Recycling Chassis Components

This chapter contains the following topics:

Recycling Chassis Components

The Cisco UCS XE9305 Chassis and some of its nodes have printed circuit boards (PCBs) and other components that must be disposed of in compliance with your appropriate recycling and ewaste regulations, including, but not limited to Commission Regulation (EU) 2019/424.

The following procedures are not standard field-service options. They should be used only by certified or approved recyclers.

Recycling Batteries

The Cisco UCS XE9305 Chassis has two batteries that are included when the product is shipped.

Each battery is a coin-style lithium battery (CR2032) that retains system settings when the chassis is disconnected from power.

- One battery is inside the left mounting bracket. This battery is called the chassis battery, and it is mounted on the LED board.
- One battery is on the eCMC module. This battery is called the eCMC battery, and it is mounted directly on the module's motherboard.

Each battery sits in a clip that is accessible after removing some components. After components are removed, you can remove the battery with your fingers.

The battery is not a FRU, so remove it for recycling purposes only.

Warning **Recyclers:** Do not shred the battery! Make sure you dispose of the battery according to appropriate regulations for your country or locale.

Use the following tasks to recycle the batteries.

- Recycling the Chassis Battery, on page 2
- Recycling the eCMC Battery, on page 7

Recycling the Chassis Battery

The Cisco UCS XE9305 modular system has a chassis battery built into the left mounting bracket. This component contains latch and LED board, and the chassis battery is located on the LED board.

Caution The chassis battery is not a standard field-service procedure. This procedure is intended for recyclers only!

To remove the chassis battery, you will need to disassemble different parts of the chassis to enable access to the battery.

Before you begin

If you have not already disconnected the chassis from facility power, do so now.

Gather the following tools:

- One #2 Phillips screwdriver
- One hexhead wrench or hex nut driver

Warning **Recyclers:** Do not shred the battery! Make sure you dispose of the battery according to appropriate regulations for your country or locale.

To complete this procedure, the fan module, fan tray, and the chassis backplane must already be removed to enable access the component that contains the chassis battery.

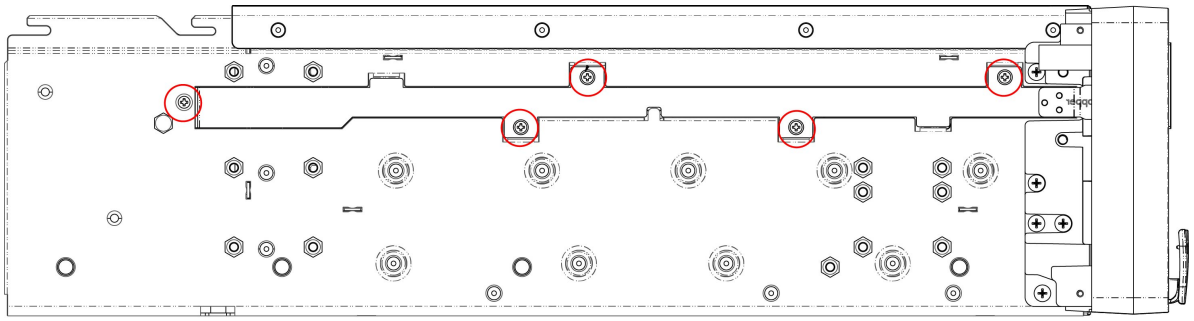
Procedure

Step 1 If you have not already removed the fan module, fan tray, and the chassis backplane, do so now.

Go to Recycling the Chassis Motherboard PCB, on page 30.

Step 2 Remove the FFC cable cover from the left side of the chassis.

a) Using the #2 Phillips screwdriver, remove the five screws on the left side of the chassis.



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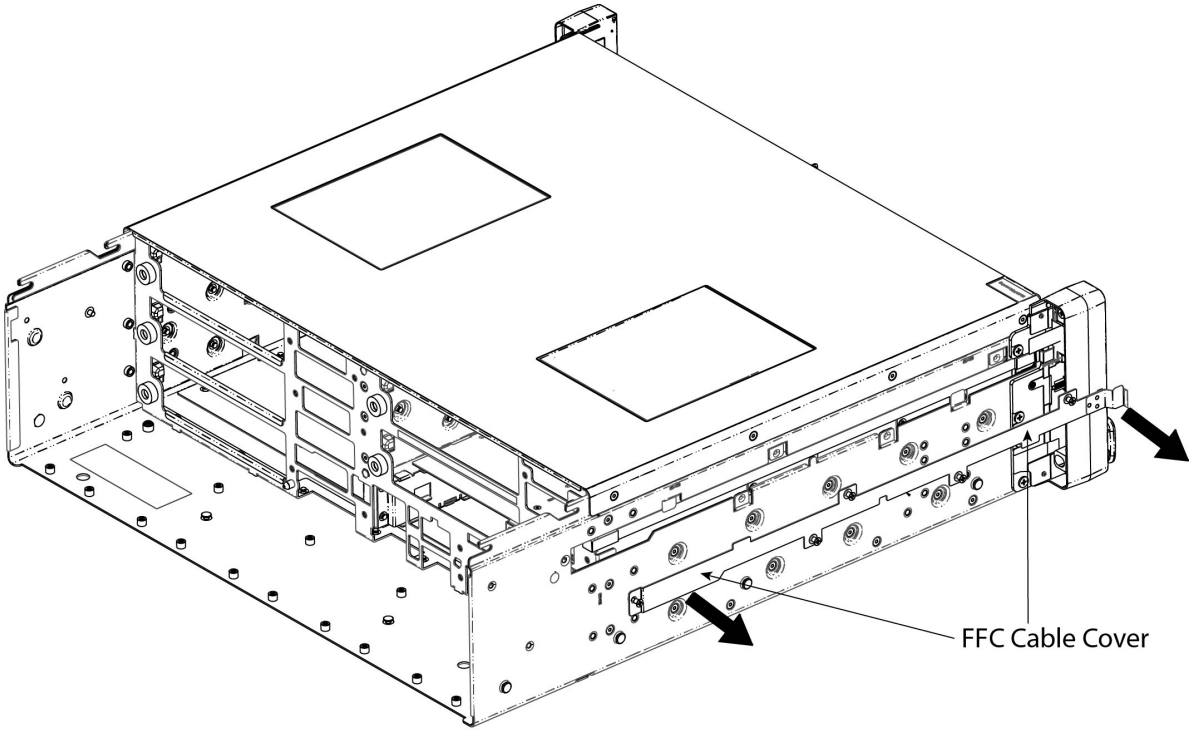
b) Grasp and remove the FFC cable cover.



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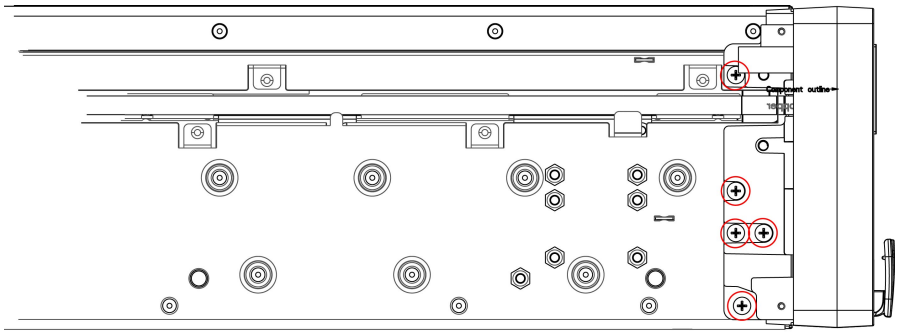
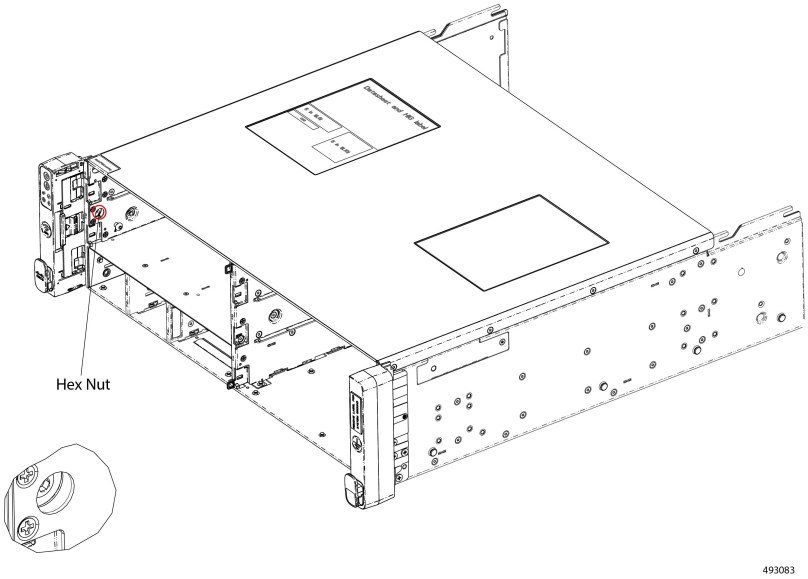
Step 3 Remove the left side mounting bracket (latch).

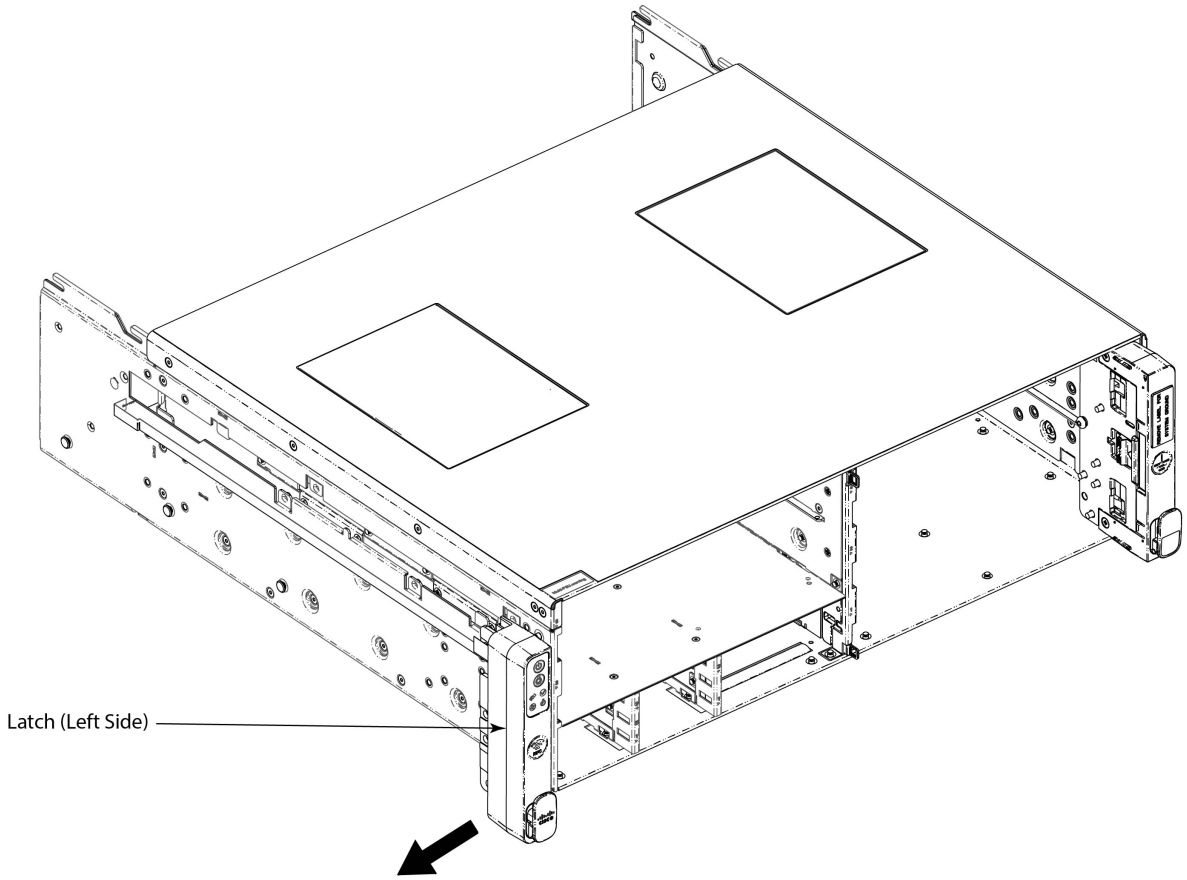
a) Using the #2 Phillips screwdriver, remove the f five screws that secure the mounting bracket (latch) to the chassis.



b) Using the hex driver, remove the hex screw on the interior left wall of the chassis.



