



Cisco UCS S3260 Storage Server Chassis Installation and Service Guide

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Cisco UCS S3260 Storage Server Chassis Installation and Service Guide
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Overview

This chapter provides an overview of the Cisco UCS S3260 storage server.

For information about the server nodes that are supported in this system, see the service note for your server node:

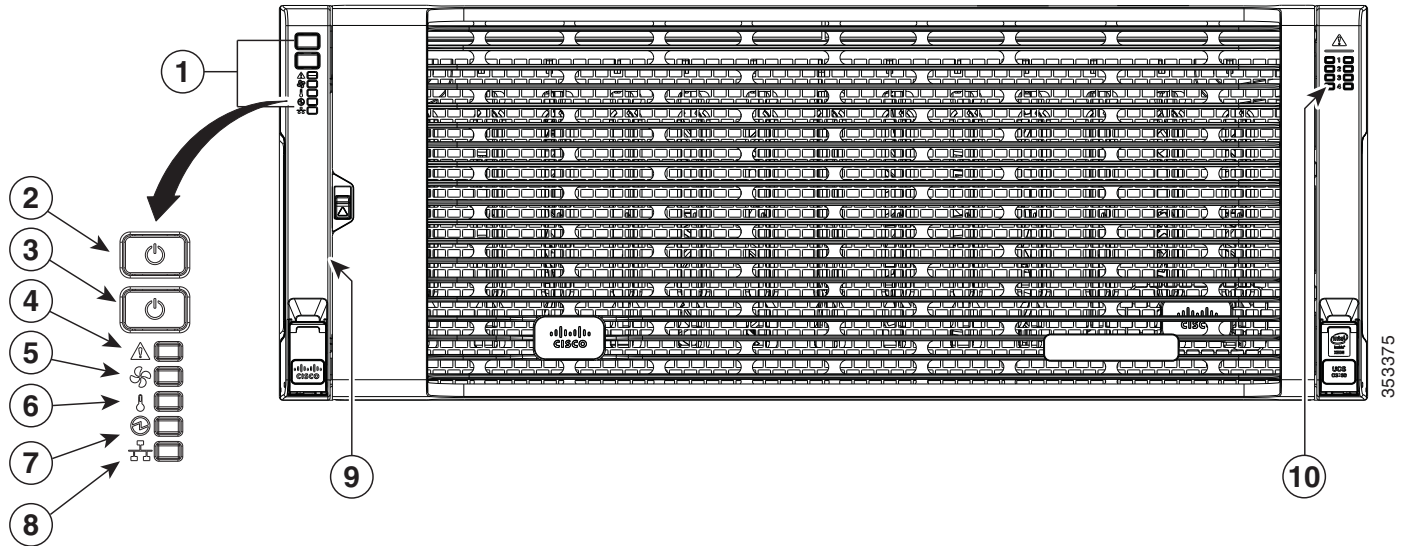
- [Cisco UCS C3X60 M3 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS C3X60 M4 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS S3260 M5 Server Node For Cisco UCS S3260 System Service Note](#)

For instructions on migrating from C3X60 M4 server nodes to S3260 M5 server nodes, see [Upgrading to Cisco UCS S3260 System With S3260 M5 Server Nodes](#), page E-1.

Front Panel Features

Figure 1-1 shows the front panel features of the system. The system is shown with the removable front bezel installed. See [Front-Panel LEDs](#), page 3-2 for definitions of LED states.

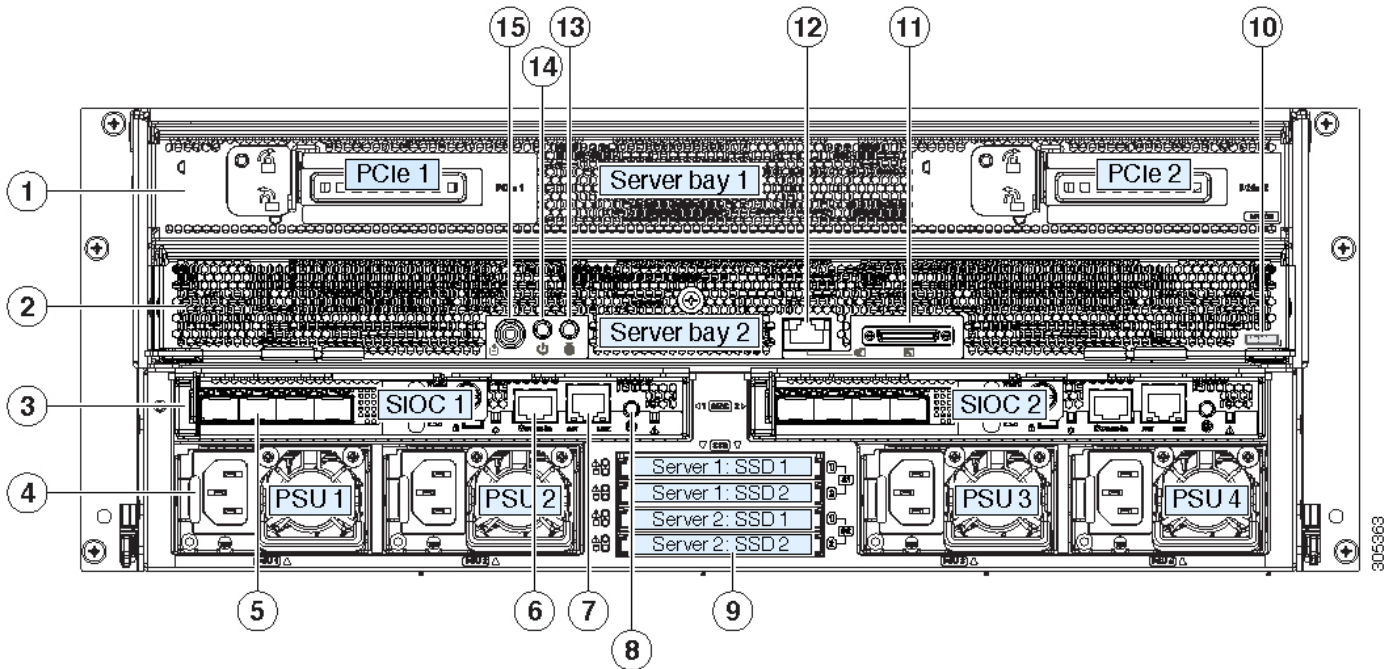
Figure 1-1 Front Panel Features



1	Operations panel	6	Temperature status LED
2	System Power button/LED	7	Power supply status LED
3	System unit identification button/LED	8	Network link activity LED
4	System status LED	9	Pull-out asset tag (not visible under front bezel)
5	Fan status LED	10	Internal-drive status LEDs

Rear Panel Features

Figure 1-2 Rear Panel Features (S3260 M5 Server Node With I/O Expander and Version 03 SIOC's Shown)



1	Server bay 1 <ul style="list-style-type: none"> (Optional) I/O expander, as shown (attaches to C3X60 M4 or S3260 M5 server node only) (Optional) server node 	9	Solid state drive bays (up to four 2.5-inch SAS SSDs) <ul style="list-style-type: none"> SSDs in Server 1 bays 1 and 2 require a server node in server bay 1 SSDs in Server 2 bays 1 and 2 require a server node in server bay 2
2	Server bay 2 <ul style="list-style-type: none"> (Optional) server node (S3260 M5 shown) (Optional) disk expansion tray 	10	S3260 M5 server node label (M5 SVRN) or C3X60 M4 server node label (M4 SVRN) Note: This label identifies an M4 or M5 server node. The C3X60 M3 server node does not have a label.
3	System I/O controller (SIOC) (Version 03 SIOC's shown) <ul style="list-style-type: none"> SIOC 1 is required if you have a server node in server bay 1 SIOC 2 is required if you have a server node in server bay 2 	11	KVM console connector (one each server node) Used with a KVM cable that provides two USB, one VGA, and one serial connector
4	Power supplies (four, redundant as 3+1)	12	1 Gb Ethernet LOM port (RJ-45)
5	QSFP ports (each SIOC) When using the Version 03 SIOC as shown, the ports vary depending on which adapter card is installed.	13	Server node unit identification button/LED
6	Chassis Management Controller (CMC) Debug Firmware Utility port (one each SIOC)	14	Server node power button
7	10/100/1000 dedicated management port, RJ-45 connector (one each SIOC)	15	Server node reset button (resets the chipset in the server node)
8	Not used at this time		

Replaceable Component Locations

This section contains the following topics:

- [Replaceable Components Inside the Main Chassis, page 1-4](#)
- [Components Inside the C3X60 Server Node, page 1-6](#)
- [Components Inside the I/O Expander, page 1-6](#)
- [Components Inside the System I/O Controller, page 1-7](#)

Replaceable Components Inside the Main Chassis

This section shows the locations of the replaceable components that are inside the main chassis. Some components are accessible from the rear panel and others are accessible by opening the top covers.

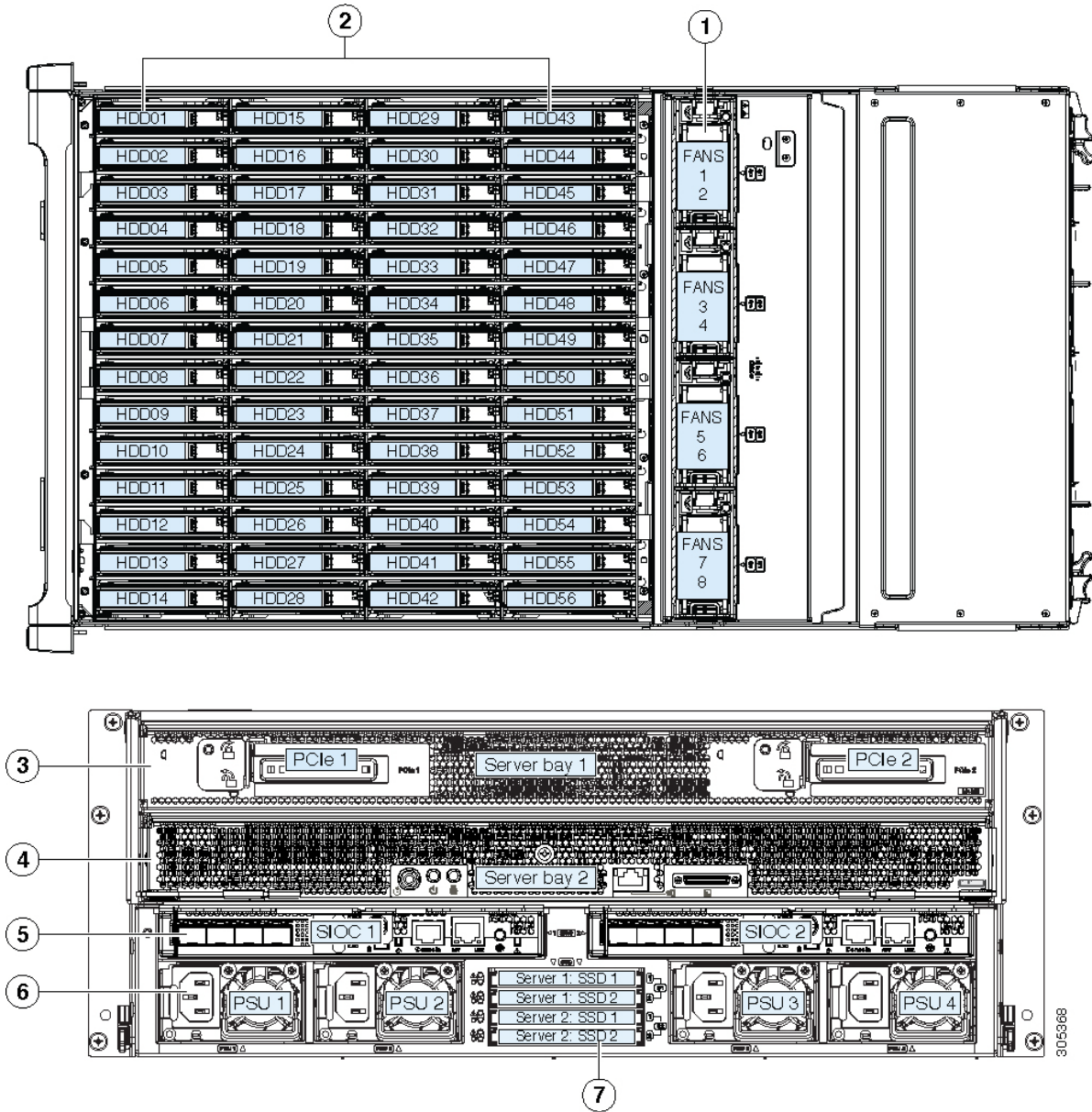
The top view of the system in [Figure 1-3](#) shows the top covers open.



Note

The internal drives and cooling fans in the system are hot-swappable and are accessed by opening the top covers. When you rack and cable the system, be sure to allow enough slack in the power cords and other cables so that the system can be pulled out on the slide rails far enough to allow clearance for opening the top covers.

Figure 1-3 Replaceable Components Inside the Main Chassis (Top View and Rear View)



<p>1 Fan modules (four, hot-swappable) Each fan module contains two fans.</p>	<p>5 System I/O controllers (SIOCs) (one or two)</p>
<p>2 Top-loading drive bays (up to 56 3.5-inch HDDs or SSDs, hot-swappable)</p>	<p>6 Power supplies (four, redundant as 3+1)</p>
<p>3 Server bay 1</p> <ul style="list-style-type: none"> • (Optional) I/O expander, as shown (with M4 or M5 server node only) • (Optional) server node 	<p>7 2.5-inch SAS SSDs (up to four)</p>
<p>4 Server bay 2</p> <ul style="list-style-type: none"> • (Optional) server node (C3X60 M4 shown) • (Optional) disk expansion tray 	

Components Inside the C3X60 Server Node

For the locations of the replaceable components that are inside a server node, see the service note for your server node:

- [Cisco UCS C3X60 M3 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS C3X60 M4 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS S3260 M5 Server Node For Cisco UCS S3260 System Service Note](#)

Components Inside the I/O Expander

The C3X60 M4 or S3260 M5 server node might include an optional I/O expander that attaches to the top of the server node. For the locations of the replaceable components that are inside an I/O expander, see the service note for your server node:

- [Cisco UCS C3X60 M4 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS S3260 M5 Server Node For Cisco UCS S3260 System Service Note](#)

Components Inside the System I/O Controller

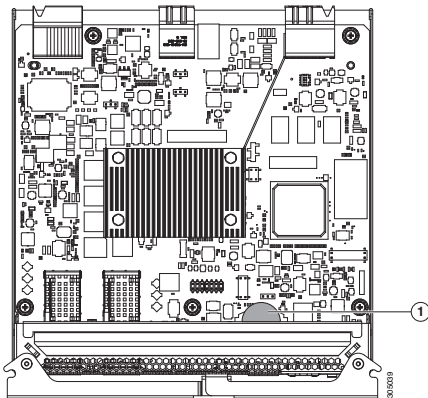
This section shows the locations of the replaceable components that are inside the system I/O controller (SIOC), which is accessible from the rear of the chassis.

- The Version 02 SIOC (UCSC-S3260-SIOC) uses an integrated Cisco UCS VIC 1300 Series chip on-board, so there is no removable adapter card. The only replaceable component is an RTC battery.
- The Version 03 SIOC (UCS-S3260-PCISIOC) uses a removable PCIe-style adapter card (half-height, half-length, Gen-3, x8 lane). It also supports up to two 2.5-inch NVMe SSDs and an RTC battery.



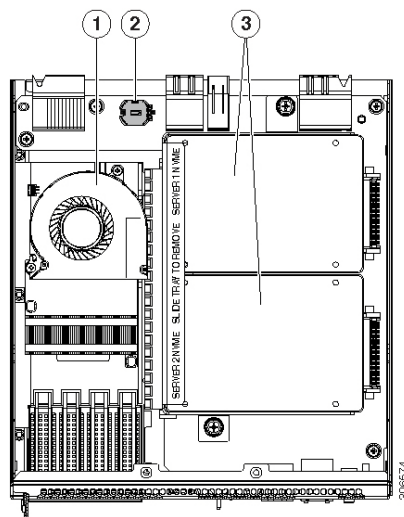
Note The Version 03 SIOC is supported only with S3260 M5 server node. It is not supported with earlier server nodes.

Figure 1-4 Replaceable Components Inside the Version 02 SIOC (UCSC-S3260-SIOC)



1	RTC battery CR1632
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Figure 1-5 Replaceable Components Inside the Version 03 SIOC (UCS-S3260-PCISIOC)



1	PCIe-style adapter card plugs into horizontal socket	3	Up to two 2.5-inch NVMe SSDs plug into two horizontal sockets (both SSDs are secured to a single drive sled).
2	RTC battery CR1632		

Overview of Cisco UCS S3260 Architecture

This section describes the high-level organization of the system's management and data architecture, in relation to the hardware.

Management Architecture

The system uses a chassis management controller (CMC) to manage the server nodes. Each system I/O controller (SIOC) module contains an onboard CMC. If you have two SIOCs, the two CMCs act in an active/standby organization. The CMC in the SIOC that you log into with the Cisco IMC interface becomes the active CMC and it allows you to manage the board management controllers (BMCs) in *both* server nodes.

When you connect to the system to manage the server nodes' BMCs via the Cisco IMC interface, you physically connect to the ports on a SIOC. When you log into the Cisco IMC interface, you use a system management IP address. Each CMC and each BMC also has an IP address for internal communication.

All user interfaces run only on the active CMC. Configuration changes are automatically synchronized between the active and standby CMCs.

The active CMC will fail over to the standby CMC when any of the following conditions occur:

- The active CMC is rebooted or fails.
- The SIOC with active CMC is removed.
- Network connectivity is lost on the active CMC.

Figure 1-6 shows an example of a system with two server nodes in which there is a physical connection to the QSFP ports on both SIOCs, but the SIOC 1 CMC is the active CMC that manages both server nodes.

Figure 1-6 Management Architecture

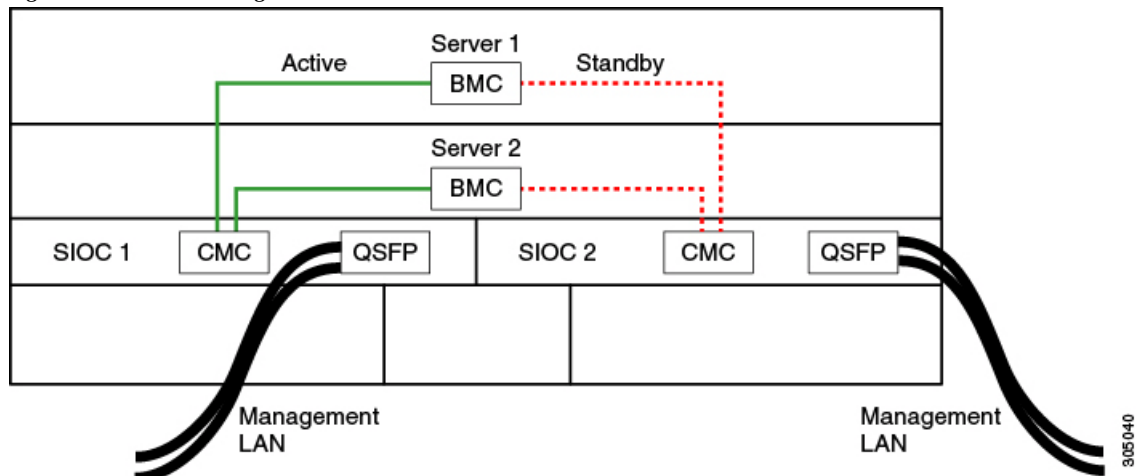
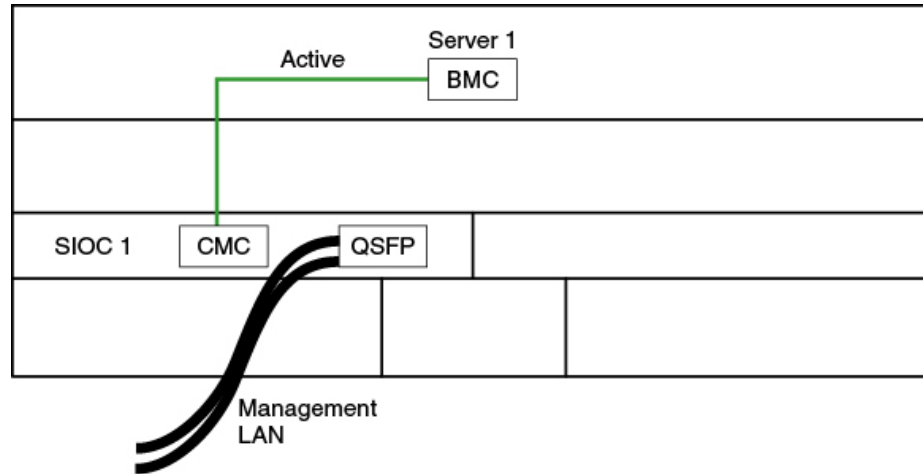


Figure 1-6 shows an example of a system with one server node and one SIOC. In this case, there is no standby or failover.

Figure 1-7 Management Architecture



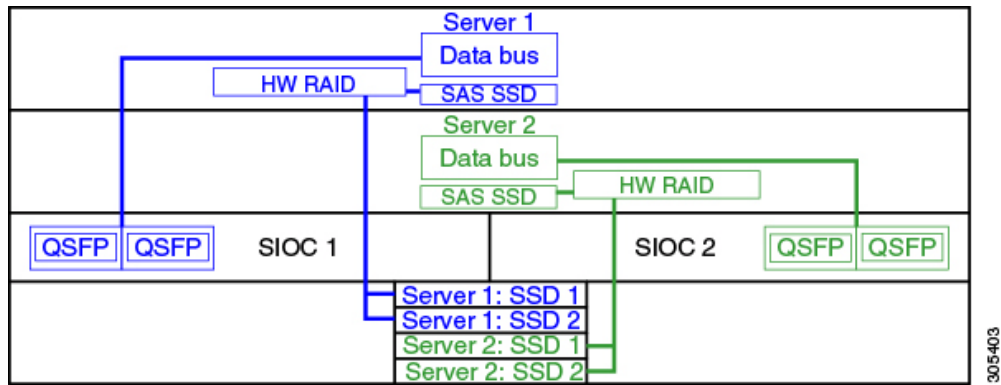
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Data Architecture

The data plane architecture has different associations between components than the management plane. The diagram shown in [Figure 1-8](#) illustrates the following associations for a dual-server system:

- The data bus in server node 1 connects through SIOC 1.
- The data bus in server node 2 connects through SIOC 2.
- Server 1 SSDs 1 and 2 can be controlled by a RAID controller card in server node 1.
- Server 2 SSDs 1 and 2 can be controlled by a RAID controller card in server node 2.

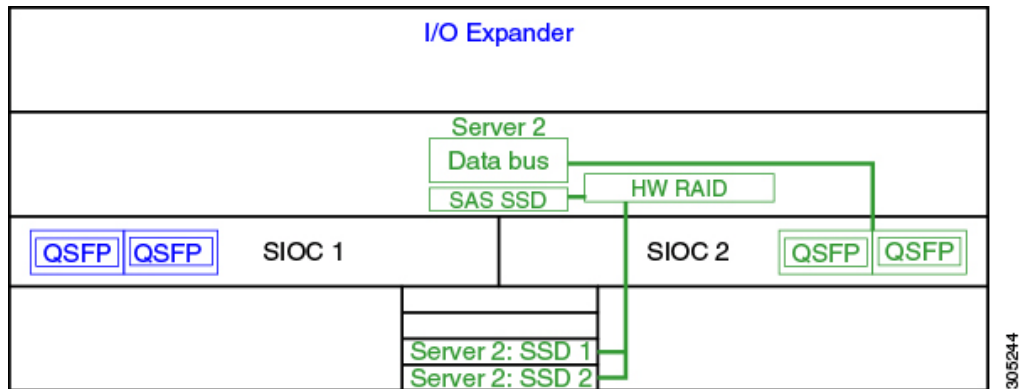
Figure 1-8 Data Architecture in a Dual-Server System



The diagram shown in [Figure 1-9](#) illustrates the following associations for a single-server system:

- The data bus in server node 2 connects through SIOC 2.
- Server 2 SSDs 1 and 2 can be controlled by a RAID controller card in server node 2.

