

Cisco UCS XE150c M8 Compute Node Installation and Service Guide

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Preface

This preface contains the following topics:

- Bias-free Doc Disclaimer, on page v
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- Communications, Services, and Additional Information, on page vii

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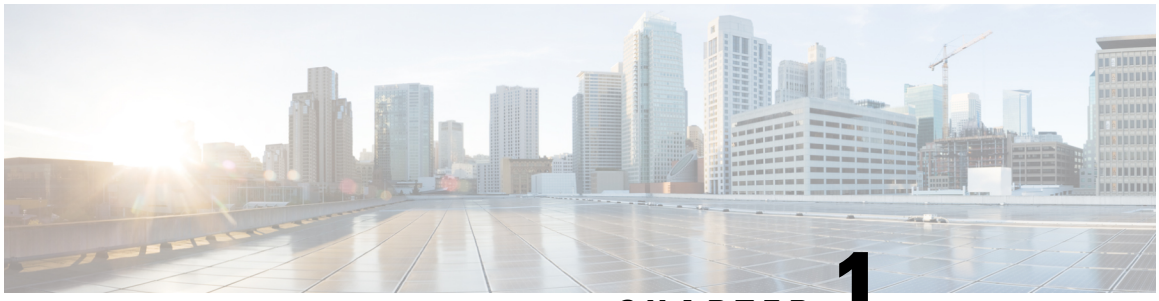
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CHAPTER 1

Cisco UCS XE150c M8 Compute Node Overview

This chapter contains the following topics:

- Compute Node Overview, on page 1
- Compute Node Configurations, on page 2
- Compute Node Front Panel, on page 2
- Compute Node LEDs, on page 4
- Supported PCIe Cards, on page 5
- Supported GPUs, on page 5

Compute Node Overview

The Cisco UCS XE150c M8 Compute Node is a half-width, short-depth, 2-RU compute node for the Cisco UCS XE9305 Chassis. The chassis supports up to two compute nodes. The node supports Intel Granite Rapids-D HCC processor with 20-core or 32-core options, and provides expansion capacity for a high-power GPU.

The Cisco UCS XE150c M8 Compute Node has the following features

- Eight DDR5-6400 registered DIMM (RDIMM) slots support two, four, or eight DIMMs, with capacities of 16, 32, 48, 64, 96, or 128 GB per DIMM and up to 1,024 GB total.
- Two front-facing 10-Gbps RJ-45 ports provide host connectivity. Two 25-Gbps backplane links provide data-plane connectivity to the chassis management controllers; one link is active and one is standby.
- Front storage supports three or four hot-pluggable E3.S NVMe drives, depending on configuration. SKU 1 includes three drive bays and a PCIe card; SKU 2 includes four drive bays. Each drive supports up to 30 TB.
- Optional boot storage supports up to two M.2 SSDs using SATA or NVMe storage options. The specification lists 480-GB and 960-GB capacities and RAID 0 or RAID 1 support.
- A dedicated PCIe Gen5 x16 slot supports a GPU with a power envelope up to 450 W.
- The front panel provides a USB Type-C console, a UCS-X KVM connector, two host ports, status and locator indicators, a power button, and a reset button.
- The node includes a Trusted Platform Module (TPM) 2.0 for the host and a separate TPM 2.0 module for baseboard management controller (BMC) secure boot. Cisco Intersight provides system management.

Compute Node Configurations

The two configurations provide either an additional PCIe expansion option or a fourth E3.S drive bay. Both configurations retain the dedicated PCIe Gen5 x16 GPU slot.

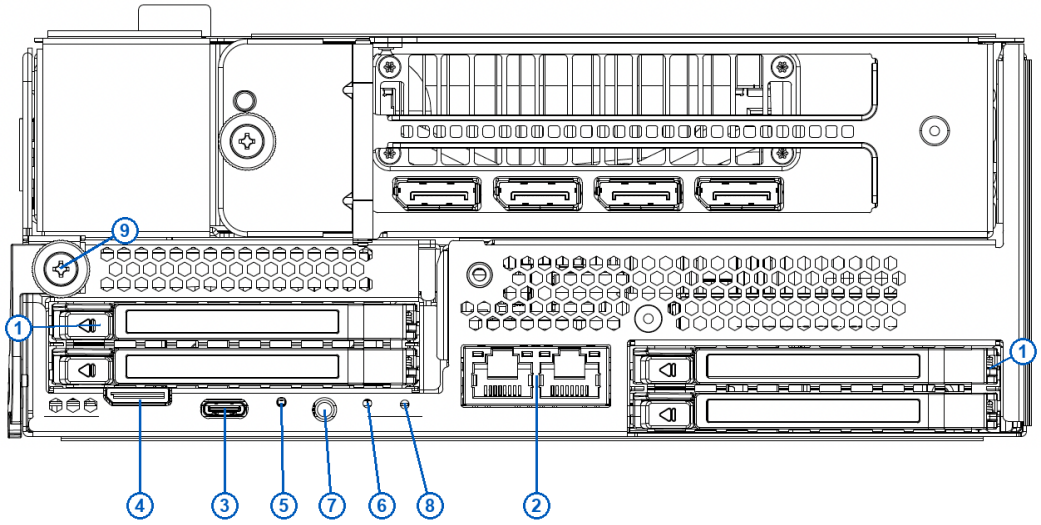
Table 1: Compute node configurations

Configuration	Front storage	Expansion
SKU1	Three E3.S drive bays	Left-side PCIe expansion option
SKU2	Four E3.S drive bays	Fourth drive bay occupies the left-side expansion position

Compute Node Front Panel

Four-Drive Compute Node

The four-drive configuration has the following features.



Three-Drive Compute Node

The three-drive configuration has the following features.

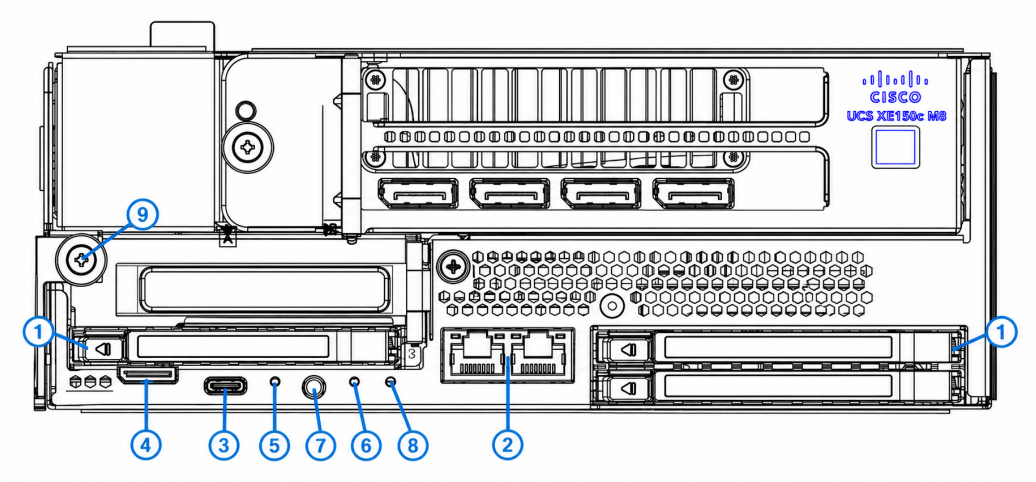


Table 2: Four and Three-Drive Compute Node features

1	**Four Drive Compute Node**: Four hot-pluggable E3.S drive (slots 1, 2, 3, and 4) **Three-Drive Compute Node**: Three hot-pluggable E3.S drive (slots 1, 2, and 3)	**2**	10GBASE-T host ports. Two RJ-45 ports provide 10-Gbps host connectivity.
3	USB Type-C console port. Provides the BIOS UART console connection.	**4**	UCS-X KVM connector. Supports local console access with the supported KVM cable or debug board.
5	Reset button. Recessed reset control on the front panel.	**6**	Status LED. Green and amber indicator reports node status.
7	Power button and power LED. The button supports ACPI-compliant power control; the LED indicates power state.	**8**	Locator LED. Blue indicator identifies a selected compute node.
9	Node ejector thumbscrew. Secures the compute node in the chassis.		

Compute Node LEDs

Each of the Cisco UCS XE150c M8 Compute Node features the following module indicator LEDs.

Table 3: Compute Node Status LEDs

LED	Color	Description
Locater LED	Blue, Steady	Compute sled is not being selected
	Blue, Blinking	Compute sled is being selected
	Off	Locater is not enabled
Status LED	Green, Steady	Normal operation condition
	Green, Blinking	System initialization or memory check
	Amber, Steady	Degrade operation • System is in a degraded operational state • Processor fault • Memory RAS failure • Drive failure
	Amber, Blinking	Critical Error • Boot failure • Fatal processor or bus error detected • Loss of both eCMC connection • Over temperature condition
	Off	Power Off
Power LED 	Green, Steady	Processor is in S0 state
	Amber, Steady	Processor is not in S0 state
	Off	Compute sled power is off

Supported PCIe Cards

The Cisco UCS XE150c M8 Compute Node offers customizable PCIe connectivity through a configurage PCIe riser cage that can accept up to one PCIe adapter card, a NIC or an HBA.

The optional PCIe card can be installed on the left side of the node, above slot 3 or in slots 3 and 4 depending on whether the PCIe cage is one slot or two. The following PCIe cages are supported to complete either a three drive or four drive configuration.

- Left E3.S 2-Drive Riser Assembly for UCS XE9305 Chassis, four drives (UCSXE-1U-E3S-2L).
- Left E3.S 2-Drive Riser Assembly for UCS XE9305 Chassis, three drives (UCSXE-1U-E3S-1L). With this configuration a separate riser (UCSXE-1U-PCI-L) is also required.

Each riser cage can accept one of the following third-party PCIe cards.

Table 4: PCIe Cards

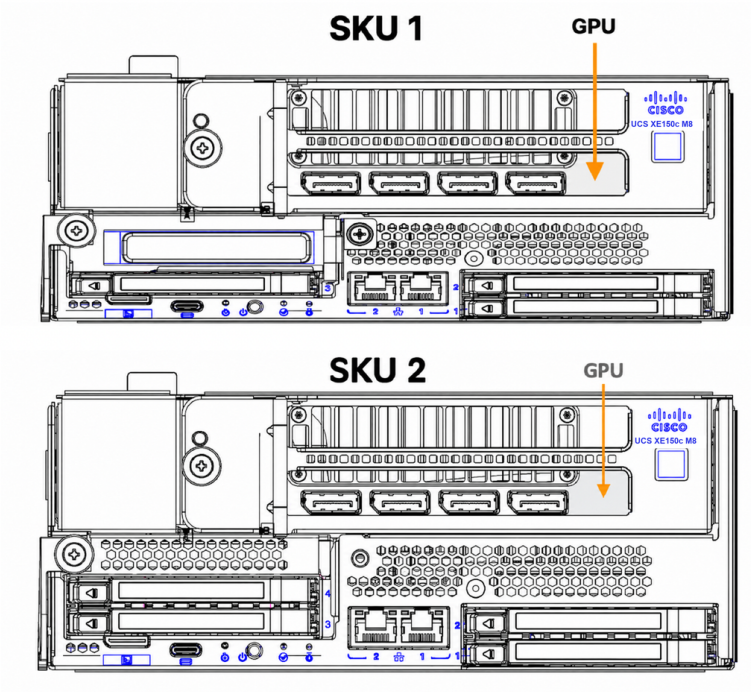
Card Type	Card	Cisco PID
NIC	Cisco(R) I710T4LG 4x1 GbE RJ45 PCIe NIC	UCSXE-P-IQ1GC
	Intel E835CQDA2 2x100 GbE QSFP28 PCIe NIC	UCSXE-P-I835D100GF
	Intel E835XXVDA4 4x25/10 GbE SFP PCIe NIC	UCSXE-P-I835Q25GF
	Intel E835XXVDA2 2x25/10 GbE SFP PCIe NIC	UCSXE-P-I835D25GF
	Cisco - Intel E810CQDA2 2x100 GbE QSFP28 PCIe NIC	UCSXE-P-I8D100GF
	Cisco - Intel E810XXVDA2 2x25/10 GbE SFP PCIe NIC	UCSXE-P-I8D25GF
	Cisco - Intel X710T2LG 2x10 GbE RJ45 PCIe NIC	UCSXE-P-ID10GC
	Cisco(R) X710T4LG 4x10 GbE RJ45 PCIe NIC	UCSXE-P-IQ10GC
HBA	Cisco-QLogic QLE2872 2x64GFC Gen 7 PCIe HBA	UCSXE-P-Q7D64GF

Supported GPUs

Through the use of optional PCI riser cages, each Cisco UCS XE150c M8 Compute Node can be customized to accept up to one GPU.

The riser cage and GPU can be installed on the right side of the node, above slots 1 and 2.

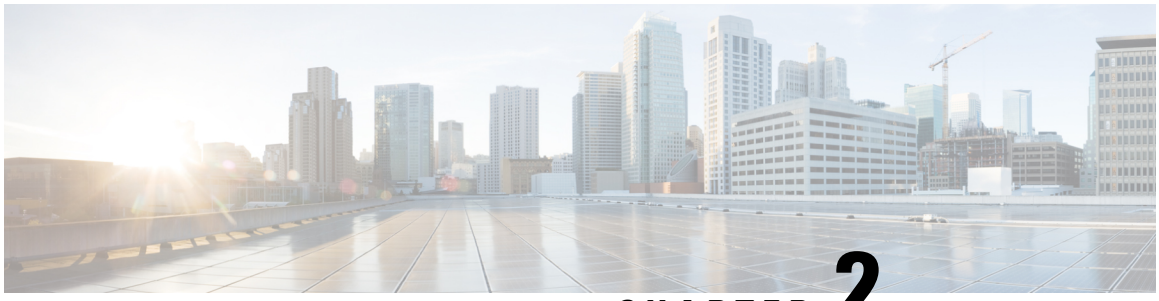
If you order a GPU with your initial shipment, the GPU will be pre-installed, but additional GPUs can be ordered and installed in the field, as your deployment scales out.



The following table shows the model and form factor of GPU supported by the compute node.