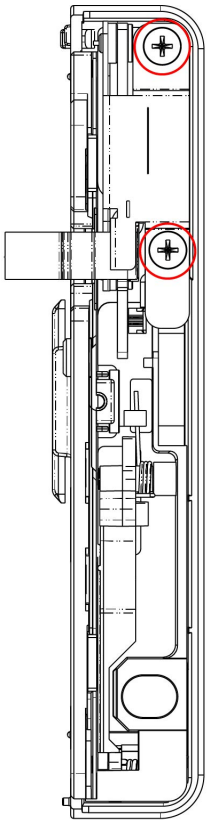
c) Grasp the left side bracket (latch) and detach it from the chassis.



Step 4 Remove the battery.

a) Turn the bracket (latch) around so that the rear of the part is facing you. In this position, the LED cluster is not visible.

b) Using the #2 Phillips screwdriver, remove the two screws that attach the LED board to the bracket (latch).



Latch, Left Side (Rear View)

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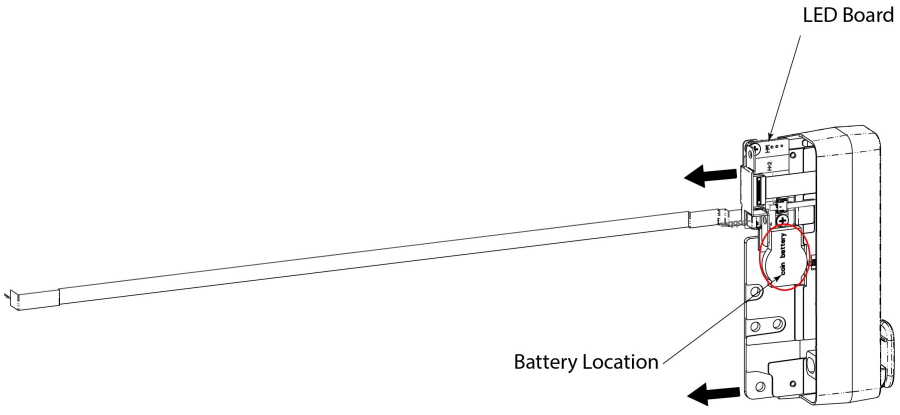
c) Grasp the LED board and slide it out of the bracket (latch) to expose the battery slot.



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d) Grasp the battery and remove it from battery slot.

Step 5 Dispose of the chassis battery in compliance with your local ewaste and recycling regulations.

Recycling the eCMC Battery

The eCMC module has a battery that sits horizontally on the module's PCB.

Caution Recycling the eCMC battery is not a standard field-service procedure. This procedure is intended for recyclers only!

Use the following task to recycle the eCMC module's battery.

Before you begin

Warning **Recyclers:** Do not shred the battery! Make sure you dispose of the battery according to appropriate regulations for your country or locale.

Procedure

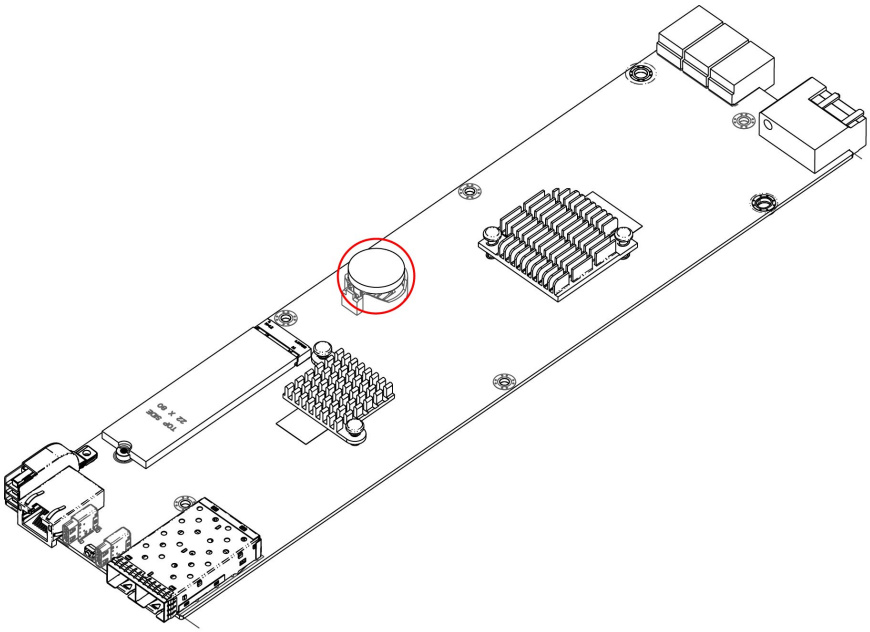
Step 1 Remove the eCMC module.

Go to Removing the eCMC Node.

Step 2 Remove the module's top cover.

Removing a Node Top Cover.

Step 3 Locate the battery.



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Step 4 Open the battery slot and remove the battery.

Step 5 Dispose of the chassis battery in compliance with your local ewaste and recycling regulations.

Recycling PCB Assemblies

The Cisco UCS XE9305 Chassis has multiple printed circuit board (PCB) assemblies that must be recycled in compliance with your local ewaste and recycling regulations.

Use the following tasks to recycle the chassis PCBAs (PCB assemblies):

- Recycling the Cisco UCS XE130c Compute Node PCB, on page 8
- Recycling the Cisco UCS eCMC Module PCB, on page 28
- Recycling the Chassis Motherboard PCB, on page 30

Recycling the Cisco UCS XE130c Compute Node PCB

The Cisco UCS XE130c 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 XE130c 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 XE130c 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.

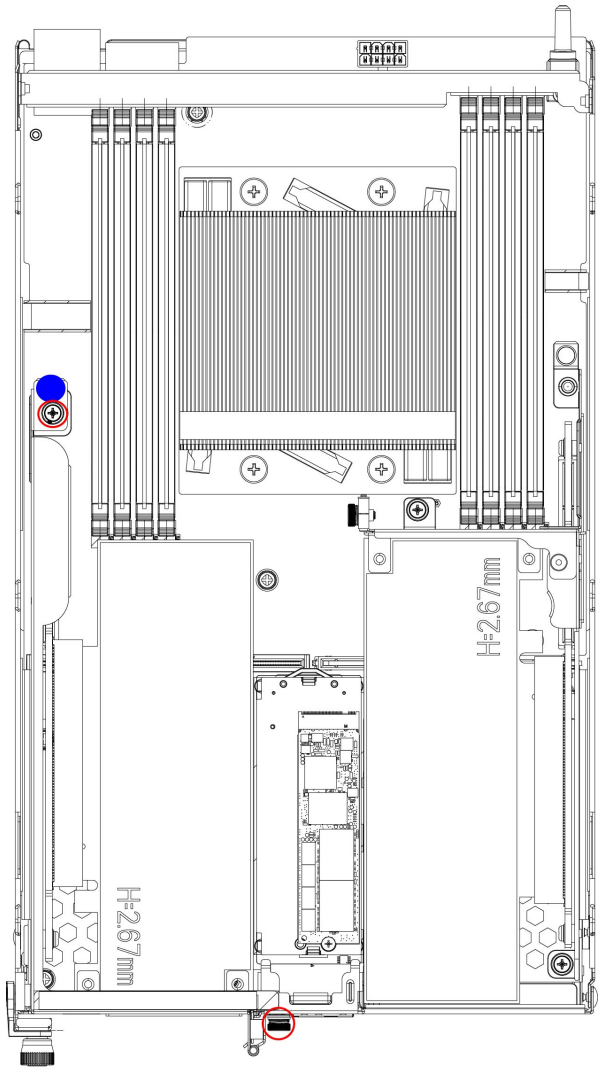
Procedure

Step 1 Remove the node's top cover.

Go to Removing a Node Top Cover.

Step 2 Remove the left PCIe module.

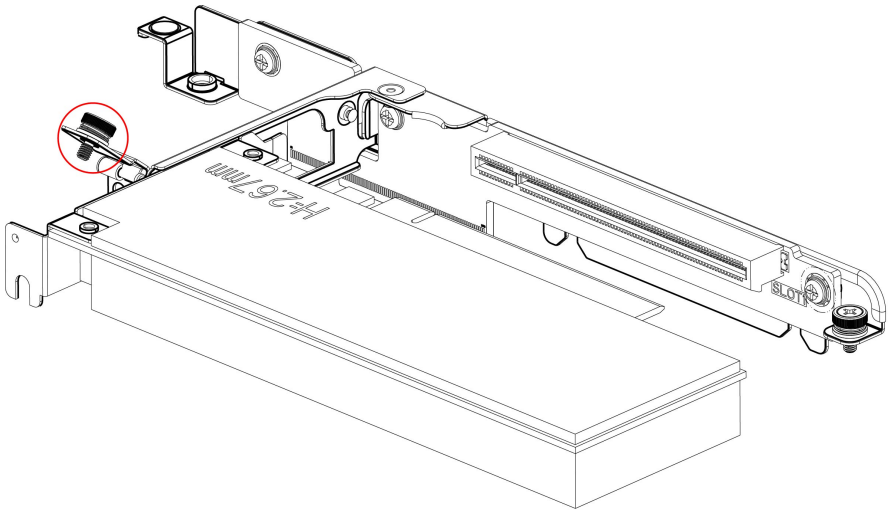
a) Using a #2 Phillips screwdriver, remove the two captive screws.
b) Using the touch point, lift the module off of the node.



Step 3 If the compute node is configured for a PCIe card, remove the PCIe module from the left PCIe cage.

a) Using the #2 Phillips screwdriver, loosen the captive screw and open the cage door.

b) Grasp the module and remove it from the cage.



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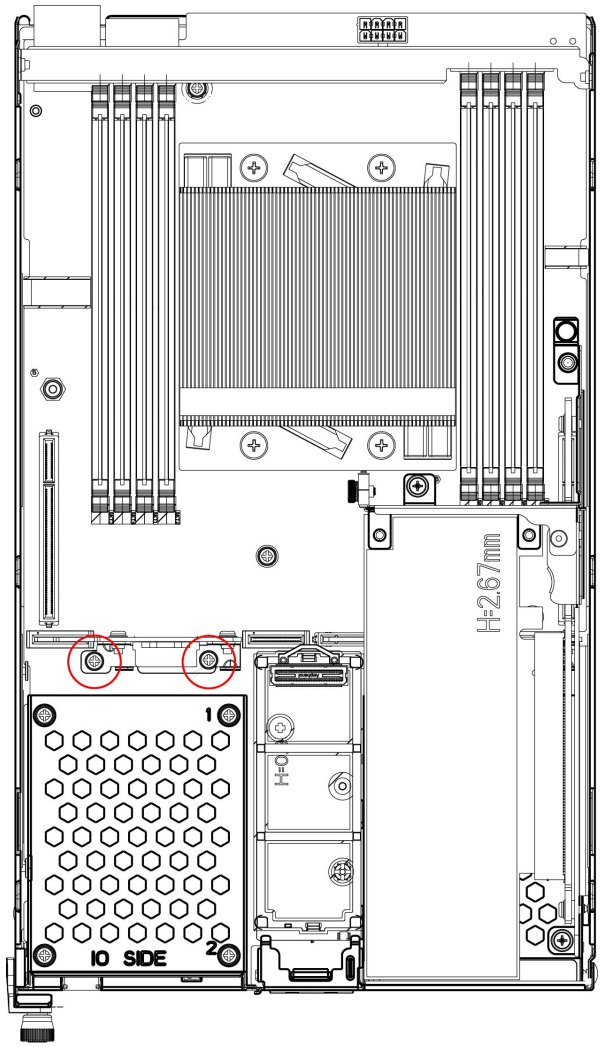
Step 4 Remove the left ES.3 backplane module.

