Cisco UCS C845A M8 Rack Server Troubleshooting Guide

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Preface

This chapter contains the following topics:

Bias-Free Documentation

Note The documentation set for this product strives to use bias-free language. For purposes of this documentation set, bias-free is defined as language that does not imply discrimination based on age, disability, gender, racial identity, ethnic identity, sexual orientation, socioeconomic status, and intersectionality. Exceptions may be present in the documentation due to language that is hardcoded in the user interfaces of the product software, language used based on standards documentation, or language that is used by a referenced third-party product.

CHAPTER 1

Introduction

This chapter contains the following topics:

Overview

The key to success when troubleshooting the system hardware is to isolate the problem to a specific system component. The first step is to compare what the system is doing to what it should be doing. Because a startup problem can usually be attributed to a single component, it is more efficient to isolate the problem to a subsystem rather than troubleshoot each separate component in the system.

Terminology

Below is a list of terminology essential for understanding the concepts in this troubleshooting guide.

Term	Definition
CPU	Central Processing Unit. Common reference to both CISC (complex instruction set computer) and RISC (reduced instruction set computer) processors
FHHL	PCIe card form factor, Full Height Half Length
GPU	Graphics Processing Unit
NIC	Network Interface Card
NVMe	Non-Volatile Memory Express
OCP	Open Compute Project
PCIe	Peripheral Component Interconnect Express. Refers to a communication like defined within PCISIG standards body.
BMC	Baseboard Management Controller
FRU	Field Replace Unit
DCSCM	Datacenter Secure control Module Specification

Term	Definition
IPMI	Intelligent Platform Management Interface

Initial Power Up

Problems with the initial power up are often caused by a module that is not firmly connected to the backplane or a power supply that has been disconnected from the power cord connector.

Overheating can also cause problems with the system, though typically only after the system has been operating for an extended period. The most common cause of overheating is the failure of a fan module.

Guidelines for Troubleshooting

When you troubleshoot issues with a C-Series Rack-Mount Server or any component in it, we recommend that you follow the guidelines.

Guidelines	Descriptions
Take screenshots of the fault or error message dialog box and other relevant areas.	These screenshots provide visual cues about the state of the C-Series server when the problem occurred. If your computer does not have software to take screenshots, check the documentation for your operating system, as it may include this functionality
Record the steps that you took directly before the issue occurred.	If you have access to screen or keystroke recording software, repeat the steps you took and record what occurs. If you do not have access to this type of software, repeat the steps you took and make detailed notes of the steps and what happens after each step.
Enter the show tech-support command	The information about the current state of the server is very helpful to the Cisco Technical Assistance Center (TAC) and frequently provides the information needed to identify the source of the problem.

The Cisco UCS C-Series Rack Servers Family includes the following subsystems on most chassis:

- **Power supply**— This includes the power supply fans.

- **Fan module**—The chassis fan module should operate whenever system power is on. You should see the Fan LED turn green and hear the fan module to determine whether it is operating. If the Fan LED is red, this indicates that one or more fans in the fan module are not operating. You should immediately contact your customer service representative.

Note There are no installation adjustments that you can make if the fan module does not function properly at initial startup.

Diagnostic Indicator

This chapter contains the following topics:

Diagnostic Indicator Overview

This chapter focuses on leveraging the built-in diagnostic indicators and Light Emitting Diodes (LEDs) commonly found on compute servers as powerful tools for rapid and effective troubleshooting. These visual cues provide immediate insights into the operational status of various hardware components, from power supplies and memory modules to network interfaces and storage drives, often pinpointing the exact location and nature of a problem without requiring extensive software diagnostics. The following topics explore how to interpret the different colors, blinking patterns, and combinations of these LEDs to quickly diagnose issues, minimize downtime, and streamline the repair process for your server infrastructure.