Table 5: Full-Height, Full Length (FHFL) Single-Slot and Double-Slot GPUs

GPUs	Cisco PID
NVIDIA RTX Pro 4500: 160W, 32GB, Gen5 1-slot FHFL GPU	UCSXE-GPU-RTXP4500
NVIDIA RTX Pro 6000: 600W, 96GB, 2-slot FHFL GPU	UCSXE-GPU-RTXP6000
NVIDIA L40S: 350W, 48GB, 2-slot FHFL GPU	UCSXE-GPU-L40S



CHAPTER 2

Installing the Node

This chapter contains the following topics:

- Installation Prerequisites, on page 7
- Compute Node Installation and Removal, on page 10

Installation Prerequisites

To install the Cisco UCS XE150c M8 Compute Node, be aware of the following prerequisites.

Note **For indoor use only.** Connect PoE ports only to PoE networks that are not routed to outside plant. Per IEC TR 62101, PoE is considered Network Environment 0; interconnected ITE circuits may therefore be considered SELV.

General Safety Warnings

Take note of the following general safety warnings.

Warning IMPORTANT SAFETY INSTRUCTIONS

Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Read the installation instructions before using, installing, or connecting the system to the power source. Use the statement number at the beginning of each warning statement to locate its translation in the translated safety warnings for this device.

SAVE THESE INSTRUCTIONS



Note You are strongly advised to read the safety instruction before using the product.

https://www.cisco.com/web/JP/techdoc/pldoc/pldoc.html

When installing the product, use the provided or designated connection cables/power cables/AC adapters.

〈製品使用における安全上の注意〉

www.cisco.com/web/JP/techdoc/index.html

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Warning To reduce risk of electric shock or fire, installation of the equipment must comply with local and national electrical codes.

Note An instructed person is someone who has been instructed and trained by a skilled person and takes the necessary precautions when working with equipment.

A skilled person or qualified personnel is someone who has training or experience in the equipment technology and understands potential hazards when working with equipment.

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

Equipment Installation to Power Warnings

Take note of the following power safety warnings.

Warning To reduce risk of electric shock or personal injury, disconnect DC power before removing or replacing components or performing upgrades.

Warning This unit is intended for installation in restricted access areas. Only skilled, instructed, or qualified personnel can access a restricted access area.

Warning To reduce the risk of electric shock and fire, a readily accessible disconnect device must be incorporated in the fixed wiring.

Warning To reduce risk of electric shock, when installing or replacing the unit, the ground connection must always be made first and disconnected last.

If your unit has modules, secure them with the provided screws.

Ground Connection Warnings

Take note of the following ground connection warnings.

Warning This equipment must be grounded. To reduce the risk of electric shock, never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available.

Warning In the Scandinavian countries (Denmark, Finland, Iceland, Norway, and Sweden) the appliance must be connected to a grounded outlet.

Optical Connection Warnings

Take note of the following optical connection warnings.

Warning Invisible laser radiation may be emitted from disconnected fibers or connectors. Do not stare into beams or view directly with optical instruments.

Warning Invisible laser radiation is present. Do not expose to users of telescopic optics. This applies to Class 1/1M laser products.



Warning **Laser Safety:** Ensure all unused ports are capped to maintain eye safety and prevent signal contamination.

General Node and Component Replacement Warnings

Take note of the following component replacement warning.



Warning **Electrostatic Discharge (ESD):** The Cisco UCS XE150c M8 Compute Node contains high-density integrated circuits. Always utilize an ESD-preventive wrist strap during handling to avoid permanent hardware damage.

Additional Information

The Cisco UCS XE150c M8 Compute Node installs into the Cisco UCS XE9305 Chassis. Installation information for the compute node is contained in this installation and service guide. However, to get complete information about the compute node and the chassis that contains it, consult the following documents.

Document	Topics	Link
Cisco Unified Edge XE9305 Chassis Installation and Service Guide	• Safety Warnings • General Installation Guidelines and Restrictions	Cisco Unified Edge XE9305 Chassis Installation and Service Guide
Regulatory Compliance and Safety Information (downloadable PDF)	--	Regulatory Compliance and Safety Information – Cisco UCS XE9305 Modular System

Compute Node Installation and Removal

Installing a Compute Node

Use this procedure to install a Cisco UCS XE150c M8 Compute Node into the chassis.

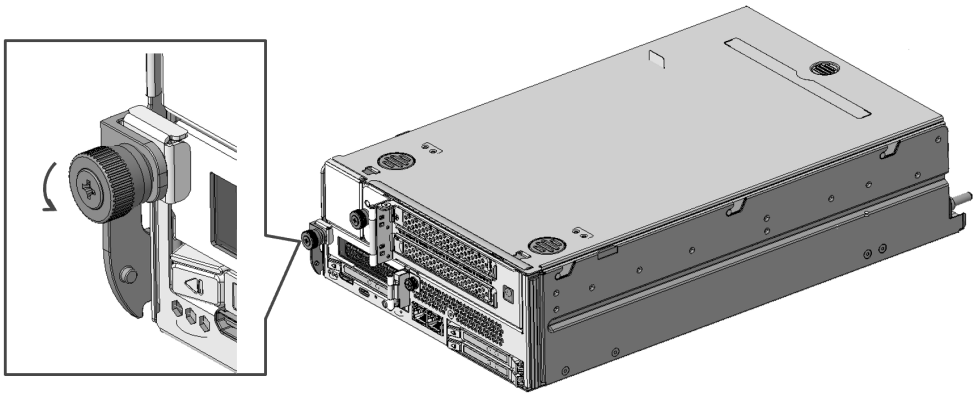
Before you begin

The Cisco UCS XE150c M8 Compute Node installs into a node slot on the front of the Cisco UCS XE9305 Chassis.

The compute node features a captive thumbscrew that you can manipulate with your fingers or a #2 Phillips screwdriver. If you want to use the screwdriver, gather it now.

Procedure

Step 1 Release the thumb screw from the compute node sled.

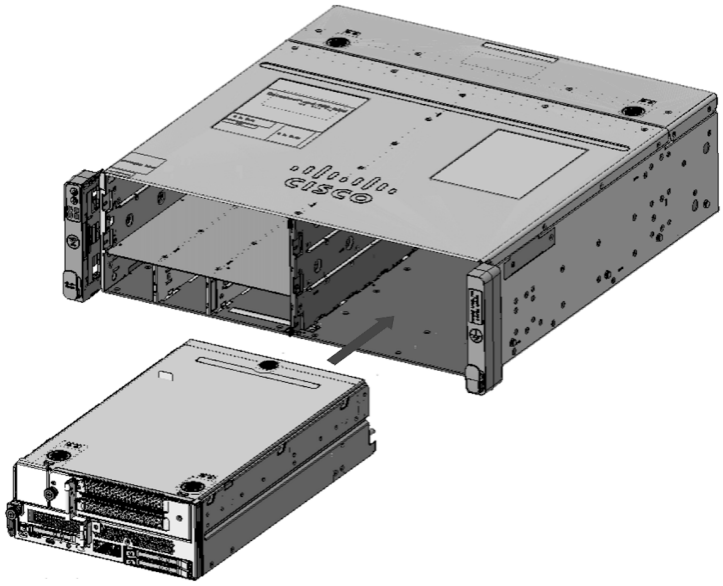


Prepare the compute node for installation:

- If needed, remove any blank (filler panel) that covers the chassis slot, or remove any existing node that is in the slot.
- Ensure the compute node's ejector lever is in the open position (approximately a 45-degree angle).
- Align the compute node with the chassis slot, ensuring the top cover is facing up.

The ejector lever must not be flush with the faceplate prior to inserting the compute node into the chassis.

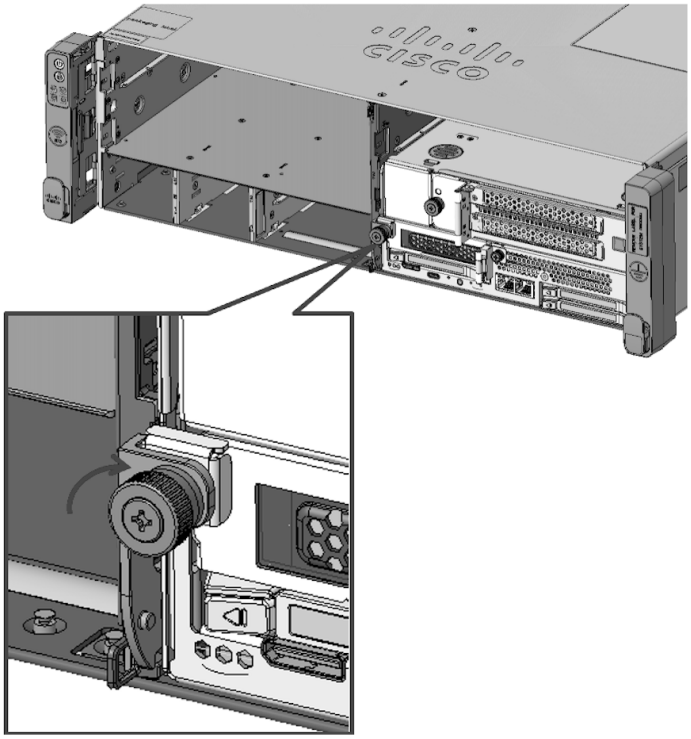
Step 2 Support the underside of the compute node and slide it into the chassis until it is seated fully.



Expect some resistance as the rear connector engages with the chassis socket.

Step 3 Fasten the thumb screw to secure the compute node into the chassis.

Gently swing the ejector lever in an upward arc (to the closed position) until it clicks. Start threading the captive thumbscrew by hand, then use the screwdriver to tighten it to between 4.2 in-lbs and 5.9 in-lbs (5.1 kg-cm to 6.9 kg-cm).



Note Once installed, the compute node will automatically power on after connecting to the power backplane.

Step 4 Complete post-installation tasks:

a) If needed, use a Cisco management tool, such as Cisco IOS, to configure the compute node.
b) Connect, or reconnect, network and management cables as needed.

Note For PoE connections, connect only to PoE networks that are not routed to outside plant.

Removing a Compute Node

Use this procedure to remove a Cisco UCS XE150c M8 Compute Node from the chassis.

Caution Do not operate the Cisco UCS XE9305 Chassis with any uncovered or open node slots. If you remove a compute node, you must insert another node or a node blank.

Before you begin

The Cisco UCS XE150c M8 Compute Node is located in one of the chassis slots on the front of the Cisco UCS XE9305 Chassis.

The compute node features a captive thumbscrew that you can manipulate with your fingers or a #2 Phillips screwdriver. If you want to use the screwdriver, gather it now.

Caution When handling the compute node, make sure to follow all appropriate ESD safety guidelines, such as wearing an ESD wristband and using grounded or rubberized mats.

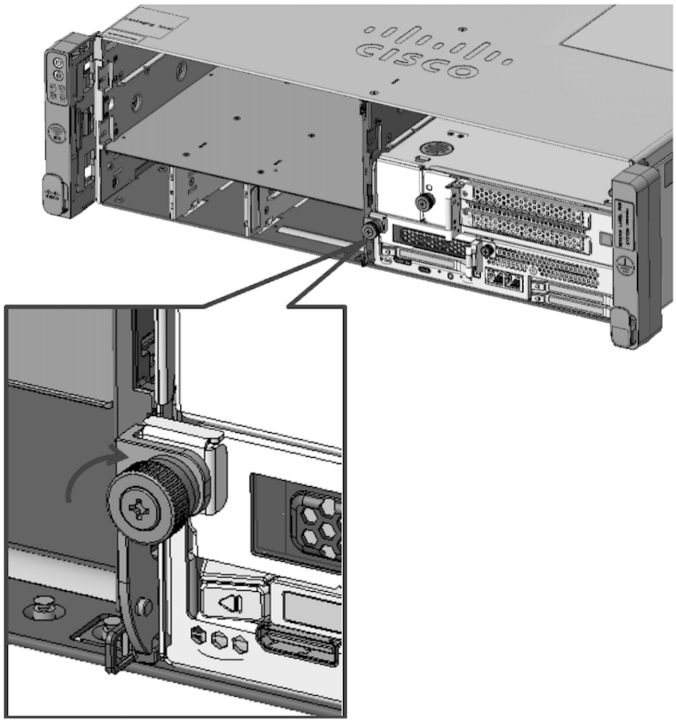
Procedure

Step 1 Using a Cisco management tool, such as Cisco IOS, gracefully power down the compute node.

Step 2 Disconnect any cables from the compute node.

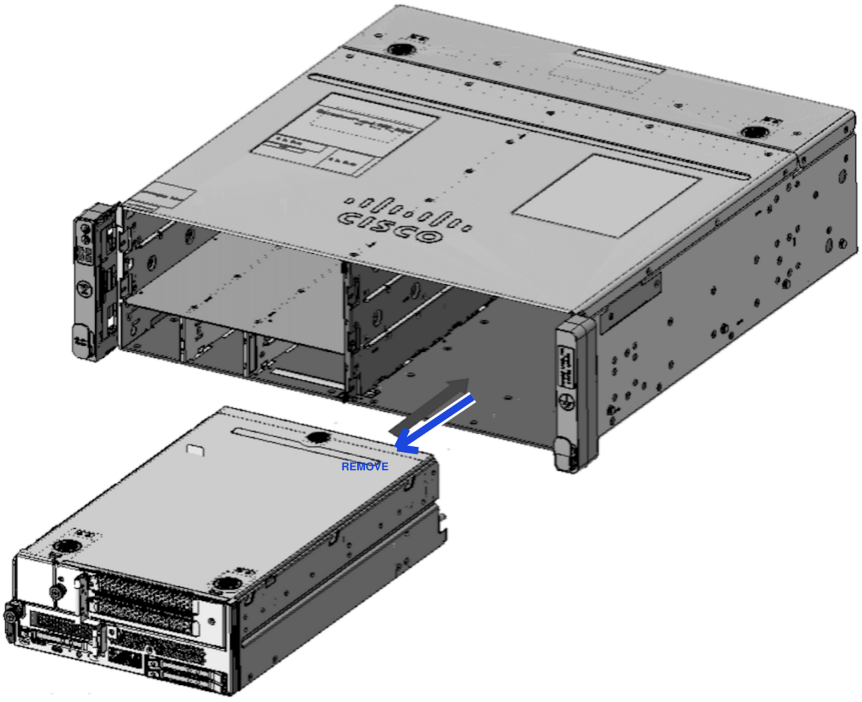
If you will be reinserting a compute node, you can leave the other end of the cables attached to the peer devices.