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



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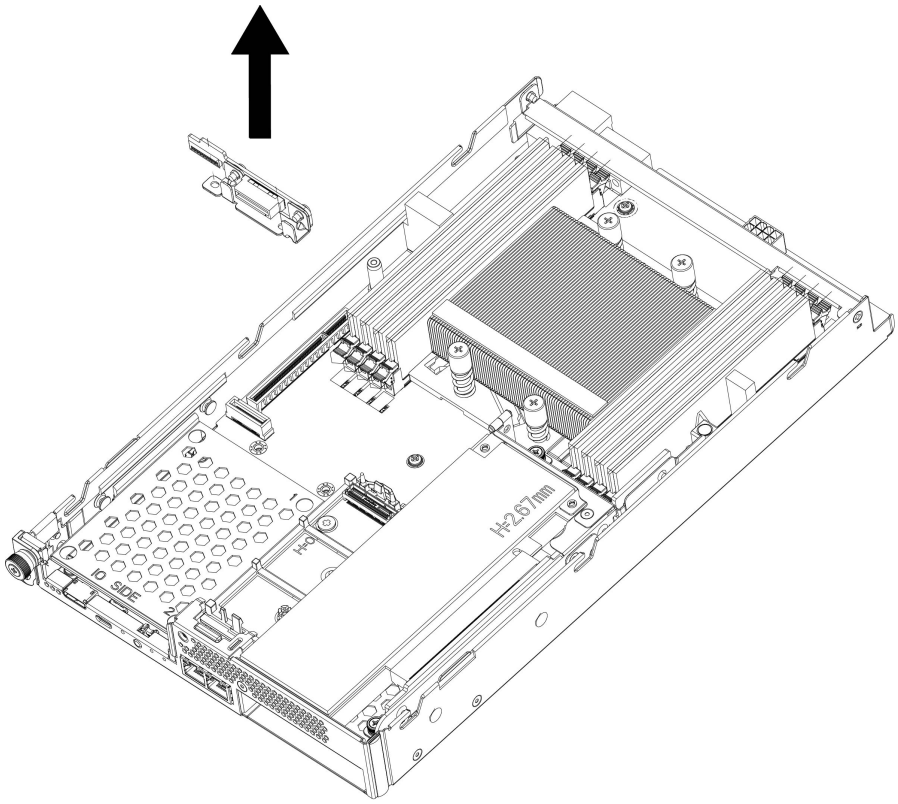
b) Grasp the E3.S backplane module and remove it from the node.



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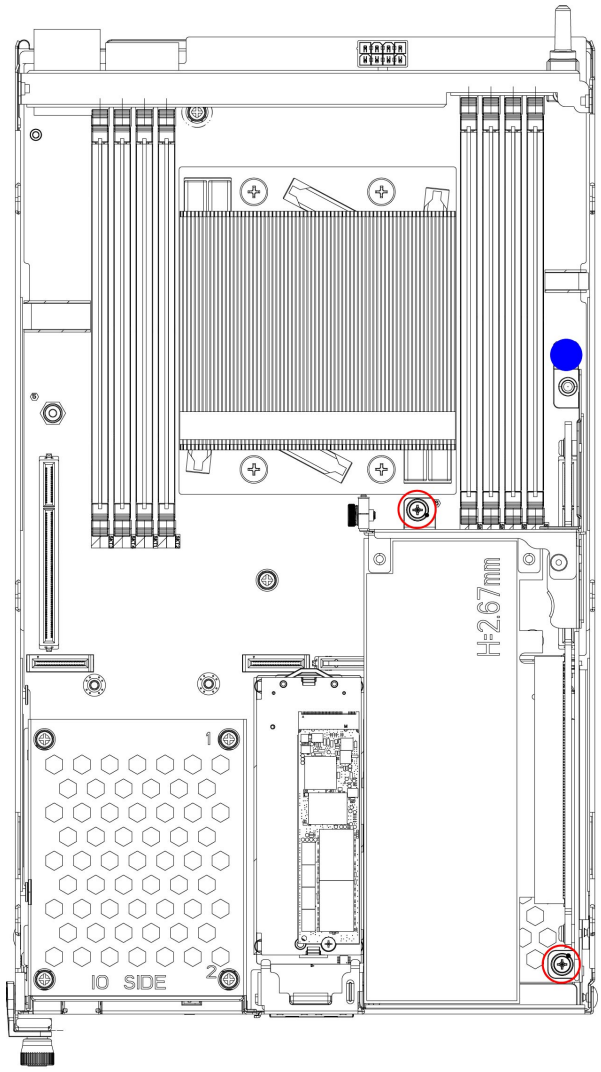
Step 5 Remove the right PCIe module.

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

b) Using the touch point, lift the module off of the node.



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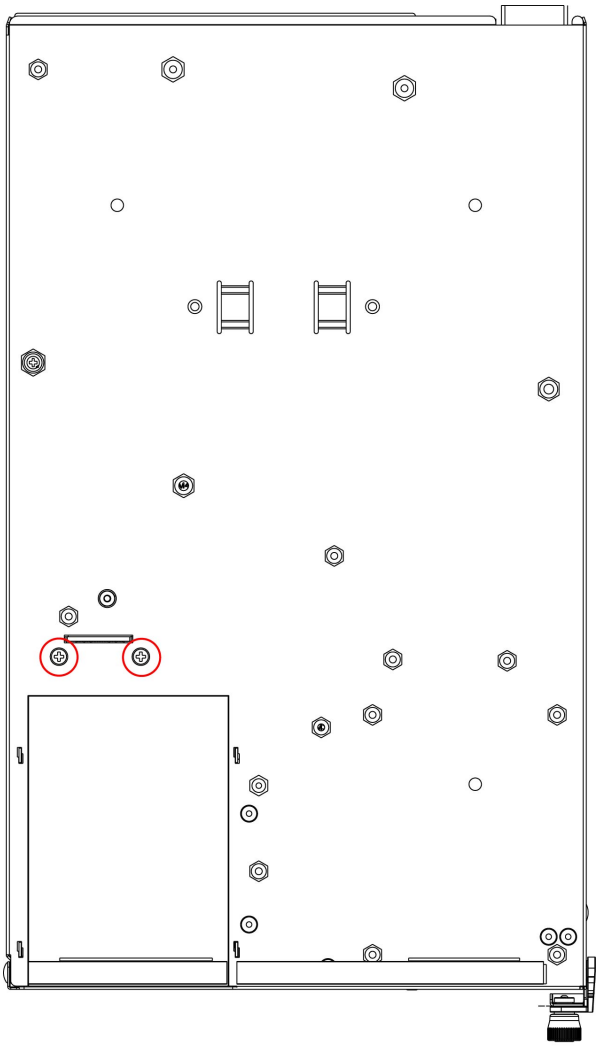
Step 6 Remove the right ES.3 backplane module.

a) Remove the two backplane module screws.



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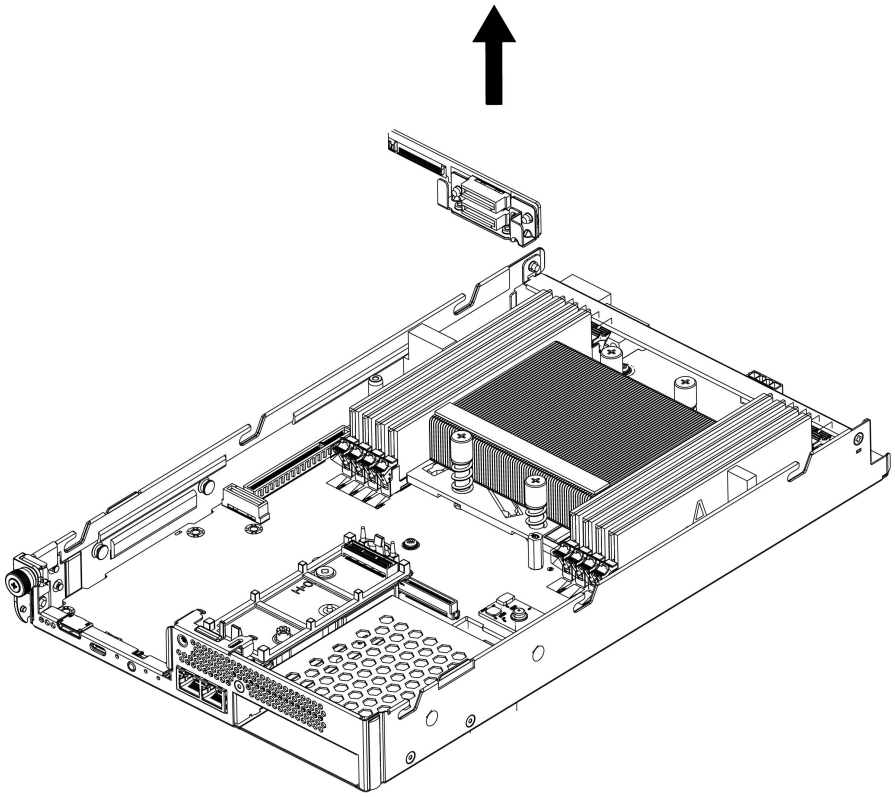
b) Grasp the backplane module and remove it from the node.



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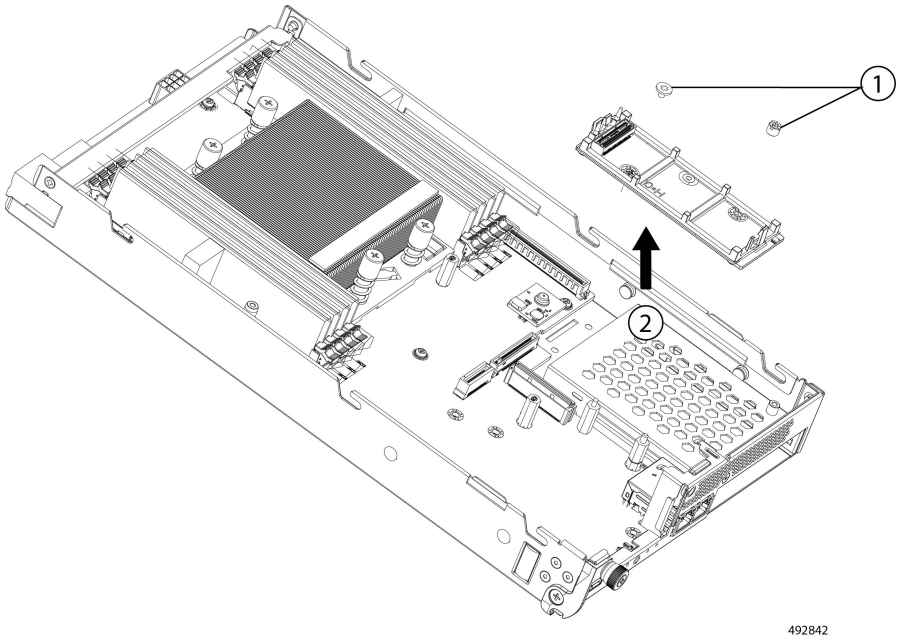
Step 7 Remove the M.2 module.

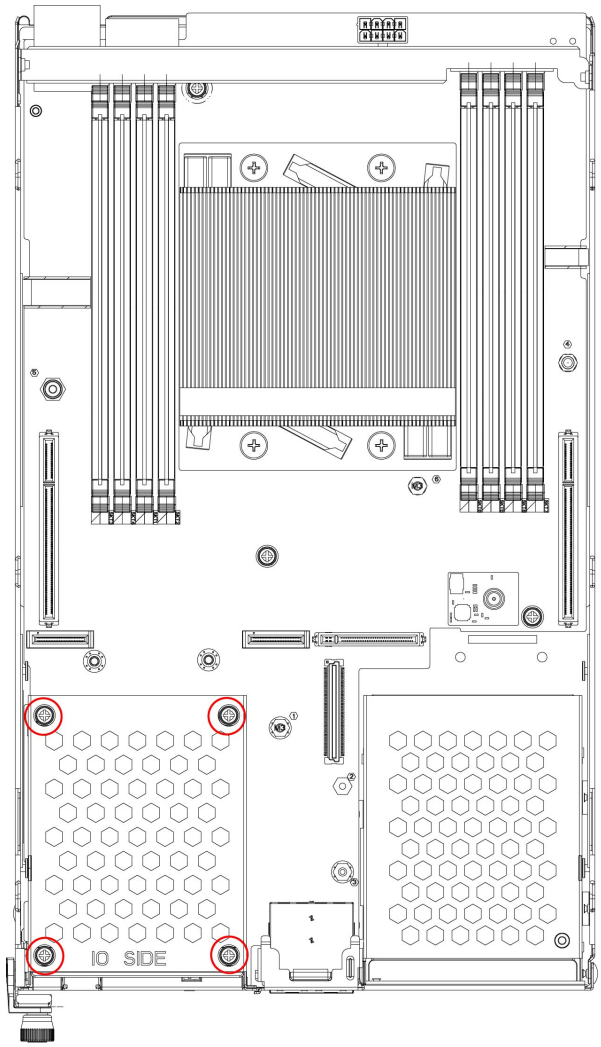
a) Using a #2 Phillips screwdriver, remove the two screws.

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



Step 8 Remove the node PCB.

a) Using a #2 Phillips screwdriver, remove the four screws on the left E3.S cage.