Figure 1-9 Data Architecture in a Single-Server System With I/O Expander



System Features Overview

Table 1-1 lists the features of the system.

Table 1-1 Cisco UCS S3260 System Features


Chassis	Four rack-unit (4RU) chassis.
Processors	<ul style="list-style-type: none"> • C3X60 M3 server nodes: Two Intel Xeon E5-2600 v2 Series processors inside each server node. • C3X60 M4 server nodes: Two Intel Xeon E5-2600 v4 Series processors inside each server node. • S3260 M5 server nodes: Two CPUs from the Intel Xeon Processor Scalable Family. This includes CPUs from the following series: <ul style="list-style-type: none"> – Intel Xeon Silver 4XXX Processors – Intel Xeon Gold 5XXX and 6XXX Processors
Memory	Up to 14 DIMMs inside each server node.
Multi-bit error protection	This system supports multi-bit error protection.
Storage	<p>The system has the following storage options:</p> <ul style="list-style-type: none"> • Up to 56 top-loading 3.5-inch hard drives • Up to four 3.5-inch rear-loading hard drives in an optional disk expansion tray. • Up to four 2.5-inch, rear-loading SATA solid state drives (SSDs) • M4 server node: one 2.5-inch, NVMe SSD inside each server node; M5 server node: two 2.5-inch, NVMe SSDs inside each server node. • Version 03 SIOC only: two 2.5-inch NVMe SSDs inside each SIOC.
Disk Management	<p>The system supports up to two storage controllers:</p> <ul style="list-style-type: none"> • One dedicated mezzanine-style socket for a Cisco storage controller card inside each server node • One dedicated mezzanine-style socket for a Cisco 12G modular storage controller inside the optional I/O expander (when used with C3X60 M4 server nodes) <p> Note The storage controllers that are supported in the S3260 M5 server node are not supported in the I/O expander.</p>
RAID Backup	<p>The supercap battery backup mounts to the RAID controller card.</p> <p>The dual RAID controller used in M5 server nodes uses two supercap units.</p>
PCIe I/O	<ul style="list-style-type: none"> • The optional I/O expander provides two 8x Gen 3 PCIe expansion slots. • Version 03 SIOC only: one 8x Gen 3 PCIe expansion slot.

Table 1-1 Cisco UCS S3260 System Features (continued)

Network and management I/O	<p>The system can have one or two system I/O controllers (SIOCs). These provide rear-panel management and data connectivity.</p> <ul style="list-style-type: none"> • Two QSFP ports each SIOC. • One 10/100/1000 Ethernet dedicated management port on each SIOC. <p>The server nodes each have one rear-panel KVM connector that can be used with a KVM cable, which provides two USB, one VGA DB-15, and one serial DB-9 connector.</p>
Power	Four power supplies, hot-swappable and redundant as 3+1. All installed power supplies must be identical.
Cooling	Four internal fan modules that pull front-to-rear cooling, hot-swappable. Each fan module contains two fans.
Baseboard management	<p>Cisco Integrated Management Controller (Cisco IMC) firmware.</p> <p>Depending on your NIC mode settings, the Cisco IMC can be accessed through the SIOC dedicated management port or the SIOC QSFP ports.</p> <p>See also Management Architecture, page 1-8.</p>



Installing the System

This chapter describes how to install the system, and it includes the following sections:

- [Unpacking and Inspecting the System, page 2-2](#)
- [Preparing for System Installation, page 2-3](#)
- [Installing the System in a Rack, page 2-5](#)
- [Initial System Setup, page 2-13](#)
- [NIC Modes and NIC Redundancy Settings, page 2-19](#)
- [System BIOS and Cisco IMC Firmware, page 2-20](#)



Note

Before you install, operate, or service a system, review the [Regulatory Compliance and Safety Information for Cisco UCS S-Series Servers](#) for important safety information.



Warning

IMPORTANT SAFETY INSTRUCTIONS

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. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device.

Statement 1071

Unpacking and Inspecting the System

**Caution**

This system weighs approximately 190 pounds (86 kilograms) when fully loaded with components. We recommend that you use a mechanical lift when lifting the system. Attempting this procedure alone could result in personal injury or equipment damage. Consider removing components such as hard drives temporarily while you move the system.

**Caution**

When handling internal system components, wear an ESD strap and handle modules by the carrier edges only.

**Note**

The chassis is thoroughly inspected before shipment. If any damage occurred during transportation or any items are missing, contact your customer service representative immediately.

-
- Step 1** Remove the system from its cardboard container and save all packaging material.
- Step 2** Compare the shipment to the equipment list provided by your customer service representative. Verify that you have all items.
- Step 3** Check for damage and report any discrepancies or damage to your customer service representative. Have the following information ready:
- Invoice number of shipper (see the packing slip)
 - Model and serial number of the damaged unit
 - Description of damage
 - Effect of damage on the installation
-

Preparing for System Installation

This section provides information about preparing for system installation, and it includes the following topics:

- [Installation Guidelines, page 2-3](#)
- [Rack Requirements, page 2-4](#)
- [Equipment Requirements, page 2-4](#)
- [Slide Rail Adjustment Range, page 2-4](#)

Installation Guidelines



Warning

To prevent the system from overheating, do not operate it in an area that exceeds the maximum recommended ambient temperature of: 35° C (95° F).
Statement 1047



Warning

The plug-socket combination must be accessible at all times, because it serves as the main disconnecting device.
Statement 1019



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, 15 A.
Statement 1005



Warning

Installation of the equipment must comply with local and national electrical codes.
Statement 1074

When you are installing a system, use the following guidelines:

- Plan your site configuration and prepare the site before installing the system. See the [Cisco UCS Site Preparation Guide](#) for the recommended site planning tasks.
- Ensure that there is adequate space around the system to allow for servicing the system and for adequate airflow. The airflow in this system is from front to back.
- Ensure that the air-conditioning meets the thermal requirements listed in the [System Specifications, page A-1](#).
- Ensure that the cabinet or rack meets the requirements listed in the [Rack Requirements, page 2-4](#).
- Ensure that the site power meets the power requirements listed in the [System Specifications, page A-1](#). You can use an uninterruptible power supply (UPS), if available, to protect against power failures.

Rack Requirements

This section provides the requirements for the standard open racks, assuming an external ambient air temperature range of 41°F to 95°F (5°C to 35°C).

The rack must be of the following type:

- A standard 19-in. (48.3-cm) wide, four-post EIA rack, with mounting posts that conform to English universal hole spacing, per section 1 of ANSI/EIA-310-D-1992.
- The rack post holes can be square 0.38-inch (9.6 mm), round 0.28-inch (7.1 mm), #12-24 UNC, or #10-32 UNC when you use the supplied slide rails.
- The minimum vertical rack space per system must be four RUs, equal to 7 in. (17.78 cm).
- There must be a minimum of 48 inches clearance at the front of the rack.

Equipment Requirements

The slide rails supplied by Cisco Systems for this system do not require tools for installation if you install them in a rack that has square 0.38-inch (9.6 mm), round 0.28-inch (7.1 mm), or #12-24 UNC threaded holes.

Slide Rail Adjustment Range

The slide rails for this system have an adjustment range of 26 to 36 inches (660 to 914 mm).

Cable Management Arm Dimensions

The optional cable management arm (CMA) adds additional length requirements:

- The additional distance from the rear of the chassis to the rear of the CMA is 6.8 inches (173 mm)
- The total length of the chassis from front rack post to the rear of the CMA is 38.3 inches (973 mm).
- The total length of the chassis including front handles and CMA is 40.3 inches (1024 mm).

Installing the System in a Rack

This section contains the following topics:

- [Installing the Slide Rails, page 2-5](#)
- [Installing the Cable Management Arm \(Optional\), page 2-10](#)
- [Reversing the Cable Management Arm \(Optional\), page 2-12](#)



Warning

To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable. The following guidelines are provided to ensure your safety: This unit should be mounted at the bottom of the rack if it is the only unit in the rack. When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack. If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack. Statement 1006

Installing the Slide Rails



Caution

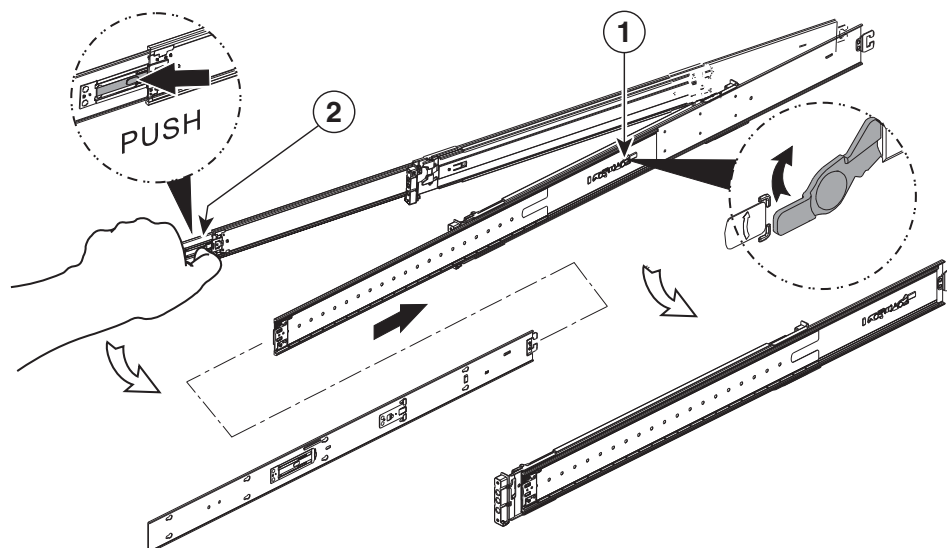
This system weighs approximately 190 pounds (86 kilograms) when fully loaded with components. We recommend that you use a mechanical lift when lifting the system. Attempting this procedure without a lift could result in personal injury or equipment damage. Although not required, consider temporarily removing components such as hard drives while you move the system.

Step 1

Remove the inner rail from the slide-rail assembly (see [Figure 2-1](#)):

- Slide out the intermediate and inner slide rails until they click and lock in the fully open position.
- Hold down the inner rail release clip and at the same time, pull the inner rail free from the assembly.
- Push down the rail release latch while you collapse the intermediate rail back into the rail assembly for safety.

Figure 2-1 Removing the Inner Rail From the Assembly



1	Rail release latch (close-up view)	2	Inner rail release clip
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Step 2 Attach the inner rails to the sides of the chassis (see [Figure 2-2](#)):

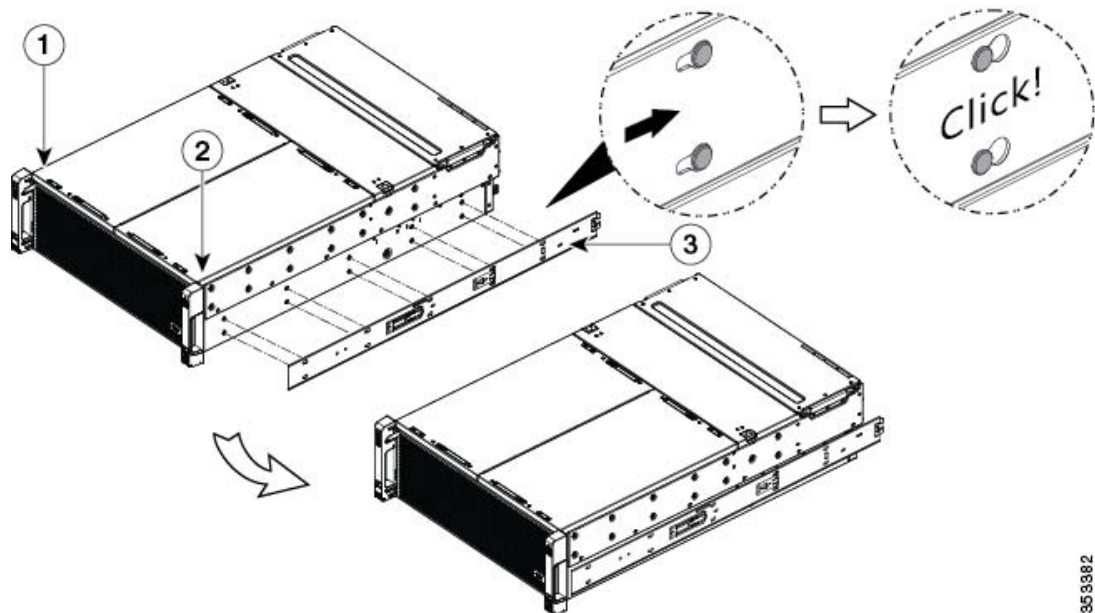


Note

The inner rails are not identical: there is a left rail and a right rail (as viewed from the chassis front). The inner rails are marked with “L” for left or “R” for right.

- a. Align the left inner rail marked “L” with the left side of the chassis (as viewed from the front). Align the 10 keyed slots in the rail with the 10 pegs on the side of the chassis.
- b. Set the keyed slots over the pegs, then slide the rail toward the rear to lock it in place on the pegs.
- c. Install the right inner rail marked “R” to the right side of the chassis (as viewed from the front).

Figure 2-2 Attaching Inner Rail to Sides of the Chassis



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1	Left side of chassis	3	Right-side inner rail marked “R”
2	Right side of chassis		

Step 3 Install the slide rails into the rack (see [Figure 2-3](#)):



Note

The slide rail assemblies are not identical; there is a left rail and a right rail (as viewed from the rack front). The assemblies are marked with “L” for left or “R” for right.

- a. Align the front end of the left-side slide-rail assembly (marked “L”) with the left-front rack-post (as you face the front of the rack).
The slide rail front-end wraps around the outside of the rack post and the mounting pegs enter the rack-post holes from the outside-front.
The bottom of the slide rail assembly lines up with the intended bottom of the rack unit (RU).
- b. Push the front mounting pegs into the rack-post holes until you hear them click and lock.

- c. Adjust the slide-rail length until it reaches the rear rack post perfectly level.

**Note**

Ensure that the rail is perfectly level and that the same height rack-post holes are used in the front and rear rack posts.

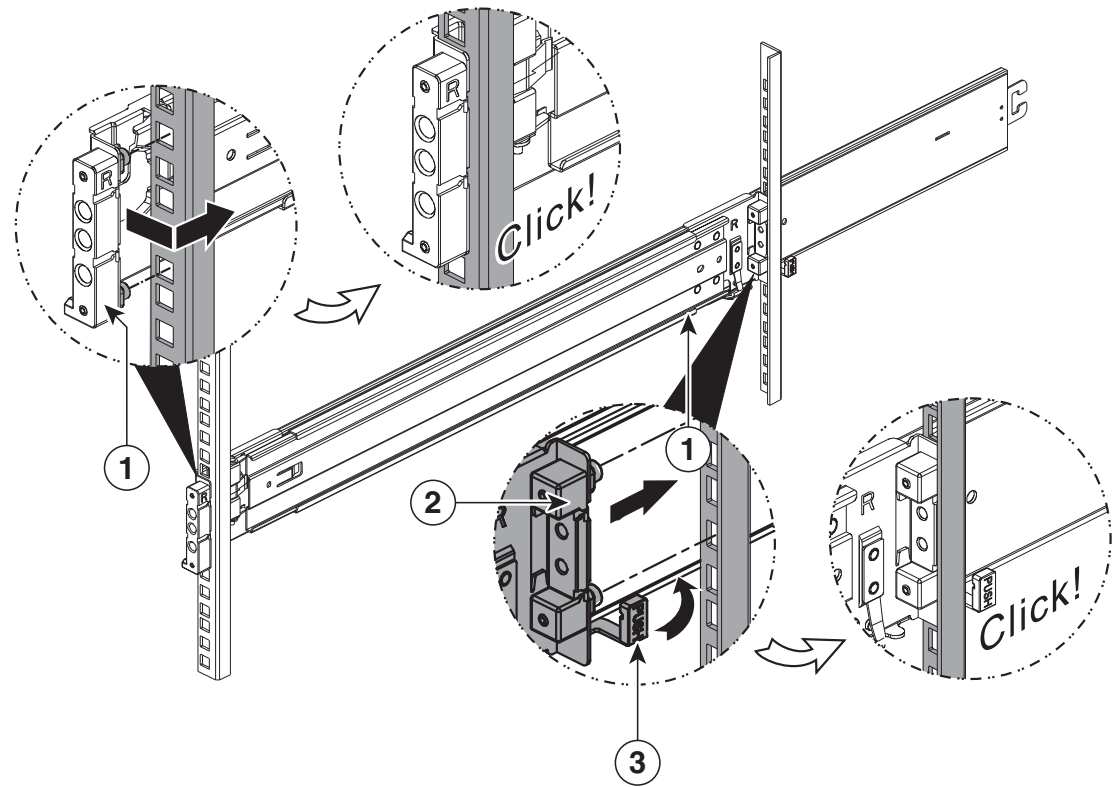
- d. Hold open the rear-peg spring latch, then push the rear mounting pegs into the rear rack-post-holes. The rear mounting pegs enter the rear rack-post holes from the inside of the rack post.
- e. Release the rear-peg spring latch to lock the rear pegs in place.

**Caution**

Ensure that all pegs are fully inserted into the rack post holes before installing the chassis to the rack.

- f. Attach the right-side slide-rail assembly (marked “R”) to the right side of the rack.
- g. Ensure that the two slide-rail assemblies are at the same height and are level front-to-back. Also ensure that the right-side and left-side assemblies are correctly installed to the corresponding left or right rack posts, as you face the rack front.

Figure 2-3 Attaching Rail Assembly to the Rack Post



1	Front mounting pegs, entering rack-post holes from the outside front	3	Rear peg spring-latch
2	Rear mounting pegs, entering rack post-holes from inside rear		

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Step 4 Pull the intermediate slide rails on each assembly out toward the rack front until they hit the internal stops and lock in place (see [Figure 2-4](#)).

Step 5 Insert the chassis with inner rails into the intermediate rails:



Caution This system weighs approximately 190 pounds (86 kilograms) when fully loaded with components. We recommend that you use a mechanical lift when lifting the system. Attempting this procedure without a lift could result in personal injury or equipment damage. Although not required, consider temporarily removing components such as hard drives while you move the system.



Note The rack rail channels are fragile to side loads. Install the chassis gently to avoid damaging the rails.

- a. Align the rear ends of the inner rails that are attached to the chassis sides with the front ends of the empty intermediate rails on the rack.



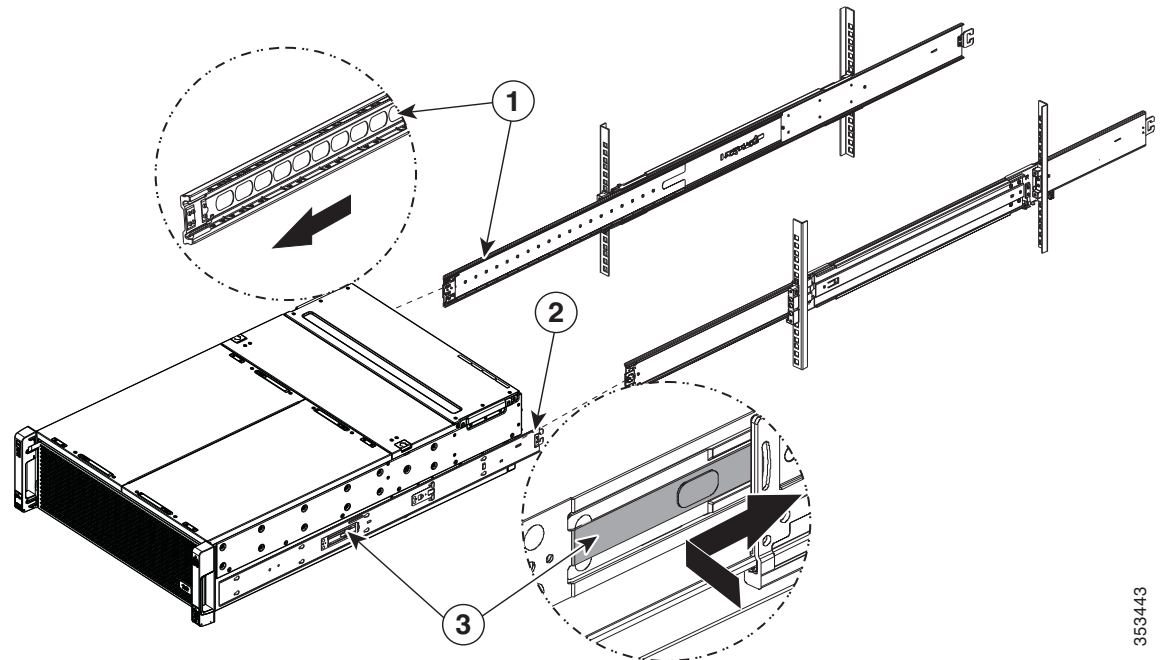
Caution Ensure that the inner rails on the chassis are parallel with the intermediate rails on the rack. This could require adjusting the mechanical lift position up-down and left-to-right. Consider using shims if your lift does not support these motions. The ends of the inner rail must align up-down and side-to-side with the ends of the intermediate rails.

- b. Very slowly push the chassis toward the rack. Ensure that the rail ends mesh to each other and are fully engaged at the top and bottom of the rail channels.
- c. Slowly push the chassis into the intermediate rails until it stops at the internal stops.
- d. Depress the release clip on each inner rail inward, and then continue pushing the chassis into the rack until its front handle slam-latches engage with the rack posts (see [Figure 2-4](#)).



Caution Ensure that both inner rail release clips are pushed in before pushing the chassis into the rack. Push the chassis into the rails slowly to avoid damaging the rails. Let go of the release clip buttons as the chassis begins to push in.

Figure 2-4 Attaching Rail Assembly to the Rack Post



353443

1	Intermediate rail pulled out from outer rail	3	Inner rail release clip
2	Inner rail mounted on chassis		

Step 6 (Recommended) Secure the chassis in the rack more permanently by using the two screws provided with the slide rails. For example, you can install these screws if you plan to move the rack with systems installed.

With the chassis fully pushed into the slide rails, open a hinged slam-latch lever on the front of the system and insert the screw through the hole that is under the lever. The screw threads into the static part of the rail on the rack post and prevents the chassis from being pulled out. Repeat for the opposite slam latch.

**Caution**

When you pull the chassis outward from the rack, it stops at internal locking stops. Do not depress the release clips on the inner rails (see [Figure 2-4](#)) unless you intend to slide the chassis back into the rack or to fully remove the chassis from the rack. Depressing the release clips on the inner rails allows the chassis to slide all the way out of the intermediate rails and could result in injury or equipment damage. It is recommended that when you test pulling the chassis out from the rack for the first time that you place the mechanical lift under the chassis to avoid an accidental drop.

Installing the Cable Management Arm (Optional)

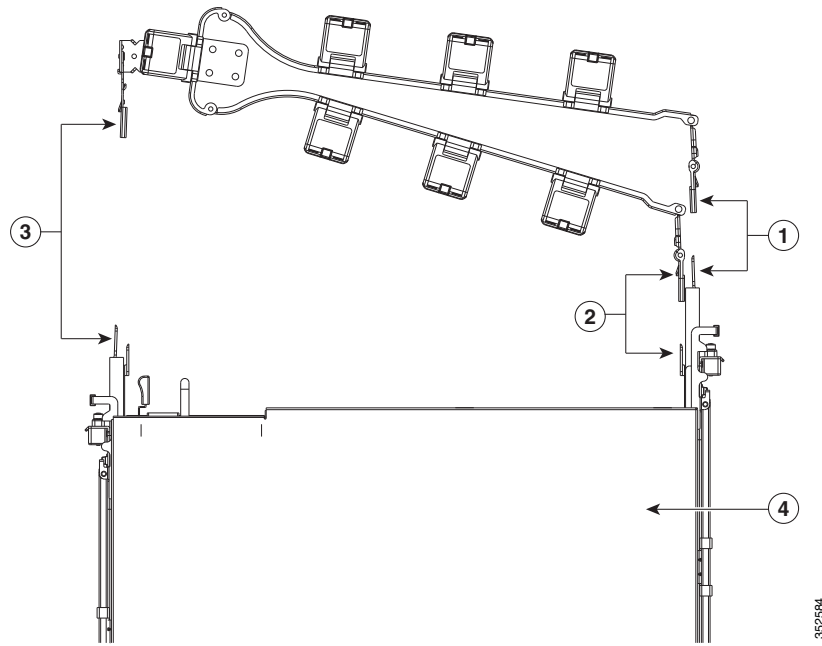
**Note**

The internal drives and cooling fans in the system are hot-swappable and are accessed by opening the top covers. When you rack and cable the system, be sure to allow enough slack in the power cable and other cables so that the system can be pulled out on the slide rails far enough to allow clearance for opening the top covers.