Step 3 Using your fingers or a #2 Phillips screwdriver, loosen the captive thumbscrew on the front panel of the compute node.



Step 4 Pull the release handle in a downward arc (to the open position) to disengage the node from the backplane, then slide the compute node out of the chassis.

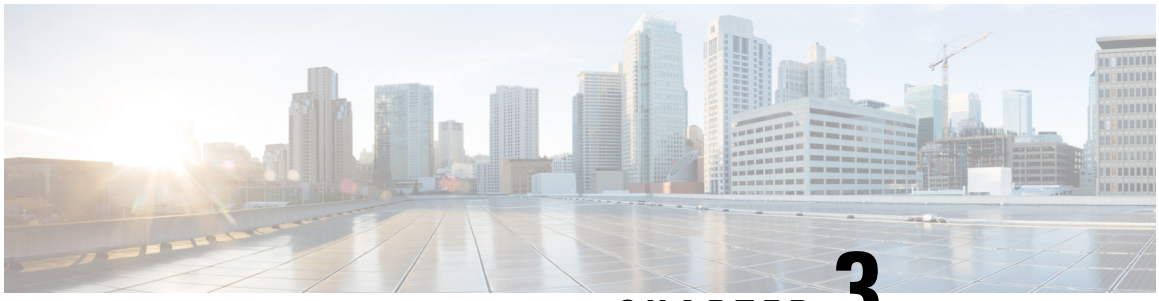
Note Make sure to support the underside of the compute node while you are sliding it out of the chassis.



What to do next

Choose the appropriate option:

- If you are reseating the same compute node, or installing a new compute node, go to Installing a Compute Node.
- If you will be servicing the compute node, go to Servicing the Node, on page 15.
- If you will not be reinstalling any node, cover the empty chassis slot with a blank filler panel.



CHAPTER 3

Servicing the Node

This chapter contains the following topics:

- Servicing the Node, on page 15
- Pre-Installation Requirements and Considerations, on page 16
- Removing a Node Top Cover, on page 17
- Installing a Node Top Cover, on page 18
- Removing GPU tray assembly, on page 20
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- Removing the Trusted Platform Module, on page 34
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Servicing the Node

The Cisco UCS XE150c M8 Compute Node contains components that can be serviced after the node is removed from the Cisco UCS XE9305 chassis. The sheet-metal top cover protects the internal components and maintains the airflow path. Remove the cover only when servicing an internal component, and reinstall the cover before returning the node to service.



Important Only trained personnel should remove the compute node or service its internal components.

Serviceable Component Locations

The following components are covered by the service procedures in this chapter.

Table 6: Serviceable Component Locations

Component	Location	Access	Tool
Top Cover	Top of compute node	Release button and retention pins	No tool required
E3.S NVMe Drive	Front of the compute node	Release latch by pressing button	No tool required
M.2 RAID Controller and M.2 SSDs	Internal motherboard	Remove top cover Remove GPU tray module	#1 Phillips; retaining screw: 2.8–3.7 in-lb
DIMM	Internal Motherboard	Release latch on DIMM socket	No tool required
PCIe Adapter	Internal Motherboard	Remove screws	
GPU	Under the top cover	Remove top cover	
Trusted Platform Module	Internal Motherboard	Remove screws	

Pre-Installation Requirements and Considerations

Site Preparation Requirements

Before installing the compute node, be aware of the following:

- **Power Infrastructure:** Ensure the Cisco UCS XE9305 Chassis is properly connected to a stable power source compatible with the 12 to 54 VDC input requirements. Verify that the total PoE power budget (up to 360W) is accounted for in your power planning.
- **Grounding:** The Cisco UCS XE9305 Chassis must be properly grounded to prevent electrostatic discharge (ESD) damage to the high-density ARM v9 SOC and FPGA components.

Installation Caveats and Considerations

Datacenter administrators should be aware of the following operational considerations:

- **Hot-Swap:** The Cisco UCS XE150c M8 Compute Node supports hot-swap functionality. However, ensure the host chassis is powered and stable before engaging the node.
- **ESD Precautions:** When you handle the compute node, especially when the top cover is removed and the motherboard, and their components are accessible, always wear an ESD-preventive wrist strap during installation or removal.

Component Replacement Warnings

For component replacement, be aware of the following.

Note An instructed person is someone who has been instructed and trained by a skilled person and takes the necessary precautions when working with equipment.

A skilled person or qualified personnel is someone who has training or experience in the equipment technology and understands potential hazards when working with equipment.

Warning Only an instructed person or skilled person should be allowed to install, replace, or service this equipment. See statement 1089 for the definition of an instructed person or skilled person.

Removing a Node Top Cover

Use this task to remove the node top cover.

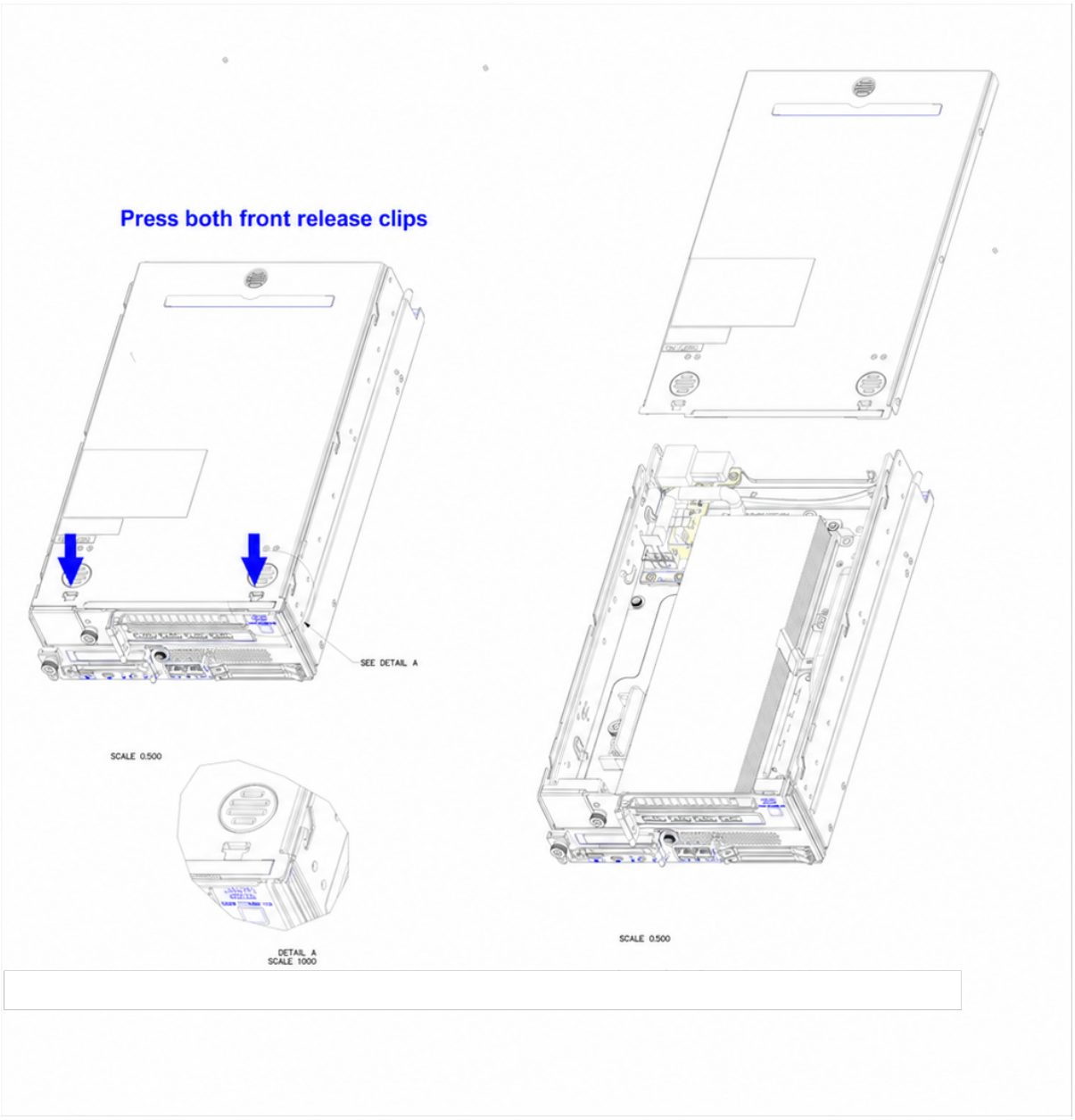
Before you begin

To access the node top cover, the node must be removed from the chassis. When the node is removed from the chassis, the node is disconnected from the power backplane, so the node is powered off.

Procedure

Step 1 Press both the front release clips on the node top cover.

Step 2 While holding the release button down, slide the cover toward the back of the node. Lift the back end of the cover so the retention pins clear the grooves on top of the node.



Installing a Node Top Cover

Use this task to install a node top cover.

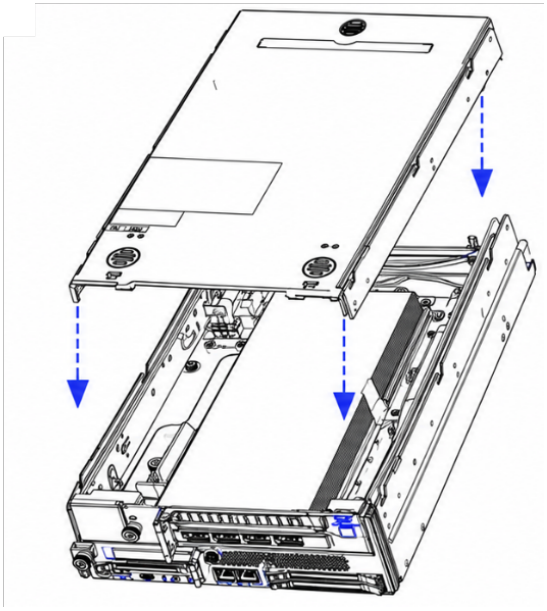
Before you begin

After any service procedures are complete, you must install the node top cover before re-installing it into the chassis.

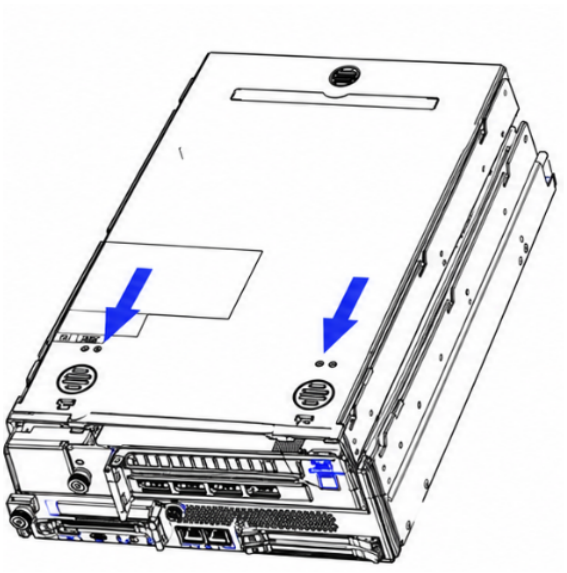
When the node is re-installed, it will power on after successfully connecting to the power backplane.

Procedure

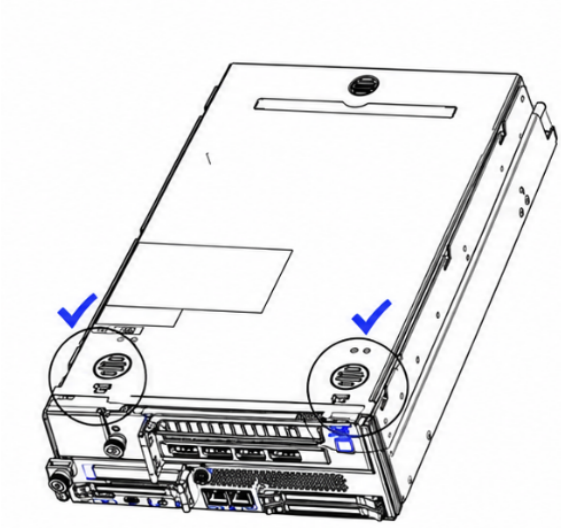
Step 1 Lower the top cover onto the node.



Step 2 Slide the front end of the cover under the sheet-metal edge on the node. Make sure the retention pins slide into the grooves on top of the node.



Step 3 Continue sliding the cover until the release button engages, indicating that the cover is locked.



The node powers on after it is fully inserted into the chassis and connects to the power backplane.

What to do next

Choose the appropriate option:

- If you will return the node to service, insert it back into the chassis and connect cables.

  Go to Installing a Compute Node, on page 10.

- If you will not install any node in the slot previously occupied by the node, install a blank filler panel.

Removing GPU tray assembly

Before you begin

Procedure

Step 1 Disconnect the **power cable** from the GPU power board.

Step 2 Disconnect the **sideband cable** from the GPU power board and main board. It must be disconnected before you lift the handle.

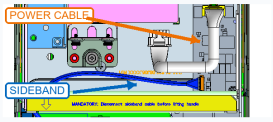
Step 3 Open the GPU tray handle **fully** to disengage it from the chassis T-pin. If it is not fully open, the tray will remain engaged; don't force it.

Step 4 Support the tray at the **GPU latch (4.1)** and **handle (4.2)**. Don't lift it by the thumbscrew.

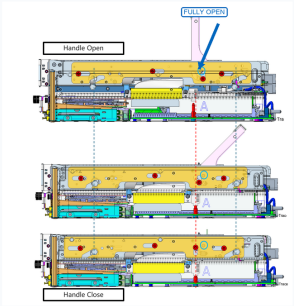
Step 5 Lift the tray clear of the chassis.