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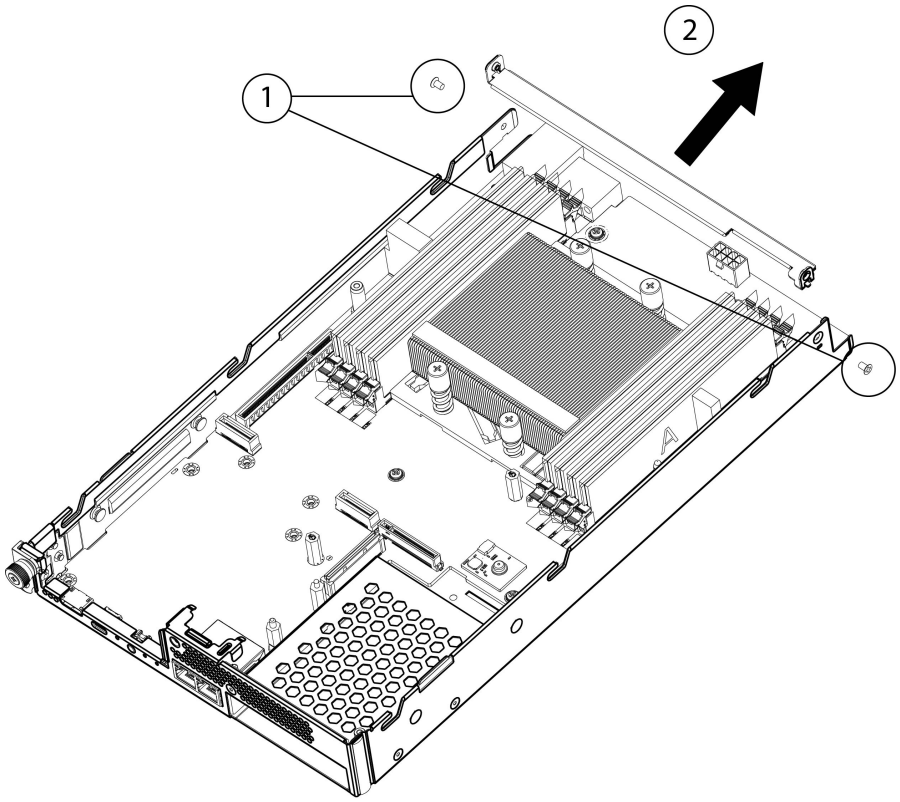
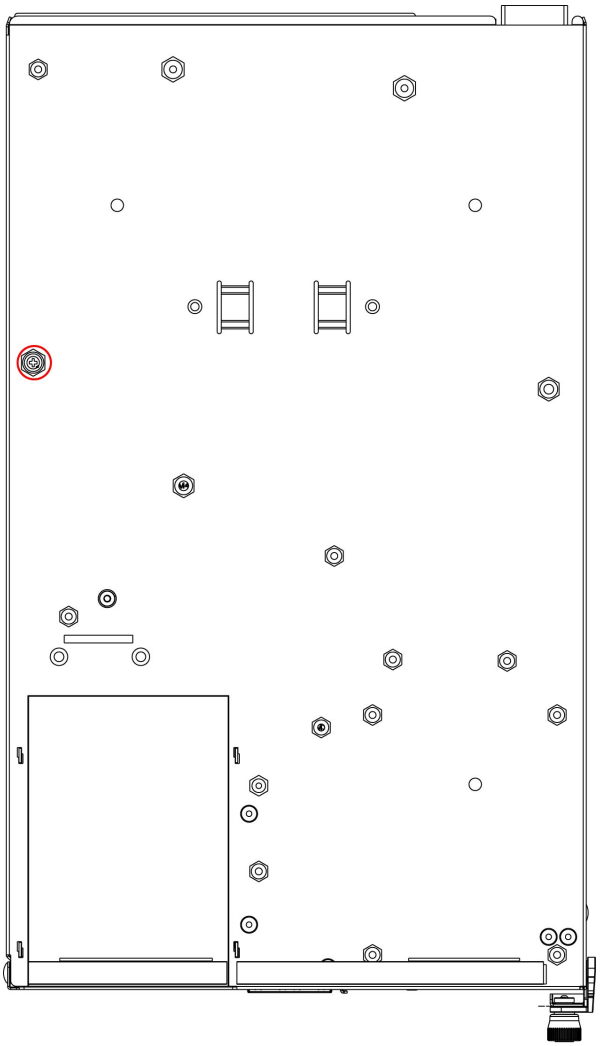
b) Using a 2 Phillips screwdriver, remove the two captive screws, then remove the node's rear wall.



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



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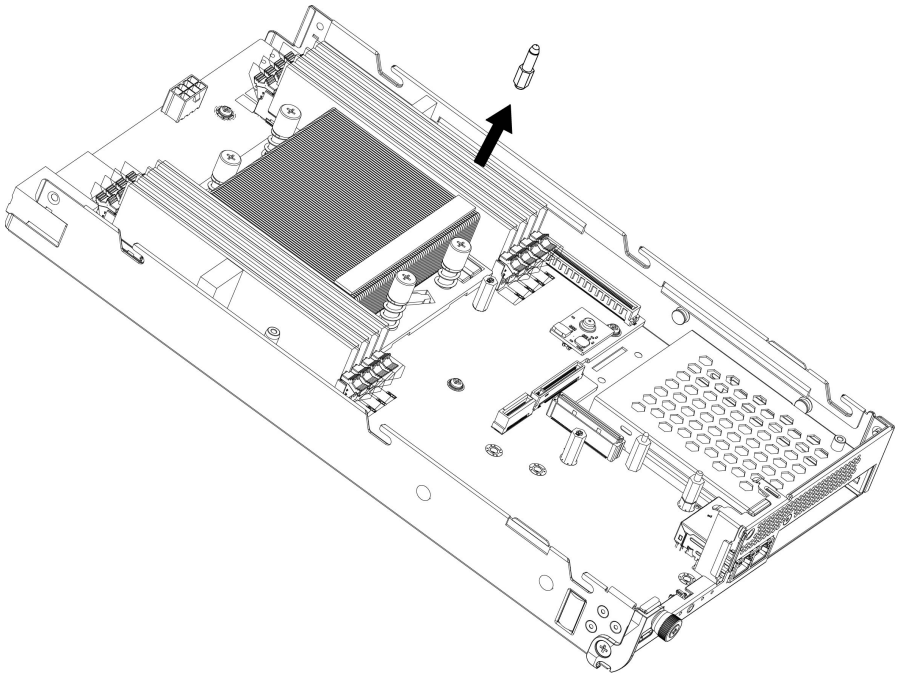
e) Turn the node over so that the top (component side) is facing up.
f) Remove the guide pin.



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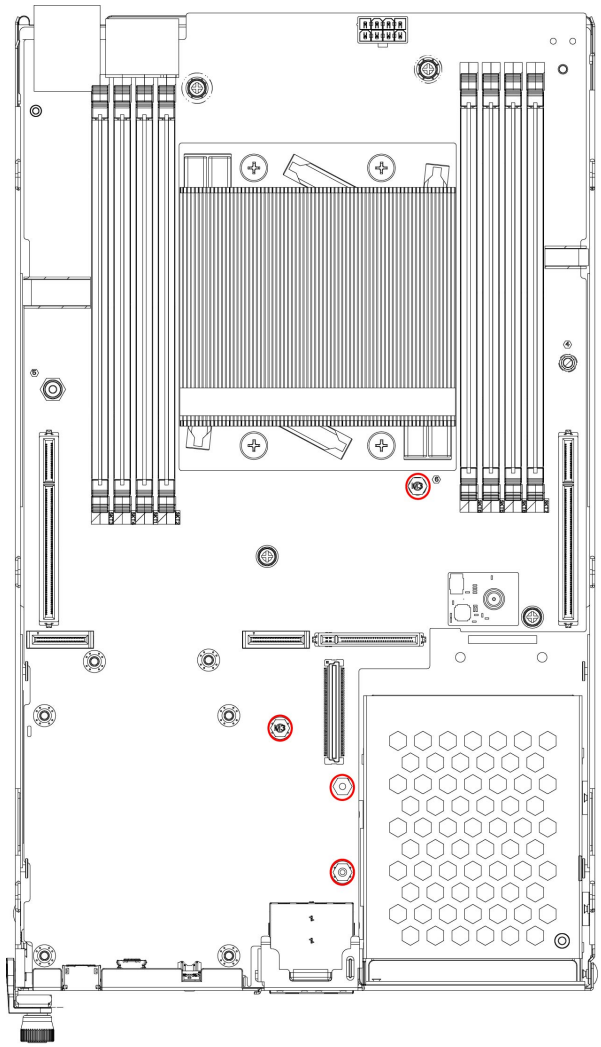
g) Using a #6 hex nut driver or hexhead wrench, remove the four standoffs.



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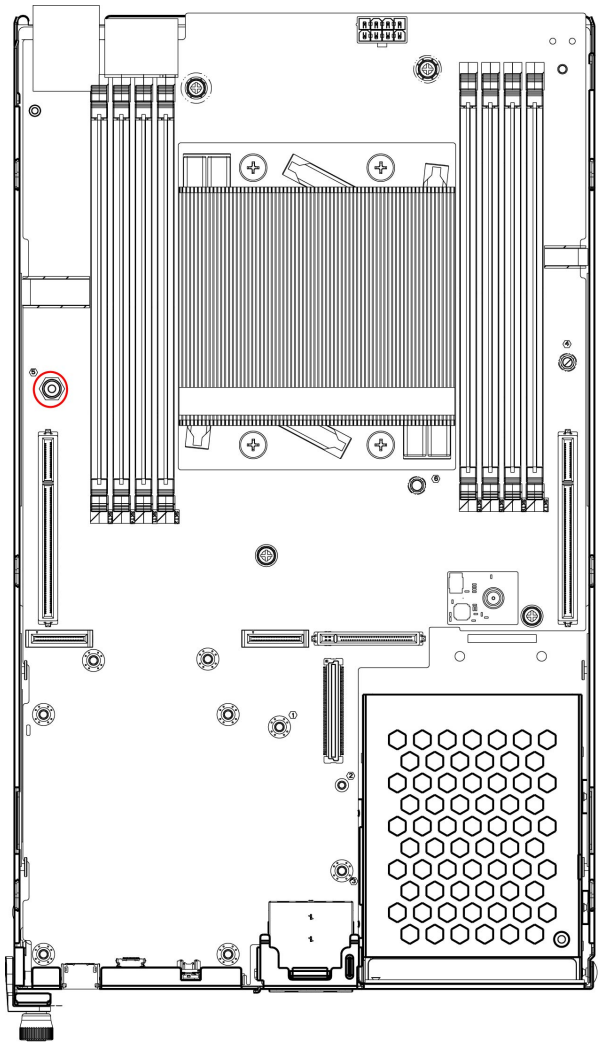
h) Using a #8 hex nut driver or hexhead wrench, remove the standoff.



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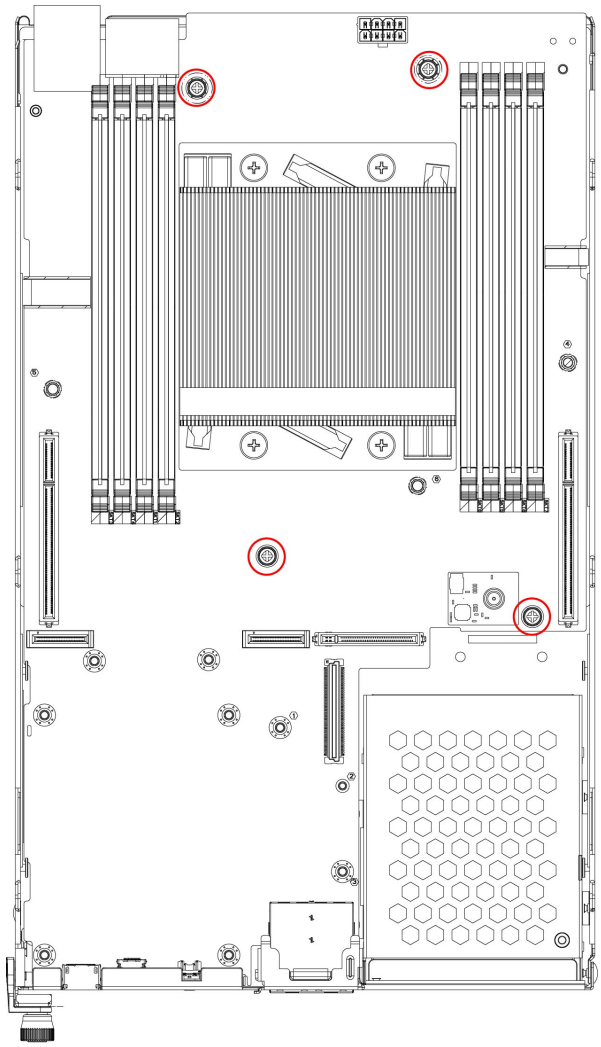
i) Using a #2 Phillips screwdriver, remove the following four screws.