The CMA is reversible left to right. To reverse the CMA, see [Reversing the Cable Management Arm \(Optional\)](#), page 2-12 before installation.

-
- Step 1** With the system pushed fully into the rack, slide the CMA tab of the CMA arm that is farthest from the system onto the end of the stationary slide rail that is attached to the rack post (see [Figure 2-5](#)). Slide the tab over the end of the rail until it clicks and locks.
 - Step 2** Slide the CMA tab that is closest to the system over the end of the inner rail that is attached to the system (see [Figure 2-5](#)). Slide the tab over the end of the rail until it clicks and locks.
 - Step 3** Pull out the width-adjustment slider that is at the opposite end of the CMA assembly until it matches the width of your rack (see [Figure 2-5](#)).
 - Step 4** Slide the CMA tab that is at the end of the width-adjustment slider onto the end of the stationary slide rail that is attached to the rack post (see [Figure 2-5](#)). Slide the tab over the end of the rail until it clicks and locks.
 - Step 5** Open the hinged flap at the top of each plastic cable guide and route your cables through the cable guides as desired.

Figure 2-5 Attaching the Cable Management Arm to the Rear of the Slide Rails

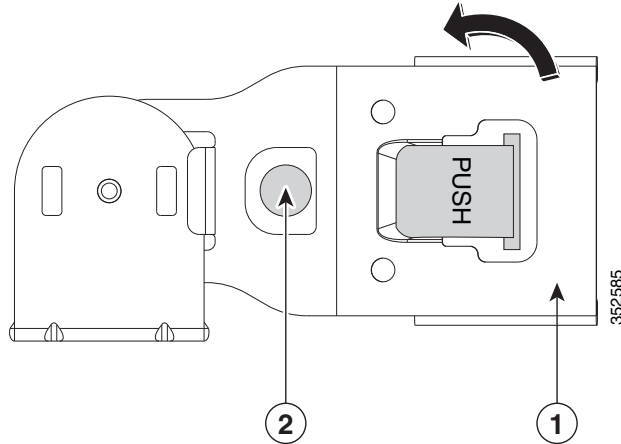


1	CMA tab on arm farthest from system and end of stationary outer slide rail	3	CMA tab on width-adjustment slider and end of stationary outer slide rail
2	CMA tab on arm closest to the system and end of inner slide rail attached to system	4	Rear of system

Reversing the Cable Management Arm (Optional)

- Step 1** Rotate the entire CMA assembly 180 degrees. The plastic cable guides must remain pointing upward.
- Step 2** Flip the tabs at the end of each CMA arm so that they point toward the rear of the system.
- Step 3** Pivot the tab that is at the end of the width-adjustment slider. Depress and hold the metal button on the outside of the tab and pivot the tab 180 degrees so that it points toward the rear of the system.

Figure 2-6 Reversing the CMA



1	CMA tab on end of width-adjustment slider	2	Metal button for rotating
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Initial System Setup

The following is a high-level summary of the setup steps and the sections in this doc for each step.

1. Be aware of the default networking settings before you begin:
[Default Networking Settings, page 2-13](#)
2. Be aware of the requirement to set as many as five IP addresses:
[System IP Addresses, page 2-14](#)
3. If you plan to use a DHCP server, be aware of the requirements:
[DHCP Requirements, page 2-14](#)
4. Connect cables and power on the system, then start the Cisco IMC Configuration Utility:
[Connecting the System and Opening the Setup Utility, page 2-15](#)
5. Make networking settings using the Cisco IMC Configuration Utility:
[Setting Up the System Using the Cisco IMC Configuration Utility, page 2-16](#)
6. Static IPs only—Set CMC and BMC IP addresses using the Cisco IMC management interface:
[Setting Static CMC and BMC Internal IP Addresses, page 2-18](#)

Default Networking Settings

The system is shipped with these settings:

- The default NIC mode is *Cisco Card*. The QSFP ports on either SIOC are used to access the Cisco Integrated Management Controller (Cisco IMC) interface.
If you want to use the 10/100/1000 dedicated management port to access the Cisco IMC, you can connect to the system and change the NIC mode to *Dedicated* as described in [Setting Up the System Using the Cisco IMC Configuration Utility, page 2-16](#).
- The default NIC redundancy is *active-active*.
- DHCP is enabled by default.
- IPv4 is enabled by default.

System IP Addresses

A Cisco UCS S3260 system can have up to five IP addresses:



Note

All controllers present in the system must have IP addresses assigned in order to communicate with each other. All IP addresses can be assigned by your DHCP server, or you can assign static IP addresses.

- **Management IP**—This is the overall system virtual IP address. You log into this address when you access the system's Cisco IMC interface via your LAN connection to the active chassis management controller in SIOC 1 or SIOC 2 (see [Overview of Cisco UCS S3260 Architecture, page 1-8](#)).
- **SIOC 1 CMC IP**—This is the internal address for the chassis management controller (CMC) in SIOC 1. This address can be assigned by your DHCP server, or you can set a static address by using the Cisco IMC interface.
- **SIOC 2 CMC IP**—This is the internal address for the CMC in SIOC 2 (if installed). This address can be assigned by your DHCP server, or you can set a static address by using the Cisco IMC interface.
- **Server 1 BMC IP**—This is the internal address for the board management controller (BMC) in server node 1. This address can be assigned by your DHCP server, or you can set a static address by using the Cisco IMC interface.
- **Server 2 BMC IP**—This is the internal address for the BMC in server node 2 (if installed). This address can be assigned by your DHCP server, or you can set a static address by using the Cisco IMC interface.



Note

The IP addresses for the management IP, the SIOC CMC IPs, and the server BMC IPs must all be configured on the same subnet.

DHCP Requirements

To configure the system remotely, you must have a DHCP server on the same network as the system. Your DHCP server must be preconfigured with the range of MAC addresses for the chassis management controller (CMC) in the system I/O controller (SIOC). Each SIOC has a range of six MAC addresses assigned. The MAC address printed on the label defines the beginning of the range of six contiguous MAC addresses.

The MAC address is printed on a label on the SIOC top cover.

Connecting the System and Opening the Setup Utility

This procedure instructs you how to assign the management IP address that you use to manage the whole system. It also walks through initial settings in the Cisco IMC Configuration Utility.

**Note**

If you use a 40G-to-10G splitter cable, you must configure the four 10G ports connected to the cable on the uplink switch side as part of a single static port-channel. It is possible to use less than four ports, if all used 10G ports are part of the same static port-channel. You must also set "spanning-tree port type edge trunk" on the port channel to eliminate STP transition time.

Step 1 Attach a power cord to each power supply in your system, and then attach each power cord to a grounded AC power outlet. Wait for approximately five minutes to let the server nodes boot to standby power during the first bootup.

You can verify system power status by looking at the system Power Status LED on the front panel (see [Figure 1-1 on page 1-2](#)). The system is in standby power mode when the LED is amber.

Step 2 Connect a KVM cable (Cisco PID N20-BKVM) to the KVM connector on either server node at the rear of the system.

Step 3 Connect a USB keyboard and a VGA monitor to the KVM cable.

Step 4 Connect QSFP cables to the QSFP connectors on both SIOCs.

**Note**

If you plan on changing the NIC mode to use the dedicated management port to manage the server, also attach an RJ-45 Ethernet cable to the management port on the SIOCs.

Step 5 Press and hold the front panel power button for four seconds to boot the system.

Step 6 Open the Cisco IMC Configuration Utility:

- a. Press and hold the front panel power button for four seconds to boot the system. Watch the screen for the prompt to press F8.
- b. During bootup, press **F8** when prompted to open the Cisco IMC Configuration Utility.
This utility has three windows that you can toggle between by pressing F1 or F2.

**Note**

The first time that you enter the Cisco IMC Configuration Utility, you are prompted to change the default password. The default password is *password*.

The following are the requirements for a strong password:

- The password can have minimum 8 characters; maximum 14 characters.
- The password must not contain the user's name.
- The password must contain characters from three of the following four categories:
 - English uppercase letters (A through Z).
 - English lowercase letters (a through z).
 - Base 10 digits (0 through 9).
 - Non-alphabetic characters !, @, #, \$, %, ^, &, *, -, _, =, “

Step 7 Continue with [Setting Up the System Using the Cisco IMC Configuration Utility, page 2-16](#).

Setting Up the System Using the Cisco IMC Configuration Utility

The following procedure is performed after you connect to the system and open the Cisco IMC Configuration Utility by pressing F8 during boot.

Step 1 Set NIC mode and NIC redundancy:



Note

The NIC modes and NIC redundancy refer to the ports on the SIOCs. They do not refer to the 1-Gb LOM port on an S3260 M5 server node.

- a. **NIC Mode**—Set the NIC mode to select which ports to use for accessing the Cisco IMC management interface:
 - Cisco Card (**default**)—The QSFP ports on the active SIOC are used to access Cisco IMC. You must select a NIC redundancy setting.
 - Dedicated—The dedicated RJ-45 management port of the active SIOC is used to access the Cisco IMC. The only NIC redundancy setting for this NIC mode is *None*.
 - Active SIOC Slot—You cannot change this value. This field shows which SIOC/chassis management controller is active. The two SIOCs operate in an active-standby failover relationship (see [Management Architecture, page 1-8](#)).
- b. **NIC redundancy**—There are three possible NIC redundancy settings:
 - Active-active (**default**)—All QSFP ports are utilized simultaneously. This setting can be used only with the *Cisco Card* NIC mode.
 - Active-standby—If an active QSFP port fails, traffic fails over to a standby port. This setting can be used only with the *Cisco Card* NIC mode.
 - None—The ports operate independently and do not fail over if there is a problem. This setting can be used only with the *Dedicated* NIC mode.

Step 2 Select whether to use IPv4 (**default**) or IPv6.

If you select to use IPv6, the IPv4 details are hidden because of space constraints on the screen.

Step 3 Choose whether to keep DHCP enabled (**default**), or to disable and then enter static network settings.



Note

If you use a DHCP server and you already have QSFP cables attached to the SIOCs, the management IP address and network settings are already filled in. If you disable DHCP, you must set your own static management IP address and network settings.

The static IPv4 and IPv6 settings include:

- The Management IP address (the address that you use to access the Cisco IMC interface).
- The prefix/subnet.

For IPv6, valid values are 1–127.



Note

The IP addresses for the management IP, the SIOC CMC IPs, and the server BMC IPs must all be configured on the same subnet.

- The gateway.

For IPv6, if you do not know the gateway, you can set it as none by typing `::` (two colons).

- The preferred DNS server address.

For IPv6, you can set this as none by typing `::` (two colons).

Step 4 Optional: Use this utility to make VLAN settings.



Note Save your changes by pressing **F10** before switching windows.

Step 5 Press **F1** to go to the second settings window, then continue with the next step.

From the second window, you can press **F2** to switch back to the first window.

Step 6 Optional: Set a host name.

Step 7 Optional: Enable dynamic DNS and set a dynamic DNS (DDNS) domain.

Step 8 Optional: The Factory Default check box has two options:

- Server Controller Configuration: the selected server node is set back to its factory default state and the selected server/host reboots.
- Chassis Controller Configuration: Both CMCs in the SIOCs are set to the factory default state.

Step 9 Optional: Set port properties for the 10/100/1000 dedicated management port on the SIOCs if you do not want the port to use the auto-negotiation feature.

Step 10 Optional: Reset port profiles and the port name.



Note Save your changes by pressing **F10** before switching windows.

Step 11 Press **F1** to go to the third settings window, then continue with the next step.

From the third window, you can press **F2** to switch back to the first window.

Step 12 Optional: Set the port speed for the SIOC QSFP ports to either 40 Gbps or 4x10 Gbps.

“Adapter-1” refers to SIOC 1 and “Adapter-2” refers to SIOC 2, if present.



Note If your system is running Cisco IMC 2.0(9) or later, the default setting is *Auto*, which automatically adjusts to your network installation.



Note If you use a 40G-to-10G splitter cable, you must configure the four 10G ports connected to the cable on the uplink switch side as part of a single static port-channel. It is possible to use less than four ports, if all used 10G ports are part of the same static port-channel. You must also set "spanning-tree port type edge trunk" on the port channel to eliminate STP transition time.

Step 13 Press **F5** to refresh the settings you made. You might have to wait about 45 seconds until the new settings appear and the message `Network settings configured` is displayed before you reboot the server node in the next step.

Step 14 Press **F10** to save your settings and reboot the server node.



Note If you chose to leave DHCP enabled, the dynamically assigned IP and MAC addresses are displayed on the console screen during bootup.

Step 15 Remove the KVM cable from the server node.



Note Each CMC in the SIOCs and each BMC in the server nodes must have an internal IP address assigned in order for the system to operate (see [System IP Addresses, page 2-14](#)). If DHCP is enabled, your DHCP server assigns these addresses and no further steps are required.

Step 16 **This step only for setting static IPs (DHCP disabled)**—Set the CMC and BMC internal IP addresses by using the Cisco IMC interface, as described in [Setting Static CMC and BMC Internal IP Addresses, page 2-18](#).

Setting Static CMC and BMC Internal IP Addresses




Note If you left DHCP enabled, your DHCP server sets the CMC and BMC IP addresses and so these steps are not required. Perform the following procedure only if you are setting static IP addresses manually.

Step 1 Use a browser and the system management IP address to connect to the Cisco IMC management interface.

Step 2 Log in at the login page. The default user name for the system is *admin*. The default password is *password*.

The Chassis/Summary page opens. The Management IP Address is displayed. The IP address for each CMC is displayed at this point only if a DHCP server assigned them.

Step 3 Click the menu button at the upper-left corner  and select **Admin > Networking**.

The Networking/Network Settings page opens.

Step 4 Scroll down to the **Individual Settings** area.

Step 5 Fill in your static IP addresses for CMC1, CMC2, BMC1, and BMC2.



Note All available component IP addresses must be set together to complete the configuration. Partial settings result in an error and the partial settings are not saved.



Note The IP addresses for the management IP, the SIOC CMC IPs, and the server BMC IPs must all be configured on the same subnet.

This task can be completed using the management GUI or CLI interfaces. For more information see *Cisco UCS C-Series Integrated Management Controller GUI Configuration Guide for S3260 Servers* or the *Cisco UCS C-Series Integrated Management Controller CLI Configuration Guide for S3260 Servers* here: [Configuration Guides](#).

NIC Modes and NIC Redundancy Settings



Note

The NIC modes and NIC redundancy refer to the ports on the SIOCs. They do not refer to the 1-Gb LOM port on an S3260 M5 server node.

NIC Modes

You can choose from the following NIC mode settings:

- **Cisco Card (default)**—The QSFP ports on the active SIOC are used to access Cisco IMC. You must select a NIC redundancy setting.
- **Dedicated**—The dedicated RJ-45 management port of either SIOC is used to access the Cisco IMC. The only NIC redundancy setting for this NIC mode is *None*.

NIC Redundancy

You can choose from the following NIC redundancy settings:

- **Active-active (default)**—All QSFP ports are utilized simultaneously. This setting can be used only with the *Cisco Card* NIC mode.
- **Active-standby**—If an active QSFP port fails, traffic fails over to a standby port. This setting can be used only with the *Cisco Card* NIC mode.
- **None**—The ports operate independently and do not fail over if there is a problem. This setting can be used only with the *Dedicated* NIC mode.

System BIOS and Cisco IMC Firmware

This section includes information about the system BIOS and it includes the following topics:

- [Updating the BIOS and Cisco IMC Firmware, page 2-20](#)
- [Accessing the System BIOS, page 2-20](#)

Updating the BIOS and Cisco IMC Firmware



Caution

When you upgrade the BIOS firmware, you must also upgrade the Cisco IMC firmware to the same version or the system will not boot. Do not power on the system until the BIOS and Cisco IMC firmware match or the system will not boot.

The system uses firmware that is obtained from and certified by Cisco. Cisco provides release notes with each firmware image.

The recommended method is to use the Cisco Host Upgrade Utility to simultaneously upgrade the Cisco IMC, BIOS, and other component firmware to compatible levels.

See the [Cisco Host Upgrade Utility Quick Reference Guide](#) for your firmware level.

Accessing the System BIOS



Note

Details about the BIOS settings are displayed in the BIOS windows.

Step 1 Enter the BIOS setup utility by pressing the **F2** key when prompted during bootup.



Note The version and build of the current BIOS are displayed on the Main page of the utility.

Step 2 Use the arrow keys to select the BIOS menu page.

Step 3 Use the arrow keys to highlight the field to be modified.

Step 4 Press **Enter** to select the field that you want to change, and then modify the value in the field.

Step 5 Press the right arrow key until the Exit menu screen is displayed.

Step 6 Follow the instructions on the Exit menu screen to save your changes and exit the setup utility (or press **F10**). You can exit without saving changes by pressing **Esc**.



Maintaining the System

This chapter describes how to use LEDs to diagnose system problems and how to install or replace supported hardware components:

- [Status LEDs and Buttons, page 3-1](#)
- [Preparing for System Component Installation or Replacement, page 3-9](#)
- [Installing or Replacing System Components, page 3-15](#)
- [Service Headers on the Server Node Board, page 3-49](#)

Status LEDs and Buttons

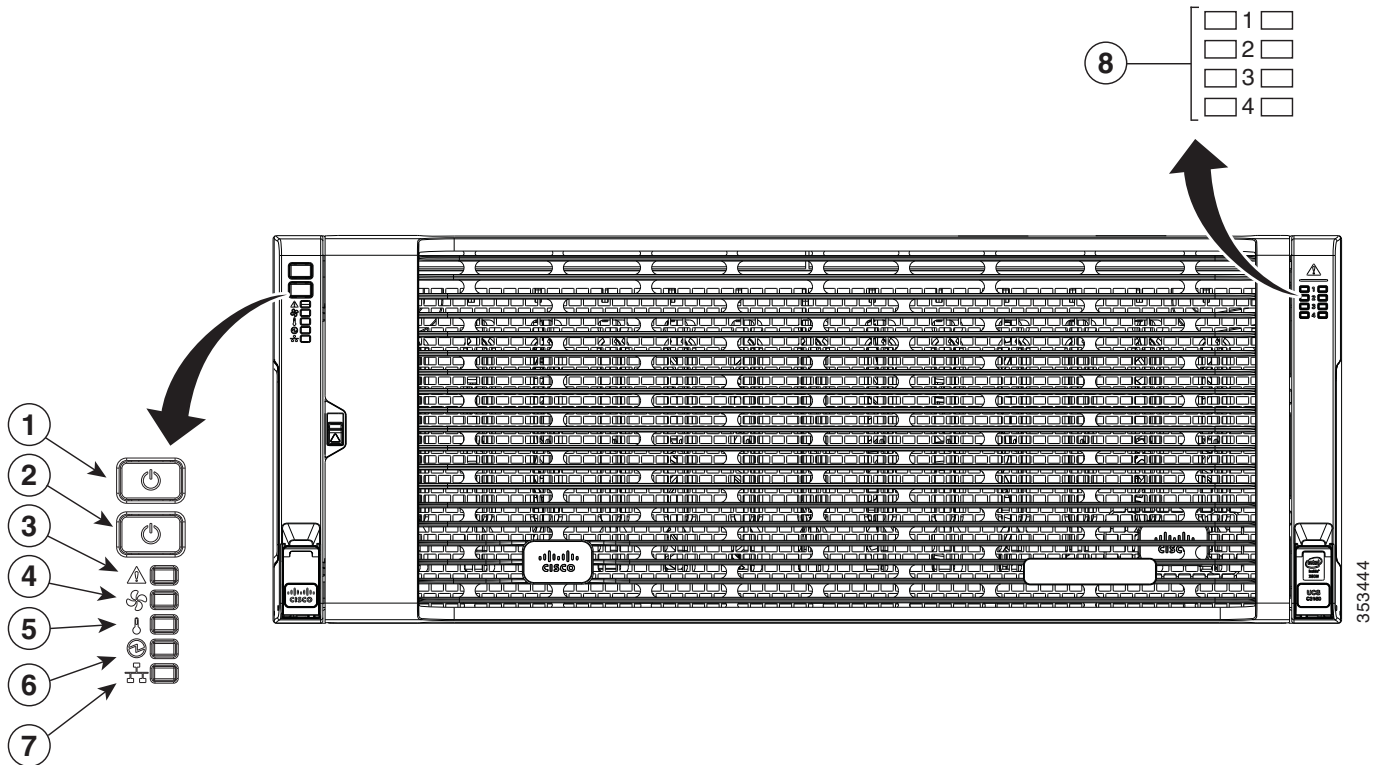
This section describes the location and meaning of LEDs and buttons and includes the following topics:

- [Front-Panel LEDs, page 3-2](#)
- [Rear-Panel LEDs and Buttons, page 3-4](#)
- [Internal Diagnostic LEDs, page 3-7](#)

Front-Panel LEDs

Figure 3-1 shows the front-panel LEDs. Table 3-1 defines the front-panel LED states.

Figure 3-1 Front-Panel LEDs



1	System Power button and power status LED	5	Temperature status LED
2	System unit identification button and LED	6	Power supply status LED
3	System status LED	7	Network link activity LED
4	Fan status LED	8	Internal-drive status LEDs

Table 3-1 Front-Panel LEDs States

LED Name	State
1 System Power button/power status LED	<ul style="list-style-type: none"> Off—There is no AC power to the system (all power cords are disconnected). Amber—Both server nodes are powered off. Pressing the button will power on both server nodes. Green—At least one server node is powered on. Pressing the button will power off both server nodes, returning the LED to amber.
2 System unit identification	<ul style="list-style-type: none"> Off—The unit identification LED is not in use. Blue, blinking—The unit identification LED is activated.