GPU Tray Assembly Removal — Step-by-Step Pointers

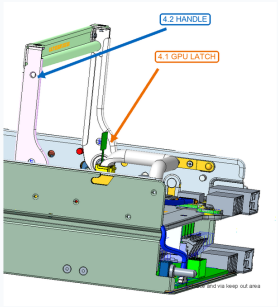
1–2. Disconnect power, then sideband cable



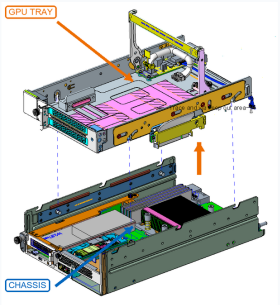
3. Fully open handle to free chassis T-pin

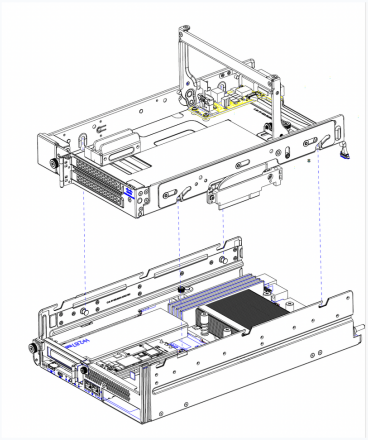


4. Hold GPU latch (4.1) and handle (4.2)



5. Lift tray clear of chassis





Installing GPU tray assembly

Before you begin

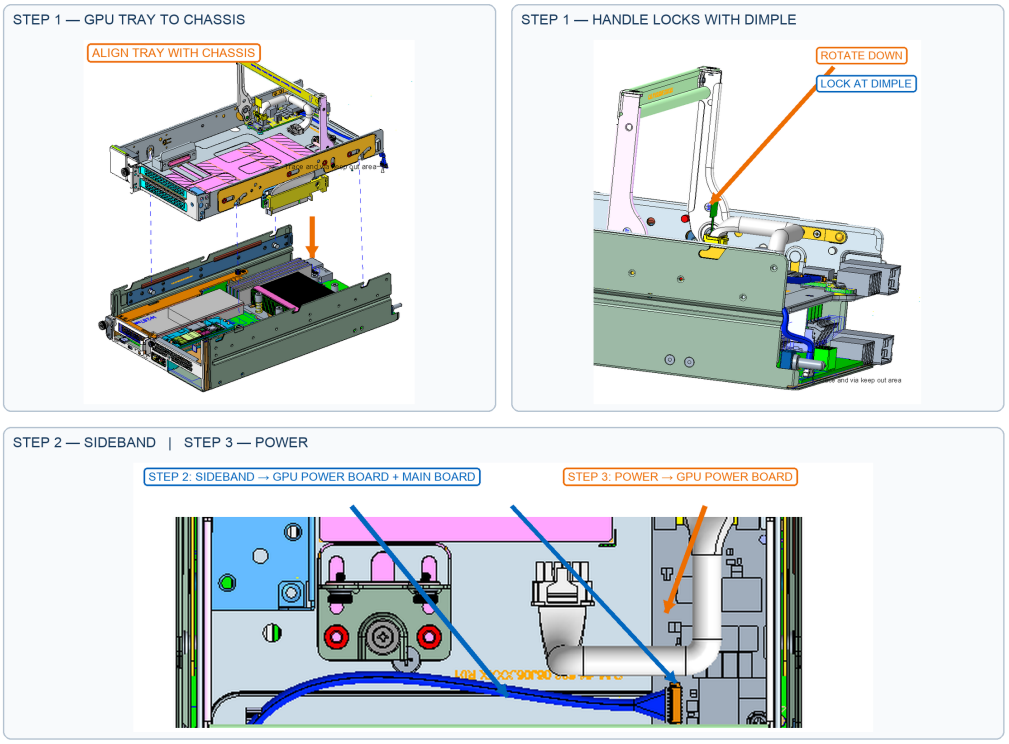
Procedure

Step 1 With the handle fully open, align the GPU tray with the chassis and seat it.

Push and rotate the handle down until it locks with the dimple.

Step 2 Connect the sideband cable to the GPU power board and main board.

Step 3 Connect the power cable to the GPU power board.



Removing an E3.S Drive

Use this task to remove an E3.S drive.

Before you begin

The E3.S drive is hot-swappable and can be removed from the front of the compute node without removing the top cover.

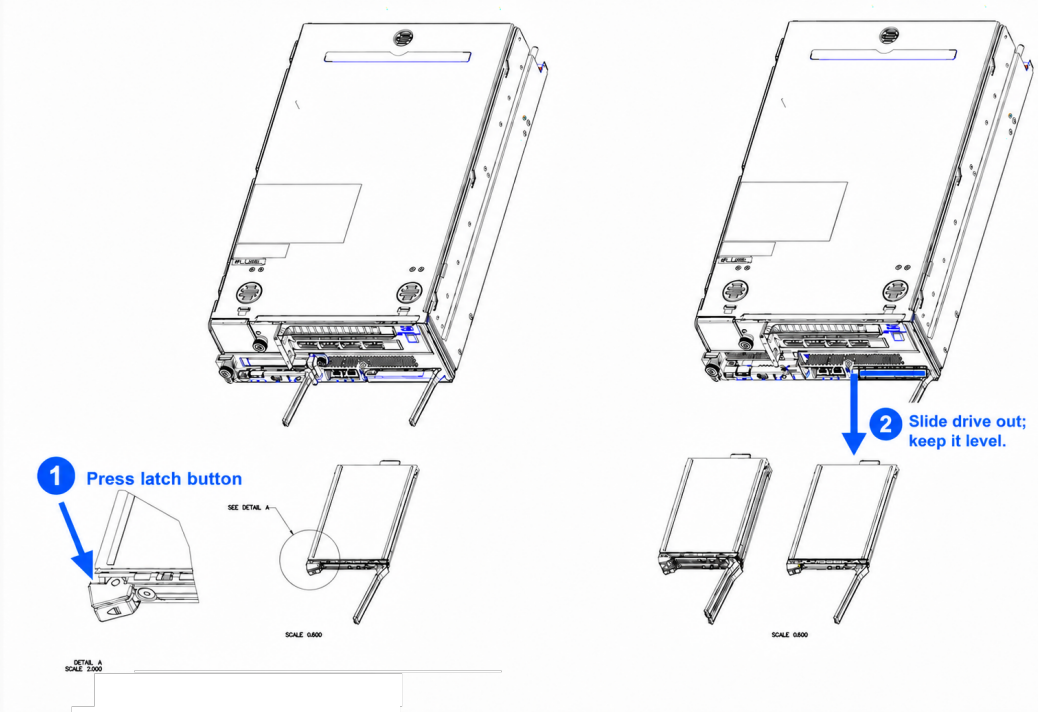
Procedure

Step 1 Press the E3.S latch button.

The ejector latch opens.

Step 2 Hold the open latch and pull the drive out.

Keep the drive level and support its underside as needed.



Installing an E3.S Drive

Use this task to install an E3.S drive.

Before you begin

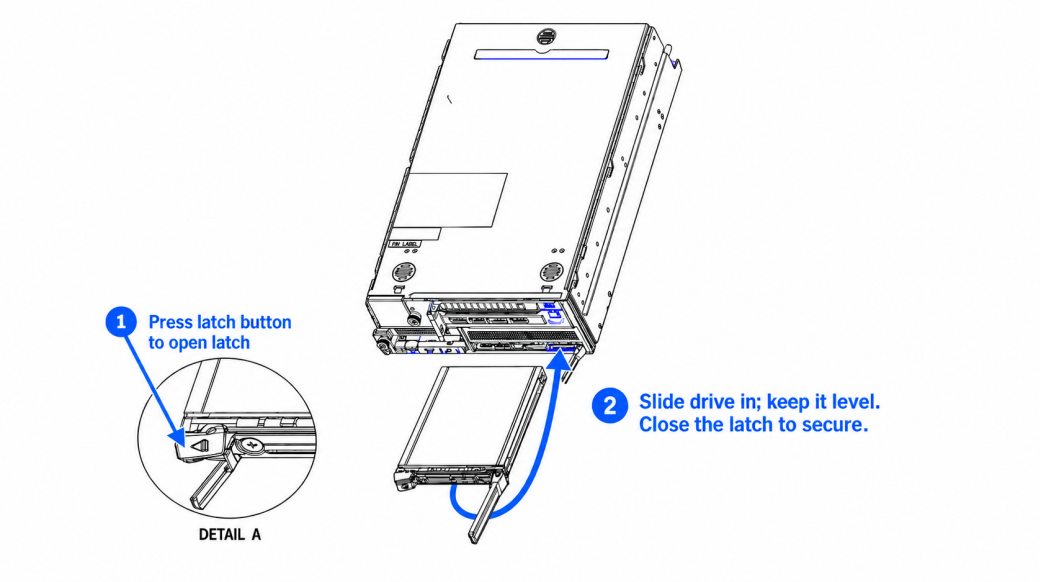
E3.S drives are front-loading and hot-swappable. You do not need to remove the node's top cover.

Procedure

Step 1 From the front of the node, press the latch button shown in **Detail A** to open the ejector latch.

Step 2 Align the drive with the bay. Keep it level, support its underside, and slide it straight in until seated.

Step 3 Close the ejector latch to secure the drive.



Removing the M.2 SSDs

Use this task to remove the M.2 SSDs.

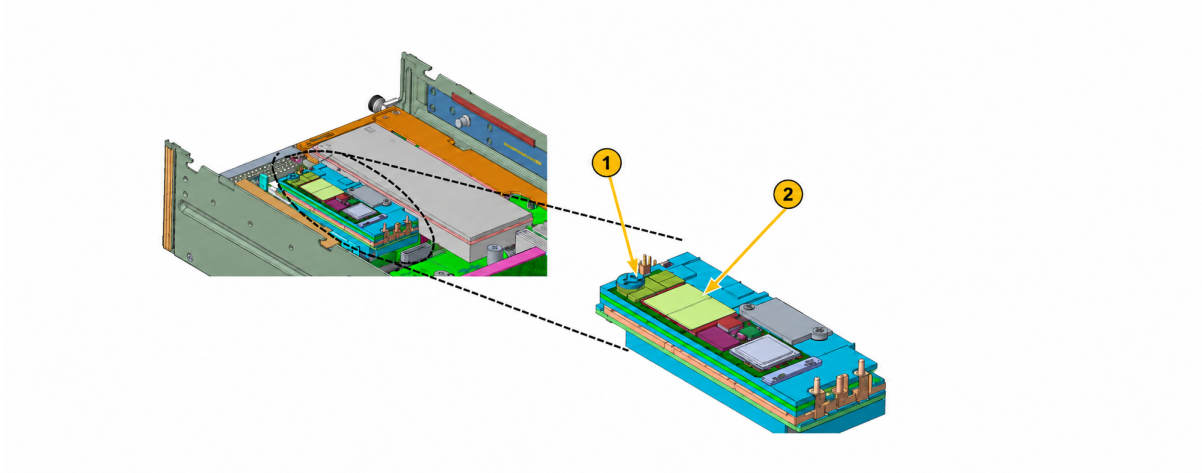
Before you begin

The compute node must be powered off before you replace the M.2 SSD; hot-plug replacement is not supported. Remove the compute node from the chassis. You need a #2 Phillips screwdriver to remove the SSD.

Procedure

Step 1 Remove the M.2 SSD retaining screw.

Step 2 Remove the SSD by lifting slightly and sliding it out.



Installing the M.2 SSDs

Use this task to install the M.2 SSDs.

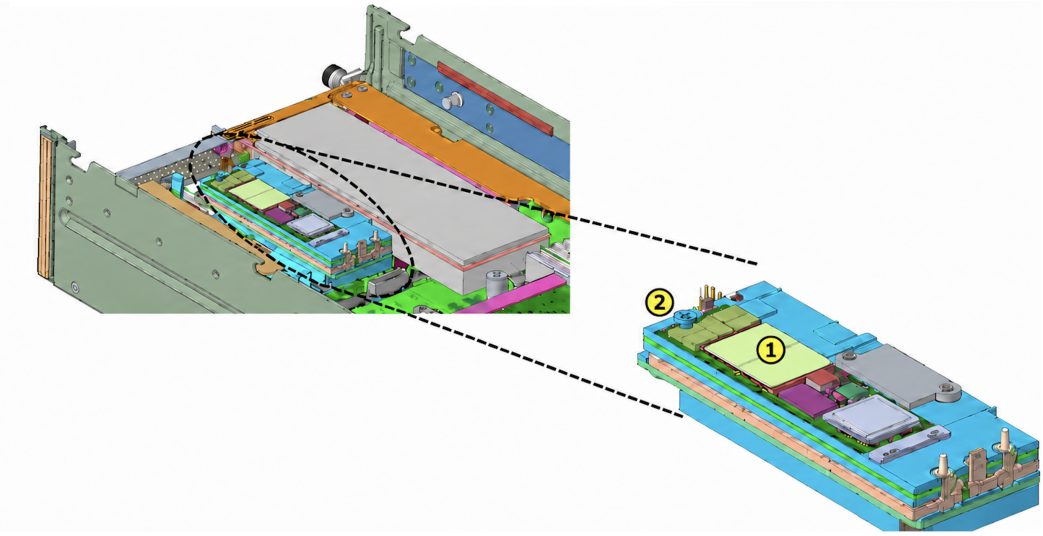
Before you begin

You need a #2 Phillips screwdriver to install the M.2 SSDs.

Procedure

Step 1 Insert SSD by sliding into the connector at an angle.

Step 2 Install and tighten the M.2 SSD screw to **2.55–3.45 kg-cm**.



Removing the DIMM

Use this task to remove the DIMM.

Before you begin

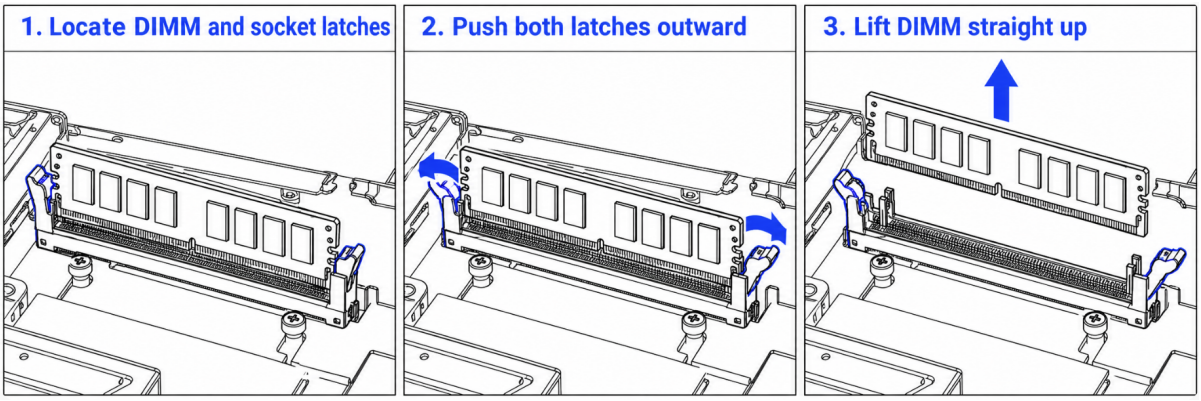
Remove the compute node from the chassis and remove its top cover to access the DIMMs.