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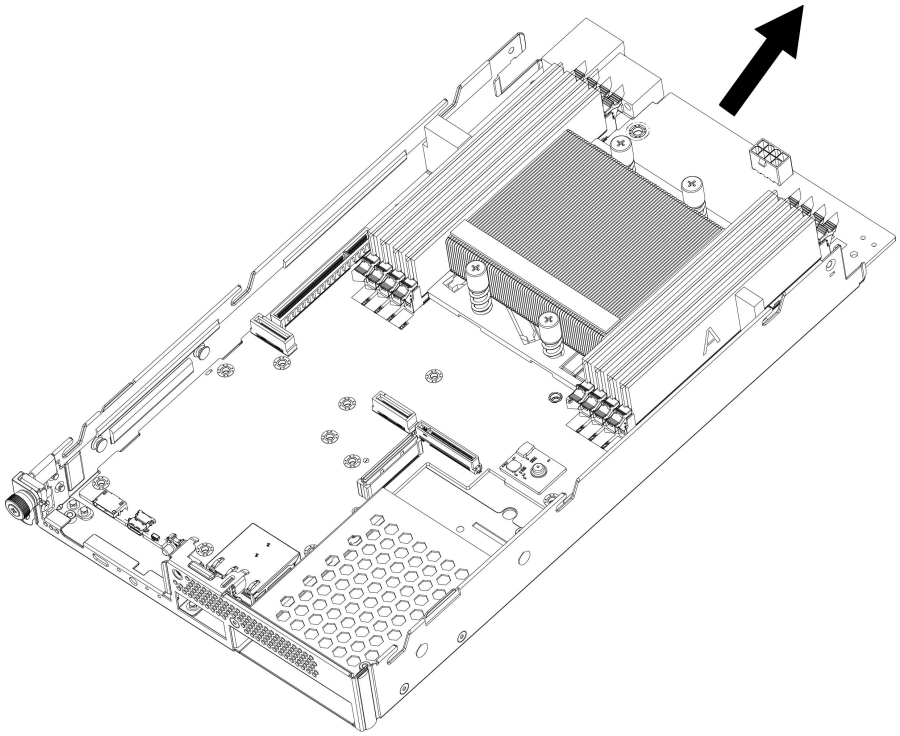
j) Grasp the node PCB and slide it partially out of the node's sheetmetal tray.



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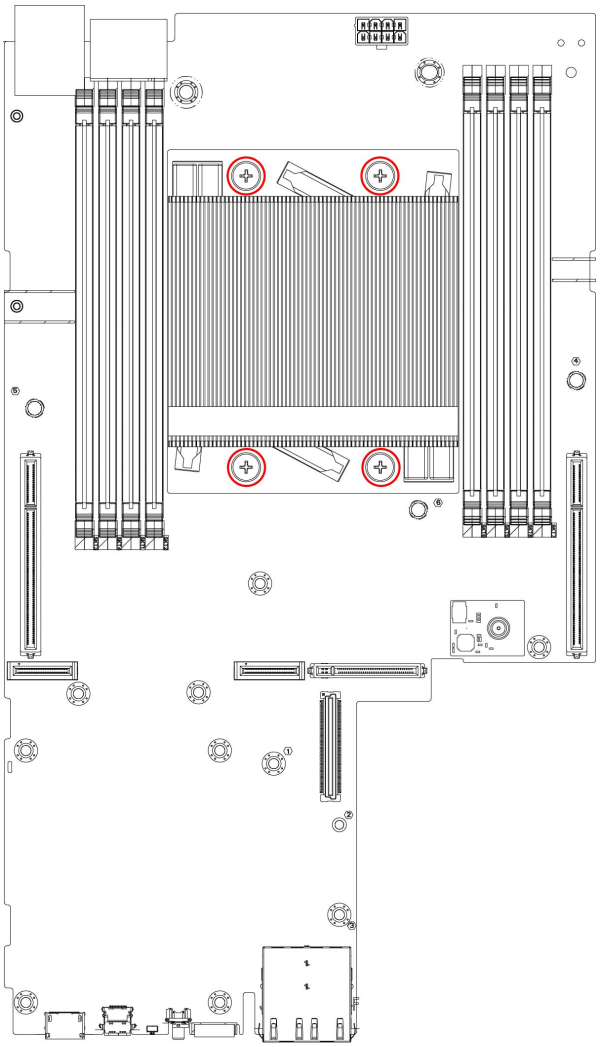
k) Detach the node's PCB from the sheetmetal tray.

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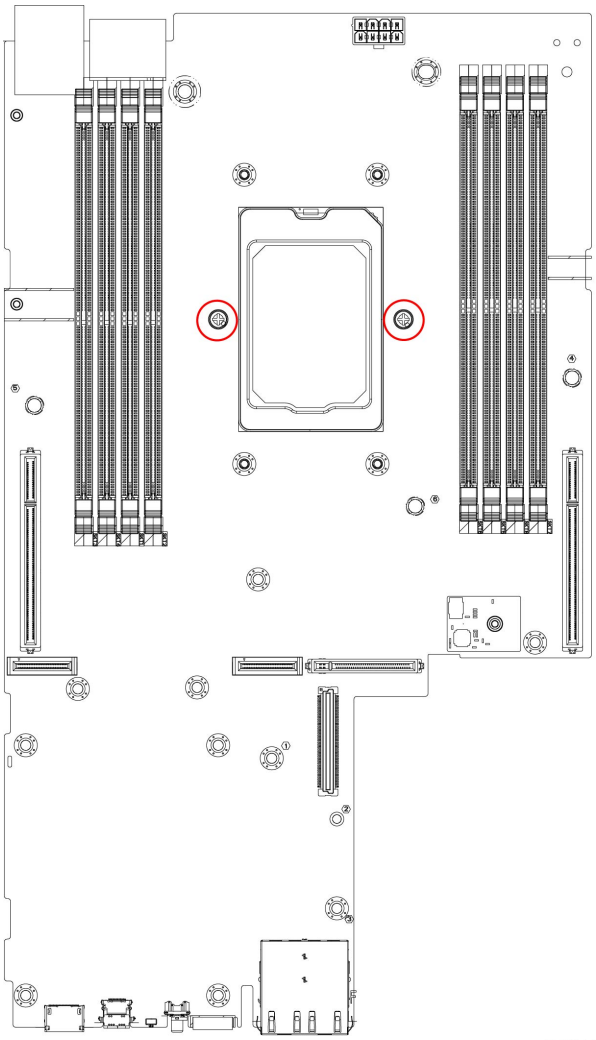
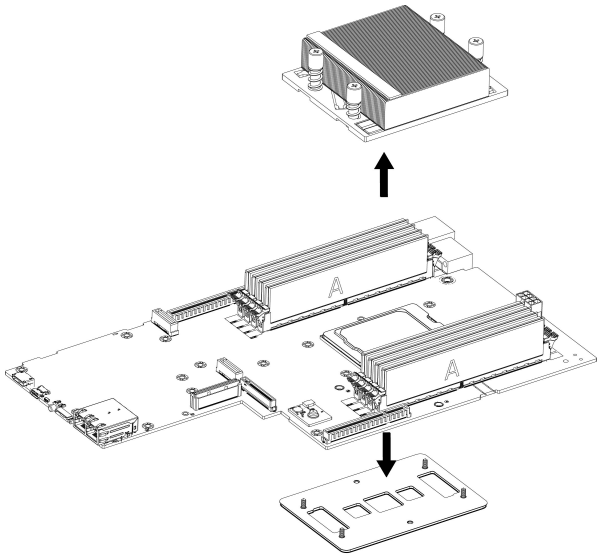
b) Grasp the heatsink and remove it from the node.
c) Turn the node over so that the sheetmetal bottom is facing up.
d) Using a #2 Phillips screwdriver, remove the two backplate screws from the CPU socket.



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.

Go to Recycling the Compute Node DIMM Modules, on page 37.

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

Recycling the Cisco UCS eCMC Module PCB

The eCMC module contains a PCB. To remove the PCB for recycling, you must also remove additional components such as the M.2 Module and a battery.

Use this procedure to recycle the eCMC module's PCB.

Before you begin

Gather a #2 Philips (cross-head) screwdriver

Warning **Recyclers:** This module contains a CR2032 coin-style battery. Do not shred the battery! Make sure you dispose of the battery according to appropriate regulations for your country or locale.

Procedure

Step 1 Remove the eCMC module from the chassis.

Go to Removing the eCMC Node.

Step 2 Remove the module's top cover.

Removing a Node Top Cover.

Step 3 If you have nor already removed the eCMC battery, do so now.

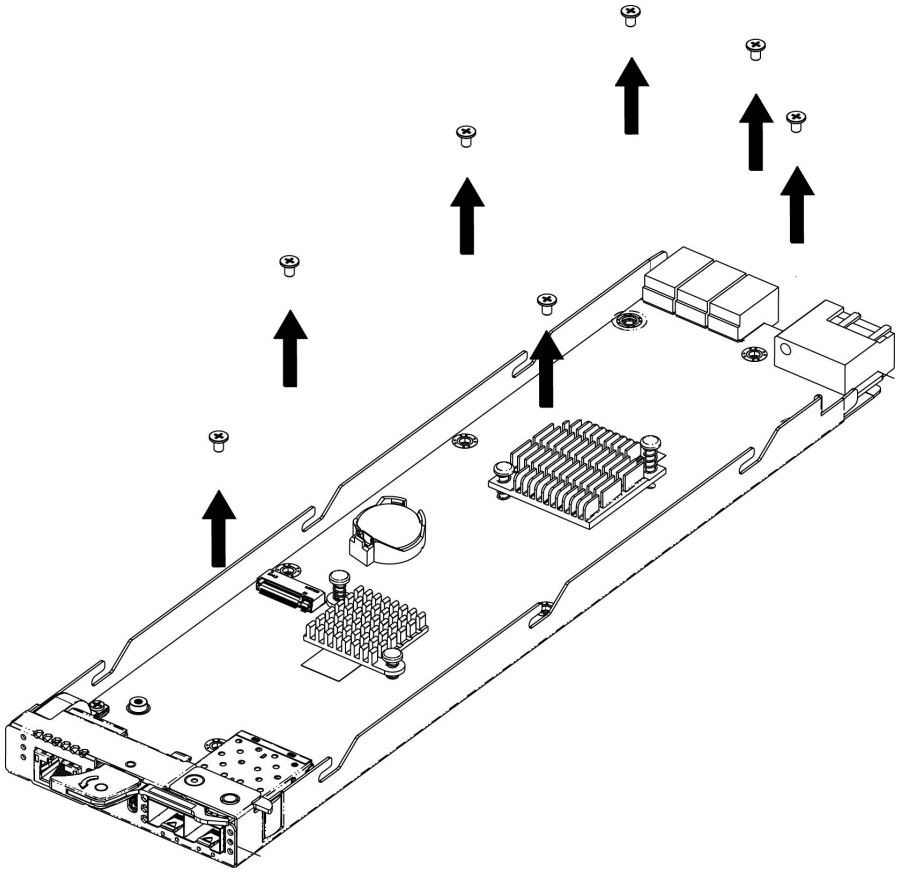
Go to Recycling the eCMC Battery, on page 7.

Step 4 Remove the M.2 module.

Removing the Boot Optimized M2 Module.

Step 5 When the M.2 SSD is removed, detach the PCB from the sheetmetal tray.

a) Using a #2 Phillips screwdriver, remove the seven screws that secure the PCB to the sheetmetal tray.