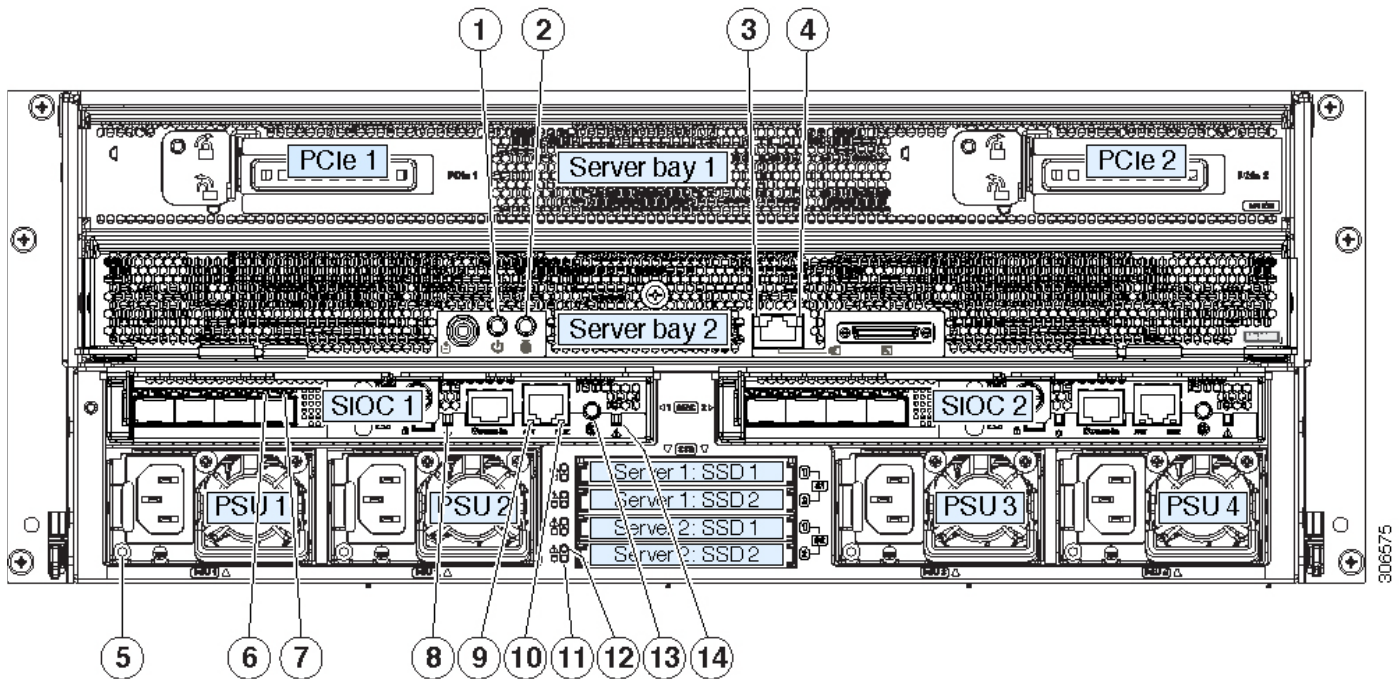
Table 3-1 Front-Panel LEDs States (continued)

	LED Name	State
3	System status	<ul style="list-style-type: none"> • Green—The system is running in normal operating condition. • Green, blinking—The system is performing system initialization and memory check. • Amber, steady—The system is in a degraded operational state. For example: <ul style="list-style-type: none"> – Power supply redundancy is lost (power supply unplugged or failed). – CPUs are mismatched. – At least one CPU is faulty. – At least one DIMM is faulty. – At least one drive in a RAID configuration failed. • Amber, blinking—The system is in a critical fault state. For example: <ul style="list-style-type: none"> – Boot failed. – Fatal CPU and/or bus error is detected. – System is in an over-temperature condition.
4	Fan status	<ul style="list-style-type: none"> • Green—All fan modules are operating properly. • Amber, steady—One fan module has failed. • Amber, blinking—Critical fault; two or more fan modules have failed.
5	Temperature status	<ul style="list-style-type: none"> • Green—The system is operating at normal temperature. • Amber, steady—One or more temperature sensors have exceeded a warning threshold. • Amber, blinking—One or more temperature sensors have exceeded a critical threshold.
6	Power supply status	<ul style="list-style-type: none"> • Green—All power supplies are operating normally. • Amber, steady—One or more power supplies are in a degraded operational state. (An event warning threshold has been reached, but the power supply continues to operate.) • Amber, blinking—One or more power supplies are in a critical fault state. (A critical fault threshold has been reached, causing the power supply to shut down.)
7	Network link activity	<ul style="list-style-type: none"> • Off—The Ethernet link is idle. • Green—One or more Ethernet LOM ports are link-active. • Green, blinking—One or more Ethernet LOM ports are traffic-active.
8	Internal-drive status LEDs	<p>Use these LEDs to indicate the location of a failing drive. Then open the system cover to find exactly which drive is failing by looking at the LEDs on the drive trays.</p> <ul style="list-style-type: none"> • The two columns of LEDs correspond to the two halves of the internal drive compartment (under either the right- or left-side top cover). • The four numbered rows of LEDs correspond to the four horizontal rows of drive bays (14 drive bays in each row). <p>See Figure 3-8 for an example. In this example, the red LED indicates that the failing drive is in the right half of the internal drive compartment, in row 3.</p>

Rear-Panel LEDs and Buttons

Figure 3-2 shows the rear-panel LEDs and buttons for a S3260 system. This example is shown with a C3X60 M4 server node and an optional four-drive expansion module. Table 3-2 defines the rear-panel LED states.

Figure 3-2 S3260 System Rear-Panel LEDs and Buttons



1	Server node Power button/LED (on each server node)	8	Not used at this time.
2	Server node unit identification button/LED (on each server node)	9	10/100/1000 dedicated management port link activity LED (on each SIOC)
3	1 Gb Ethernet port link speed LED (on each M5 server node only)	10	10/100/1000 dedicated management port link speed LED (on each SIOC)
4	1 Gb Ethernet port link activity LED (on each M5 server node only)	11	Solid state drive activity LED (each drive bay)
5	Power supply status LED (each power supply)	12	Solid state drive fault LED (each drive bay)
6	QSFP port link speed LED (on each port) Actual ports will vary, depending on which SIOC version is used, or which adapter card is installed in a Version 03 SIOC.	13	Not used at this time.
7	QSFP port link activity LED (on each port)	14	SIOC health LED (one each Version 03 SIOC only)

Table 3-2 Rear-Panel LED States

	LED Name	State
1	Server node power button/LED	<ul style="list-style-type: none"> Off—There is no AC power to the server node. It is safe to remove the server node from the chassis. Amber—The server node is in standby power mode. Power is supplied only to the Cisco IMC. It is safe to remove the server node from the chassis. Green—The server node is in main power mode. Power is supplied to all server node components.
2	Server node unit identification button/LED	<ul style="list-style-type: none"> Off—The Identification LED is not in use. Blue—The Identification LED is activated.
3	1 Gb Ethernet port link speed LED (on each M5 server node only)	<ul style="list-style-type: none"> Off—Link speed is 10/100 Mbps. Green—Link speed is 1 Gbps.
4	1 Gb Ethernet port link activity LED (on each M5 server node only)	<ul style="list-style-type: none"> Off—No link is present. Green—Link is present, no activity. Green, blinking—Link is present, with activity.
5	Power supply status (on each power supply unit)	<p>AC Power Supplies:</p> <ul style="list-style-type: none"> Off—No AC power input. Green, steady—The power supply is operating normally and supplying DC power to the system. Green, blinking—AC power is OK, DC output not enabled (standby mode). Amber, blinking—An event warning threshold has been reached, but the power supply continues to operate. Amber, steady—A critical fault threshold has been reached, causing the power supply to shut down. <p>DC Power Supplies:</p> <ul style="list-style-type: none"> Off—No DC input (12 V main power off, 12 V standby power off). Green, steady—The power supply is operating normally and supplying DC power to the system (12 V main power on). Green, blinking—DC output not enabled (12 V main power off; 12 V standby power on). Amber, blinking—An event warning threshold has been reached, but the power supply continues to operate with 12 V main power. Amber, steady—A critical fault threshold has been reached, causing the power supply to shut down (for example, over-current, over-voltage or over-temperature failure)
6	QSFP port link LED	<ul style="list-style-type: none"> Off—No link. Green—Link present.
7	QSFP port activity LED	<ul style="list-style-type: none"> Off—No link is present. Green—Link is present, but no activity. Green, blinking—Link is present with activity.

Table 3-2 Rear-Panel LED States (continued)

	LED Name	State
8	Not used at this time.	•
9	10/100/1000 dedicated management link activity	<ul style="list-style-type: none"> • Off—No link is present. • Green—Link is present, no activity. • Green, blinking—Link is present, with activity.
10	10/100/1000 dedicated management link speed	<ul style="list-style-type: none"> • Off—Link speed is 10/100 Mbps. • Green—Link speed is 1 Gbps.
11	Solid state drive activity	<ul style="list-style-type: none"> • Off—There is no drive connected. • Green—Drive connected, no activity. • Green, blinking—The drive is reading or writing data.
12	Solid state drive fault	<ul style="list-style-type: none"> • Off—The drive is operating properly. • Amber—This drive has failed (or the Locate function has been activated for the drive).
13	Not used at this time.	•
14	SIOC health	<ul style="list-style-type: none"> • Off—System is idle. • Green—SIOC is working normally. • Green, blinking—There is a problem with the SIOC or a component in the SIOC.

If your system has an optional drive expander module, it has one module status LED:

Table 3-3 Drive Expander Module Status LED

LED Status	P3V3	P5V	HDD Present	HDD Status
Off	None	None	None	None
Green	On	On	Plug-in	Good
Amber	On	On	No plug-in	NA
Amber	On	Fail	No plug-in	NA
Amber	On	On	Plug-in	Fail

Internal Diagnostic LEDs

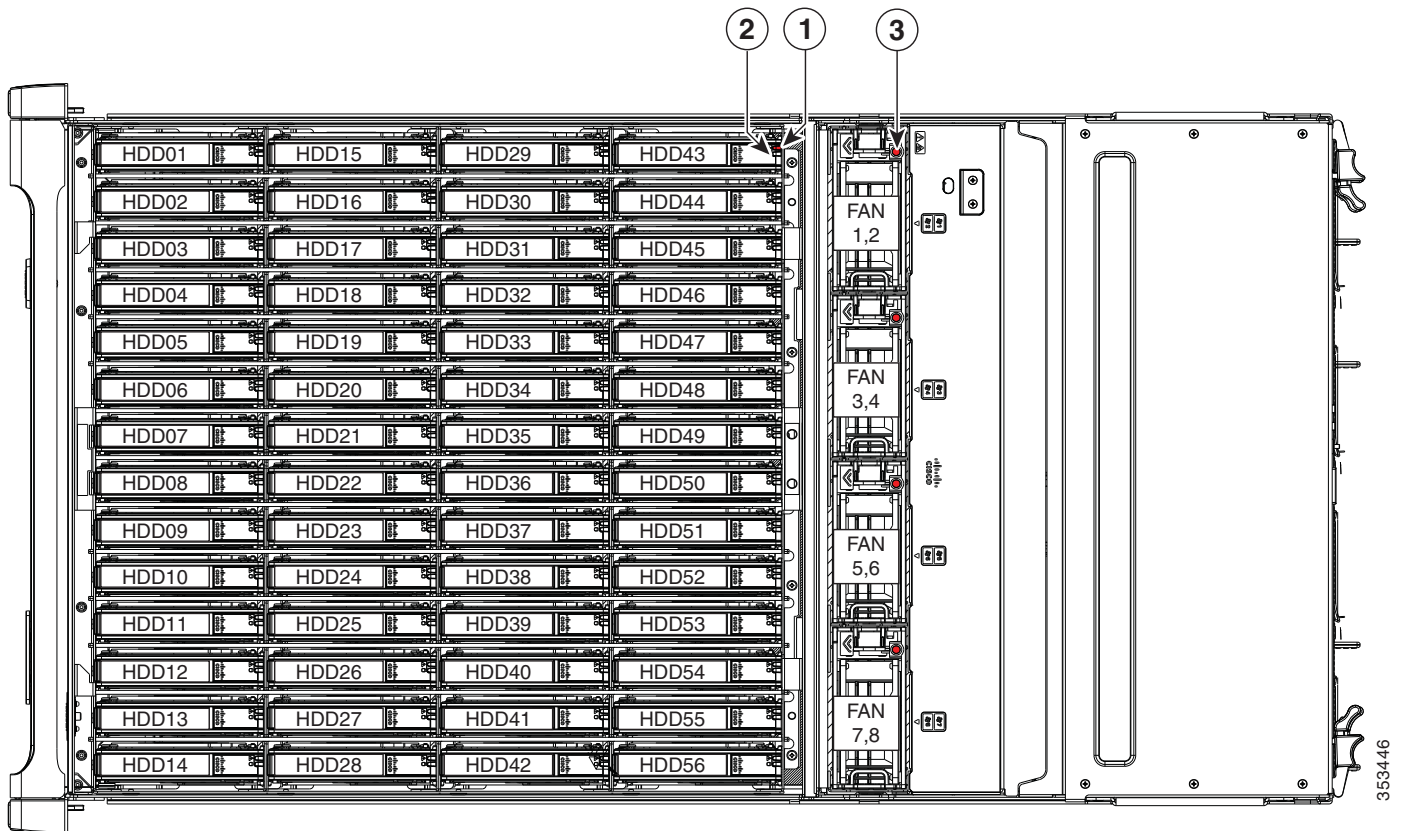
This section contains the following topics:

- [Diagnostic LEDs in the Main Chassis, page 3-7](#)
- [Diagnostic LEDs in the Server Node, page 3-8](#)

Diagnostic LEDs in the Main Chassis

The diagnostic LEDs inside the main chassis compartments can be viewed while the system is powered on. See [Figure 3-3](#) for the locations of these internal LEDs. See [Table 3-4](#) for definitions of the LED states.

Figure 3-3 Internal Diagnostic LED Locations in the Main Chassis



1	Drive fault (on each drive carrier)	3	Fan module fault (on each fan module)
2	Drive activity (on each drive carrier)		

Table 3-4 Internal Diagnostic LED States

	LED Name	State
1	SAS drive fault	<ul style="list-style-type: none"> • Off—The drive is operating properly. • Amber—This drive has failed. • Amber, blinking—The device is rebuilding.
2	SAS drive activity	<ul style="list-style-type: none"> • Off—There is no drive in the drive tray (no access, no fault). • Green—The drive is ready. • Green, blinking—The drive is reading or writing data.
3	Fan fault LEDs	<ul style="list-style-type: none"> • Off—Component is functioning normally. • Amber—Component has failed.

Diagnostic LEDs in the Server Node

For the locations of the internal diagnostic LEDs inside the server node, see the service note for your server node:

- [Cisco UCS C3X60 M3 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS C3X60 M4 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS S3260 M5 Server Node For Cisco UCS S3260 System Service Note](#)

Preparing for System Component Installation or Replacement

This section describes how to prepare for component installation, and it includes the following topics:

- [Required Equipment For Maintenance Procedures, page 3-9](#)
- [Shutting Down and Powering Off the S3260 System, page 3-9](#)
- [Shutting Down an Individual Server Node, page 3-10](#)
- [Removing Chassis and Component Covers, page 3-11](#)

Required Equipment For Maintenance Procedures

The following equipment is used to perform the procedures in this chapter:

- Number 1 Phillips-head screwdriver (for SIOC cover screws)
- 1/4-inch or equivalent flat-head screwdriver (for separating the optional I/O expander from the server node)
- Electrostatic discharge (ESD) strap or other grounding equipment such as a grounded mat
- The tools required for CPU replacement are supplied with a CPU spare.

Shutting Down and Powering Off the S3260 System

You can invoke a graceful shutdown or a hard shutdown of the entire S3260 system by using either the Cisco IMC interface or the system power button on the front panel.

**Caution**

To completely remove power from the system, you must disconnect power cords from all power supplies.

You can also shut down an individual server node rather than the entire system. See [Shutting Down an Individual Server Node, page 3-10](#).

To use the system power button to shut down the chassis, follow these steps:

Step 1 Check the color of the System Power Status LED (see [Front-Panel LEDs, page 3-2](#)).

- Green—At least one server node is powered on. Go to [Step 2](#).
- Amber—Both server nodes are powered off. Go to [Step 3](#).

Step 2 Invoke either a graceful shutdown or a hard shutdown:

**Caution**

To avoid data loss or damage to your operating system, you should always invoke a graceful shutdown of the operating system.

- Graceful shutdown—Press and release the **Power** button. The operating system on the server nodes performs a graceful shutdown of both server nodes.
- Emergency shutdown—Press and hold the **Power** button for 4 seconds to force the power off both server nodes.

- Step 3** Disconnect power cords from all power supplies in your system to completely remove AC power and power off the system chassis.
-

Shutting Down an Individual Server Node

You can invoke a graceful shutdown or a hard shutdown of a server node by using either the Cisco Integrated Management Controller (Cisco IMC) interface, or the power button that is on the face of the server node.

Shutting Down a Server Node By Using the Cisco IMC GUI

To use the Cisco IMC GUI to shut down the server node, follow these steps:

- Step 1** Use a browser and the management IP address of the system to log in to the Cisco IMC GUI.
- Step 2** In the **Navigation** pane, click the **Chassis** menu.
- Step 3** In the **Chassis** menu, click **Summary**.
- Step 4** In the toolbar above the work pane, click the **Host Power** link.

The Server Power Management dialog opens. This dialog lists all servers that are present in the system.

- Step 5** In the **Server Power Management** dialog, select one of the following buttons for the server that you want to shut down:



Caution

To avoid data loss or damage to your operating system, you should always invoke a graceful shutdown of the operating system. Do not power off a server if any firmware or BIOS updates are in progress.

- **Shut Down**—Performs a graceful shutdown of the operating system.
- **Power Off**—Powers off the chosen server, even if tasks are running on that server.

It is safe to remove the server node from the chassis when the Chassis Status pane shows the Power State as Off for the server node that you are removing.

The physical power button on the server node face also turns amber when it is safe to remove the server node from the chassis.

Shutting Down a Server Node By Using the Power Button on the Server Node

To use the physical server node power button to shut down the server node only, follow these steps:

- Step 1** Check the color of the server node power status LED:
- **Green**—The server node is powered on. Go to step [Step 2](#)
 - **Amber**—the server node is powered off. It is safe to remove the server node from the chassis.
- Step 2** Invoke either a graceful shutdown or a hard shutdown:



Caution

To avoid data loss or damage to your operating system, you should always invoke a graceful shutdown of the operating system. Do not power off a server if any firmware or BIOS updates are in progress.

- Graceful shutdown—Press and release the **Power** button. The software performs a graceful shutdown of the server node.
- Emergency shutdown—Press and hold the **Power** button for 4 seconds to force the power off the server node.

When the server node power button turns amber, it is safe to remove the server node from the chassis.

Removing Chassis and Component Covers

This section contains the following topics:

- [Opening the Main Chassis Top Covers, page 3-12](#)
- [Removing a Server Node Cover, page 3-13](#)
- [Removing an I/O Expander Cover \(C3X60 M4 and S3260 M5 Server Nodes Only\), page 3-13](#)
- [Removing an I/O Expander From a Node \(C3X60 M4 and S3260 M5 Server Nodes Only\), page 3-13](#)
- [Removing the System I/O Controller \(SIOC\) Cover, page 3-13](#)

Opening the Main Chassis Top Covers

This system has three hinged top covers on the main chassis. Opening these covers gives access to the internal-drives compartment and the fan module compartment.

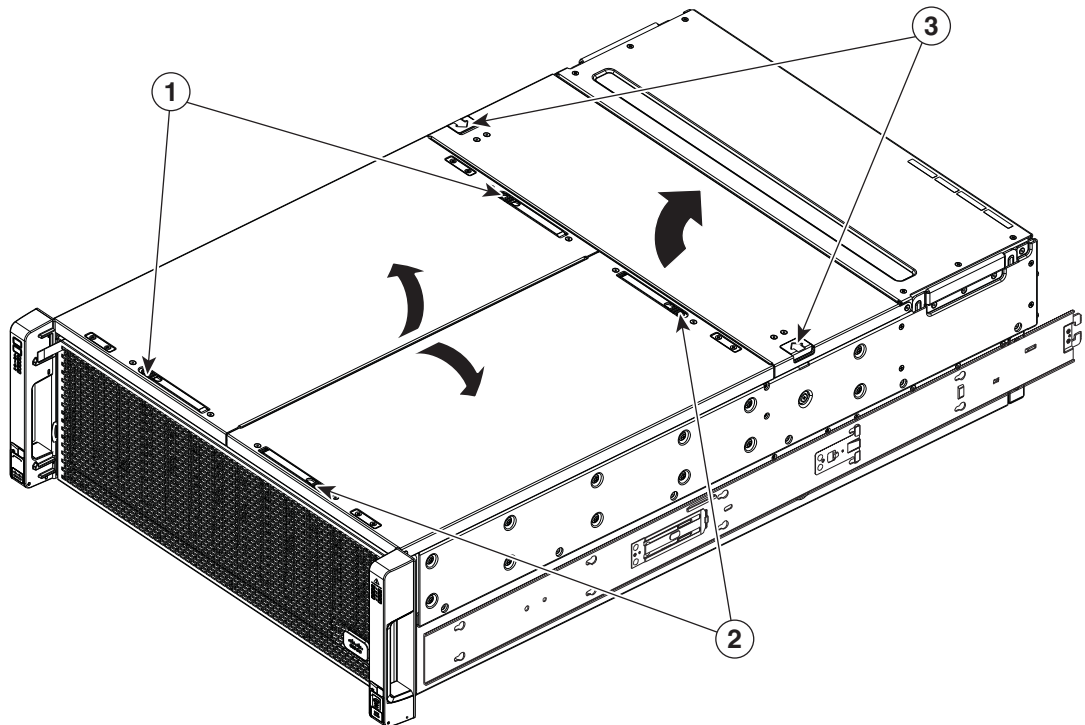


Note

The internal drives and cooling fans in the system are hot-swappable and are accessed by opening the top covers. When you rack and cable the system, be sure to allow enough slack in the power and other cables so that the system can be pulled out on the slide rails far enough to allow clearance for opening the top covers.

- Step 1** Open the left or right internal-drive compartment cover to access the hot-swappable internal drives:
- a. For either the right or left side cover, pull the latch release buttons on both latches toward the outer edges of the chassis. This causes the spring-loaded latches to pop up.
 - b. With both latches open, swing open the hinged cover from the center toward the outside.
 - c. To secure the cover, close it down flat and then push both latches flat until they click and lock.
- Step 2** Open the fan compartment cover to access the hot-swappable fan modules:
- a. Push both latch-buttons toward the center.
 - b. While holding both latch-buttons, open the hinged cover from the center toward the rear.
 - c. To secure the cover, hold both latch-buttons while you close the cover flat. Release the latch-buttons.

Figure 3-4 Opening the Main Chassis Top Covers



1	Latch-release buttons for left internal-drives compartment	3	Latch-release buttons for fan compartment
2	Latch-release buttons for right internal-drives compartment		

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Removing a Server Node Cover

To remove a server node cover, see the service note for your server node:

- [Cisco UCS C3X60 M3 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS C3X60 M4 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS S3260 M5 Server Node For Cisco UCS S3260 System Service Note](#)

Removing an I/O Expander Cover (C3X60 M4 and S3260 M5 Server Nodes Only)

To remove an I/O expander cover, see the C3X60 M4 server node service note:

- [Cisco UCS C3X60 M4 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS S3260 M5 Server Node For Cisco UCS S3260 System Service Note](#)

Removing an I/O Expander From a Node (C3X60 M4 and S3260 M5 Server Nodes Only)

The I/O expander attaches to the top of the server node. To remove an I/O expander from a server node so that you can access the components inside the server node, see the server node service note:

- [Cisco UCS C3X60 M4 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS S3260 M5 Server Node For Cisco UCS S3260 System Service Note](#)

Removing the System I/O Controller (SIOC) Cover

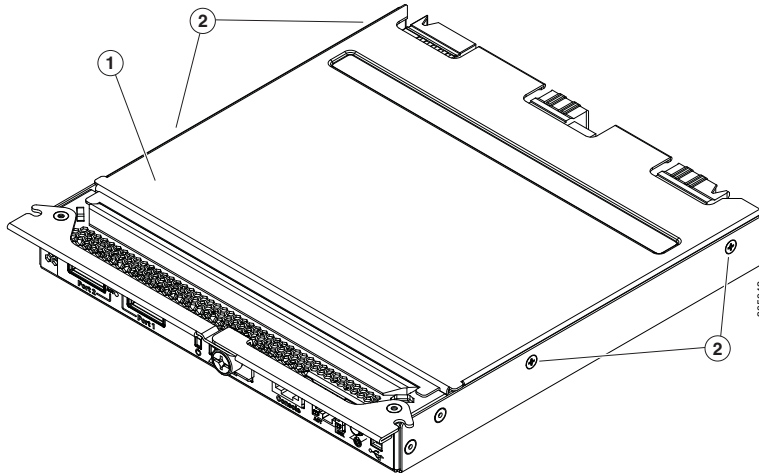


Note You do not have to slide the system out of the rack to remove the SIOC from the rear of the system.