Procedure

Step 1 Locate the DIMM and the connector latches at both ends of its socket.

Step 2 Simultaneously push both connector latches outward to open the socket.

Step 3 When the latches are open, grasp the DIMM and lift it straight up to remove it from the socket.



Installing the DIMM

Use this task to install the DIMM.

Before you begin

DIMM installation is tool-less. The compute node must be removed from the chassis to access its DIMM sockets.

Remove the node's top cover and identify the correct empty socket for your memory configuration. For supported DIMM population, see the memory population rules in the guide.

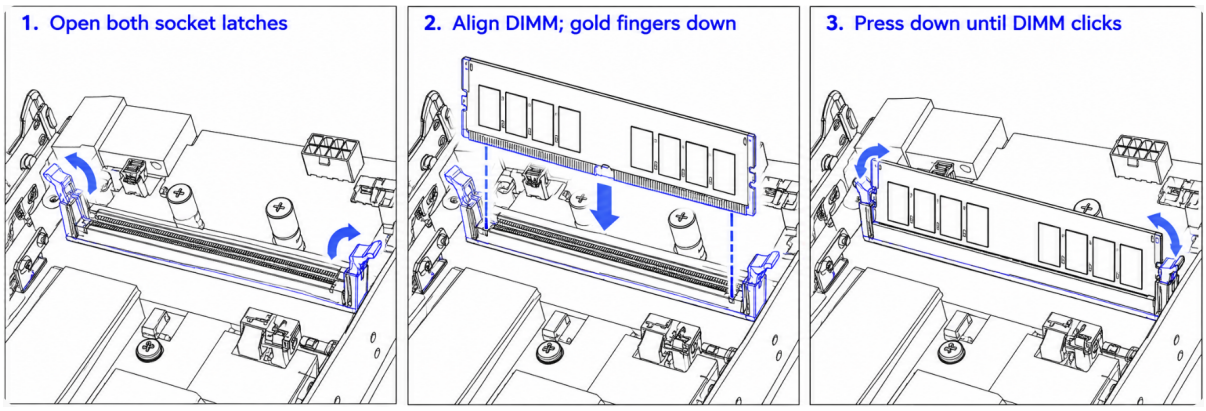
Procedure

Step 1 Push the connector latches at both ends of the socket outward to open them.

Step 2 Align the DIMM with the socket, with the golden fingers pointing down.

Step 3 Insert the DIMM into the socket and gently press down until it clicks into place.

Step 4 After installing the required DIMMs, reinstall the node in the chassis.



Removing a PCIe Adapter

Use this task to remove a PCIe adapter.

Before you begin

The PCIe adapter is installed in the left PCIe cage when facing the compute node.

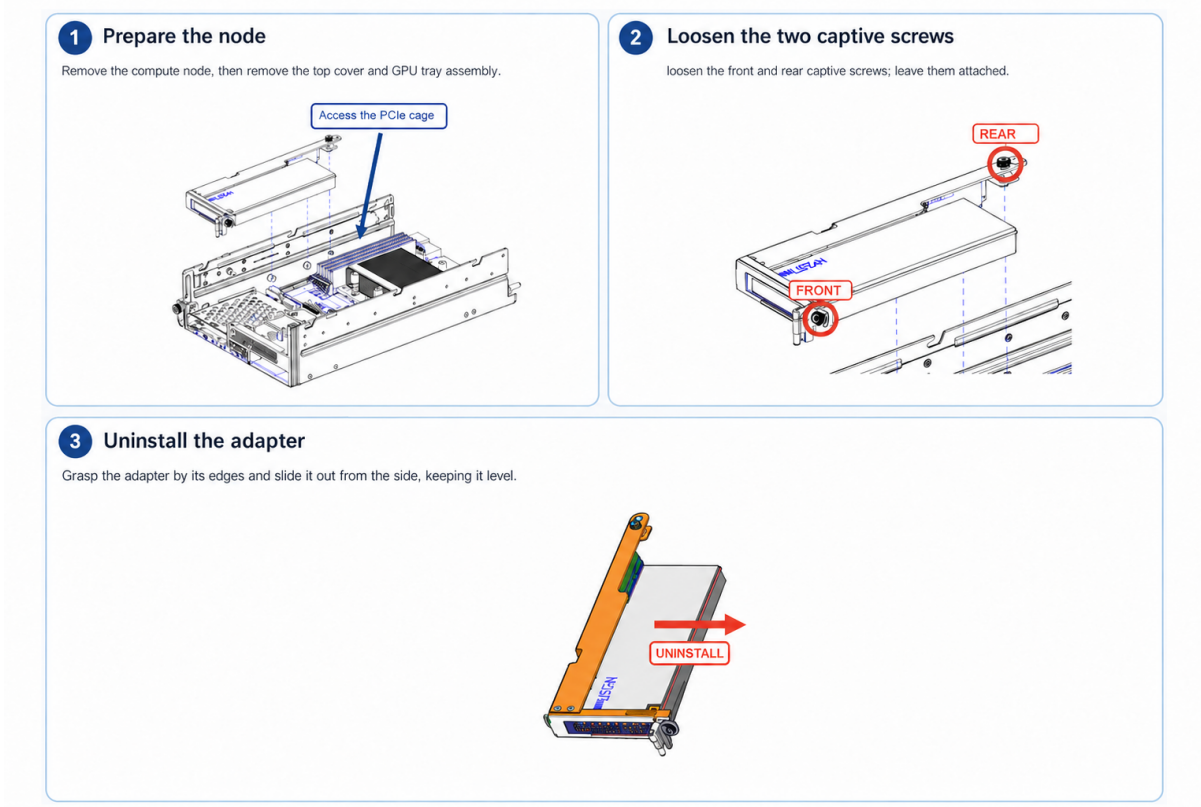
Have a #2 Phillips screwdriver available.

Procedure

Step 1 Remove the compute node from the chassis. Then remove the top cover and the GPU tray assembly. For detailed instructions, refer to Removing a Node Top Cover, on page 17 and Removing GPU tray assembly, on page 20.

Step 2 Release the two captive thumbscrews that secure the PCIe cage. Hold the cage by its touch points and lift it off the node.

Step 3 Grasp the adapter by its edges and slide it out from the side, keeping it level.



Installing a PCIe Adapter

Use this task to install a PCIe adapter.

Before you begin

The adapter must be a supported HHHL PCIe Gen5 x16 card. Remove the compute node from the chassis before installing the card.

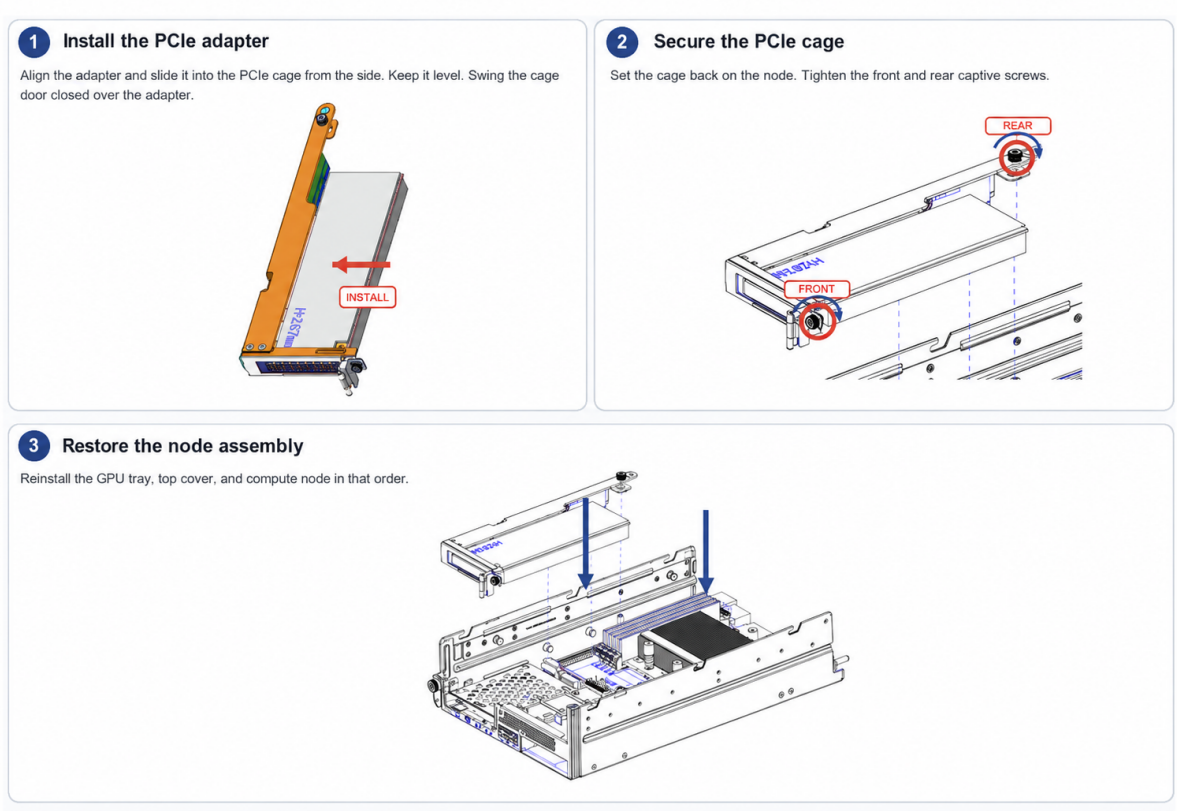
Have a #2 Phillips screwdriver and a torque driver available for reinstalling the PCIe cage.

Procedure

Step 1 Align the PCIe adapter and slide it into the PCIe cage from the side. Keep it level. Swing the PCIe cage door open.

Step 2 Tighten the front and rear captive screws until snug.

Step 3 Reinstall the GPU tray, top cover, and compute node in that order.



Removing a GPU

Use this task to remove a GPU.

Before you begin

Remove the compute node from the chassis and remove its top cover to access the GPU cage.

Have a #2 Phillips screwdriver ready.

Procedure

Step 1 Remove the compute node from the chassis, then remove the top cover.

Step 2 Disconnect the cable from both the GPU and GPU power board before removing the GPU.

Step 3 Loosen the captive thumbscrew of the GPU tray and swing the door open.

Step 4 Loosen the rear-bracket and holder-bracket fasteners; move the holder bracket clear of the GPU.

Step 5 Lift the GPU straight up from the GPU-tray riser-cable DA connector.

Step 6 If no replacement GPU is installed, re-install the blank cover. Close the door and tighten the thumbscrew.

Step 7 Re-install the GPU tray, top cover, and compute node.



Installing a GPU

Use this task to install a GPU.

Before you begin

The compute node supports an optional graphics processing unit (GPU) in the right PCIe cage. The GPU must be a supported half-height, half-length (HHHL) card. Remove the compute node from the chassis and its top cover before installation. Have a #2 Phillips screwdriver and a torque driver available.

Do not operate the compute node with an empty PCIe slot. If you do not install a GPU, install a PCIe filler blank.

Procedure

Step 1 Open the GPU latch and remove the GPU bracket or blank cover.

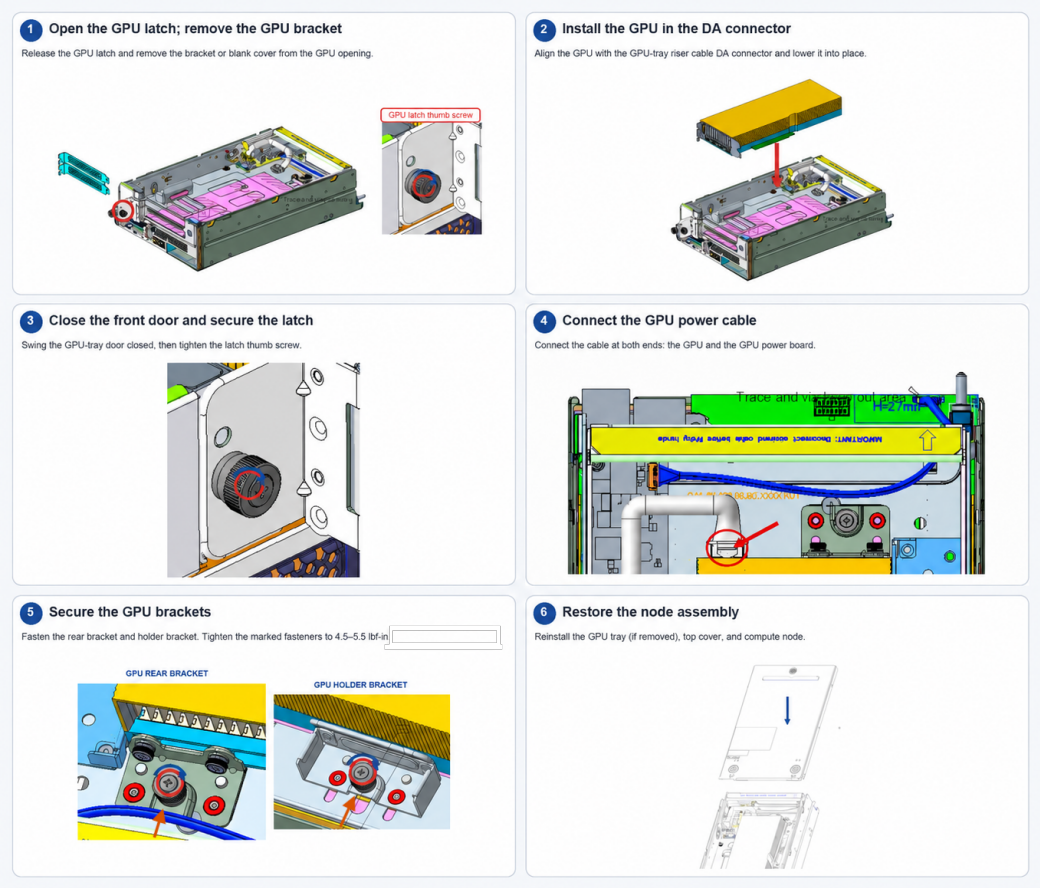
Step 2 Align the GPU with the tray's riser cable DA connector and lower it into place.