- • Front panel LED Indicators

- • Back panel LED Indicators

- • System Fan LED

- • SSD and NVMe Drivers LED Indicators

Front panel LED Indicators

Use the following LED indicators to help troubleshoot the back panel components.
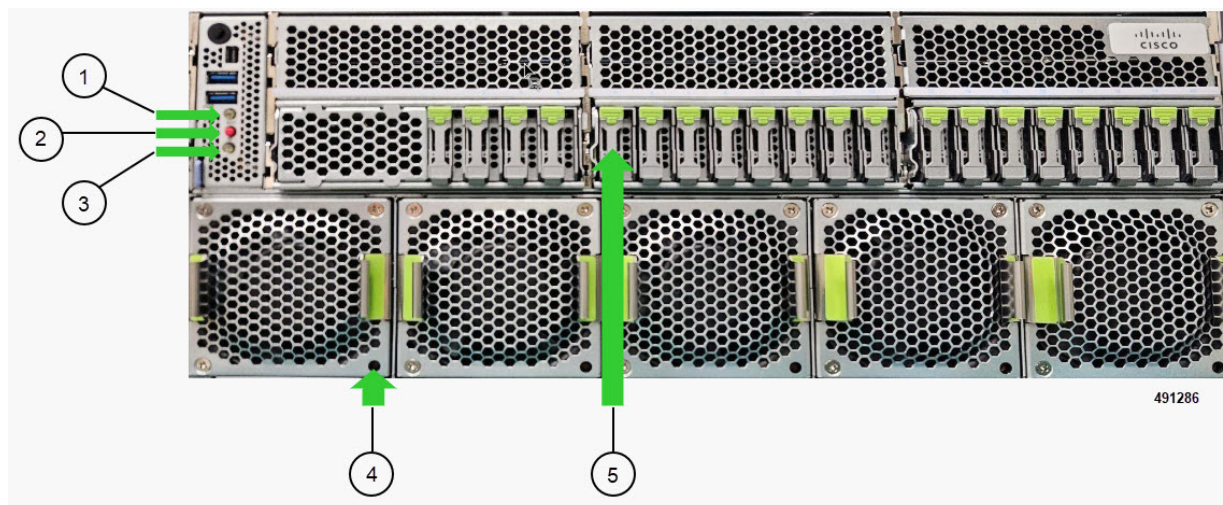
Figure 1: Front panel LED Indicators

Table 1: Front panel LED Indicators

Component LED	Description
1	Power Supply LED
2	Power Button with LED
3	UID Button with LED
4	RJ-45 with LED

Table 2: Power Button with LED

Indicator Code	Condition
Off	Power Off/Pre-S5
Green Blink	S5
Green Solid On	S0
Amber Solid On	Fan abnormal or not installed

Table 3: UID Button with LED

Indicator Code	Condition
Off	UID is off
Blue Solid On	UID is on /Pre-S5

Table 4: System Fan with LED

Indicator Code	Condition
Off	Fan active
Red solid	Fan abnormal

Table 5: NVMe SSD LED

Indicator Code	Condition
Off	Inactive
Green	Active

Back panel LED Indicators

Use the following LED indicators to help troubleshoot the back panel components.
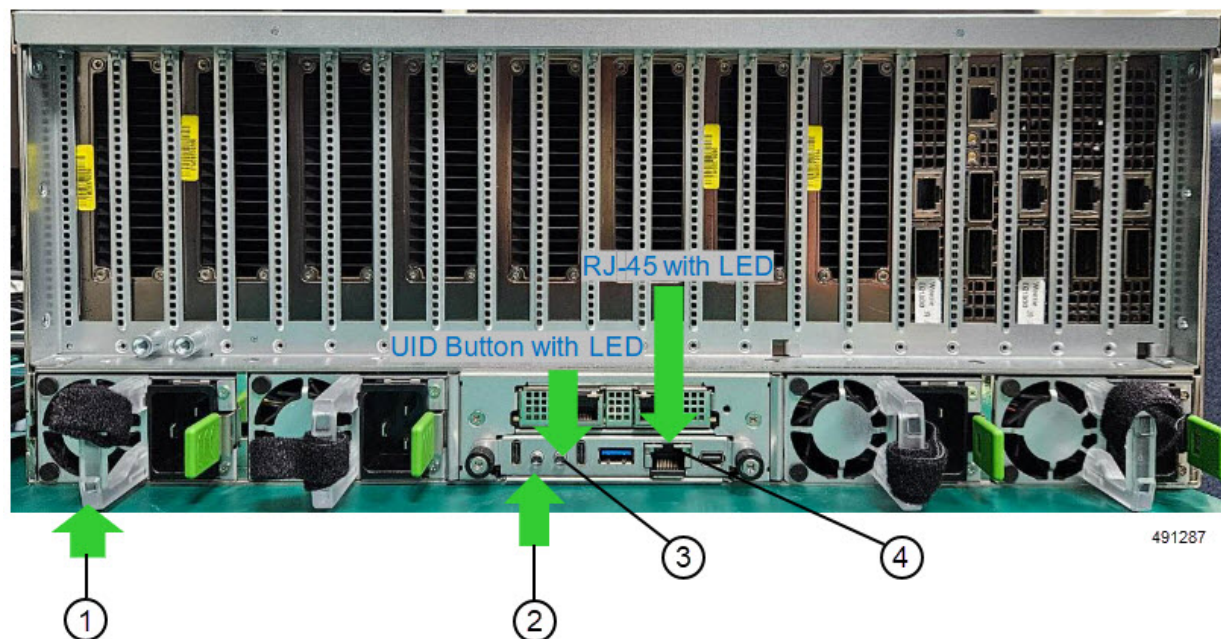
Figure 2: Back panel LED Indicators