- Step 1** Power off the server node that is paired with the SIOC that you are replacing (SIOC 1 is paired with server node 1; SIOC 2 is paired with server node 2).
- Step 2** Remove the SIOC from the system:
- Loosen the single captive thumbscrew on the SIOC and then open its two hinged levers to evenly disengage the SIOC from its backplane connector.
 - Pull the SIOC from the system and set it on an antistatic work surface.
- Step 3** Remove the SIOC cover:
- Use a #1 Phillips-head screwdriver to remove the screws that secure the cover. The version 02 SIOC cover has four securing screws. The Version 03 SIOC cover has six securing screws. See [Figure 3-5](#) or [Figure 3-6](#).
 - Lift the cover straight up off the SIOC.
- Step 4** Reinstall the SIOC cover:
- Set the cover back in place.
 - Replace the four screws that secure the cover.
- Step 5** Reinstall the SIOC in the system:
- Push the SIOC into its bay until it stops against the internal midplane.
 - Close the two levers on the SIOC to fully engage the SIOC connector with its midplane.
 - Tighten the thumbscrew on the SIOC levers.

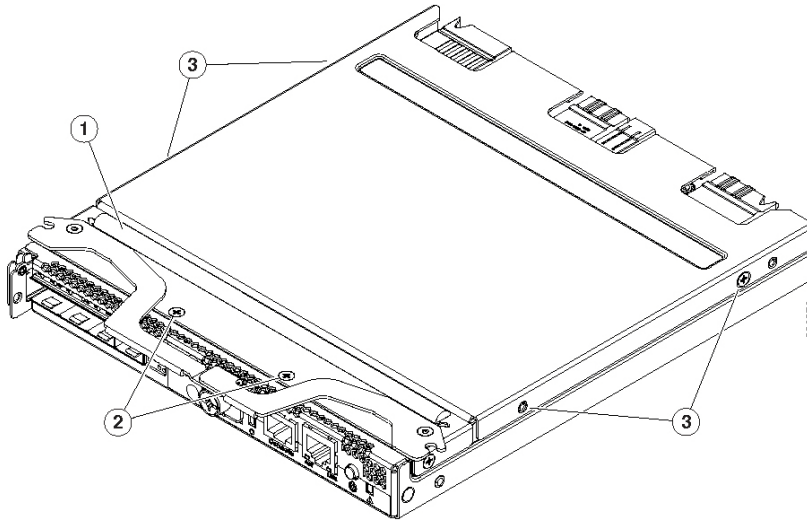
Step 6 Power on the server node that you powered off in the first step.

Figure 3-5 Removing the SIOC Cover (Version 02 SIOC, UCS-S3260-SIOC)



1	SIOC cover	2	Cover screws, four (two on each side of the SIOC)
----------	------------	----------	---

Figure 3-6 Removing the SIOC Cover (Version 03 SIOC, UCS-S3260-PCISIOC)



1	SIOC cover, including ejector levers	3	Four securing screws on sides of cover (two each side)
2	Two securing screws on top of cover		

Installing or Replacing System Components

**Warning**

Blank faceplates and cover panels serve three important functions: they prevent exposure to hazardous voltages and currents inside the chassis; they contain electromagnetic interference (EMI) that might disrupt other equipment; and they direct the flow of cooling air through the chassis. Do not operate the system unless all cards, faceplates, front covers, and rear covers are in place. Statement 1029

**Caution**

This system weighs approximately 190 pounds (86 kilograms) when fully loaded with components. We recommend that you use a mechanical lift when lifting the system. Attempting this procedure alone could result in personal injury or equipment damage. Consider temporarily removing components such as hard drives while you move the system.

- [Replacing Hard Drives or Solid State Drives, page 3-16](#)
 - [Replacing HDDs or SSDs in the Internal Drive Compartment, page 3-18](#)
 - [Replacing Hard Drives in the Optional Disk Expansion Tray, page 3-21](#)
 - [Replacing SAS/SATA Solid State Drives in the Rear Panel Bays, page 3-23](#)
- [Replacing Fan Modules, page 3-25](#)
- [Replacing a Server Node, page 3-26](#)
- [Replacing a Disk Expansion Tray, page 3-27](#)
- [Replacing a System I/O Controller \(SIOC\), page 3-28](#)
- [Replacing a Power Supply, page 3-33](#)

- [Replacing DIMMs Inside a Server Node, page 3-36](#)
- [Replacing CPUs and Heatsinks Inside a Server Node, page 3-36](#)
- [Replacing a Storage Controller Card Inside the Server Node, page 3-36](#)
- [Replacing an SSD Inside the Server Node \(C3X60 M4 or S3260 M5 Only\), page 3-36](#)
- [Replacing an RTC Battery Inside the Server Node, page 3-36](#)
- [Replacing an Internal USB Drive Inside the Server Node \(C3X60 M3 Only\), page 3-36](#)
- [Installing a Trusted Platform Module \(TPM\) Inside the Server Node, page 3-37](#)

- [Replacing an I/O Expander \(C3X60 M4 or S3260 M5 Server Nodes Only\), page 3-37](#)
- [Replacing a PCIe Card Inside the I/O Expander \(C3X60 M4 or S3260 M5 Server Nodes Only\), page 3-37](#)
- [Replacing a Storage Controller Card Inside the I/O Expander \(C3X60 M4 Server Nodes Only\), page 3-37](#)
- [Replacing an NVMe SSD Inside the I/O Expander \(C3X60 M4 or S3260 M5 Server Nodes Only\), page 3-37](#)

- [Replacing an RTC Battery Inside the S3260 SIOC, page 3-38](#)
- [Replacing a PCIe Adapter Card Inside the S3260 SIOC \(Version 03 SIOC Only\), page 3-40](#)
- [Replacing an NVMe SSD Inside the S3260 SIOC \(Version 03 SIOC Only\), page 3-42](#)

- [Replacing an S3260 Chassis, page 3-47](#)
- [Service Headers on the Server Node Board, page 3-49](#)

Replacing Hard Drives or Solid State Drives

This section includes the following topics:

- [Replacing HDDs or SSDs in the Internal Drive Compartment, page 3-18](#)
- [Replacing Hard Drives in the Optional Disk Expansion Tray, page 3-21](#)
- [Replacing SAS/SATA Solid State Drives in the Rear Panel Bays, page 3-23](#)

4K Sector Format Drives Considerations

- You must boot 4K sector format drives in UEFI mode, not legacy mode. See [Setting Up Booting in UEFI Mode in the BIOS Setup Utility, page 3-16](#) or [Setting Up Booting in UEFI Mode in the Cisco IMC GUI, page 3-17](#).
- Do not configure 4K sector format and 512-byte sector format drives as part of the same RAID volume.
- Operating system support on 4K sector drives is as follows: Windows: Win2012 and Win2012R2; Linux: RHEL 6.5, 6.6, 6.7, 7.0, 7.2; SLES 11 SP3, and SLES 12. ESXi/Vmware is not supported.
- The 6 TB drives have 4096-byte sectors. VMware ESXi does not support this capability and therefore will not work with 6 TB drives.

Setting Up Booting in UEFI Mode in the BIOS Setup Utility

-
- Step 1** Use a web browser and the management IP address of the system to log into the Cisco IMC GUI management interface.
 - Step 2** Select **Compute** and then **Server 1**.
 - Step 3** Click **Launch KVM** to open a virtual KVM window for the server node.
 - Step 4** In the Launch KVM dialog, select **Server 1** and click **Launch**.
 - Step 5** Reboot server node 1. Watch the KVM window for the prompt to press F2.
 - Step 6** Enter the BIOS setup utility by pressing the **F2** key when prompted during bootup.
 - Step 7** Go to the **Boot Options** tab.
 - Step 8** Set **UEFI Boot Options** to **Enabled**.
 - Step 9** Under **Boot Option Priorities**, set your OS installation media (such as a virtual DVD) as your **Boot Option #1**.
 - Step 10** Go to the **Advanced** tab.
 - Step 11** Select **LOM and PCIe Slot Configuration**.
 - Step 12** Set the **PCIe Slot ID: HBA Option ROM** to **UEFI Only**.
 - Step 13** Press **F10** to save changes and exit the BIOS setup utility. Allow the server to reboot.
 - Step 14** After the server reboots and the OS installs, verify the installation:
 - a. Enter the BIOS setup utility by pressing the **F2** key when prompted during bootup.
 - b. Go to the **Boot Options** tab.
 - c. Under **Boot Option Priorities**, verify that the OS you installed is listed as your **Boot Option #1**.
-

Setting Up Booting in UEFI Mode in the Cisco IMC GUI

- Step 1** Use a web browser and the management IP address of the system to log into the Cisco IMC GUI management interface.
 - Step 2** Select **Compute** and then **Server 1**.
 - Step 3** Select the **BIOS** tab.
 - Step 4** Under **BIOS Properties**, set **Configured Boot Order** to **UEFI**.
 - Step 5** Click **Save Changes**.
 - Step 6** Click **Configure Boot Order**.
 - Step 7** Select the **Advanced** tab.
 - Step 8** Click **Add Local HDD**.
 - Step 9** In the Add Local Disk dialog, enter the information for the 4K sector format drive. Enter a name and specify Slot **M**.
 - Step 10** Click **Save Changes**.
 - Step 11** Click **Add Virtual Media**.
 - Step 12** In the Add Virtual Media dialog, enter a name for your OS installation virtual media.
 - Step 13** Click **Save Changes**.
 - Step 14** Click **Close**.
 - Step 15** Click **Launch KVM** to open a virtual KVM window for the server node.
 - Step 16** In the Launch KVM dialog, select **Server 1** and click **Launch**.
 - Step 17** Activate virtual media. Pull down the **Virtual Media** menu on the KVM window and select **Activate Virtual Devices**.
 - Step 18** Reboot the server node.
 - Step 19** Press **F6** during the boot to enter the boot device menu.
 - Step 20** Select **UEFI: Cisco vKVM-Mapped vDVD** and press **Enter**.
 - Step 21** Proceed with the installation of your OS.
After the OS installs and the system reboots, your OS is listed as a boot option.
-

Replacing HDDs or SSDs in the Internal Drive Compartment

This section contains the following topics:

- [Internal Drive Population Guidelines](#), page 3-18
- [Identifying a Faulty Internal Drive](#), page 3-19
- [Replacing Internal Drives](#), page 3-20

Internal Drive Population Guidelines

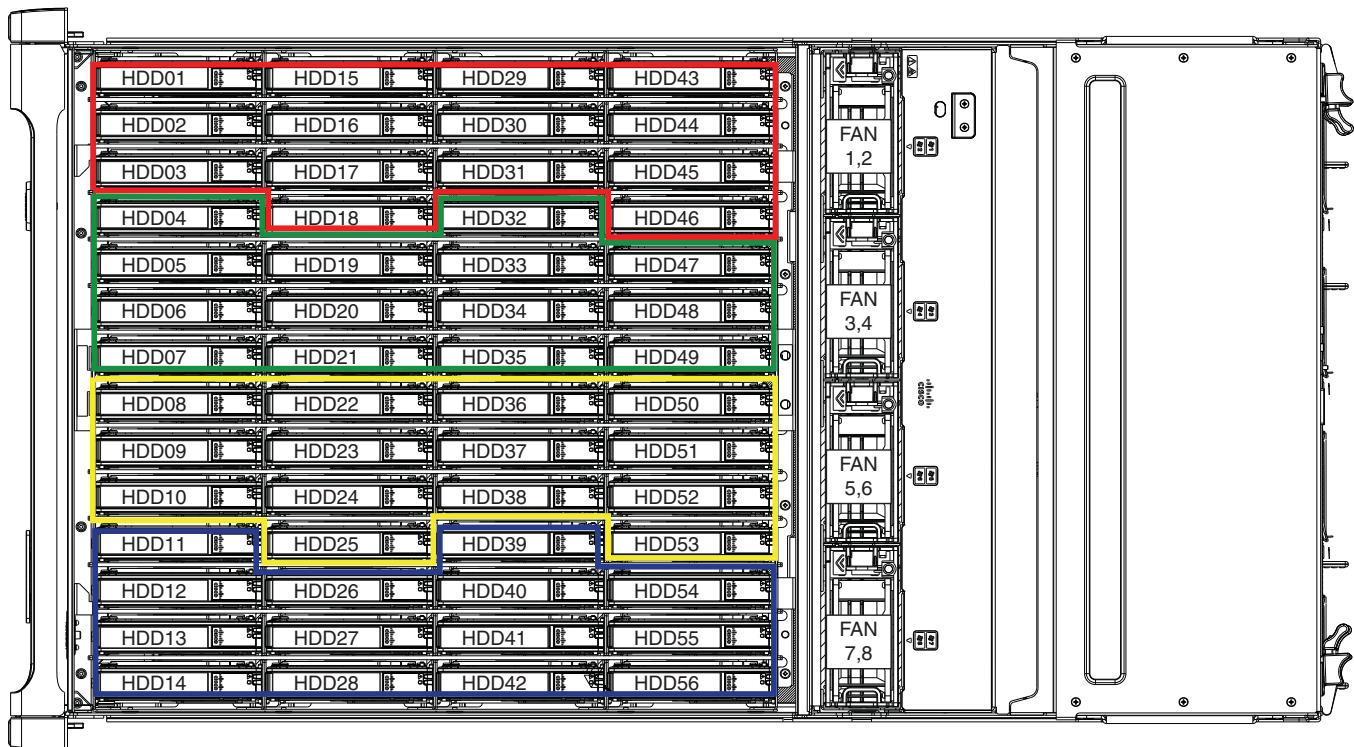
The system has 56 internal drive bays in the main chassis. [Figure 3-7](#) shows the internal drive bay numbering. When populating internal drives, follow these guidelines:

- Populate HDDs starting from the lowest-numbered bays to the highest. Populate row 1 – 14, then row 15 – 28, and so on.
- Populate internal SSDs starting from the highest-numbered bays to the lowest. Populate bay 56, then bay 55, and so on.

For example, a system with 36 HDDs and 2 SSDs should have the HDDs in bays 1 – 36 and the SSDs in bays 56 and 55.

- The four colored boxes shown in [Figure 3-7](#) represent the four power groups in which power is distributed to the drive bays.

Figure 3-7 Internal Drive Bay Numbering



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Identifying a Faulty Internal Drive

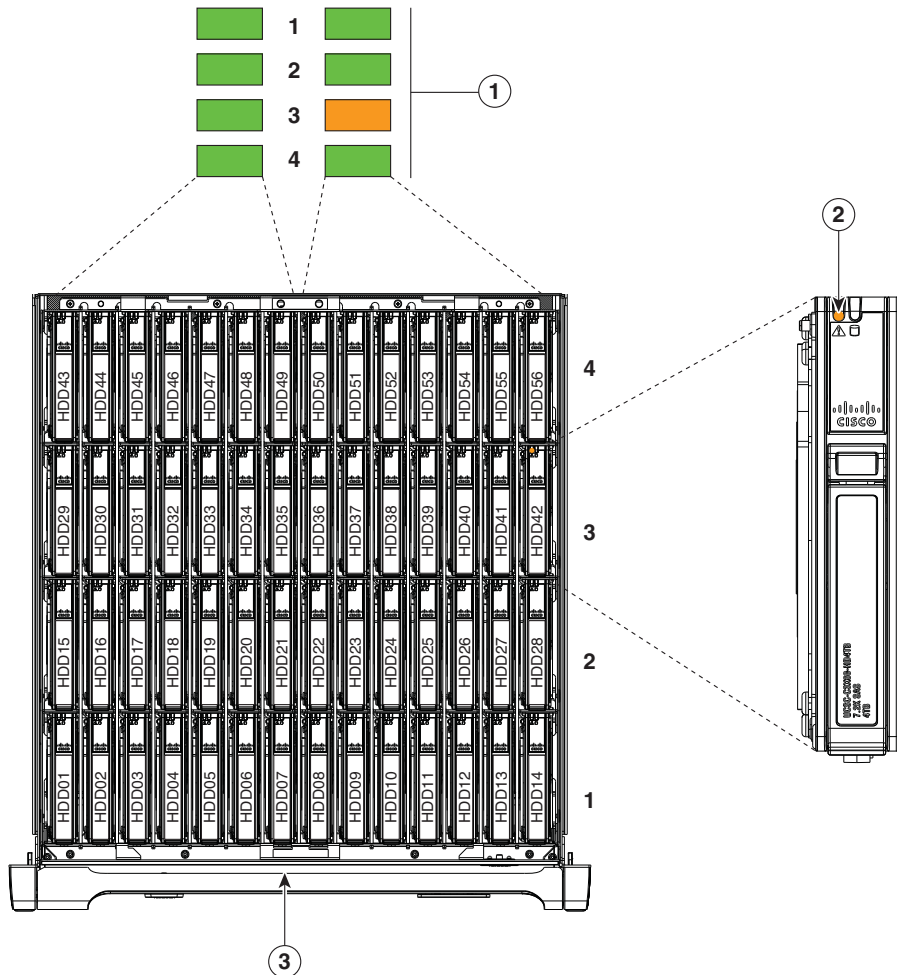
The system has internal-drive fault LEDs on the right-front handle (see [Figure 3-1](#)). Use these LEDs to get an indication of the location of a failing drive.

- Step 1** Observe the internal-drive fault LEDs on the right-front handle.
- The two columns of LEDs correspond to the two halves of the internal drive compartment (under either the right- or left-side top cover).
 - The four numbered rows of LEDs correspond to the four horizontal rows of drive bays (14 drive bays in each row).

See [Figure 3-8](#) for an example. In this example, the amber LED indicates that the failing drive is in the right half of the internal drive compartment, in row 3.

- Step 2** Open the right- or left-side cover and look at the fault LEDs on the drive trays.
- A solid amber fault LED indicates a failed drive.

Figure 3-8 Internal-Drive Status LED Example



1	Internal-drive fault LEDs on right-front handle of system, indicating faulty drive in right side of row 3	3	Front of system
2	Fault LED on drive carrier		

Replacing Internal Drives



Note Cisco PID UCSC-C3X60-HD4TB (Toshiba model MG03SCA400) has been EOLed and should be replaced if any problems occur. This Cisco PID now uses a newer HGST model.



Note SAS HDDs and SSDs are hot-swappable and can be replaced without removing power from the system.

Step 1 Slide the system out the front of the rack far enough so that you can open the top cover.



Caution If you cannot safely view and access the component, remove the system from the rack.

Step 2 Identify a failing drive as described in [Identifying a Faulty Internal Drive, page 3-19](#)

Step 3 Open the internal-drive compartment cover.

Step 4 Remove the faulty drive:

- a. Press the release button on the drive carrier. The drive lever pops up.
- b. Lift the drive lever to the fully open, 90-degree position, then lift the drive straight up out of its bay.
Spare drives are already installed in a carrier, so it is not necessary to remove the old drive from its carrier.

Step 5 Install a new drive:

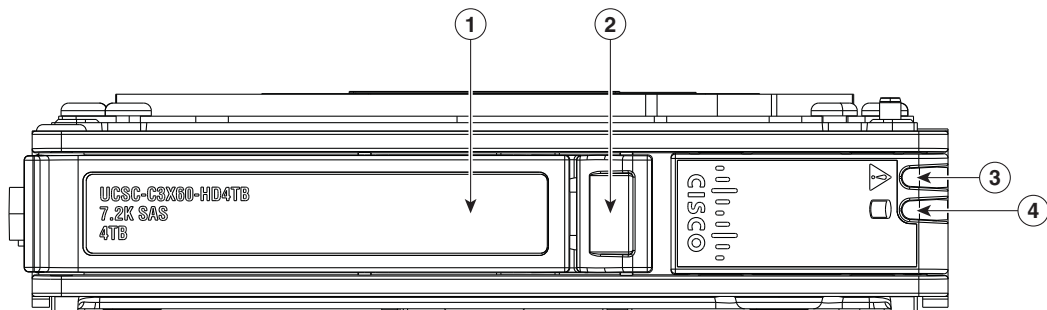


Note Observe the drive population guidelines in [Internal Drive Population Guidelines, page 3-18](#).

- a. Align the new drive with the empty bay. Orient the drive so that its connector aligns with the connector on the board.
- b. Lower the drive until it touches the board connector and the drive lever begins to close.
- c. Press the drive lever down flat until it clicks and locks.

Step 6 Close the chassis cover and push the system back into the rack.

Figure 3-9 Internal Drive Carrier Features



1	Drive lever	3	Drive fault LED
2	Release button	4	Drive activity LED

Replacing Hard Drives in the Optional Disk Expansion Tray

This section contains the following topics:

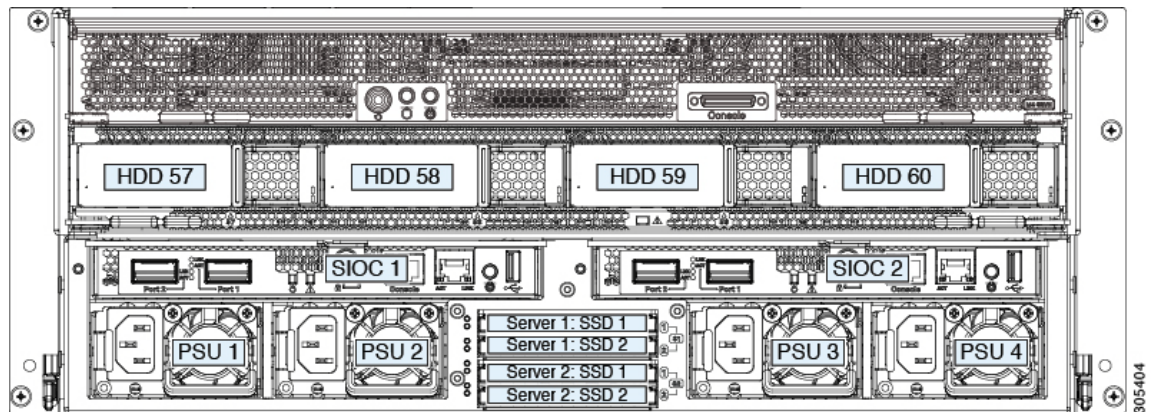
- [Disk Expansion Tray Drives Population Guidelines](#), page 3-21
- [Identifying a Faulty Disk Expansion Tray Drive](#), page 3-21
- [Replacing Drive Expander Module Drives](#), page 3-21

Disk Expansion Tray Drives Population Guidelines

The optional disk expansion tray can hold up to four 3.5-inch hard drives. Drive numbering is shown in [Figure 3-10](#). When populating these drives, follow these guidelines.

- Populate drives starting from the lowest-numbered bay to the highest.

Figure 3-10 Disk Expansion Tray and Solid State Drive Numbering



Identifying a Faulty Disk Expansion Tray Drive

Each drive has a fault LED that lights solid amber to indicate a failing drive.

Replacing Drive Expander Module Drives



Note SAS/SATA drives are hot-swappable and can be replaced without removing power from the system.

Step 1 Identify a failing drive as described in [Identifying a Faulty Disk Expansion Tray Drive](#), page 3-21.

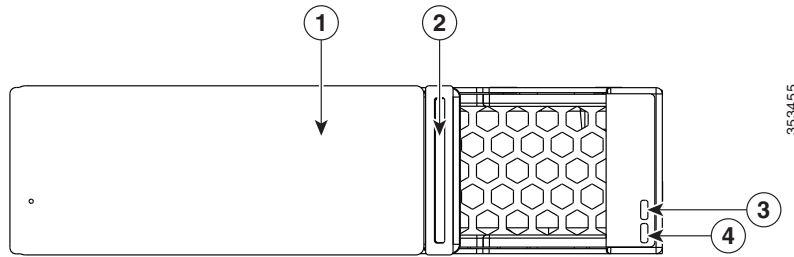
Step 2 Remove the faulty drive:

- Press the release button on the drive carrier. The drive lever pops up.
- Lift the drive lever to the fully open position, then pull the drive straight up out of its bay.

Spare drives are already installed in a carrier, so it is not necessary to remove the old drive from its carrier.