Step 3 Close the front door and tighten the latch thumb screw.

Step 4 Connect the power cable to both the GPU and the GPU power board.

Step 5 Fasten the GPU rear bracket and holder bracket. Tighten the specified fasteners to **4.5–5.5 lb-in (5.17–6.32 kg-cm)**.

Step 6 Reinstall the top cover and return the compute node to the chassis.



Removing the Trusted Platform Module

Use this task to remove the Trusted Platform Module.

Before you begin

Gracefully power off the compute node. Remove the node from the chassis and remove its top cover using the approved procedures.

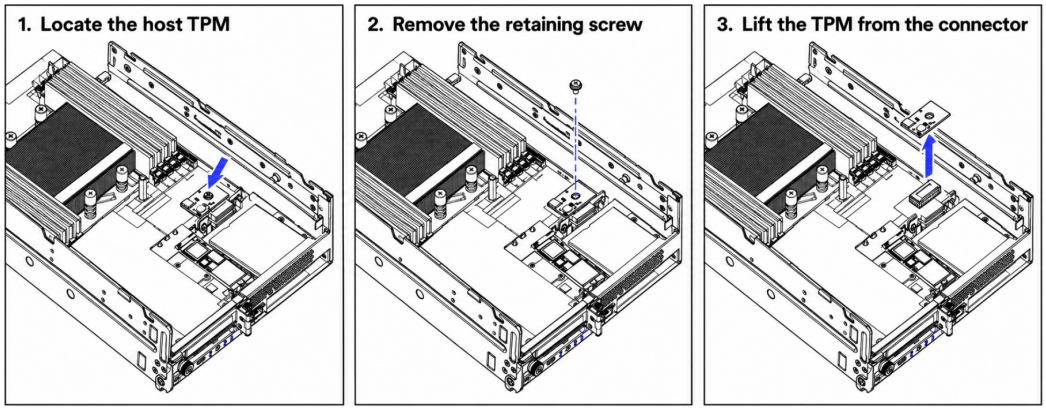
Procedure

Step 1 Locate the host TPM on the system board.

Step 2 Remove the TPM's retaining screw.

Step 3 Lift the TPM from its connector.

Caution Replacing or clearing a TPM can make encrypted data unavailable.



Installing the Trusted Platform Module

Use this task to install the Trusted Platform Module.

Before you begin

Caution Replacing or clearing a TPM can make encrypted data unavailable.

Procedure

Step 1 Power off the compute node and remove it from the chassis.

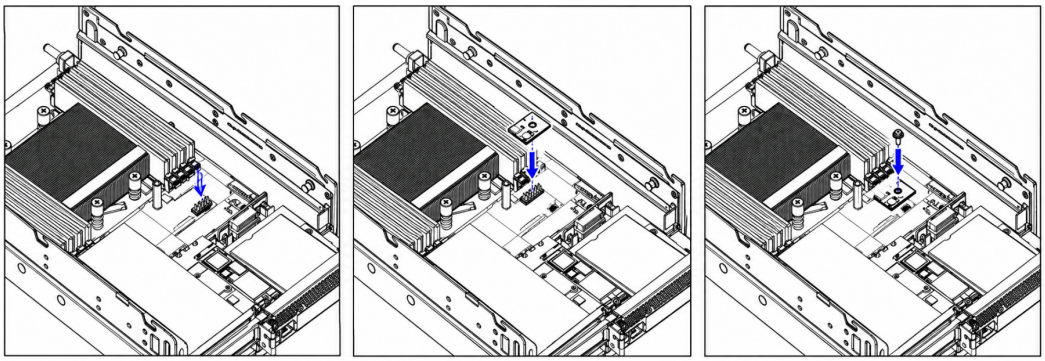
Step 2 Remove the top cover and GPU tray module using the approved procedure.

Step 3 Locate the host TPM connector on the system board.

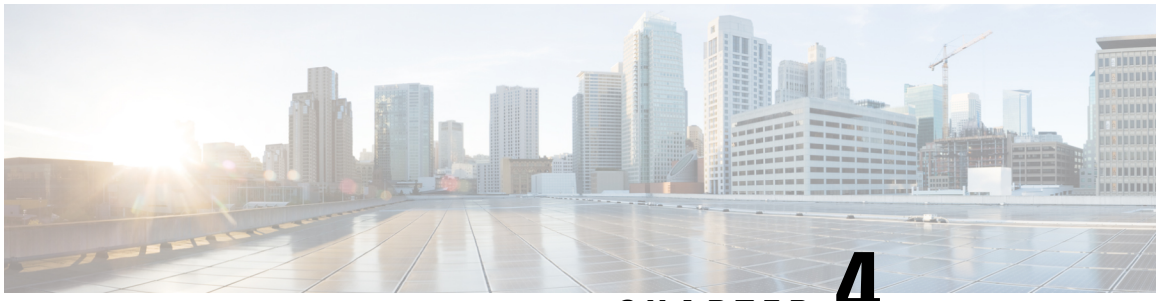
Step 4 Align and install the TPM module.

Step 5 Secure the TPM module with its screw.

Step 6 Reinstall the top cover and compute node.



1. Locate the TPM connector
2. Align and install the TPM module
3. Secure the module with its screw



CHAPTER 4

Recycling Node Components

This chapter contains the following topics:

- Recycling the Cisco UCS XE150c Compute Node PCB, on page 37
- Recycling the Compute Node DIMM Modules, on page 51

Recycling the Cisco UCS XE150c Compute Node PCB

The Cisco UCS XE150c Compute Node contains a PCB. To remove the PCB for recycling, you must also remove additional components such as PCIe cards, DIMM modules, the CPU and heatsink.

Use this procedure to recycle the XE150c compute node's PCB.

Before you begin

Gather the following tools:

- One #1 Phillips (cross-head) screwdriver
- One #2 Philips (cross-head) screwdriver
- One #8 hexhead wrench or hex nut driver

Some components on the XE150c compute node have designated touch points where you should grasp the component. Touch points are indicated in these illustrations as a solid blue circle. When indicated, use the touch point. Do not grasp the component at any other locations than the touch point when the touch point is shown.

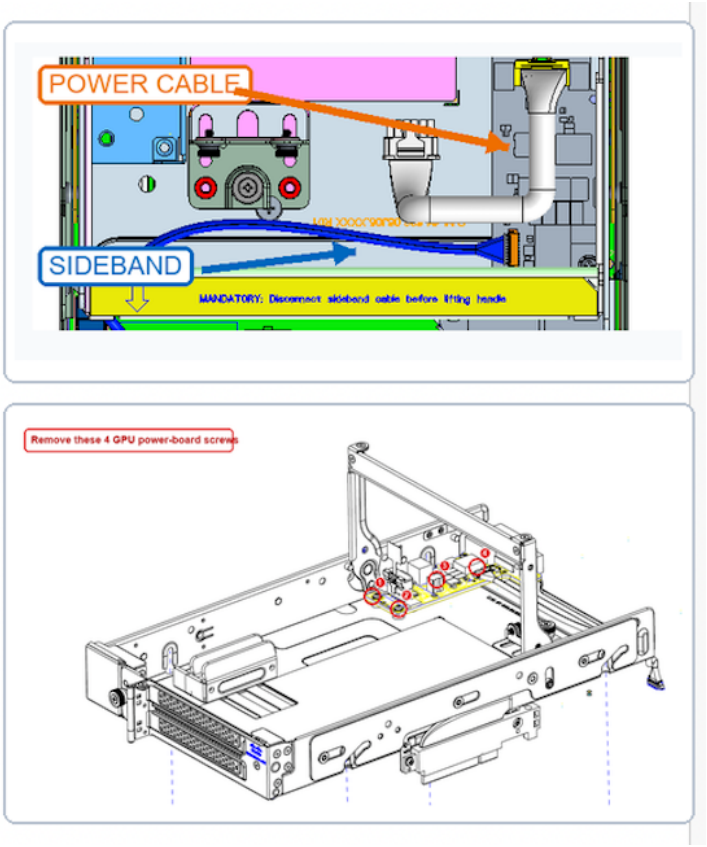
Procedure

Step 1 Remove the node's top cover. For more information, refer to Removing a Node Top Cover, on page 17.

Step 2 Remove the nodes GPU tray assembly. For more information, refer to Removing GPU tray assembly, on page 20.

a. Remove the power cable and sideband cable.

b. Using #2 Phillips screwdriver, remove 4 screws and remove the power board from the GPU tray.

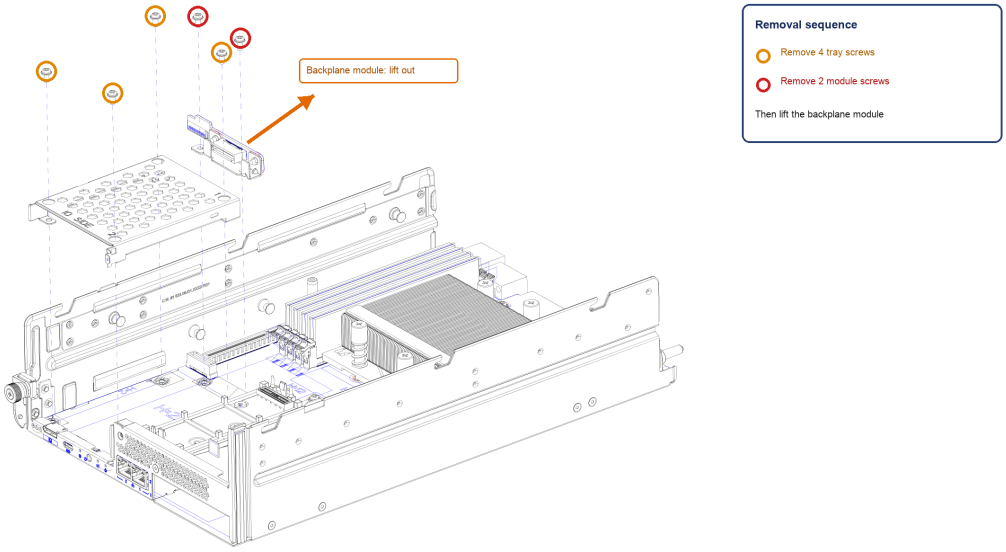


Step 3 Remove the left PCIe module. For more information, refer to Removing a PCIe Adapter, on page 29.

Step 4 Remove the left E3.S backplane module.

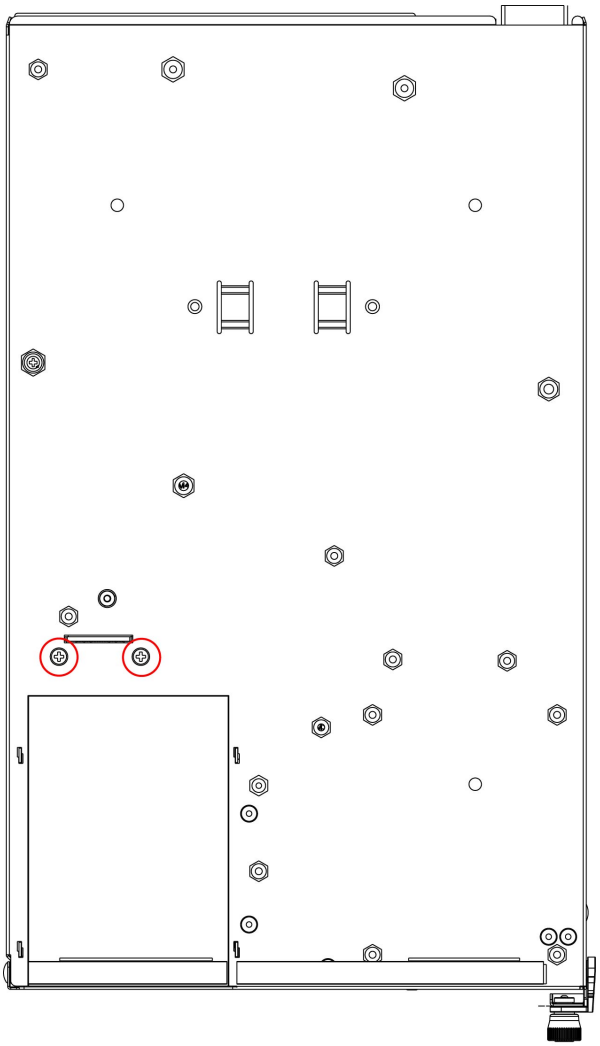
a) Using a #2 Phillips screwdriver, remove 4 screws to remove the tray. Keep the screw safe if installation is needed later.

b) Remove 2 screws holding the backplane module and then grasp the module and remove it from the node.



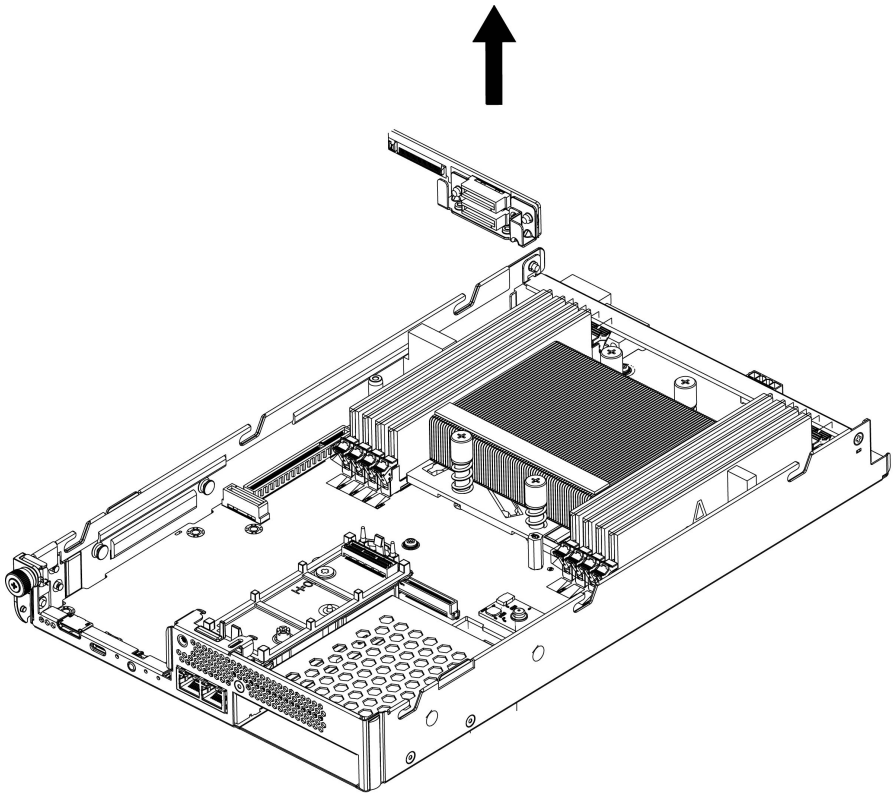
Step 5 Remove the right E3.S backplane module.

a) Remove the two backplane module screws.



