBS Priorities

Use this feature to set the system boot order of detected devices.

►UEFI NETWORK Drive BBS Priorities

Use this feature to set the system boot order of detected devices.

►UEFI Application Boot Priorities

Use this feature to set the system boot order of detected devices.

8.8 Save & Exit

Select Save & Exit from the BIOS Setup screen to configure the settings below.

```
                              Aptio Setup - AMI
     Main  Advanced  BMC  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 Optimized Defaults
    Save as User Defaults
    Restore User Defaults

    Boot Override
    RedHat Boot Manager (P1: INTEL SSDSC2BB080G6)
    (B81/D0/F0) UEFI PXE IPv4 Intel(R) Ethernet Controller X710  →←: Select Screen
    for 10GBASE-T(MAC:905A080C4590)                               ↑↓: Select Item
    (B81/D0/F1) UEFI PXE IPv4 Intel(R) Ethernet Controller X710  Enter: Select
    for 10GBASE-T(MAC:905A080C4591)                              +/-: Change Opt.
    (B81/D0/F0) UEFI PXE IPv6 Intel(R) Ethernet Controller X710  F1: General Help
    for 10GBASE-T(MAC:905A080C4590)                              F2: Previous Values
    (B81/D0/F1) UEFI PXE IPv6 Intel(R) Ethernet Controller X710  F3: Optimized Defaults
    for 10GBASE-T(MAC:905A080C4591)                              F4: Save & Exit
    UEFI: Built-in EFI Shell                                     ESC: Exit
    Launch EFI Shell from filesystem device


                       Version 2.22.1294 Copyright (C) 2024 AMI
```

Figure 8-8. Save & Exit Screen Tab

Save Options

Discard Changes and Exit

Use this feature to exit from the BIOS Setup utility without making any permanent changes to the system configuration and reboot the computer.

Save Changes and Reset

On completing the system configuration changes, use this feature to exit the BIOS Setup utility and reboot the computer for the new system configuration parameters to take effect.

Save Changes

On completing the system configuration changes, use this feature to save all changes made. This will not reset (reboot) the system.

155

Discard Changes

Select this feature and press <Enter> to discard all changes made and return to the BIOS Setup utility.

Default Options

Restore Optimized Defaults

Select this feature and press <Enter> to load manufacturer optimized default settings, which are intended for maximum system performance but not for maximum stability.

Note: After pressing <Enter>, reboot the system for the changes to take effect, which ensures that this system has the optimized default settings.

Save as User Defaults

Select this feature and press <Enter> to save all changes as the default values specified to the BIOS Setup utility for future use.

Restore User Defaults

Select this feature and press <Enter> to retrieve user-defined default settings that have been saved previously.

Boot Override

Note: Use this section to override the Boot priorities sequence in the Boot menu, and immediately boot the system with a device specified here instead of the one specified in the boot list. This is a one-time boot override.

Appendix A:

BIOS Codes

For information about BIOS codes for the AS -A126GS-TNBR system, refer to the following content.

BIOS Error POST (Beep) Codes

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

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

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

These fatal errors are usually communicated through a series of audible beeps that can be heard on an external buzzer connected to JD1. The table shown below lists some common errors and their corresponding beep codes encountered by users.

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

Additional BIOS POST Codes

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

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

157

Appendix B:

Standardized Warning Statements for AC Systems

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 section in its entirety before installing or configuring components in the Supermicro AS -A126GS-TNBR system.

These warnings may also be found on our website at the following page:

https://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.

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。

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.

احتذرٌ! خطز غُ هزِ الزِهر هذا جسذةٌ اصابة ف تتسبب أى وُكي حالة ف كَ ا

قبل أى تعول على أي هعذات،كي على علن بالوخاطز ال اجُّوة عي الذوائز

الكهزبائٍةٍ

وكي على دراٌة بالووارسات النقائٍةٍلو غُ وقىع أي حىادث

استخذم رقن الب إى الو صُّص ف هَّاٌة كل تحذ زٌ للعثر تزجىتها

안전을 위한 주의사항

이 경고 기호는 위험이 있음을 알려 줍니다. 작업자의 신체에 부상을 야기 할 수 있는 상태에 있
게 됩니다. 모든 장비에 대한 작업을 수행하기 전에 전기회로와 관련된 위험요소들을 확인하시
고 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.

警告！

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.

אזהרה!

יש לקרוא את הוראות התקנה לפני חיבור המערכת למקור מתח.

تحذير!

اقر إرشادات التركيب قبل توصيل النظام إلى مصدر للطاقة

경고!

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.

警告！

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 250 V、20 A。

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 250 V、20 A。

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.

אזהרה!