Step 3 Install a new drive:

- a. Align the new drive with the empty bay and then push the drive in until it touches the board connector and the drive lever begins to close.
- b. Press the drive lever down flat until it clicks and locks.

Figure 3-11 Drive Expander Module Drive Carrier Features

1	Drive lever	3	Drive fault LED
2	Release button	4	Drive activity LED

Replacing SAS/SATA Solid State Drives in the Rear Panel Bays

This section contains the following topics:

- [Rear-Panel SAS/SATA Solid State Drive Population Guidelines, page 3-23](#)
- [Replacing Solid State Drives, page 3-23](#)

Rear-Panel SAS/SATA Solid State Drive Population Guidelines

There are four bays for SAS/SATA SSDs in the rear panel. Drive numbering is shown in [Figure 3-12](#). When populating these drives, follow these guidelines.

- Server 1 SSD1 and SSD2 can be managed by server node 1. See also [Management Architecture, page 1-8](#).
- Server 2 SSD1 and SSD1 can be managed by server node 2.
- Populate drives starting with the lowest-numbered bay to the highest within each server-controlled pair.
- If a pair of SSDs is not present, keep the blanking panel in the empty two SSD bays to ensure proper air flow (see [Figure 3-12](#)).

Identifying a Faulty Solid State Drive

Each solid state drive bay has a fault LED that lights solid amber to indicate a failing drive (see [Rear-Panel LEDs and Buttons, page 3-4](#)).

Replacing Solid State Drives



Note

SAS/SATA solid state drives are hot-swappable and can be replaced without removing power from the system.

Step 1 Remove a faulty solid state drive:

- a. Grasp and pinch the release latch toward the center.
- b. Pull the solid state drive straight out of the bay.

Step 2 Install a new solid state drive:

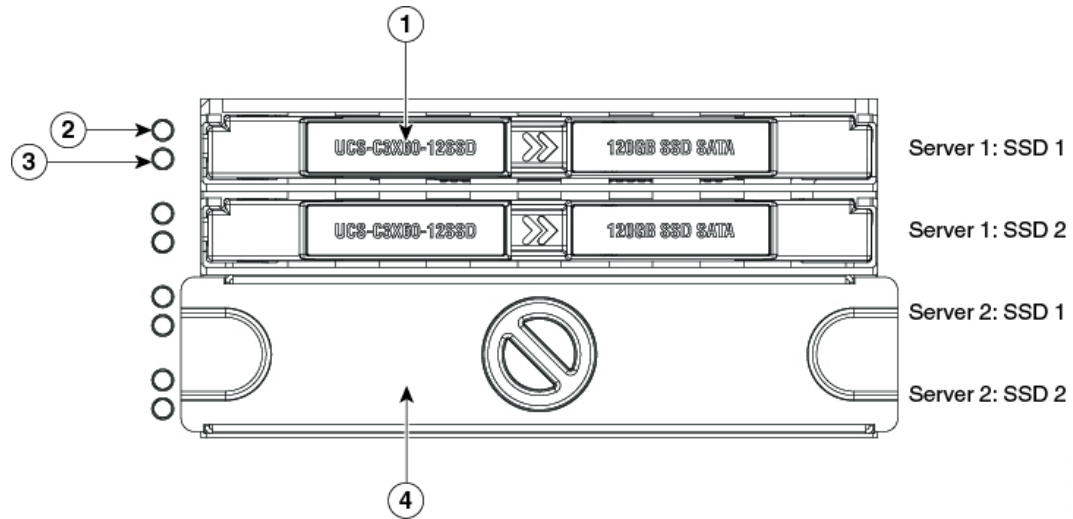


Note

Observe the drive population guidelines in [Rear-Panel SAS/SATA Solid State Drive Population Guidelines, page 3-23](#).

- a. Align the new drive with the empty bay (with the label facing up) and then push the drive in until it touches the board connector.
- b. Grasp and pinch the release latch toward the center while you push the drive fully into the bay, and then release the release latch.

Figure 3-12 Solid State Drive Bay Features



1	SSD release latch	3	Solid state drive activity LED (each bay)
2	Solid state drive fault LED (each bay)	4	Blanking panel over lower bays (when not in use)

Replacing Fan Modules

Each fan module contains two fans. See [Figure 3-13](#) for the fan numbering.

You do not have to shut down or power off the system to replace fan modules because they are hot-swappable. Do not operate the system with a fan module removed for more than one minute.


Tip

Each fan module has a fault LED that lights amber if the fan module fails.

Step 1 Slide the system out the front of the rack far enough so that you can open the fan compartment cover.


Caution

If you cannot safely view and access the component, remove the system from the rack.

Step 2 Open the fan compartment cover as described in [Opening the Main Chassis Top Covers](#), page 3-12.

Step 3 Remove the fan module:

- a. Grasp the two latches on the top of the fan and pinch them toward the center.
- b. Lift the fan module straight out of the bay.

Step 4 Install a new fan module:

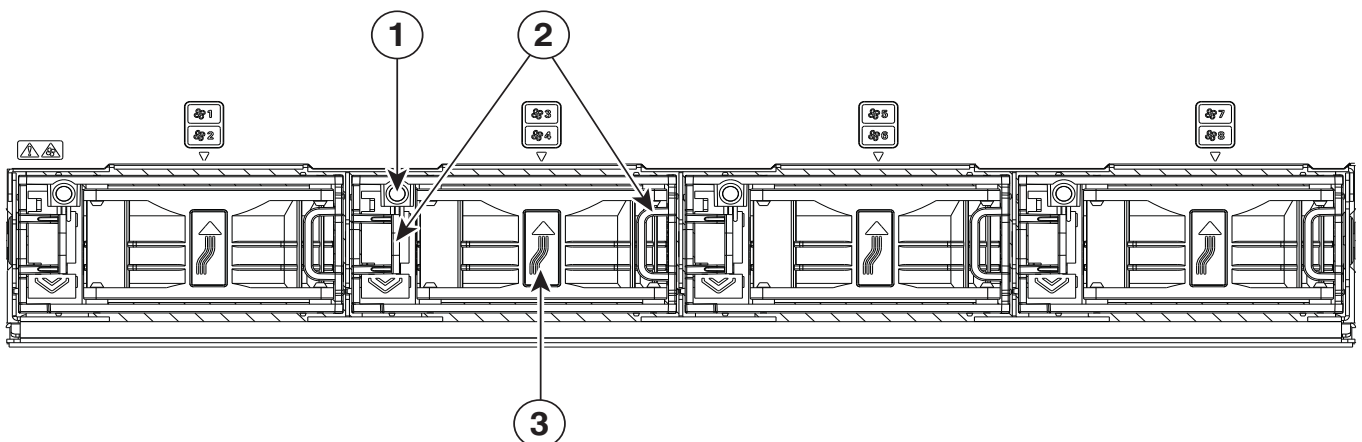

Note

The arrow on the fan module that indicates the air flow direction should point to the rear of the system.

- a. Align the fan module with the bay so that the connector on the bottom of the fan module is aligned with the socket on the floor of the chassis.
- b. Lower the fan module until it touches the socket, then push down firmly until the latch locks.

Step 5 Close the fan compartment cover and then push the system back into the rack.

Figure 3-13 Fan Modules (Top View)



353457

1	Fan module fault LED	3	Air flow direction arrow pointing toward rear of system
2	Fan module release latches		

Replacing a Server Node

The system can support one or two server nodes.

- Cisco IMC releases earlier than 2.0(13): If your S3260 system has only one server node, it must be installed in bay 1.
- Cisco IMC releases 2.0(13) and later: If your S3260 system has only one server node, it can be installed in either server bay.



Note Whichever bay a server node is installed to, it must have a corresponding SIOC. That is, a server node in bay 1 must be paired with a SIOC in SIOC slot 1; a server node in bay 2 must be paired with a SIOC in SIOC bay 2. See [Overview of Cisco UCS S3260 Architecture, page 1-8](#) for more information.

To replace a server node, including exporting and importing its configuration, see the service note for your server node:

- [Cisco UCS C3X60 M3 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS C3X60 M4 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS S3260 M5 Server Node For Cisco UCS S3260 System Service Note](#)

Replacing a Disk Expansion Tray

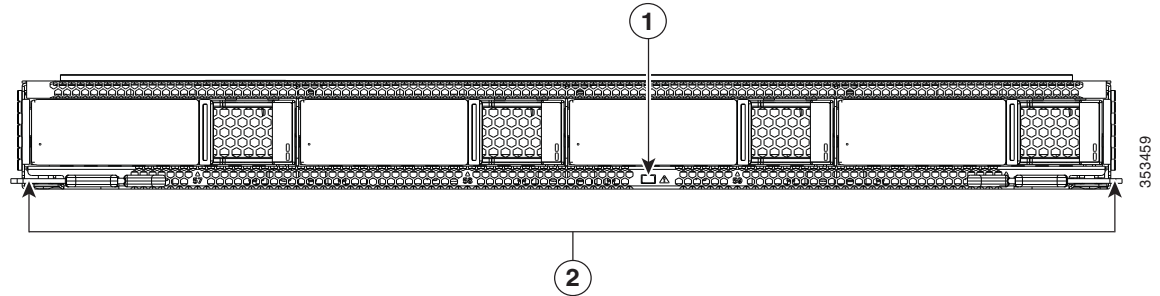
The system can support one optional disk expansion tray, in server bay 2 only.



Tip

The tray contains one status LED (see [Figure 3-14](#) for the location and [Table 3-3](#) on page 3-6 for definitions of the LED states).

Figure 3-14 Disk Expansion Tray External Features (Four-Drive Version Shown)



1	Disk expansion tray status LED	2	Disk expansion tray ejector levers (two)
----------	--------------------------------	----------	--



Note

The disk expansion tray is hot-swappable, which means that you can remove it without shutting down system power.

The disk expansion tray is accessed from the rear of the system, so you do not have to pull the system out from the rack.

- Step 1** Remove a disk expansion tray from the system:
- Grasp the two ejector levers and pinch their latches to release the levers (see [Figure 3-14](#)).
 - Rotate both levers to the outside at the same time to evenly disengage the tray from the midplane connectors.
 - Pull the tray straight out from the system.
- Step 2** Remove any drives from the old tray and move them to your new disk expansion tray. Install each drive to the same position that it occupied in the old tray.
- Step 3** Install a new disk expansion tray (server bay 2 only):
- With the two ejector levers open, align the new tray with the empty bay.
 - Push the tray into the bay until it engages with the midplane connectors.
 - Rotate both ejector levers toward the center until they lay flat and their latches lock into the rear of the tray.

Replacing a System I/O Controller (SIOC)

The system can support up to two system I/O controllers (SIOCs).

For information about the management architecture and the chassis management controller (CMC) that is in each SIOC, see [Management Architecture, page 1-8](#).

This section contains the following topics:

- [Replacing a SIOC in a Single-SIOC System, page 3-29](#)
- [Replacing a SIOC in a Dual-SIOC System, page 3-30](#)
- [Setting SIOC QSFP Port Speed, page 3-31](#)
- [Updating SIOC Adapter Firmware in a System With Dual SIOCs But Only One Server Node, page 3-31](#)
- [Migrating From Version 02 SIOC to Version 03 SIOC, page E-14](#)



Note

If you are replacing a Version 02 SIOC (UCSC-S3260-SIOC) with a Version 03 SIOC (UCS-S3260-PCISIOC), use the procedure in [Migrating From Version 02 SIOC to Version 03 SIOC, page E-14](#). Version 03 SIOCs require Cisco IMC 4.0(1n) or later and for UCS Manager-controlled systems, Cisco UCS Manager 4.0(1n) or later.



Note

The Version 03 SIOC is supported only with S3260 M5 or later server nodes.



Note

Do not mix different versions of SIOCs in the same system.



Note

If your system has two Version 03 SIOCs, they must have identical adapter cards. Do not mix adapter cards between Version 03 SIOCs in a system.



Note

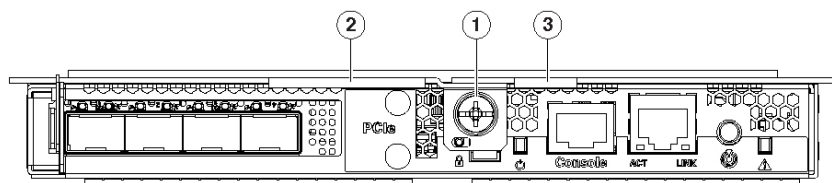
A Version 01 SIOC from a Cisco C3160 system cannot be installed in a Cisco S3260 system.



Note

If you move a SIOC from one chassis to another, the SIOC's CMC configuration is treated as incompatible and is automatically deleted. The CMC will sync with the active CMC configuration.

Figure 3-15 SIOC External Mechanical Features (Version 03 SIOC shown)



1	Lever thumbscrew	2	Right ejector lever.
2	Left ejector lever.		

Replacing a SIOC in a Single-SIOC System

You do not have to slide the system out of the rack to remove the SIOC from the rear of the system. The SIOC can be replaced without powering off the chassis.

-
- Step 1** Export the CMC configuration from the SIOC.
- Step 2** Export the adapter configuration from the SIOC.
- Step 3** Power off the server node that is paired with the SIOC (SIOC 1 is paired with a server node in bay 1; SIOC 2 is paired with a server node in bay 2).
See [Shutting Down an Individual Server Node, page 3-10](#).
- Step 4** Remove the SIOC from the system:
- Loosen the single captive thumbscrew on the SIOC and then open its two hinged ejector levers to evenly disengage the SIOC from its midplane connector.
 - Pull the SIOC from the system.
- Step 5** **Version 03 SIOC Only:** If desired, transfer the adapter card and any NVMe SSDs from the existing Version 03 SIOC to the new Version 03 SIOC:
- Remove the cover from the existing Version 03 SIOC as described in [Removing the System I/O Controller \(SIOC\) Cover, page 3-13](#).
 - Remove the adapter card as described in [Replacing a PCIe Adapter Card Inside the S3260 SIOC \(Version 03 SIOC Only\), page 3-40](#).
 - Remove the NVMe SSDs as described in [Replacing an NVMe SSD Inside the S3260 SIOC \(Version 03 SIOC Only\), page 3-42](#).
 - Remove the cover from the replacement Version 03 SIOC.
 - Install the adapter card to the replacement SIOC as described in [Replacing a PCIe Adapter Card Inside the S3260 SIOC \(Version 03 SIOC Only\), page 3-40](#).
 - Install the NVMe SSDs to the replacement SIOC as described in [Replacing an NVMe SSD Inside the S3260 SIOC \(Version 03 SIOC Only\), page 3-42](#).
 - Install the cover to the replacement SIOC.
- Step 6** Install the new SIOC:
- Push the SIOC into its bay until it stops against the internal backplane.
 - Close the two ejector levers on the SIOC to fully engage its connector with the midplane connector.
 - Tighten the thumbscrew on the SIOC ejector levers.
- Step 7** Wait for the CMC in the new SIOC to finish booting.
- Step 8** Import the CMC configuration that you exported earlier to the new SIOC's CMC.
- Step 9** Import the adapter configuration that you exported earlier to the new SIOC's CMC.
- Step 10** Power on the server node that you powered off earlier.



Note If you are using Cisco Card NIC mode, which uses the SIOC's uplink interfaces to manage the system, you might need to configure the uplink's port speed to either 4x10 Gbps or 40 Gbps to match your network installation. See [Setting SIOC QSFP Port Speed, page 3-31](#).

Replacing a SIOC in a Dual-SIOC System

You do not have to slide the system out of the rack to remove the SIOC from the rear of the system. The SIOC can be replaced without powering off the chassis.

-
- Step 1** Set the CMC in the SIOC as the standby CMC, if it is not already.
- Step 2** Export the adapter configuration from the SIOC.
- Step 3** Power off the server node that is paired with the SIOC that you are replacing (SIOC 1 is paired with server node1; SIOC 2 is paired with server node 2).
See [Shutting Down an Individual Server Node](#), page 3-10.
- Step 4** Remove the SIOC from the system:
- a. Loosen the single captive thumbscrew on the SIOC and then open its two hinged ejector levers to evenly disengage the SIOC from its midplane connector.
 - b. Pull the SIOC from the system.
- Step 5** **Version 03 SIOC Only:** If desired, transfer the adapter card and any NVMe SSDs from the existing Version 03 SIOC to the new Version 03 SIOC:
- a. Remove the cover from the old Version 03 SIOC as described in [Removing the System I/O Controller \(SIOC\) Cover](#), page 3-13.
 - b. Remove the adapter card as described in [Replacing a PCIe Adapter Card Inside the S3260 SIOC \(Version 03 SIOC Only\)](#), page 3-40.
 - c. Remove the NVMe SSDs as described in [Replacing an NVMe SSD Inside the S3260 SIOC \(Version 03 SIOC Only\)](#), page 3-42.
 - d. Remove the cover from the new Version 03 SIOC.
 - e. Install the adapter card to the replacement SIOC as described in [Replacing a PCIe Adapter Card Inside the S3260 SIOC \(Version 03 SIOC Only\)](#), page 3-40.
 - f. Install the NVMe SSDs to the replacement SIOC as described in [Replacing an NVMe SSD Inside the S3260 SIOC \(Version 03 SIOC Only\)](#), page 3-42.
 - g. Install the cover to the replacement SIOC.
- Step 6** Install the new SIOC:
- a. Push the SIOC into its bay until it stops against the internal backplane.
 - b. Close the two ejector levers on the SIOC to fully engage the SIOC connector with the midplane.
 - c. Tighten the thumbscrew on the SIOC ejector levers.
- Step 7** Wait for the CMC in the new SIOC to finish booting.
- Step 8** Power on the server node that you powered off earlier.

The configuration in the active CMC is automatically synched with the standby CMC in the SIOC that you just installed.



Note If you are using Cisco Card NIC mode, which uses the SIOC's uplink interfaces to manage the system, you might need to configure the uplink's port speed to either 4x10 Gbps or 40 Gbps to match your network installation. See [Setting SIOC QSFP Port Speed](#), page 3-31.

- Step 9** Import the adapter configuration that you exported earlier to the new SIOC's CMC.
-

Setting SIOC QSFP Port Speed

Optional: Set the port speeds for the SIOC QSFP ports:

-
- Step 1** Connect a keyboard and console to the system or log in remotely and view a virtual KVM window.
 - Step 2** Reboot the system and press **F8** when prompted to launch the Cisco IMC Configuration Utility.
 - Step 3** After the first utility screen is displayed, press **F1** twice to go to the third utility screen, which has the settings for Adapter Port Speeds.
 - Step 4** Set the desired port speeds. “Adapter-1” is SIOC 1; “Adapter-2” is SIOC 2, if present.
 - Step 5** Press **F10** to save your changes and exit the utility.
-

Updating SIOC Adapter Firmware in a System With Dual SIOCs But Only One Server Node

The recommended method for updating SIOC adapter firmware is to run the Cisco Host Upgrade Utility (HUU) on the server node that is associated with the SIOC. However, if a system has only one server node and two SIOCs, this method does not work to upgrade firmware on the SIOC that is not associated with a server node (SIOC 1 is associated with a server node in bay 1; SIOC 2 is associated with a server node in bay 2).

In this case, you must manually upgrade the adapter firmware on the un-associated SIOC:

- [Using the Cisco IMC GUI Interface to Update SIOC Adapter Firmware, page 3-31](#)
- [Using the Cisco IMC PMCLI Interface to Update SIOC Adapter Firmware, page 3-32](#)

Using the Cisco IMC GUI Interface to Update SIOC Adapter Firmware

-
- Step 1** Install the SIOC adapter firmware update:
 - a. In the **Admin** menu, click **Firmware Management**.
 - b. In the **Component** Column, select **Adapter-SIOC1** or **Adapter-SIOC2**.
 - c. Click **Update**. The Update Firmware dialog opens.
 - d. Browse to select the firmware for the SIOC adapter.
 - e. Click **Install Firmware** to begin download and installation.
 - Step 2** Activate the firmware:
 - a. In the **Component** Column, select **Adapter-SIOC1** or **Adapter-SIOC2**.
 - b. Click **Activate**.



Note You must reset the adapter to make the activated firmware version the running version. Resetting the adapter also causes the host to reset.

- Step 3** Reset the adapter in the SIOC:
 - a. In the **Navigation** pane, click the **Networking** menu.
 - b. Click the **Adapter Card** tab. The General tab appears.
 - c. Select **Adapter-SIOC1** or **Adapter-SIOC2**.
 - d. In the **Actions** area of the General tab, click **Reset** and then click **Yes** to confirm.

The adapter and host reset. The activated firmware becomes the running version.

Using the Cisco IMC PMCLI Interface to Update SIOC Adapter Firmware

Step 1 Update and activate the adapter firmware by using the following commands:

```
Server# scope chassis
Server/chassis# update-adapter-fw <protocol> <remote server IP address> <image file path>
<activate/no-activate> [SIOC slot number]
```

For example:

```
server1/chassis# update-adapter-fw tftp nnn.nnn.nnn.nnn /fw-image.bin activate 1
Adapter firmware update has started. Please check the status using "show adapter detail".
You have chosen to automatically activate the new firmware image. Please reset your
adapter after the update finishes.
```

Step 2 Reset the adapter:



Note You must reset the adapter to make the activated firmware version the running version. Resetting the adapter also causes the host to reset.

```
server/chassis# adapter-reset <SIOC1 or SIOC2>
```

For example:

```
server/chassis# adapter-reset SIOC1
```

The adapter and host reset. The activated firmware becomes the running version.

Replacing a Power Supply

The system requires four power supplies, which are redundant as 3+1.



Note

Do not mix power supply types in the server. Both power supplies must be identical.

This section contains these procedures:

- [Replacing an AC Power Supply, page 3-33](#)
- [Installing a DC Power Supply \(First-Time Installation\), page 3-34](#)
- [Replacing a DC Power Supply, page 3-35](#)
- See also [Power Specifications, page A-3](#) for power supply specifications.
- See also [Rear-Panel LEDs and Buttons, page 3-4](#) for information about power supply LEDs.

Replacing an AC Power Supply

To replace or install an AC power supply, follow these steps:

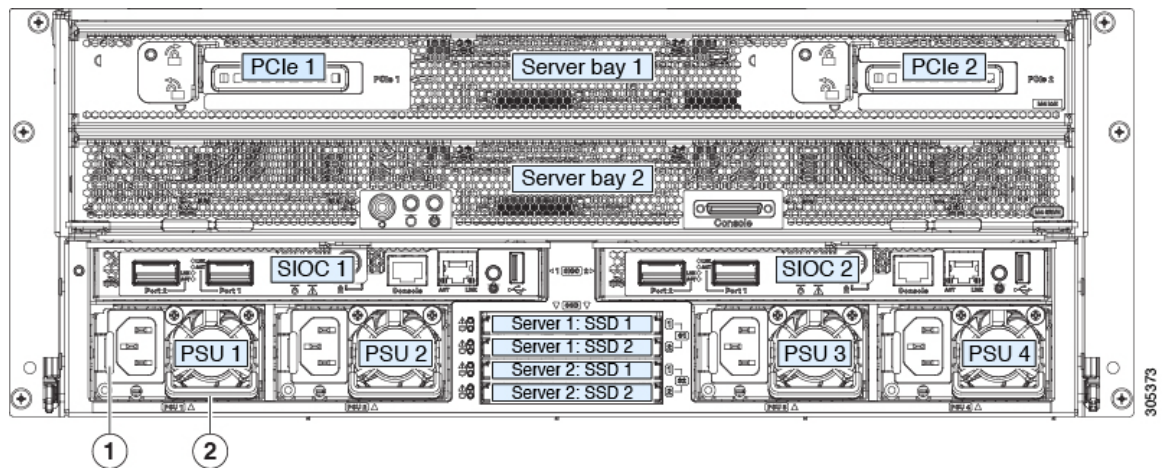


Note

You do not have to power off the system to replace up to one power supply because they are redundant as 3+1.