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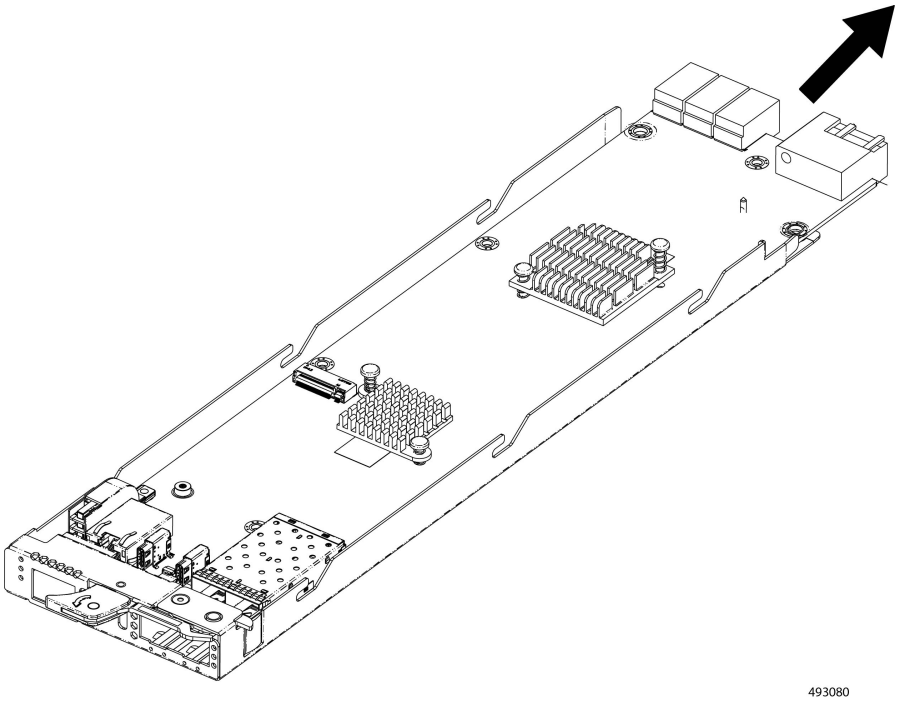
b) Grasp the rear of the PCB and slide it partially out of the sheetmetal tray.



c) Remove the PCB from the sheetmetal tray.
d) Dispose of the PCB in compliance with your local ewaste and recycling regulations.

Recycling the Chassis Motherboard PCB

The chassis has a main PCB, the backplane PCB, that interconnects various subsystems. To remove the backplane PCB, you will need to disassemble different parts of the chassis to enable access to the PCB.

Before you begin

If you have not already disconnected the chassis from facility power, do so now.

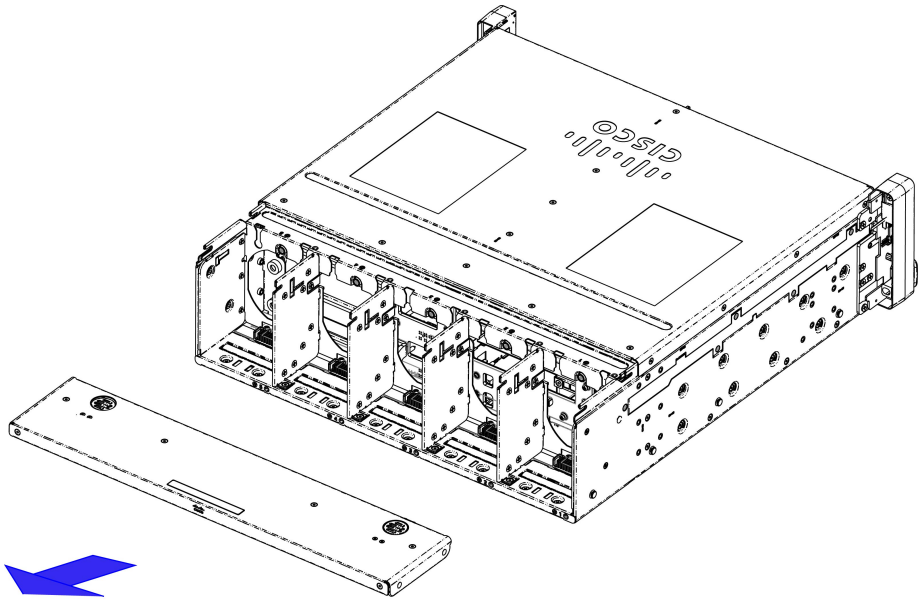
Gather the following tools:

- One #2 Phillips screwdriver
- One 7mm socket wrench or nut driver

Procedure

Step 1 Remove the top rear cover of the chassis.

a) Press both release buttons to unlock the top rear cover.
b) While holding the release buttons down, slide the top cover towards you to remove it.



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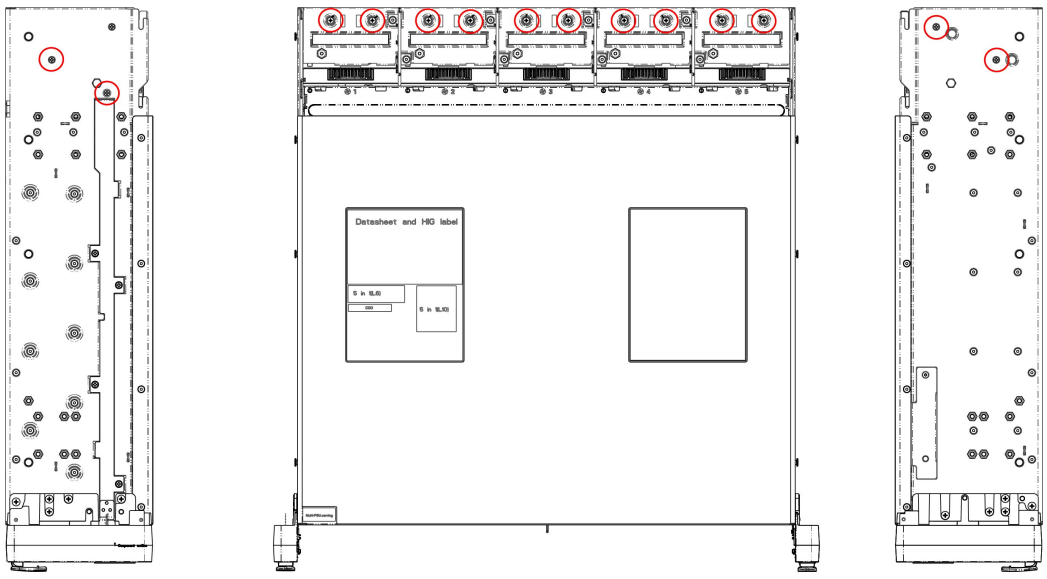
Step 2 Remove the fan module.

Go to Removing Rear-Loading Fan Modules.

Step 3 When the fan modules are removed, remove the fan tray.

a) Use a #2 Phillips screwdriver, remove the fan tray screws.

The fan tray has a total of 14 screws, two per side and 10 on the fan tray.



Left Side

Right Side

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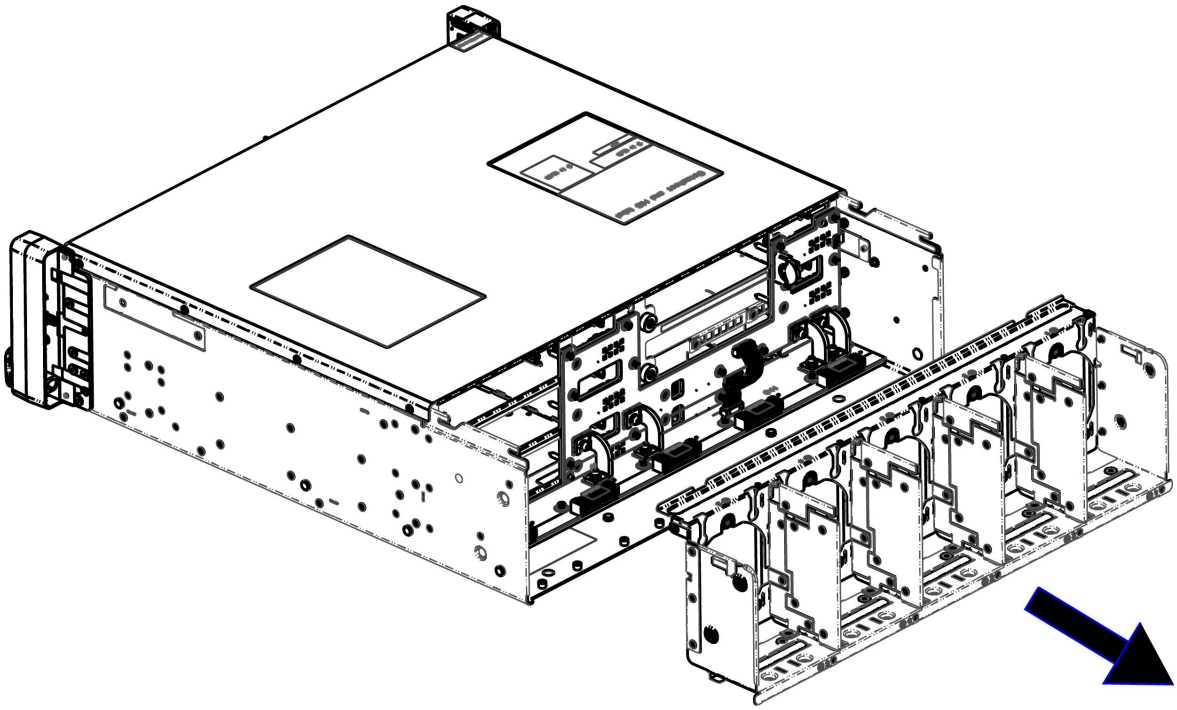
Step 4 Grasp the fan tray, and detach it from the chassis.



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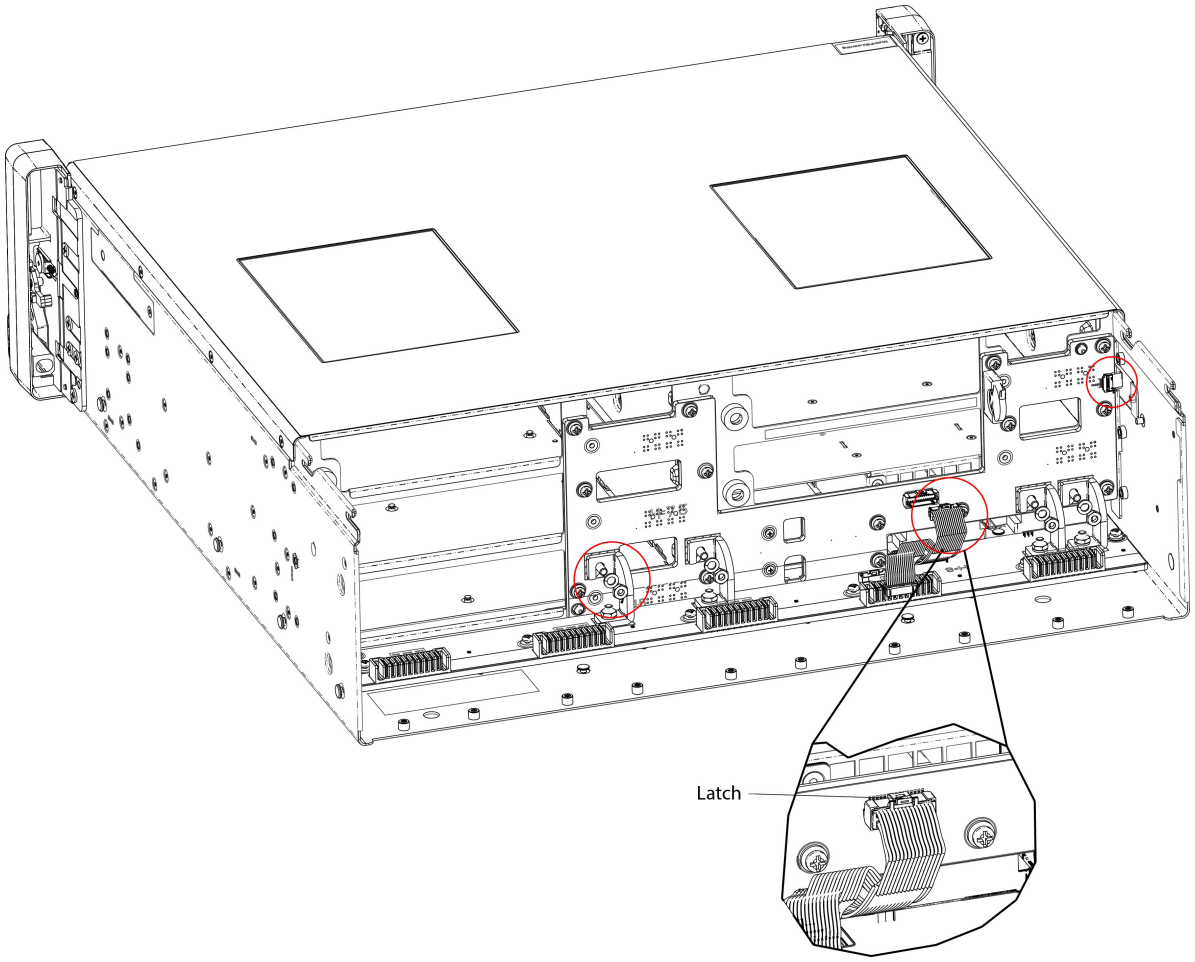
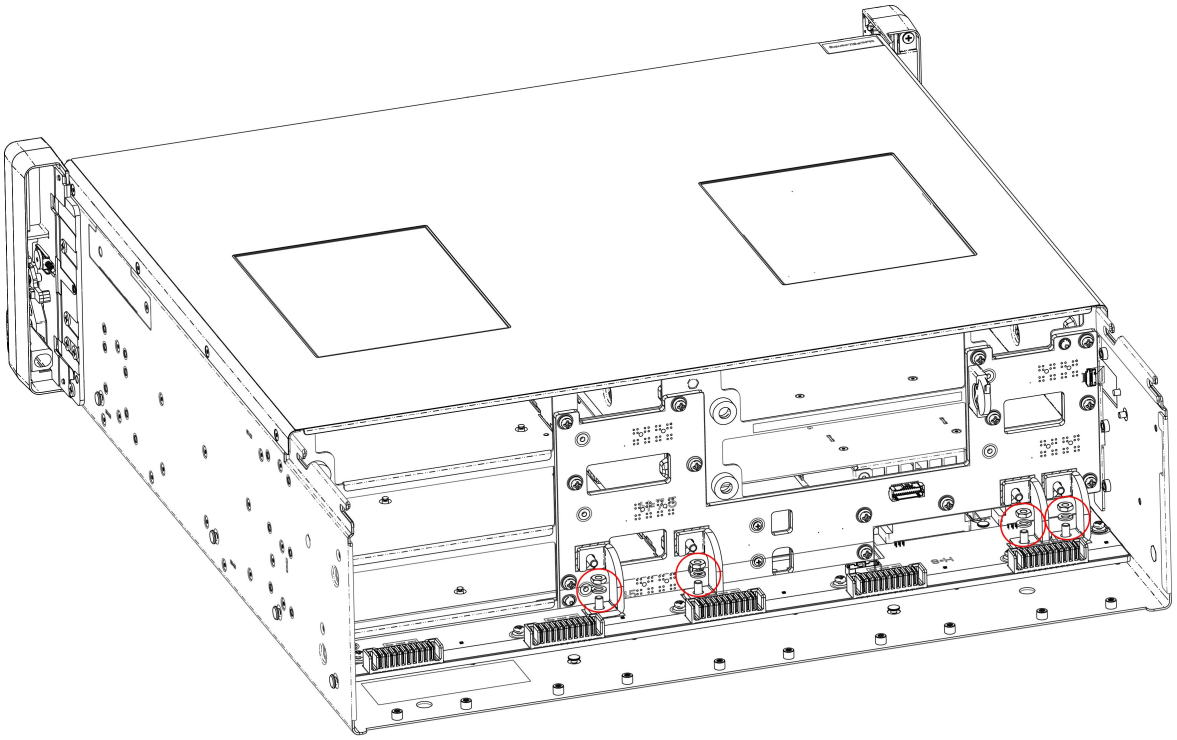
Step 5 Remove the bus bar nuts and FFC Cable.