Table 6: Back panel LED Indicators

Component LED	Description
1	Power Supply LED
2	Power Button with LED
3	UID Button with LED

Component LED	Description
4	RJ-45 with LED

Table 7: Power Button with LED

Indicator Code	Condition
Off	Power Off/Pre-S5
Green Blink	S5
Green Solid On	S0
Amber Solid On	Fan abnormal or not installed

Table 8: UID Button with LED

Indicator Code	Condition
Off	UID is off
Blue Solid On	UID is on /Pre-S5

Table 9: RJ-45 with LED

Indicator Code	Condition
Left & Right -off	No connection
Left - Amber Blinking	Link and Active on Network
Right - Amber	Link and run 100Gbps
Right - Amber	Link and run 1Gbps

Table 10: Acbel 3200W Power Supply LED

Indicator Code	Condition
Off	No connection
Green Blink	Active - Standby Power
Green Solid	Active - Normal Power
Amber	Inactive - AC Power - Off /Fail

Table 11: Delta 3200W Power Supply LED

Indicator Code	Condition
Off	Inactive - PSU not detected or installed / No AC Power Input
Green Blink	Active - Standby Power

Indicator Code	Condition
Green Solid	Active - Normal Power

CHAPTER 3

BIOS Related Issue

This chapter contains the following topics:

BIOS Related Issues

This chapter delves into the critical area of troubleshooting issues related to the Basic Input/Output System (BIOS), the fundamental firmware that initializes hardware components during the boot process. Understanding and effectively troubleshooting BIOS problems is essential for maintaining system stability, optimizing performance, and ensuring successful hardware operation.

- Power-on issue

- Error occur after a BIOS setting is changed

- POST issue

- Boot with no display

- OS boot issue

- Failure occurs during ROM flash via BMC web

- PCI device not found / found but not plugged

Power-on issue

- **Problem** The system has no response when the power button is pressed.

- **Problem** The system power/health LED is abnormal.

• **Solution** Check if there's improperly seated component (e.g., PSU, CPU, DIMMs, cables.)

• **Solution** Check if the BIOS image key matches (e.g., REL, DEV).

• **Solution** If the issue still exists, please contact Cisco Customer Support.

POST Issue

When system error occurs, please note the number on BMC web and refer to the post code table to check the root cause.

• There are two post codes displayed during post:

• **Agesa**: Agesa Post Codes send 2 bytes. For example: 0xAC99

• **AMI**: AMI Post Codes send 1 byte. For example: 0xXX60

Boot with no display

• **Problem** •The system boots but has no video output.

• **Solution** Unplug mini-DP and plug again.

• **Solution** If the issue still exists, please contact Cisco Customer Support.

OS Boot Issue

• **Problem** The system can't boot an installed OS.

• **Solution** Check if the OS is corrupted, replace it to another OS device.

• **Solution** System only supports UEFI mode, check if user uses the legacy OS

• **Solution** Check if secure boot is enabled. If yes, please disable it in BIOS menu and reboot the system.

Error occur after a BIOS setting is changed

• **Problem** The system can't boot normally after settings were changed.

• **Solution** Clear CMOS to load default settings, and reboot system.

• **Solution** Flash BIOS to restore the system to default settings.

• **Solution** If the issue still exists, please contact Cisco Customer Support.

Failure occurs during ROM flash via BMC web

Problem

- **Problem** An abnormal error windows pop up during flash.

Solution

- **Solution** Check if the BMC connection is normal.

- **Solution** Check if the network cable is loose.

- **Solution** Make sure system is power off.

- **Solution** If there's an interrupted during a ROM flash, or the ROM image is corrupted and the server doesn't start, re-flash the BIOS.

- **Solution** If you still can't access BMC web to flash BIOS, please use copy machine to flash it (e.g., SF600) .

- **Solution** If the issue still exists, please contact Cisco Customer Support.

PCI device not found or found but not plugged

Problem

- **Problem** PCI device plugged but not found in PCI Subsystem Settings.

- **Problem** PCI device found in PCI Subsystem Settings but not plugged in the system.

Solution

- **Solution** Power off and reinstall the device.

- **Solution** Make sure PCI device can work normally.

- **Solution** If the issue still exists, please contact Cisco Customer Support.

PCI device not found or found but not plugged

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