- Step 1** Remove the power supply that you are replacing or a blank panel from an empty bay (see [Figure 3-16](#)):
- Remove the power cord from the power supply that you are replacing.
 - Grasp the power supply handle while pinching the release lever toward the handle.
 - Pull the power supply out of the bay.
- Step 2** Install a new power supply:
- Grasp the power supply handle and insert the new power supply into the empty bay.
 - Push the power supply into the bay until the release lever locks.
 - Connect the power cord to the new power supply.
 - If you powered off the system, press and hold the system Power button for four seconds to return the system to main power mode.

Figure 3-16 Removing and Replacing Power Supplies



1	Power supply release lever	2	Power supply handle
---	----------------------------	---	---------------------

Installing a DC Power Supply (First-Time Installation)



Warning

A readily accessible two-poled disconnect device must be incorporated in the fixed wiring. Statement 1022



Warning

This product requires short-circuit (overcurrent) protection, to be provided as part of the building installation. Install only in accordance with national and local wiring regulations. Statement 1045



Warning

Installation of the equipment must comply with local and national electrical codes. Statement 1074



Caution

Before beginning this wiring procedure, turn off the DC power source from your facility's circuit breaker to avoid electric shock hazard.

Step 1

Turn off the DC power source from your facility's circuit breaker to avoid electric shock hazard.



Note

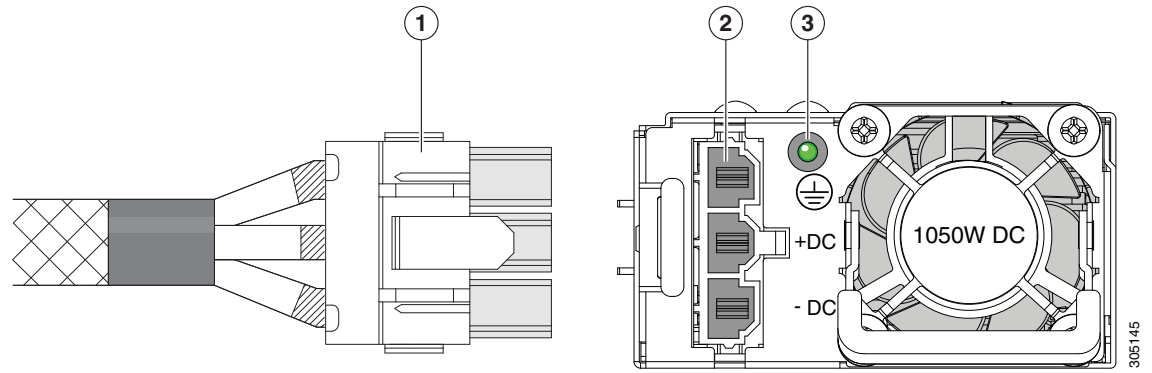
The required DC input cable is Cisco part CAB-48DC-40A-8AWG. This 3-meter cable has a 3-pin connector on one end that is keyed to the DC input socket on the power supply, as shown in Figure 3-17. The other end of the cable has no connector so that you can wire it to your facility's DC power.

Step 2

Wire the non-terminated end of the cable to your facility's DC power input source.

- Step 3** Connect the terminated end of the cable to the socket on the power supply. The connector is keyed so that the wires align for correct polarity and ground, as shown in [Figure 3-17](#).
- Step 4** Return DC power from your facility's circuit breaker.

Figure 3-17 1050 W, -48 VDC Power Supply and Cable



1	Keyed cable connector (CAB-48DC-40A-8AWG)	3	PSU status LED See Rear-Panel LEDs and Buttons , page 3-4 for details.
2	Keyed DC input socket		

Replacing a DC Power Supply



Note You do not have to power off the system to replace up to one power supply because they are redundant as 3+1.

- Step 1** Remove the power supply that you are replacing or a blank panel from an empty bay:
- Remove the CAB-48DC-40A-8AWG keyed cable connector from the power supply that you are replacing.
 - Grasp the power supply handle while pinching the release lever toward the handle.
 - Pull the power supply out of the bay.
- Step 2** Install a new power supply:
- Grasp the power supply handle and insert the new power supply into the empty bay.
 - Push the power supply into the bay until the release lever locks.
 - Connect the CAB-48DC-40A-8AWG keyed cable connector to the new power supply.
 - If you powered off the system, press and hold the system Power button for four seconds to return the system to main power mode.

Replacing DIMMs Inside a Server Node

To replace DIMMs inside a server node, see the service note for your server node:

- [Cisco UCS C3X60 M3 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS C3X60 M4 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS S3260 M5 Server Node For Cisco UCS S3260 System Service Note](#)

Replacing CPUs and Heatsinks Inside a Server Node

To replace CPUs inside a server node, see the service note for your server node:

- [Cisco UCS C3X60 M3 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS C3X60 M4 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS S3260 M5 Server Node For Cisco UCS S3260 System Service Note](#)

Replacing a Storage Controller Card Inside the Server Node

To replace a storage controller card inside a server node, see the service note for your server node:

- [Cisco UCS C3X60 M3 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS C3X60 M4 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS S3260 M5 Server Node For Cisco UCS S3260 System Service Note](#)

Replacing an SSD Inside the Server Node (C3X60 M4 or S3260 M5 Only)

To replace a solid state drive (SSD) inside a C3X60 M4 or S3260 M5 server node, see the service note for your server node:

- [Cisco UCS C3X60 M4 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS S3260 M5 Server Node For Cisco UCS S3260 System Service Note](#)

Replacing an RTC Battery Inside the Server Node

To replace an RTC battery inside a server node, see the service note for your server node:

- [Cisco UCS C3X60 M3 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS C3X60 M4 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS S3260 M5 Server Node For Cisco UCS S3260 System Service Note](#)

Replacing an Internal USB Drive Inside the Server Node (C3X60 M3 Only)

For instructions on replacing an internal USB drive inside a C3X60 M3 server node, and for enabling or disabling the USB port, see the C3X60 M3 service note:

- [Cisco UCS C3X60 M3 Server Node For Cisco UCS S3260 System Service Note](#)

Installing a Trusted Platform Module (TPM) Inside the Server Node

To install a TPM inside a server node, see the service note for your server node:

- [Cisco UCS C3X60 M3 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS C3X60 M4 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS S3260 M5 Server Node For Cisco UCS S3260 System Service Note](#)

Replacing an I/O Expander (C3X60 M4 or S3260 M5 Server Nodes Only)

The C3X60 M4 or S3260 M5 server node might have an optional I/O expander attached to its top. To replace an I/O expander, see the service note for your server node:

- [Cisco UCS C3X60 M4 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS S3260 M5 Server Node For Cisco UCS S3260 System Service Note](#)

Replacing a PCIe Card Inside the I/O Expander (C3X60 M4 or S3260 M5 Server Nodes Only)

To replace a PCIe card inside an optional I/O expander, see the service note for your server node:

- [Cisco UCS C3X60 M4 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS S3260 M5 Server Node For Cisco UCS S3260 System Service Note](#)

Replacing a Storage Controller Card Inside the I/O Expander (C3X60 M4 Server Nodes Only)

To replace a storage controller card inside an optional I/O expander, see the service note for the Cisco UCS C3000 M4 server node:

- [Cisco UCS C3000 M4 Server Node For Cisco UCS C3260 System Service Note](#)



Note

The storage controllers that are supported with the S3260 M5 server node are not supported in the I/O expander.)

Replacing an NVMe SSD Inside the I/O Expander (C3X60 M4 or S3260 M5 Server Nodes Only)

To replace a PCIe card inside an optional I/O expander, see the service note for your server node:

- [Cisco UCS C3000 M4 Server Node For Cisco UCS C3260 System Service Note](#)
- [Cisco UCS S3260 M5 Server Node For Cisco UCS S3260 System Service Note](#)

Replacing an RTC Battery Inside the S3260 SIOC

The real-time clock (RTC) battery retains settings when the SIOC is disconnected from power. The battery type in the SIOC is CR1632. Cisco supports the industry-standard CR1632 battery, which can be purchased from most electronic stores.



Note When the RTC battery is removed or it completely loses power, settings that were stored in the CMC of the SIOC are lost. You must reconfigure the CMC settings after installing a new battery.

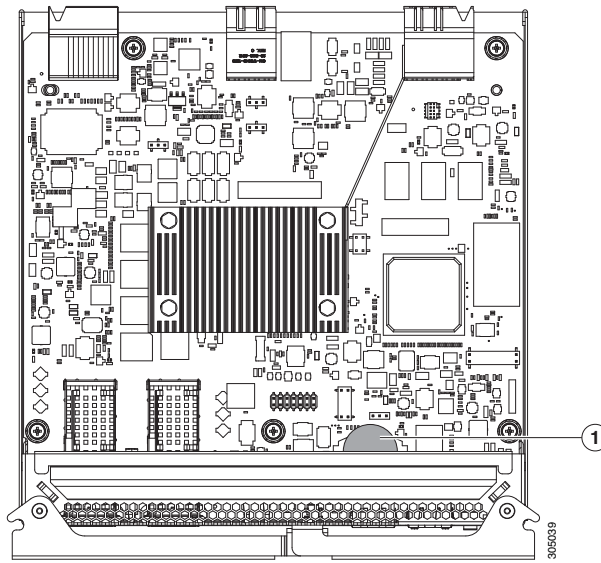
-
- Step 1** Power off the server node that is paired with the SIOC that you are removing (SIOC 1 is paired with server node1; SIOC 2 is paired with server node 2). See [Shutting Down an Individual Server Node, page 3-10](#).
- Step 2** Remove the SIOC from the system:
- a. Loosen the single captive thumbscrew on the SIOC and then open its two hinged ejector levers to evenly disengage the SIOC from its midplane connector.
 - b. Pull the SIOC from the system.
- Step 3** Remove the SIOC cover as described in [Removing the System I/O Controller \(SIOC\) Cover, page 3-13](#).
- Step 4** Gently pry under the battery to lift it from its socket on the SIOC board.



Note The battery socket is in different locations in version 02 and Version 03 SIOCs. See the following figures.

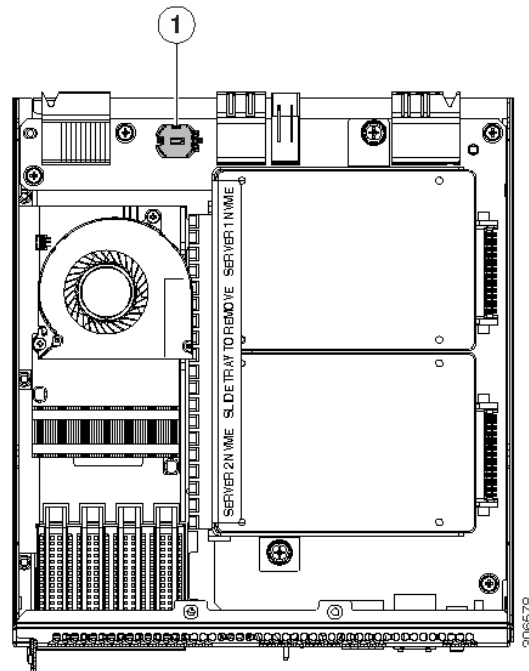
- Step 5** Insert the new battery into the socket and then press down until it sits flat.
- Step 6** Replace the cover to the SIOC.
- Step 7** Replace the SIOC to the system:
- a. Push the SIOC into its bay until it stops against the internal midplane.
 - b. Close the two levers on the SIOC to fully engage the SIOC connector with its backplane.
 - c. Tighten the thumbscrew on the SIOC levers.
- Step 8** Power on the server node that you powered off earlier.
- Step 9** Reconfigure the settings of the CMC in this SIOC.

Figure 3-18 RTC Battery Location Inside the Version 02 S3260 SIOC (UCS-S3260-SIOC)



- | | |
|----------|--|
| 1 | Battery socket on version 02 SIOC board, with CR1632 battery |
|----------|--|

Figure 3-19 RTC Battery Location Inside the Version 03 S3260 SIOC (UCS-S3260-PCISIOC)



- | | |
|----------|--|
| 1 | Battery socket on Version 03 SIOC board, with CR1632 battery |
|----------|--|

Replacing a PCIe Adapter Card Inside the S3260 SIOC (Version 03 SIOC Only)

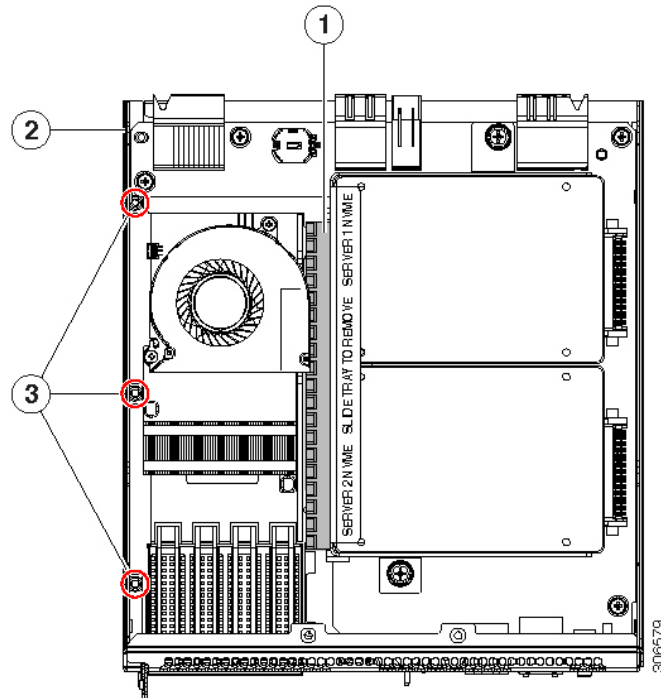
The Version 03 SIOC uses a removable PCIe adapter card that plugs into a horizontal socket. (The version 02 SIOC uses an embedded chip and so does not have a removable adapter card.)


Note

If your S3260 system has two Version 03 SIOCs, the adapter card in each must be identical. Do not mix adapter cards between Version 03 SIOCs.

-
- Step 1** Power off the server node that is paired with the SIOC that you are removing (SIOC 1 is paired with server node 1; SIOC 2 is paired with server node 2). See [Shutting Down an Individual Server Node, page 3-10](#).
- Step 2** Remove the SIOC from the system:
- a. Loosen the single captive thumbscrew on the SIOC and then open its two hinged ejector levers to evenly disengage the SIOC from its midplane connector.
 - b. Pull the SIOC from the system.
- Step 3** Remove the SIOC cover as described in [Removing the System I/O Controller \(SIOC\) Cover, page 3-13](#).
- Step 4** Remove an existing adapter card:
- a. Remove the SIOC side panel that is closest to the adapter card. Turn the SIOC upside down and remove the three screws that secure the side panel from the underside of the SIOC.
 - b. Turn the SIOC over.
 - c. Slide the adapter card horizontally to disconnect its edge connector from the socket.
- Step 5** Install a new adapter card:
- a. Set the card in place on the SIOC floor. Align the card's edge connector with the socket.
 - b. Gently slide the card into the socket, pushing evenly on both ends of the card. Stop when the card is fully in the socket and its rear-panel tab sits flat.
 - c. Return the side panel to the SIOC. Set the side panel in place so that its edge sits *on top of* the SIOC floor and its three screw holes align with those on the SIOC.
 - d. Turn the SIOC upside down and install the three screws that secure the side panel.
- Step 6** Turn the SIOC over and reinstall the SIOC cover. Install the six screws that secure the cover.
- Step 7** Replace the SIOC to the system:
- a. Push the SIOC into its bay until it stops against the internal midplane.
 - b. Close the two levers on the SIOC to fully engage the SIOC connector with its backplane.
 - c. Tighten the thumbscrew on the SIOC levers.
- Step 8** Power on the server node that you powered off earlier.

Figure 3-20 Adapter Card in Version 03 SIOC (UCS-S3260-PCISIOC)



1	Horizontal socket for adapter card	3	Location of three screws that secure the side panel (access from the underside of the SIOC)
2	Removable SIOC side panel (three screws on underside)		

Cisco VIC Cards Supported in Version 03 SIOC (UCSC-S3260-PCISIOC)

At this time, the following Cisco Virtual Interface Card (VIC) is supported in the Version 03 SIOC:

- Cisco UCS VIC 1455 (UCSC-PCIE-C25Q-04)

Replacing an NVMe SSD Inside the S3260 SIOC (Version 03 SIOC Only)

SIOC NVMe SSD Population Rules

The Version 03 SIOC can contain up to two 2.5-inch NVMe SSDs in a sled assembly. You must remove the sled when installing or replacing the SSDs.

Each NVMe SSD slot in a SIOC is numbered for the server that supports it (SERVER 1 NVME or SERVER 2 NVME).

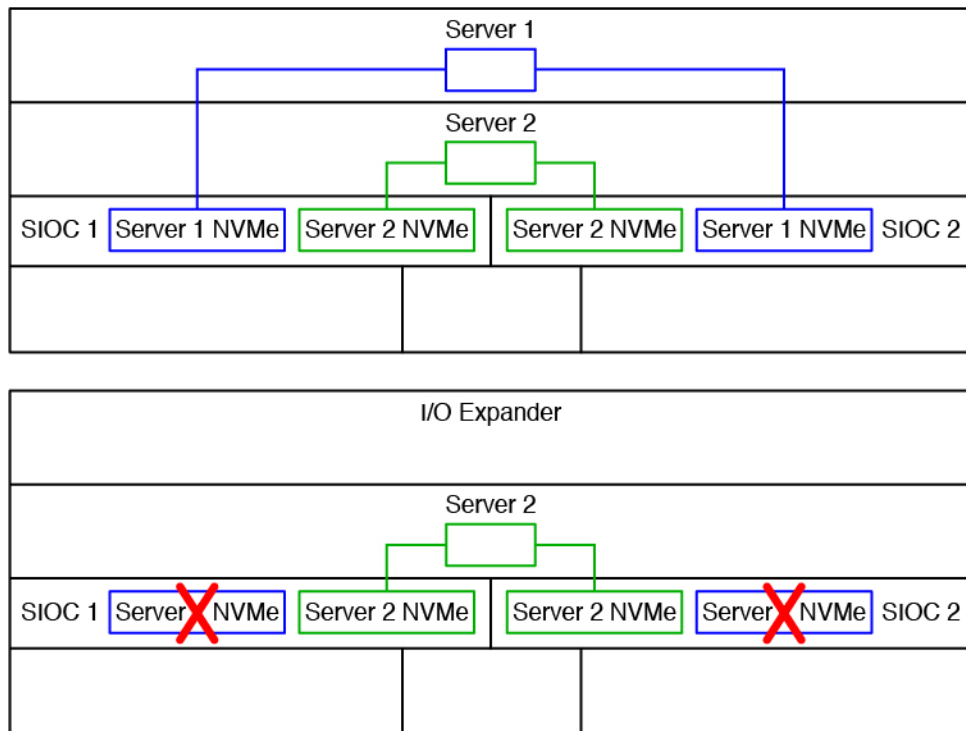
- Populate an NVMe SSD in SERVER 1 NVME only if you have a server node in upper server bay 1.
- Populate an NVMe SSD in SERVER 2 NVME only if you have a server node in lower server bay 2.



Note

If your system configuration has an M5 server node in lower server bay 2 and an I/O expander in upper server bay 1, you cannot populate an NVMe SSD in the SERVER 1 NVME slot in either SIOC. See [Figure 3-21](#) and [Figure 3-22](#) for illustrations of the system connectivity and labeling.

Figure 3-21 NVMe SSD Connectivity in Version 03 SIOC (UCS-S3260-PCISIOC)



Procedure

- Step 1** Power off the server node that is paired with the SIOC that you are removing (SIOC 1 is paired with server node 1; SIOC 2 is paired with server node 2). See [Shutting Down an Individual Server Node](#), page 3-10.
- Step 2** Remove the SIOC from the system:
- Loosen the single captive thumbscrew on the SIOC and then open its two hinged ejector levers to evenly disengage the SIOC from its midplane connector.
 - Pull the SIOC from the system.
- Step 3** Remove the SIOC cover as described in [Removing the System I/O Controller \(SIOC\) Cover](#), page 3-13.

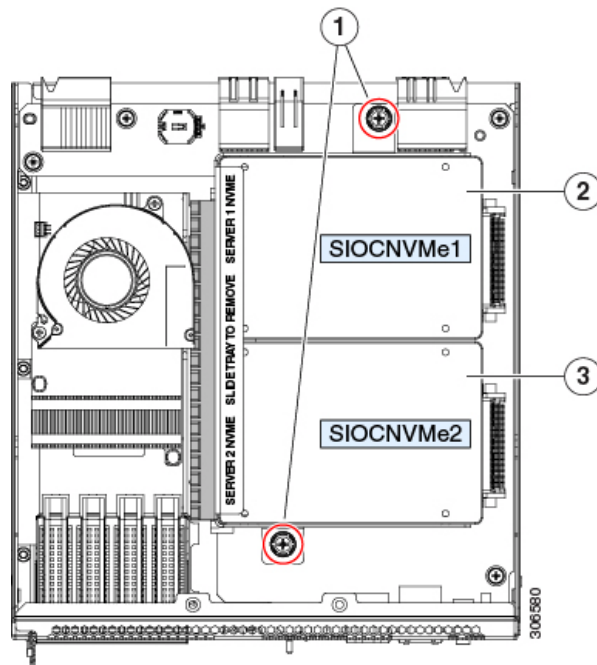


Note

The NVMe SSD sled (UCS-S3260-NVMSLD2) in the Version 03 SIOC is not interchangeable with the NVMe SSD sled (UCS-S3260-NVMSLD1) in the S3260 M5 server node.

- Step 4** Remove the NVMe SSD sled assembly from the SIOC.
- Loosen the two captive thumbscrews that secure the sled to the SIOC floor and then pull the sled so that the connectors on any installed SSDs disengage from the two sockets on the SIOC board.

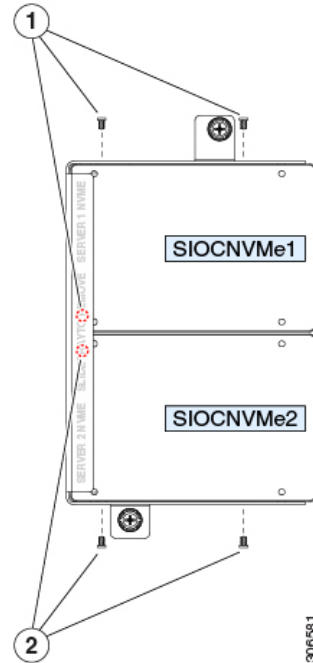
Figure 3-22 NVMe SSDs in Version 03 SIOC (UCS-S3260-PCISIOC)



1	NVMe sled-assembly thumbscrews	3	SERVER 2 NVME Populate this slot only when you have a server node in lower server bay 2.
2	SERVER 1 NVME Populate this slot only when you have a server node in upper server bay 1.		

- Step 5** Remove the three screws that secure an SSD to the sled. Two screws enter from the outside edge and one screw enters from the underside of the sled.

Figure 3-23 NVMe SSD Securing Screws on Sled



<p>1 Screws that secure NVME 1 SERVER SSD to the sled assembly (three)</p> <p>Two screws enter from the side and one from the underside.</p>	<p>2 Screws that secure NVME 2 SERVER SSD to the sled assembly (three)</p> <p>Two screws enter from the side and one from the underside.</p>
---	---

- Step 6** Install a new NVMe SSD:



Note Before installing, see the [SIOC NVMe SSD Population Rules, page 3-42](#).

- a. Install the new SSD to the sled. Set the SSD in place so that the connector end faces away from the bracket.
- b. Install the 3 screws that secure the SSD to the sled.
- c. Set the sled into the SIOC so that the connectors on the two SSDs align with the two sockets on the SIOC board.
- d. Slide the SSD connectors into the sockets as you tilt the sled down flat.
- e. Tighten the two thumbscrews on the sled assembly to secure it to the SIOC board standoffs.

- Step 7** Reinstall the SIOC cover.

- Step 8** Replace the SIOC to the system:

- a. Push the SIOC into its bay until it stops against the internal midplane.
- b. Close the two levers on the SIOC to fully engage the SIOC connector with its backplane.