מוצר זה מסתמך על הגנה המותקנת במבנים למניעת קצר חשמלי. יש לוודא כי

המכשיר המגן מפני הקצר החשמלי הוא לא יותר מ-A 20 ,V 250

!تحذير

هذا المنتج يعتمد على معداث الحمايت مه الدوائرالقصيرة التي تم تثبيتها في

المبنى

تأكد من أن تقييم الجهاز الوقائي ليس أكثر من : V 250 ,A 20

경고!

이 제품은 전원의 단락(과전류)방지에 대해서 전적으로 건물의 관련 설비에 의존합니다. 보호장
치의 정격이 반드시 250 V(볼트), 20 A(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 250 V, 20 A.

Power Disconnection Warning

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

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!

יש לנתק את המערכת מכל מקורות החשמל ויש להסיר את כבל החשמלי מהספק

לפני גישה לחלק הפנימי של המארז לצורך התקנת או הסרת רכיבים.

تحذير!

يجب فصم اننظاو من جميع مصادر انطاقت وإزانت سهك انكهرباء من وحدة امداد

انطاقت قبم

انصسل إنى انمناطق انداخهيت نههيكم نتثبج أو إزانت مكناث الجهاز

경고!

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

Waarschuwing!

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

Equipment Installation

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

警告！

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

警告！

只有经过培训且具有资格的人员才能进行此设备的安装、更换和维修。

警告！

只有經過受訓且具資格人員才可安裝、更換與維修此設備。

Warnung!

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

¡Advertencia!

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

Attention!

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

אזהרה!

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

!تحذير

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

경고!

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

Waarschuwing!

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

Restricted Area

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

警告!

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.

אזהרה!

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

כלי אבטחה בלבד (מפתח, מנעול וכד.)'

تحذير!

تم . تخصيص هذه انحذة نترك بُها ف مناطق محظورة

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

أو أ وس هُت أخري نلاأمما قفم ومفتاح

경고!

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

Waarschuwing!

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

Battery Handling

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

警告！

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

警告！

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

警告！

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

WARNUNG!

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

¡ADVERTENCIA!

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

ATTENTION!

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

אזהרה!

קיימת סכנת פיצוץ אם הסוללה תוחלף בסוג שגוי. יש להחליף

את הסוללה בסוג התואם מחברת יצרן מומלצת.

סילוק הסוללות המשומשות יש לבצע לפי הוראות היצרן.

تحذير!

هناك خطر الانفجار إذا تم استبدال البطارية بنوع غير صحيح.

اسحبذال البطارية

فقط بنفس النبع أو ما يعادلها مما أوصث به الشرمة المصنعة

جخلص من البطاريات المسحعملة وفقا لحعليمات الشرمة الصانعة

경고!

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

WAARSCHUWING!

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

Redundant Power Supplies

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

警告!

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.

אזהרה!

ליחדה יש יותר מחיבור אחד של ספק. יש להסיר את כל החיבורים על מנת לרוקן

את היחידה.

تحذير!

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 차단 하기 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.

警告！

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.

אזהרה!

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

העבודה.

!تحذير

هناك خطز مه التيار الكهزبائي أوالطاقة المجددة على اللحة

عندما يكبن النظام يعمل كه حذرا عند خدمة هذا الجهاس

경고!

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

Waarschuwing!

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

Comply with Local and National Electrical Codes

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

警告!

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.

אזהרה!

התקנת הציוד חייבת להיות תואמת לחוקי החשמל המקומיים והארציים.

تحذير!

تركيب المعدات الكهربائية يجب أن يمتثل للقناويه المحلية والبطية المتعلقة

بالكهرباء

경고!

현 지역 및 국가의 전기 규정에 따라 장비를 설치해야 합니다.

Waarschuwing!

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

Product Disposal

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

警告！

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.

אזהרה!

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

تحذير!

عند التخلص النهائي من هذا المنتج ينبغي التعامل معه وفقا لجميع القوانين واللوائح الوطنية

경고!

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

Waarschuwing!

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

Fan Warning

Warning! Hazardous moving parts. Keep away from moving fan blades. 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

警告！

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

警告！

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

警告！

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

Warnung!

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

¡Advertencia!

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

Attention!

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

אזהרה!

חלקים נעים מסוכנים. התרחק מלהבי המאוורר בפעולהכאשר מסירים את חלקי

המאוורר מהמארז, יתכן והמאוורים עדיין עובדים. יש להרחיק למרחק בטוח את

האצבעות וכלי עבודה שונים מהפתחים בתוך המאוורר

تحذير!

تحذير! أجزاء متحركة خطرة. ابتعد عن شفرات المروحة المتحركة.من الممكن أن

المراوح لا تزال تدور عند 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.