492840

b) Grasp the backplane module and remove it from the node.



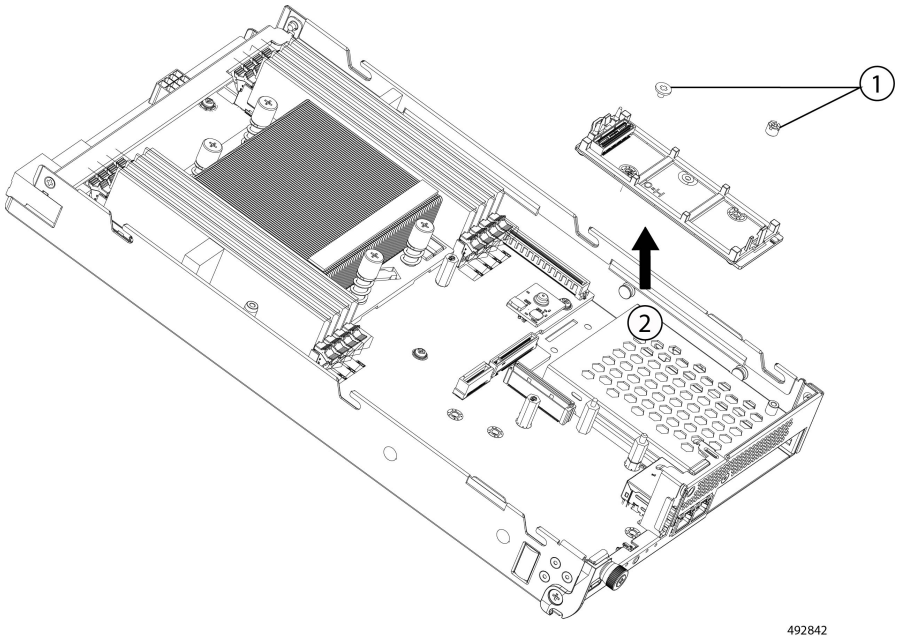
492841

Step 6 Remove the M.2 SSD. For more information, refer to Removing the M.2 SSDs, on page 25.

Step 7 Remove M.2 carrier tray.

a) Using a #2 Phillips screwdriver, remove the two screws.

b) Grasp the M.2 carrier tray and remove it from the node.

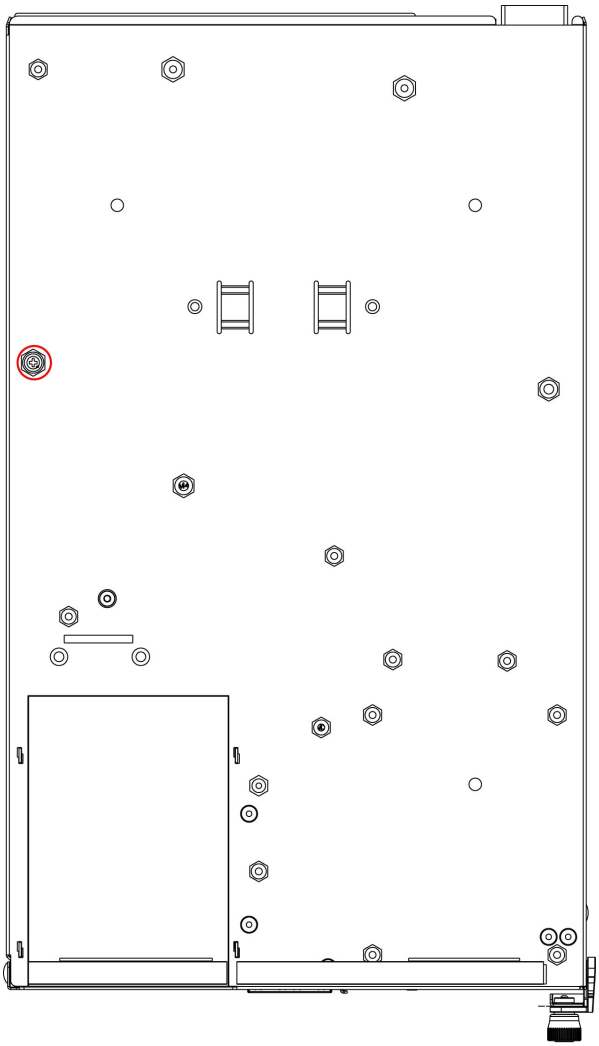


Step 8 Remove the node PCB.

a) Turn the node over so that the bottom is facing up.

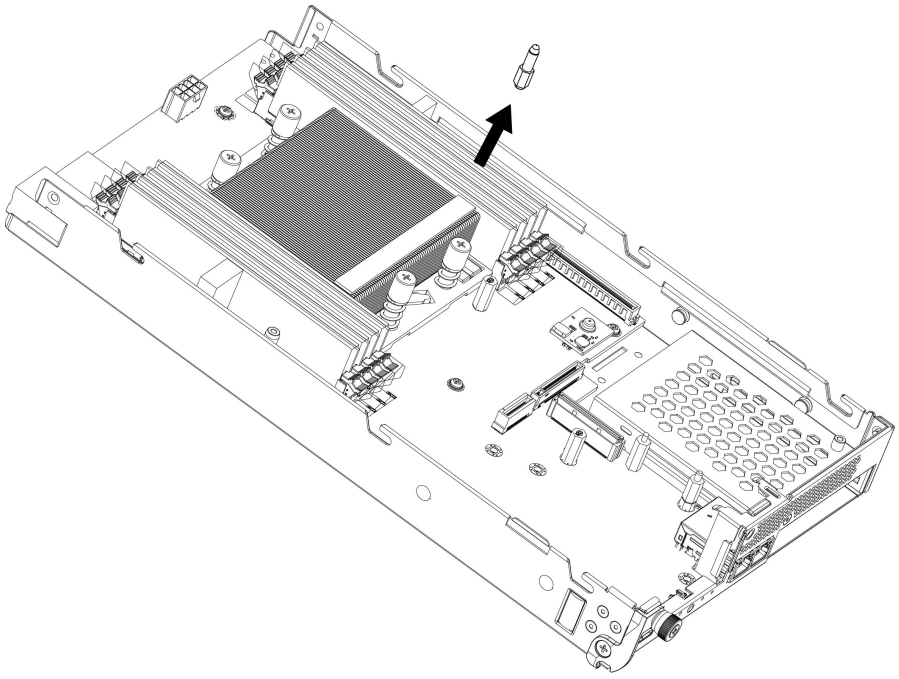
b) Using a #1 Phillips screwdriver, remove the guide pin screw on the bottom of the node.

This screw secures a guide pin on the top of the node.



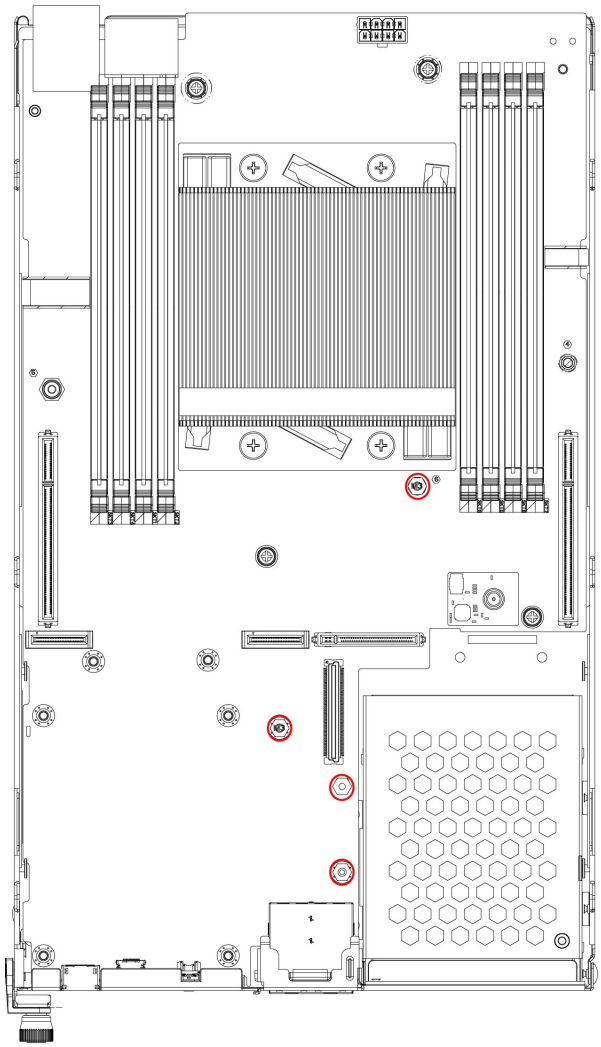
492845

c) Turn the node over so that the top (component side) is facing up.
d) Remove the guide pin.



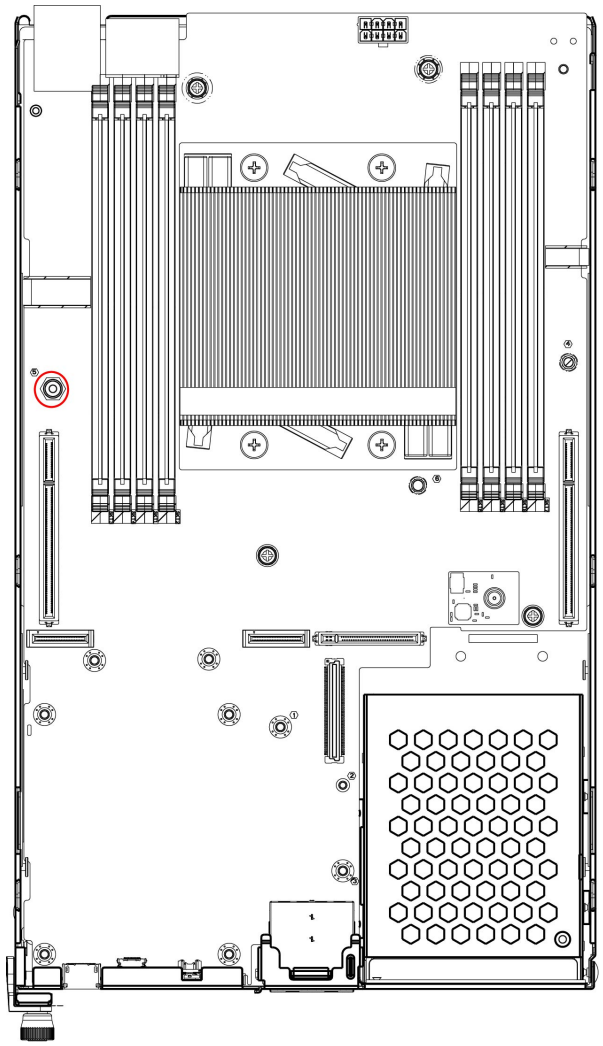
492846

e) Using a #6 hex nut driver or hexhead wrench, remove the four standoffs.



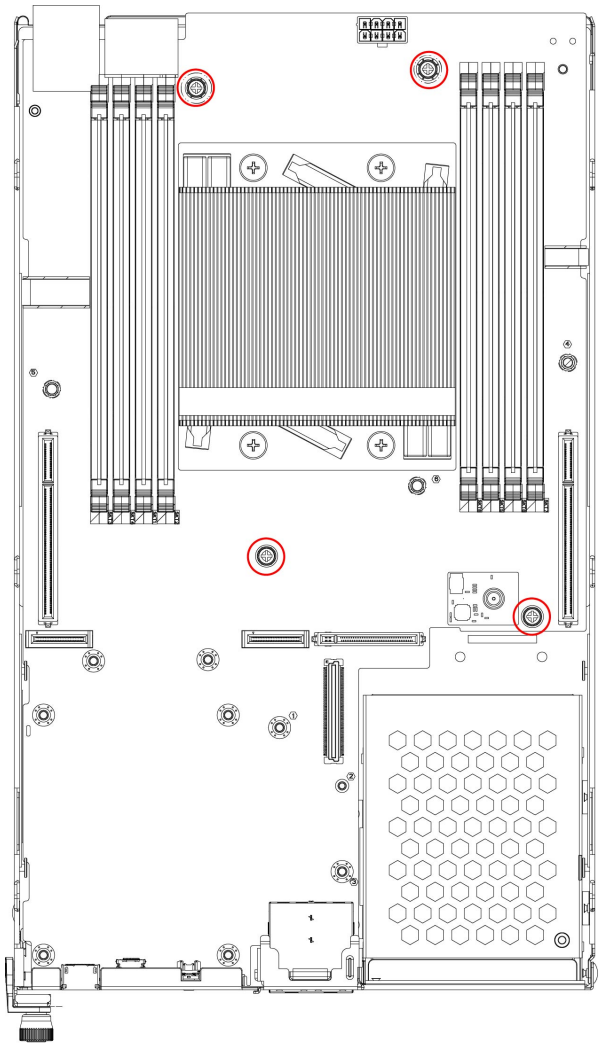
493068

f) Using a #8 hex nut driver or hexhead wrench, remove the standoff.