a) Using the 7mm socket wrench or nut driver, remove the M4 nut and washer.
b) Grasp and disconnect the FFC by pressing the connector latch at one end, and lifting the cable connector cover and pulling the cable at the other end.



c) Using the 7mm socket wrench or nut driver, remove the remaining four M4 nuts and washers.



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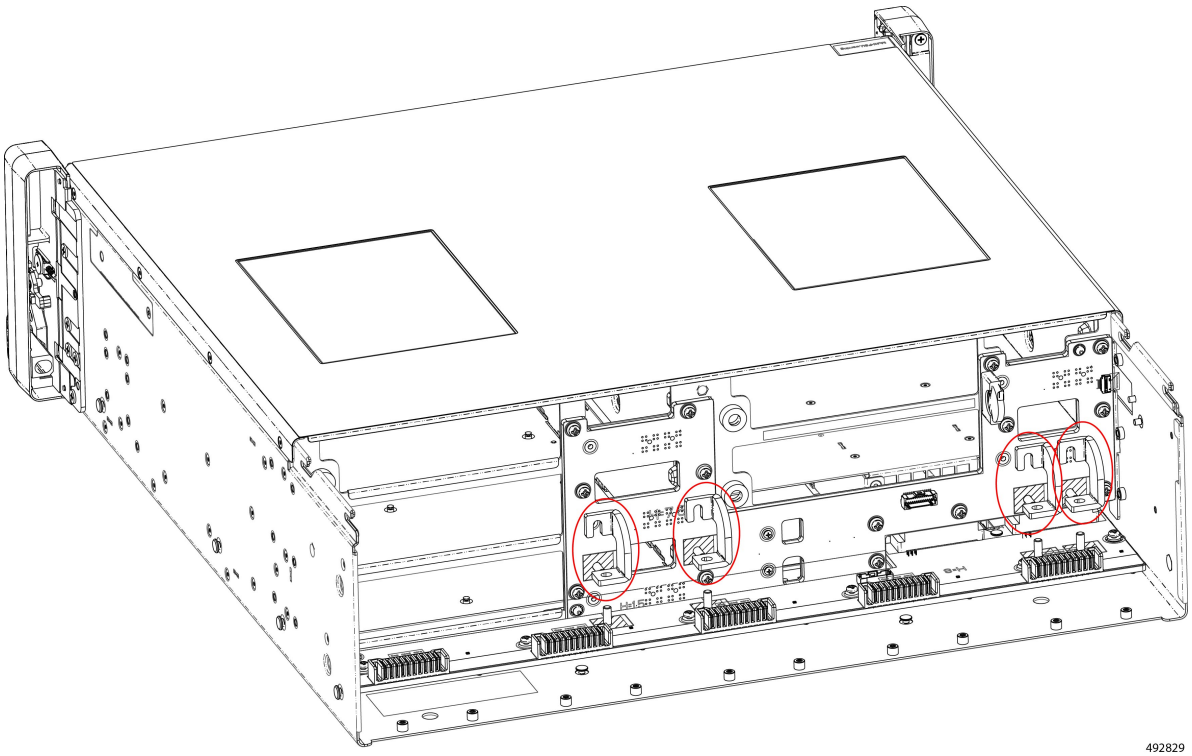
Step 6 Grasp and remove the bus bar.



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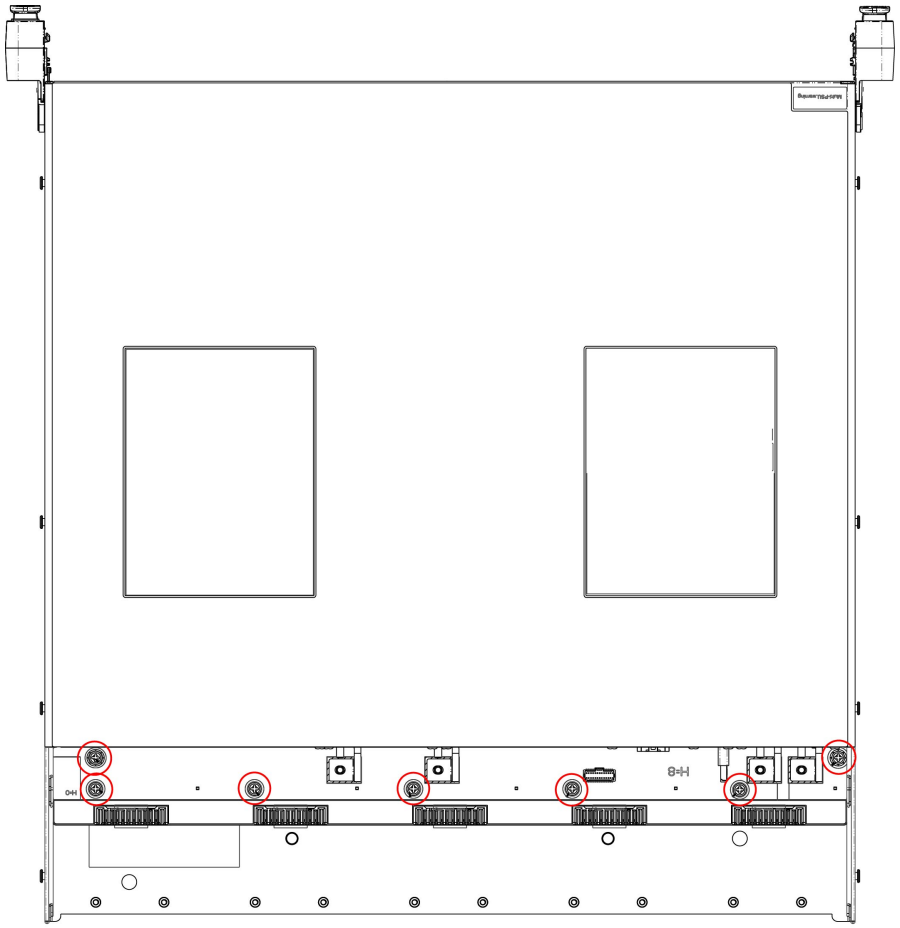
Step 7 Remove the power bar.

a) Using a #2 Phillips screwdriver, remove the seven power bar screws.



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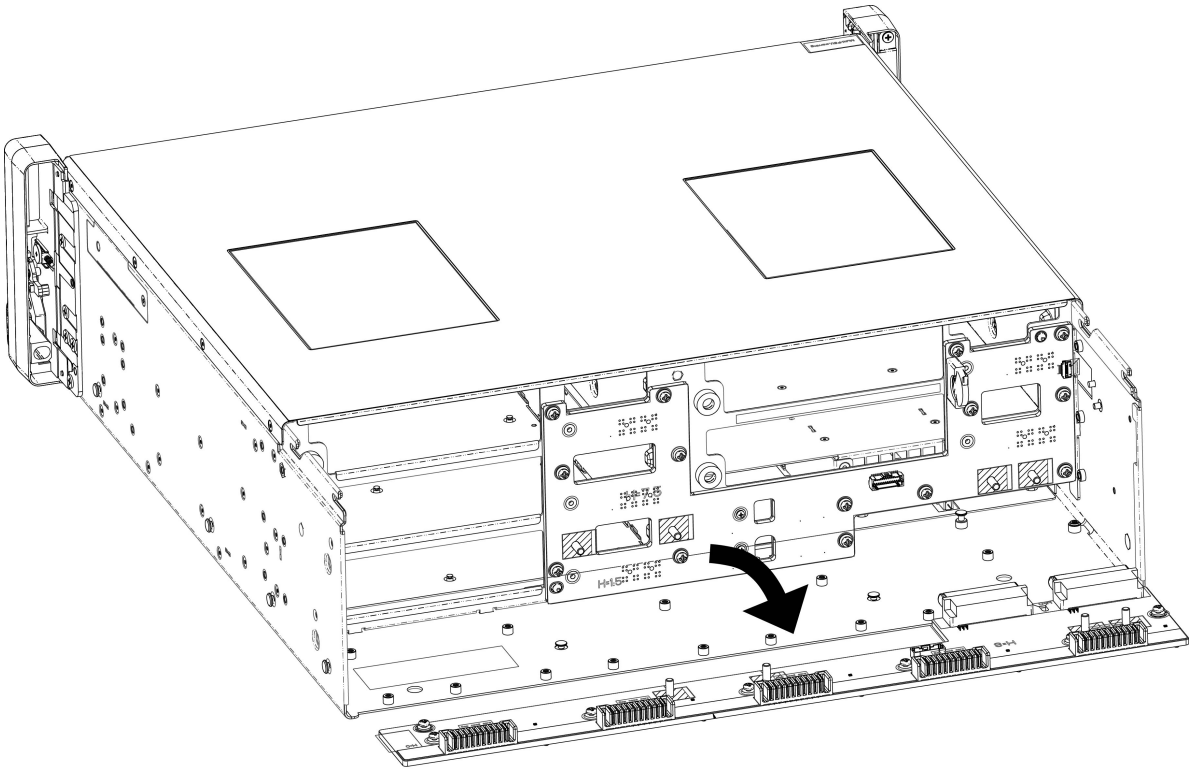
b) Detach the power bar from the chassis.