警告！

製品を設置する場合、提供または指定および購入された接続ケーブル、電源コードとACアダプターを該当する地域の条例や安全基準に適合するコードサイズやプラグと共に使用下さい。他のケーブルやアダプタを使用すると故障や火災の原因になることがあります。電気用品安全法は、ULまたはCSA認定のケーブル(UL/CSAマークがコードに表記) をSupermicro が指定する製品以外に使用することを禁止しています。

警告！

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

警告！

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

Warnung!

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

¡Advertencia!

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

Attention!

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

אזהרה!

כאשר מתקינים את המוצר, יש להשתמש בכבלים, ספקים מתאימים ואו חשמל AC אשר נכרדש ואו מותאם וצלרו

ההתקנה, ואשר מותאם ולדרישות הבטחוני המקומיות, לכול מידה הנכון של הכבה והתקע . שימוש לכב

לבכ ואו מתאם אחר, לעלול לגרום לתקלה או קצר חשמלי. בהתאם לחוקי השימוש במכשירי חשמל

וחוקי הבטיחות, קייס איסור להשתמש בכבלים מוסמכים ב - UL או ו- CSA) כאשר עיפומ מהליע קוד לש

(UL/CSA עבור כל רובה מוצר חשמלי אחר, אלא קר במוצר אשר הותאם ע"י Supermicro בלבד.

إتحذير!

عند تركيب المنتج، قم باستخدام الكابلات المتوفرة أو المحددة أو قم بشراء الكابلات

الكهربائية وموالات التيار المتردد مع متردد الالتزام بقوانين ومتطلبات السلامة المحلية بما في ذلك

حجم الموصل والقابس السليم. استخدام أي كابلات وموالات أخرى قد تتسبب في عطل أو حريق

يحظر قانون السلامة للأجهزة الكهربائية هكة رابية الكهربائية استخدام الكابلات المعتمدة من قبل UL وأ CSA

والتي تحمل علامة (UL/CSA) مع أي معدات أخرى غير المنتجات المعنية والمحددة من قبل Supermicro

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.

Waarschuwing!

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

Appendix C:

System Specifications

Processors

Supports dual AMD EPYC™ 9005/9004 Series Processors in Socket SP5 and a Thermal Design Power unit up to 500 W

(Depending on thermal validation and system configuration. Contact Supermicro representative for details.)

Chipset

System on Chip

BIOS

256 Mb SPI Flash ROM

Memory

24 DIMM slots with 1DPC that support up to

6 TB registered ECC DDR5 4800 MT/s speed in 24 DIMM slots with AMD EPYC^{TM} 9004 Series processors installed

6 TB registered ECC DDR5 6400 MT/s speed in 24 DIMM slots with AMD EPYC^{TM} 9005 Series processors installed

Storage Drives

Eight 2.5" NVMe drives and two 2.5" SATA drives

Eight EDSFF E1.S drives

Two M.2 SSD slots

PCI Expansion Slots

Eight low-profile PCIe slots in the LPIO drawer

Two FHHL PCIe slots supported by the riser cards in the CPU drawer

Input/Output

Four SAS cable ports

Two USB ports

One VGA port

Motherboard

H14DSG-OD

Chassis

CSE-GP1001TS-R000NPF; 10U rackmount; (HxWxD) 17.2" x 17.6" x 33.2" (438.8 x 449 x 843.28 mm)

System Cooling

19 counter-rotating fans:

Five 80-mm fans (front)

10 80-mm fans (rear)

Four 60-mm internal fans

Power Supply

Six 5250 W (3+3) Titanium Level redundant power supplies

(Power supply full redundancy is based on configuration and application load.)

Operating Environment

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

Non-operating Temperature: -30°C to 60°C (-22°F to 140°F)

Operating Relative Humidity: 8% to 80% (non-condensing)

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

Regulatory Compliance

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

Certified Safety Models

GP1001-H52H14

Applied Directives, Standards

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

Electromagnetic Compatibility Regulations 2016

FCC Part 15 Subpart B

ICES-003

VCCI-CISPR 32

AS/NZS CISPR 32

BS/EN55032

BS/EN55035

BS/EN 61000-3-2

BS/EN 61000-3-3

BS/EN 61000-4-2

BS/EN 61000-4-3

BS/EN 61000-4-4

BS/EN 61000-4-5

BS/EN 61000-4-6

BS/EN 61000-4-8

BS/EN 61000-4-11

Environment:

Delegated Directive (EU) 2015/863

Directive 2011/65/EU (RoHS)

REACH Regulation EC 1907/2006

WEEE Directive 2012/19/EU

California Proposition 65

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

Electrical Equipment (Safety) Regulations 2016

UL/CSA 62368-1 (USA and Canada)

BS/IEC/EN 62368-1

Perchlorate Warning

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

https://www.dtsc.ca.gov/hazardouswaste/perchlorate

　この装置は、クラスＡ機器です。この装置を住宅環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。　　　　　　　　　　　　　　**VCCI －Ａ**