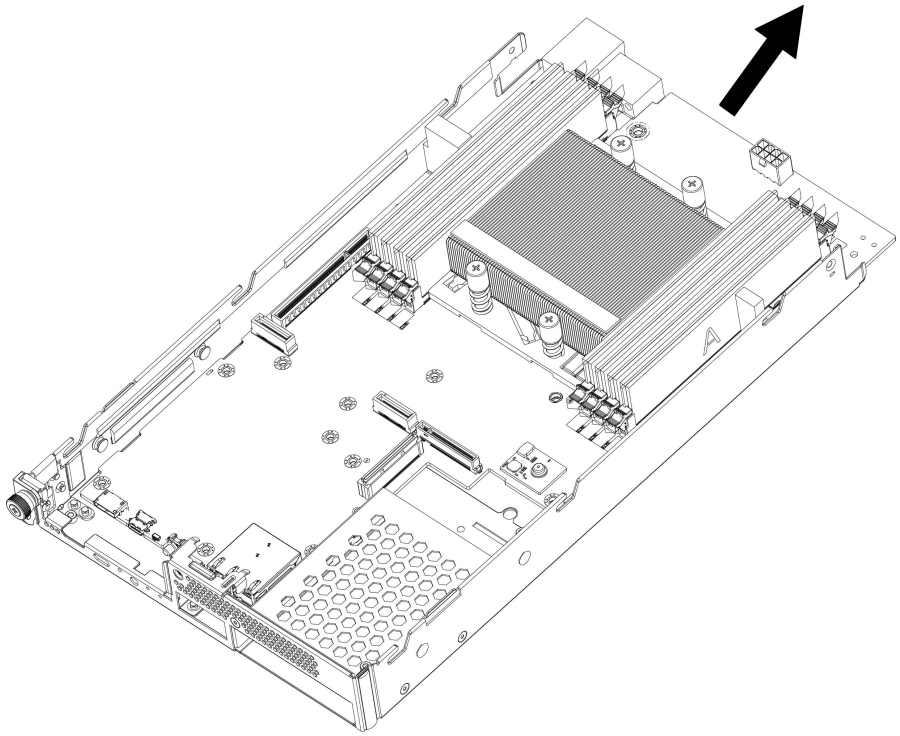
493069

g) Using a #2 Phillips screwdriver, remove the following four screws.



493071

h) Grasp the node PCB and slide it partially out of the node's sheetmetal tray.

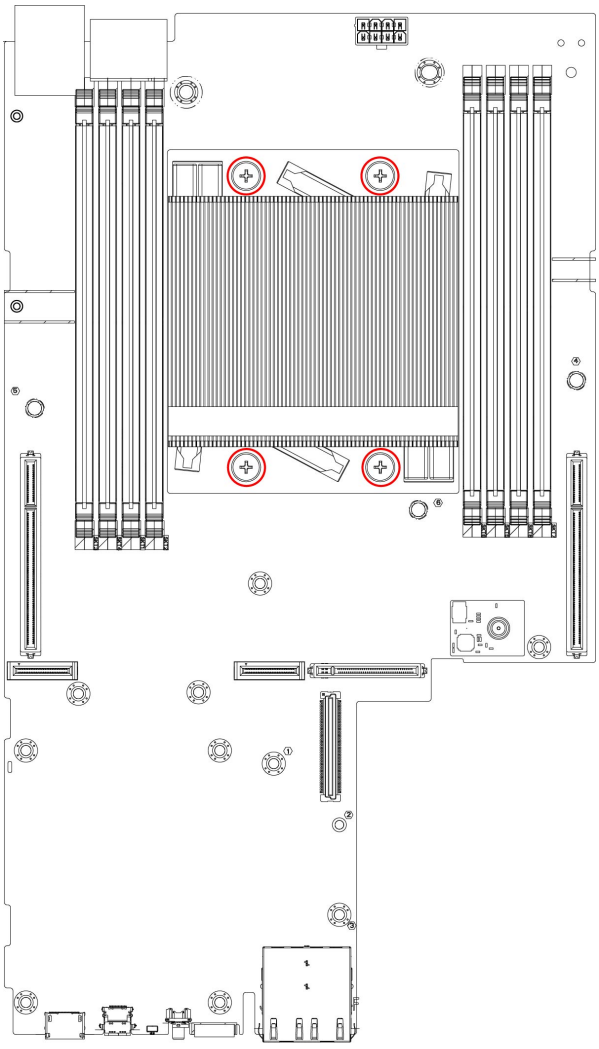


493072

i) Detach the node's PCB from the sheetmetal tray.

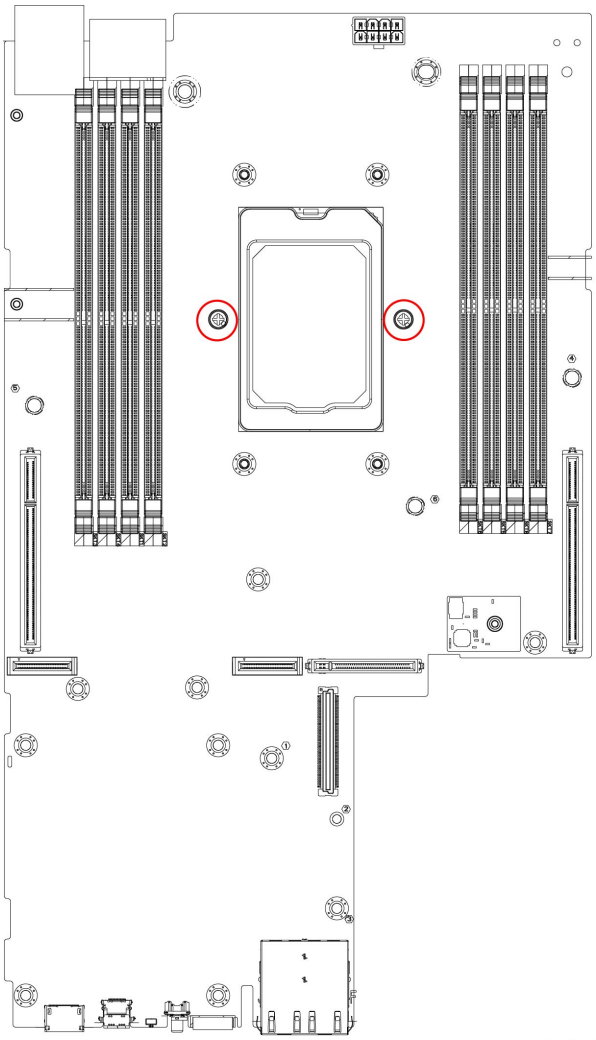
Step 9 Remove the remaining components from the node's PCB.

a) Using a #2 Phillips screwdriver, remove the four standoffs for the heatsink.



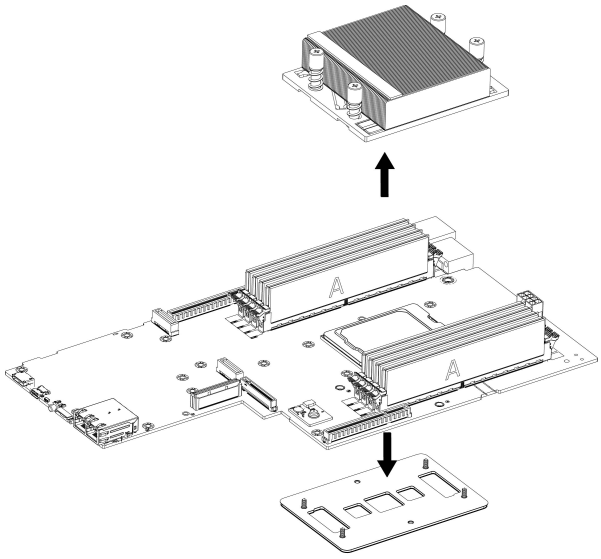
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b) Grasp the heatsink and remove it from the node.
c) Turn the node over so that the sheetmetal bottom is facing up.
d) Using a #2 Phillips screwdriver, remove the two backplate screws from the CPU socket.



e) Remove the CPU backplate from the node.

Verify that the both the CPU backplate and heatsink have been removed. Removal of these parts occurs from different sides of the node.



Step 10 Recycle the DIMM modules.

Step 11 Dispose of the compute node PCB and related components in compliance with your local ewaste and recycling regulations.

Recycling the Compute Node DIMM Modules

DIMM modules must be recycled in compliance with your local ewaste and recycling laws. DIMMs are installed in slots on the compute node and held in place by connector latches.

Use this procedure to recycle DIMM memory modules.

Before you begin

Gather a #2 Phillips screwdriver.

Procedure

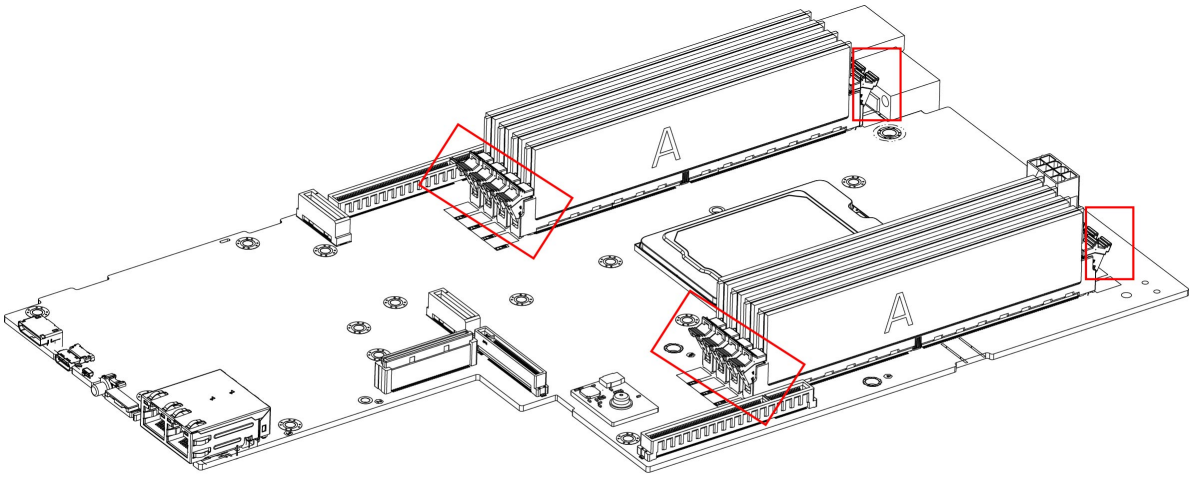
Step 1 Remove the compute node. For more information, refer to Removing a Compute Node, on page 12.

Step 2 Remove the node's top cover. For more information, refer to Removing a Node Top Cover, on page 17

Step 3 Remove the GPU tray assembly. For more information, refer to Removing GPU tray assembly, on page 20.

Step 4 Remove the DIMM modules from the node.

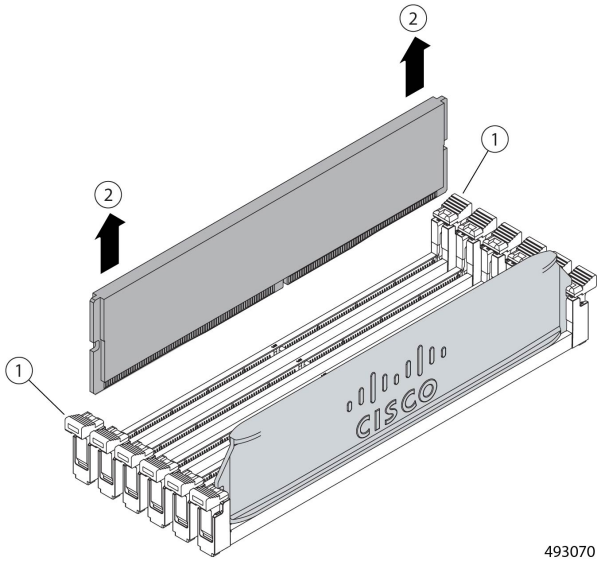
a) Locate the DIMM modules and their connector latches.



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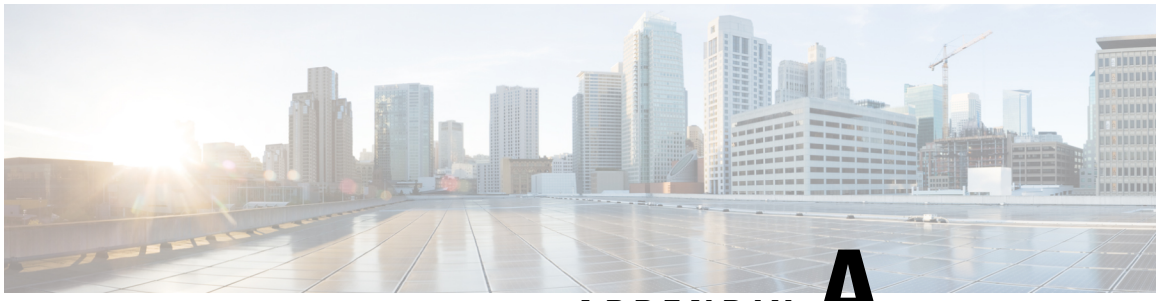
b) Simultaneously push the connector latch at each end outward (1). This is the open position.

c) While the connector latch is in the open position, grasp the DIMM module and lift it up to unseat it from its motherboard socket (2) as shown in the following example.



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Step 5 Dispose of the DIMMs in compliance with your local regulations for recycling and ewaste.



APPENDIX A

Node Technical Specifications

This Appendix contains the following topics:

- Physical Specifications, on page 53
- Environmental Specifications, on page 53
- Power Specifications, on page 54

Physical Specifications

The Cisco UCS XE150c compute node is a 2-RU-high, half-width, short-depth sled for the Cisco UCS XE9305 Chassis.

Specification	Value
Height	82 mm (3.23 in.)
Width	209 mm (8.23 in.)
Depth	354.9 mm (13.97 in.)
Weight	5815 g

Environmental Specifications

The Cisco UCS XE150c M8 Compute Node has been tested for operational performance and rated at the following:

Specification	Value
Temperature, Operating	23 to 113°F (0 to 35°C)
Temperature, Non-Operating	-40 to 185°F (-40 to 85°C)
Humidity, Operating	5% to 85%, noncondensing
Humidity, Non-Operating	5% to 93%, noncondensing

Specification	Value
Altitude, Operating	0 to 10,000 ft (0 to 3000 m)
Altitude, Non-Operating	Up to 40,000 ft (12,000 m)

Power Specifications

The Cisco UCS XE150c M8 Compute Node receives power from the Cisco UCS XE9305 Chassis. Use the Cisco UCS power calculator and the chassis documentation to plan power for the complete configuration.

Specification	Value
Input Voltage	100 to 127 V AC 200 to 240 V AC
Maximum Input V A	3840 VA at 230 VAC
Maximum Output Power per Power Supply	2400 W AC at 200-240 VAC Nominal 1300 W at 100-127 VAC Nominal
Frequency	47 to 63 Hz
Output Voltage	12 V
Power Connector	IEC320 C20



Note For chassis input power, power-supply redundancy, facility electrical requirements, and grounding, see the *Cisco Unified Edge XE9305 Chassis Installation and Service Guide*.



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