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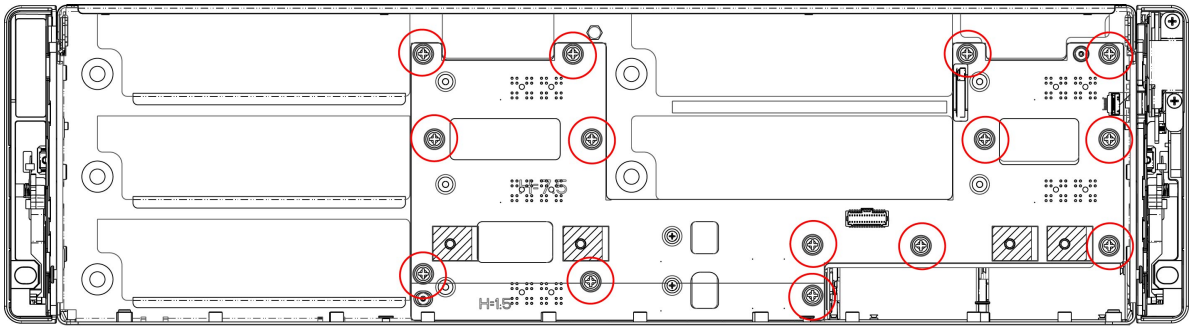
Step 8 Remove the PCB.

a) Using the #2 Phillips screwdriver, remove the 14 PCB screws.



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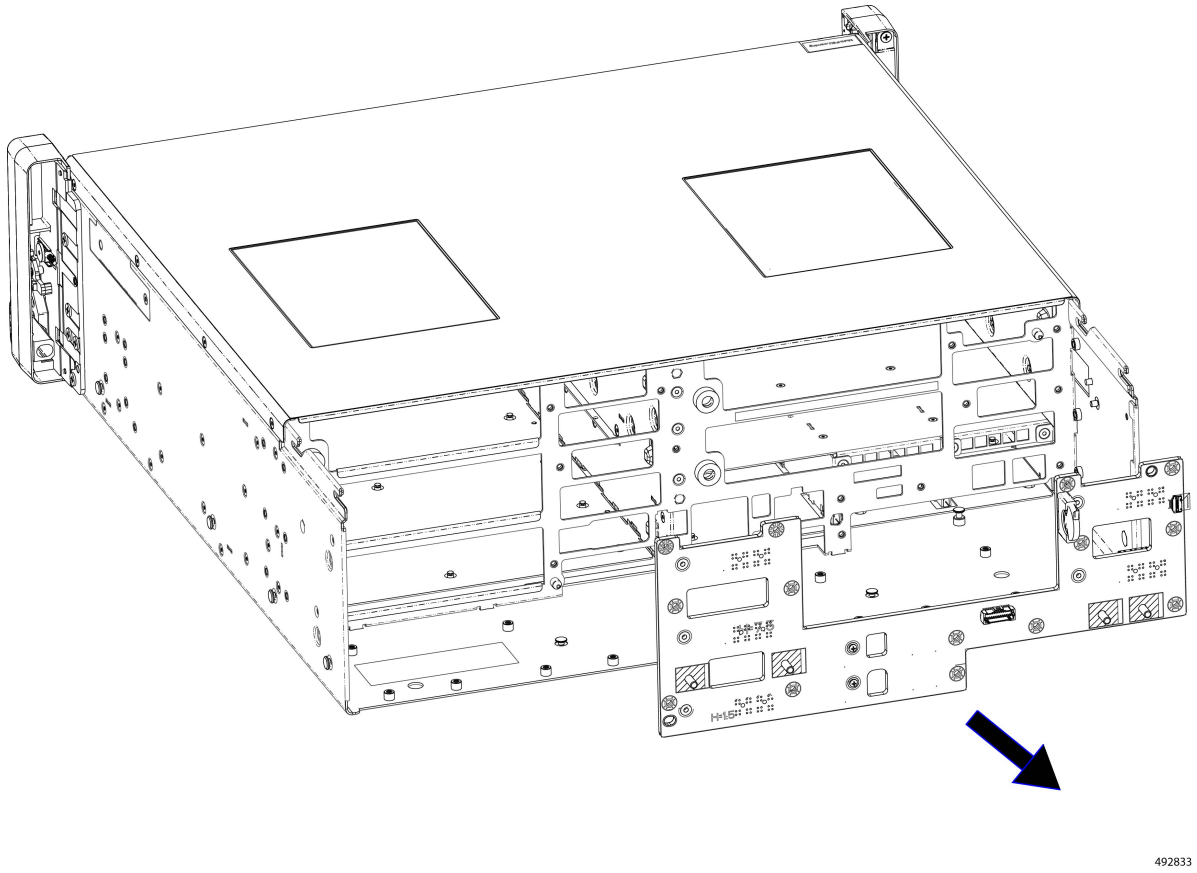
b) Grasp the backplane PCB and detach it from the chassis.



Step 9 Dispose of the backplane PCB in compliance with your local ewaste and recycling regulations.

Recycling DIMMs

The Cisco UCS XE130c Compute Node contains DIMM memory modules that must be recycled in compliance with your local ewaste and recycling regulations.

DIMMs are arranged in banks connected to the node's CPU. Each DIMM module occupies one slot in the DIMM bank, and the DIMM module is held in place by connector latches.

Use the following tasks to recycle the DIMM modules.

- Recycling the Compute Node DIMM Modules, on page 37

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.

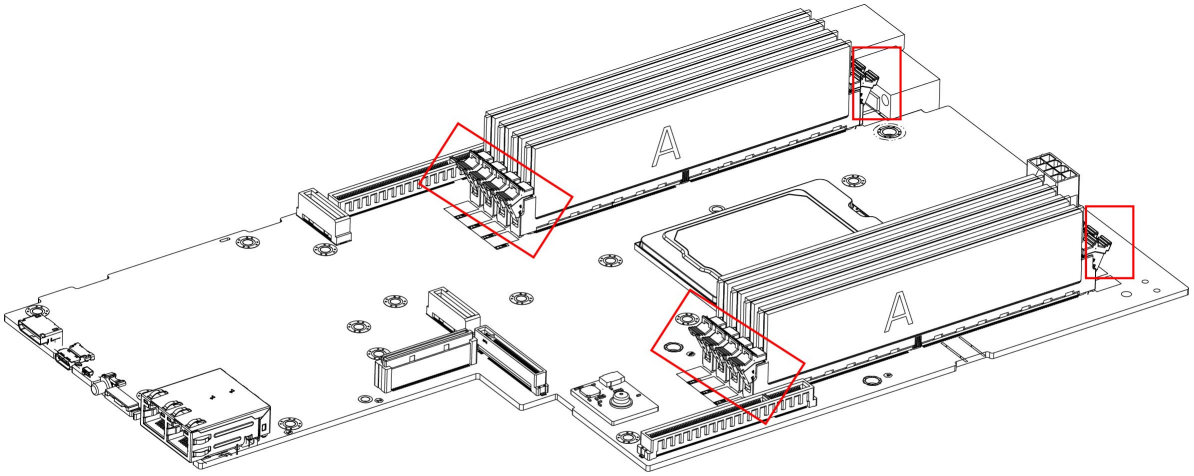
Go to Removing a Compute Node.

Step 2 Remove the node's top cover.

Removing a Node Top Cover.

Step 3 Remove the DIMM modules from the node.

a) Locate the DIMM modules and their connector latches.



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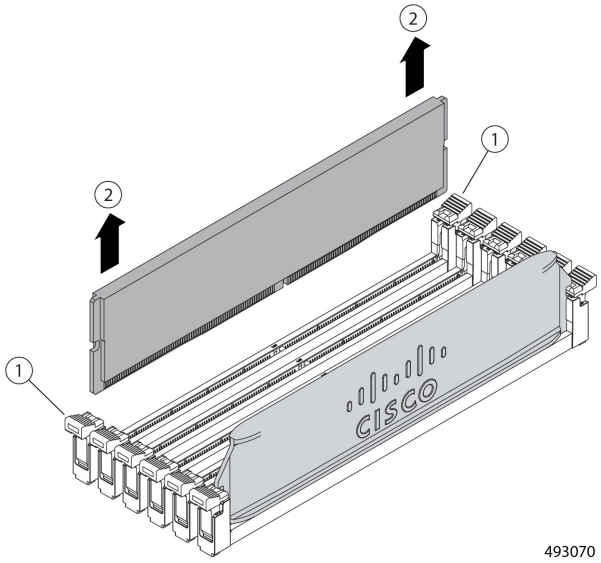
b) Simultaneously push the connector latch at each end outward (1). This is the open position.

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.



Step 4 Dispose of the DIMMs in compliance with your local regulations for recycling and ewaste.

Recycling Power Supplies

The Cisco UCS XE9305 Chassis features two hot-swappable 2400 W Titanium AC power supply units (PSUs) providing N+N redundancy. The PSUs are accessible from the front of the chassis.

PSUs must be recycled in compliance with your local ewaste and recycling regulations.

Recycling PSUs is a tool less process. You do not need to power down the chassis to recycle the PSUs, because when you remove enough PSUs, the chassis power management features will begin gracefully powering down the Cisco UCS XE9305 Modular System. However, it is a best practice to power down the chassis before recycling power supplies.

Recycling Power Supplies

The chassis has two PSUs that are accessible from the front of the chassis. You do not need any tools to recycle the power supplies.

Procedure

Step 1 Remove the PSUs

Go to Removing Power Supply Units.

Step 2 Recycle the PSUs in compliance with your local ewaste and recycling regulations.

Recycling CPUs

Each Cisco UCS XE130c Compute Node contains a CPU that is connected to, and sits between, DIMM memory banks. The CPU is accessible by removing each compute node.

To recycle the CPU, you will need to remove the CPU's heatsink and disconnect the CPU from the socket. The CPU is not field-serviceable or easliy replaceable, so recycling it is a destructive process.

Recycling the XE130c Compute Node CPU

Each XE130c Compute Node has a CPU that must be recycled in compliance with your local ewaste and recycling regulations.

To recycle the CPU, you will need to remove the CPU's heatsink and disconnect the CPU from the socket. Each compute node features a BGA (Ball Grid Array) type CPU, which requires a hot air gun, soldering gun, or other equipment to heat the CPU and desolder it from the motherboard.

Before you begin

Gather a #2 Phillips (cross head) screwdriver.

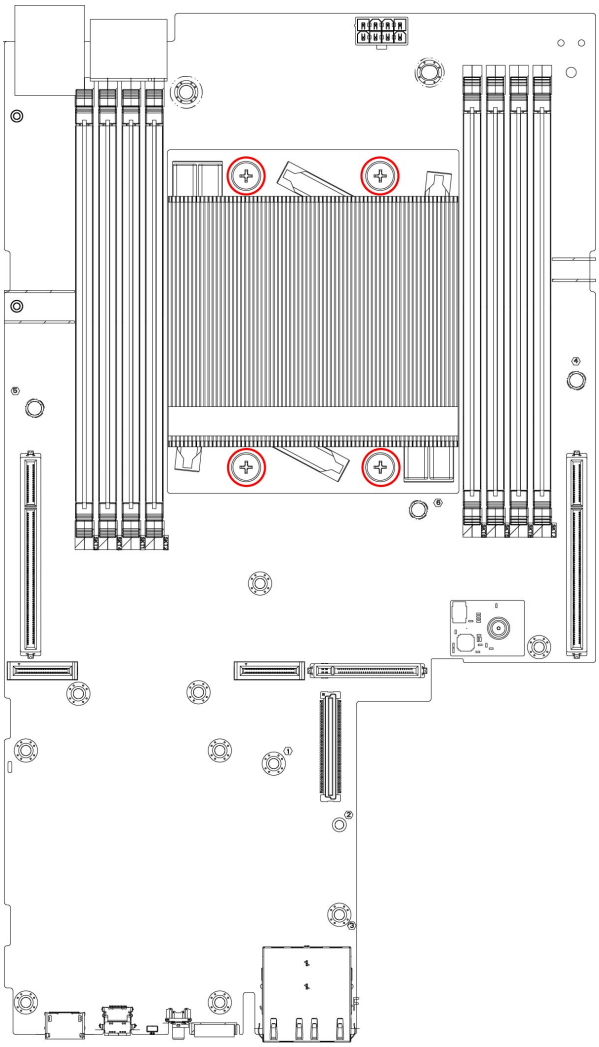
A soldering gun, hot air gun, or similar tool to heat the connections between the CPU and the motherboard.

Procedure

Step 1 Remove the compute node.

Go to Removing a Compute Node.

Step 2 Using a #2 Phillips screwdriver, remove the heatsink from the node.



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Step 3 Using a soldering gun, or other heating tool, desolder the CPU from the socket.

Step 4 Dispose of the heatsink and CPU in compliance with your local ewaste and recycling regulations.