- c. Tighten the thumbscrew on the SIOC levers.

Step 9 Power on the server node that you powered off earlier.

Replacing an S3260 Chassis

This procedure is for replacing an S3260 chassis and transferring all components to the new chassis.

-
- Step 1** Export the component configurations (CMC, BMC, VIC adapters) and save them to a local computer using the import-export command mode.
- Refer to the [Cisco UCS Integrated Management Controller CLI Configuration Guide for S3260 Storage Servers](#). See the chapter, *Server Utilities* and the section, *Exporting and Importing the Cisco IMC and BMC Configuration*.
- Step 2** Perform a graceful shutdown of all server nodes.
- See [Shutting Down an Individual Server Node, page 3-10](#) for more information.
- Step 3** Disconnect all power cables from all power supplies to fully remove power from the chassis.
- Step 4** Remove each server node and install each to the same bay position in the new chassis.
- If a server node has an I/O expander attached, move the node and expander attached together.
- See the service note for your server node version for more information: [Server Node Service Notes](#).
- Step 5** If the system has a disk expansion tray in place of a server node, remove it with its disks in place and install the tray with disks to the same bay position in the new chassis.
- See [Replacing a Disk Expansion Tray, page 3-27](#) for more information.
- Step 6** Remove each SIOC and install each to the same bay position in the new chassis.
- See [Replacing a System I/O Controller \(SIOC\), page 3-28](#) for more information.
- Step 7** Remove each rear-panel boot SSD and install each to the same bay position in the new chassis.
- See [Replacing SAS/SATA Solid State Drives in the Rear Panel Bays, page 3-23](#) for more information.
- Step 8** Remove each power supply and install each to the same bay position in the new chassis.
- See [Replacing a Power Supply, page 3-33](#) for more information.
- Step 9** Open the main chassis top cover on the old and new chassis.
- See [Opening the Main Chassis Top Covers, page 3-12](#) for more information.
- Step 10** Remove each top-loading hard drive and install each to the same bay position in the new chassis.
- See [Replacing HDDs or SSDs in the Internal Drive Compartment, page 3-18](#) for more information.
- Step 11** Open the fan compartment cover on the old and new chassis.
- Step 12** Remove each cooling fan and install each to the same bay position in the new chassis.
- See [Replacing Fan Modules, page 3-25](#) for more information.
- Step 13** If you have not done so already, remove the empty chassis from your rack.
- Step 14** Close all covers on the new chassis.
- Step 15** Install the new chassis to your rack.



Caution This system weighs approximately 190 pounds (86 kilograms) when fully loaded with components. We recommend that you use a mechanical lift when lifting the system. Attempting this procedure without a lift could result in personal injury or equipment damage. Although not required, consider temporarily removing components such as hard drives while you move the system.

See [Installing the System in a Rack, page 2-5](#) for instructions.

**Note**

When a SIOC is moved to a new chassis, the CMC settings are reset to the factory defaults and so you must perform initial setup as you would for a new system.

- Step 16** Power on, connect cables to the system, and log in to the Cisco IMC Configuration Utility as described in [Connecting the System and Opening the Setup Utility, page 2-15](#).
- Step 17** Configure the network settings for the system as described in [Setting Up the System Using the Cisco IMC Configuration Utility, page 2-16](#).
- You can use a DHCP server to set IP addresses or set them statically using the procedure in [Setting Static CMC and BMC Internal IP Addresses, page 2-18](#).
 - For more information about the IP addresses in the system (up to five), see [System IP Addresses, page 2-14](#).
- Step 18** After the system has connection to the network, use the Host Upgrade Utility to update the system to your desired level and ensure that all components in the system are running compatible software levels. See the [Cisco Host Upgrade Utility Quick Reference Guide](#) for your firmware level.
- Step 19** Import the component configurations that you exported in step 1.
- Refer to the [Cisco UCS Integrated Management Controller CLI Configuration Guide for S3260 Storage Servers](#). See the chapter *Server Utilities* and the section *Exporting and Importing the Cisco IMC and BMC Configuration*.
- Step 20** Verify that all configurations imported successfully.
- Step 21** Verify that chassis health is optimal.

Service Headers on the Server Node Board

The server node includes headers that you can jumper for certain service functions.

For information about the service headers, see the service note for your server node:

- [Cisco UCS C3X60 M3 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS C3X60 M4 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS S3260 M5 Server Node For Cisco UCS S3260 System Service Note](#)



System Specifications

This appendix lists the technical specifications for the Cisco UCS S3260 Storage Server and includes the following sections:

- [System Physical Specifications, page A-1](#)
- [System Environmental Specifications, page A-2](#)
- [Power Specifications, page A-3](#)

System Physical Specifications

[Table A-1](#) lists the physical specifications for the system.

Table A-1 Physical Specifications

Description	Specification
Height	6.88 in (174 mm)
Width	17.46 in (444 mm)
Length (including front handles)	33.54 in (852 mm) 40.30 in (1024 mm)
Length (including front handles and slide rails with CMA)	
Weight (maximum configuration)	195 lbs (88 kg)

System Environmental Specifications

Table A-2 lists the environmental specifications for the system.

Table A-2 Environmental Specifications

Description	Specification
Temperature, operating	5°C to 35°C (41°F to 95°F)
Temperature, nonoperating	-40°C to 65°C (-40°F to 149°F)
Humidity, operating	10% to 90% non-condensing
Humidity, nonoperating	5% to 93% non-condensing
Altitude, operating	0 m to 3048 m (0 ft to 10,000 ft)
Derated 1°C for each 305 m	
Altitude, nonoperating	0 m to 12,192 m (0 ft to 40,000 ft)
Acoustic noise, operating	LWAd 5.4 Bel LpAm 38 dBA

Power Specifications

The power specifications for the power supply options are listed in the following sections:

- [1050 W AC Power Supply \(UCSC-PSU1-1050W\)](#), page A-3
- [1050 W DC Power Supply \(UCSC-PSUV2-1050DC\)](#), page A-4

You can get more specific power information for your exact server configuration by using the Cisco UCS Power Calculator:

<http://ucspowercalc.cisco.com>



Note

Do not mix power supply types in the server. Both power supplies must be identical.



Note

The voltage sensor reading via PMBus for the power supplies in all UCS servers has +/- 5% tolerance.

1050 W AC Power Supply (UCSC-PSU1-1050W)

[Table A-3](#) lists the specifications for each 1050 W AC power supply (Cisco part number UCSC-PSU1-1050W).

Table A-3 1050 W Power Supply Specifications

Description	Specification
AC input voltage	Nominal range: 200–240 VAC (Range: 180–264 VAC)
AC input frequency	Nominal range: 50 to 60Hz (Range: 47–63 Hz)
Maximum AC input current	8.5 A at 200 VAC
Maximum input volt-amperes	1250 VA at 100 VAC
Maximum output power per PSU	1050 W at 200–240 VAC main power 30W at 200-240 VAC standby power
Maximum inrush current	15 A (sub-cycle duration)
Maximum hold-up time	12 ms at 770 W
Power supply output voltage	12 VDC
Power supply standby voltage	12 VDC
Efficiency rating	Climate Savers Platinum Efficiency (80Plus Platinum certified)
Form factor	RSP2
Input connector	IEC320 C14

1050 W DC Power Supply (UCSC-PSUV2-1050DC)

Table A-4 lists the specifications for each 1050 W DC power supply (Cisco part number UCSC-PSUV2-1050DC).

Table A-4 Power Supply Specifications

Description	Specification
DC input voltage range	Nominal range: -48 to -60 VDC nominal (Range: -40 to -72 VDC)
Maximum DC input current	32 A at -40 VDC
Maximum input W	1234 W
Maximum output power per PSU	1050 W on 12 VDC main power 36 W on 12 VDC standby power
Maximum inrush current	35 A (sub-cycle duration)
Maximum hold-up time	5 ms at 100% load (1050 W main and 36 W standby)
Power supply output voltage	12 VDC
Power supply standby voltage	12 VDC
Efficiency rating	≥ 92% at 50% load
Form factor	RSP2
Input connector	Fixed 3-wire block



Power Cable Specifications

This appendix provides supported power cable specifications.

Supported Power Cables and Plugs

Each power supply has a separate power cable. Standard power cables or jumper power cables are available for connection to the server. The jumper power cables, for use in racks, are available as an optional alternative to the standard power cables.



Note

Only the approved power cables or jumper power cables provided with the server are supported.

[Table B-1](#) lists the power cables for the server power supplies.

Table B-1 Supported Power Cables for the Server

Description	Length	
	Feet	Meters
CAB-250V-10A-BR Power cable, 250 VAC 10 A, Brazil	8.2	2.5
CAB-250V-10A-CN Power cable, 250 VAC 10 A, PRC	8.2	2.5
CAB-ACTW AC power cord, 250 V, 10 A, C13 plug, Taiwan	7.5	2.3
CAB-9K10A-AU N5000 power cable, 250 VAC 10 A, Australia	8.2	2.5
CAB-9K10A-EU N5000 power cable, 250 VAC 10 A, Europe	8.2	2.5
CAB-9K10A-IT N5000 power cable, 250 VAC 10 A, Italy	8.2	2.5
CAB-9K10A-SW N5000 power cable, 250 VAC 10 A, Switzerland	8.2	2.5

Table B-1 Supported Power Cables for the Server (continued)

Description	Length	
	Feet	Meters
CAB-9K10A-TWN N5000 power cable, 125 VAC, 15A, Taiwan	8.2	2.5
CAB-9K10A-UK N5000 power cable, 250 VAC 10 A, United Kingdom	8.2	2.5
CAB-9K12A-NA N5000 power cable, 125 VAC, 15 A, NEMA 5-15 plug, North America	8.2	2.5
CAB-AC-L620-C13 Power cable, NEMA L6-20-C13 connector	6.6	2.0
CAB-C13-C14-2M Cabinet jumper power cable, 250 VAC 10 A, C13-C14 connectors	6.6	2.0
CAB-C13-C14-AC Cabinet jumper power cable, 250 VAC 10 A, C13-C14 connectors, recessed receptacle	9.8	3.0
CAB-C13-CBN Cabinet jumper power cable, 250 VAC 10 A, C13-C14 Connectors	2.2	0.68
CAB-C19-C20-3M-JP Power cable, C19-C20 connectors, Japan PSE mark	9.8	3.0
CAB-JPN-3PIN Power cable, 90-125 VAC, 12 A, NEMA 5-15, Japan	7.9	2.4
CAB-N5K6A-NA N5000 power cable, 250 VAC 6 A, North America	8.2	2.5
CAB-250V-10A-AR N5000 power cable, 250 VAC 10 A, Argentina	8.2	2.5
CAB-250V-10A-CN N5000 power cable, 250 VAC 10 A, China	8.2	2.5
CAB-250V-10A-ID N5000 power cable, 250 VAC 10A, India	8.2	2.5
CAB-250V-10A-IS N5000 power cable, 250 VAC 10 A, Israel	8.2	2.5



Storage Controller Considerations

For information about the storage controllers that are supported in your server node, see the service note for your server node:

- [Cisco UCS C3X60 M3 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS C3X60 M4 Server Node For Cisco UCS S3260 System Service Note](#)
- [Cisco UCS S3260 M5 Server Node For Cisco UCS S3260 System Service Note](#)



Installation for Cisco UCS Manager Integration

Cisco UCS manager integration requires Cisco UCS Manager 3.1(2) or later. You can integrate a system that has either M3 or M4 server nodes, but the system must be using Cisco IMC 2.0(13) or later firmware.

The Cisco UCS integration instructions are in the GUI and CLI integration guides found here:

[Cisco UCS S3260 Server Integration with UCS Manager Guides](#)

Refer to the guide that is for the version of Cisco UCS Manager that you are using.

Upgrading to Cisco UCS S3260 System With S3260 M5 Server Nodes



Note

Migration to M5 server nodes is supported only from M4 server nodes. Older migration procedures from M3 server nodes to M4 server nodes are also included in this appendix.

- [Differences Between Cisco UCS C3160 and S3260 Systems, page E-2](#)
- [Upgrading From S3260 With One M4 Server Node to S3260 With One M5 Server Node, page E-3](#)
- [Upgrading From S3260 With Two M4 Server Nodes to S3260 With Two M5 Server Nodes, page E-7](#)
- [Installing a Second Server Node or SIOC to the S3260 System With M5 Server Node, page E-11](#)

- [Migrating From Version 02 SIOC to Version 03 SIOC, page E-14](#)

- [Older Migration and Upgrade Procedures, page E-18](#)

Differences Between Cisco UCS C3160 and S3260 Systems

Table E-1 lists the differences between Cisco UCS C3160 and Cisco UCS S3260 systems.

Table E-1 Differences Between Cisco UCS C3160 and Cisco UCS S3260 Systems

System	Cisco IMC Min.	UCS Manager Min.	UCSM-Managed or Standalone	Supported SIOC	Number of Server Nodes Supported	Rear-Panel SSD Drives Supported	I/O Expander Module Support	Storage Controller Card Support
C3160 with M3 server node	2.0(3)	NA	Standalone only	UCSC-C3160-SIOC Removable adapter card	One M3 server node (Intel Xeon v2-based)	2	No	One in server node: <ul style="list-style-type: none"> UCSC-C3X60-R1GB UCSC-C3X60-R4GB UCSC-C3X60-HBA
C3260 with M3 server nodes	2.0(7)	3.1(2)	Standalone or UCSM mode	UCSC-S3260-SIOC Integrated VIC 1300 Series chip	One or two M3 server nodes (Intel Xeon v2-based)	4	No	One in each server node: <ul style="list-style-type: none"> UCSC-C3X60-R1GB UCSC-C3X60-R4GB UCSC-C3X60-HBA
S3260 with M4 server nodes	2.0(13)	3.1(2)	Standalone or UCSM mode	UCSC-S3260-SIOC Integrated VIC 1300 Series chip	One or two M4 server nodes (Intel Xeon v4-based)	4	Yes	Rules for server node and I/O expander: <ul style="list-style-type: none"> UCS-C3K-M4RAID UCS-S3260-DHBA If server node has DHBA, then no controller in I/O. If server node has M4RAID, then I/O can have M4RAID (not DHBA). If server node has no controller, I/O can have DHBA or M4RAID.
S3260 with M5 server nodes	3.1(3)	3.2(3)	Standalone or UCSM mode	<ul style="list-style-type: none"> UCSC-S3260-SIOC Integrated VIC 1300 Series chip UCS-S3260-PCISIOC Removable adapter card Note: This SIOC requires Cisco IMC & UCS Manager 4.0(1n) or later.	One or two M5 server nodes (Intel Xeon Scalable Processor Family v1-based)	4	Yes	One in server node only (not in I/O expander): <ul style="list-style-type: none"> UCS-S3260-DHBA UCS-S3260-DRAID



Note

Migration of S3260 to C3160 is not supported. After you migrate a C3160 to a S3260, you cannot reverse the migration back to C3160.

Upgrading From S3260 With One M4 Server Node to S3260 With One M5 Server Node

This procedure upgrades a Cisco UCS S3260 system that is using one C3X60 M4 server node to a Cisco UCS S3260 system that uses one S3260 M5 server node.



Note

The OS and data on any NVMe SSDs in the M4 server node will be lost during the upgrade to M5 server node. The M4 and M5 server nodes have different form factor NVMe SSDs.

Items Required For This Upgrade

Hardware

- A Cisco UCS S3260 system with one M4 server node and one SIOC. All chassis and server node components must be running Cisco IMC 3.0(3e) firmware before you begin the upgrade.



Note

Migration to S3260 with M5 server nodes is supported only with chassis part-number versions 68-5286-06 and later. The motherboard in these chassis versions supports all M5 system components.

- New M5 server node running Cisco IMC 3.1(3x) or later firmware (the factory default).

Software

- Up to five IP addresses, either configured in your DHCP server or manually entered for static IP addresses. See [System IP Addresses, page 2-14](#) for more information.
- The latest Host Upgrade Utility package for Cisco IMC 3.0(3e) firmware. This is used to update the entire Cisco S3260 system with M4 node to the prerequisite firmware.
- The Host Upgrade Utility package for Cisco IMC 3.1(3x) or later firmware. This is used to upgrade the system to M5 server node requirements.

For instructions on downloading and using the utility, see the instructions in the guide for your release: [HUU Guides](#)

Upgrade Considerations

Note the following considerations:

- After the upgrade, you must manually define drive zoning to map the hard drives to the individual server node.
- After the upgrade, your boot SSDs might lose their operating system. In this case, reinstall your operating system to the boot SSDs.
- The OS and data on any NVMe SSDs in the M4 server node will be lost during the upgrade to M5 server node. The M4 and M5 server nodes have different form factor NVMe SSDs.

Upgrade Procedure

Procedure Summary

1. Ensure that the entire S3260 system with M4 server node is running 3.0(3e).
2. Disconnect all power cords to remove power from the system.
3. Replace the M4 server node with an M5 server node.
4. Reconnect cables and power cords.
5. Upgrade the entire S3260 system with M5 server node to 3.1(3x).
6. Boot the system and set CMC and BMC to factory defaults.
7. Configure IP addresses and network settings.
8. Perform drive zoning for hard drives.

Upgrading an S3260 System With M4 Server Node to S3260 with M5 Server Node



Caution

You must upgrade your system firmware to the required minimum level *before* you upgrade to M5 server nodes. Older firmware versions cannot recognize the new CPUs and this results in a non-bootable server.



Note

Make sure that Server SIOC Connectivity is set to *Single Server Single SIOC* in the Cisco IMC before starting this procedure.

-
- Step 1** Ensure that the entire Cisco S3260 system with M4 server node is running Cisco IMC 3.0(3e) firmware before you begin the upgrade.
- If the system is running an earlier version, download and run the S3260 Host Upgrade Utility (HUU) for release 3.0(3e): [HUU Guides](#)
- Step 2** Shut down and remove power from the entire system. You must disconnect all power cords to completely remove power.
- Step 3** Remove the existing M4 server node and replace it with a new M5 server node in either server bay.
- If your M5 server node has an I/O expander attached to its top, install it attached to the server node.
- See [Replacing a Server Node, page 3-26](#) for instructions.
- Step 4** If your system has only one SIOC, ensure that it is in the correct SIOC bay to communicate with the M5 server node that you just installed:
- If your single server node is in upper server bay 1, a SIOC must be installed in SIOC bay 1.
 - If your single server node is in lower server bay 2, a SIOC must be installed in SIOC bay 2.
- Step 5** If your system has rear panel SSDs, ensure that they are in the correct SSD bays to communicate with the M5 server node that you just installed:
- If your single server node is in server bay 1, only Server 1 bays SSD1 and SSD2 can be used.
 - If your single server node is in server bay 2, only Server 2 bays SSD1 and SSD2 can be used.

Step 6 Reconnect power cables to the system. Wait for approximately five minutes to allow the system to boot up.

Step 7 Use the S3260 HUU for 3.1(3x) to upgrade the entire system to Cisco IMC release 3.1(3x).



Note Use the from the S3260 downloads page, not the C3160 downloads page.

Step 8 Verify that all components were upgraded to Cisco IMC 3.1(3x).

Check the firmware versions for the CMC, BMC, BIOS, SAS expander, and SIOC adapter.

Step 9 Connect a KVM cable (Cisco PID N20-BKVM) to the KVM connector on the server node at the rear of the system. Connect a USB keyboard and a VGA monitor to the KVM cable.

Step 10 Open the Cisco IMC Configuration Utility:

- a. Press and hold the front panel power button for four seconds to boot the system. Watch the screen for the prompt to press F8.
- b. During bootup, press **F8** when prompted to open the Cisco IMC Configuration Utility.
This utility has three windows that you can toggle between by pressing F1 or F2.

Step 11 The utility prompts you to change the default user password. Set a default user password before continuing.

The following are the requirements for Strong Password:

- The password can have minimum 8 characters; maximum 14 characters.
- The password must not contain the user's name.
- The password must contain characters from three of the following four categories:
 - English uppercase letters (A through Z).
 - English lowercase letters (a through z).
 - Base 10 digits (0 through 9).
 - Non-alphabetic characters !, @, #, \$, %, ^, &, *, -, _, =, “

Step 12 Set the CMCs in all SIOCs and the BMCs in all server nodes to the factory defaults.

The **Factory Default** check box has two options but you must perform two resets in this order:

- a. Select **Chassis Controller Configuration** and save your changes. Both CMCs in the SIOCs are set to the factory default state.
- b. Select **Server Controller Configuration** and save your changes. The server node is set back to its factory default state and the server/host reboots.



Note The BMC reboots after resetting to defaults. Watch for the prompt to press F8 when the server reboots in the next step.

Step 13 When prompted, press **F8** to enter the Cisco IMC Configuration Utility again.

Step 14 Configure the management, CMC, and BMC IP addresses for the system.



Note If you use a DHCP server and you already have QSFP cables attached to the SIOC, the management IP address and network settings are already filled in. If you disable DHCP, you must set your own static management IP address and network settings.

Step 15 **This step only for setting static IPs (DHCP disabled)**—Set the CMC and BMC internal IP addresses by using the Cisco IMC interface, as described in [Setting Static CMC and BMC Internal IP Addresses, page 2-18](#).

Step 16 Use the Cisco IMC (GUI or CLI) to define hard drive zoning, which maps the hard drives to individual server nodes:

- Using the Cisco IMC GUI:
 - a. Use the IP address of the CMC in either SIOC to log in to the Cisco IMC management software.
 - b. Navigate to the following tab:
Chassis > Inventory > Dynamic Storage > Zoning
 - c. Select the drives and then assign them to Server1 or Server2.

- Using the Cisco IMC CLI, enter the following commands with your choices:

```
Server# scope chassis
Server /chassis# scope dynamic-storage
Server /chassis/dynamic-storage# assign-drive <server ID> <drive-slotid-list>
```

For example:

```
Server# scope chassis
Server /chassis # scope dynamic-storage
svbu-huu-sanity-col2-1-vcmc /chassis/dynamic-storage # assign-drive server2 27
Are you sure you want to assign drives 27 to server2
Enter 'yes' to confirm -> yes
assign-drive operation successful.
```

Step 17 If you want to add a second server node or SIOC to the system, continue with [Installing a Second Server Node or SIOC to the S3260 System With M5 Server Node, page E-11](#).

Upgrading From S3260 With Two M4 Server Nodes to S3260 With Two M5 Server Nodes

This procedure upgrades a Cisco UCS S3260 system that is using two C3X60 M4 server nodes to a Cisco UCS S3260 system that uses two S3260 M5 server nodes.



Note

The OS and data on any NVMe SSDs in the M4 server node will be lost during the upgrade to M5 server node. The M4 and M5 server nodes have different form factor NVMe SSDs.

Items Required For This Upgrade

Hardware

- A Cisco UCS S3260 system with two M4 server nodes. All chassis and server node components must be running Cisco IMC 3.0(3e) firmware before you begin the upgrade.



Note

Migration to S3260 with M5 server nodes is supported only with chassis part-number versions 68-5286-06 and later. The motherboard in these chassis versions supports all M5 system components.

- New M5 server nodes running Cisco IMC 3.1(3x) or later firmware (the factory default).

Software

- Up to five IP addresses, either configured in your DHCP server or manually entered for static IP addresses. See [System IP Addresses, page 2-14](#) for more information.
- The latest Host Upgrade Utility package for Cisco IMC 3.0(3e) firmware. This is used to update the entire Cisco S3260 system with M4 nodes to the prerequisite firmware.
- The Host Upgrade Utility package for Cisco IMC 3.1(3x) or later firmware. This is used to upgrade the system to M5 server node requirements.

For instructions on downloading and using the utility, see the instructions in the guide for your release: [HUU Guides](#)

Upgrade Considerations

Note the following considerations:

- After the upgrade, you must manually define drive zoning to map the hard drives to individual server nodes.
- After the upgrade, your boot SSDs might lose their operating system. In this case, reinstall your operating system to the boot SSDs.
- The OS and data on any NVMe SSDs in the M4 server node will be lost during the upgrade to M5 server node. The M4 and M5 server nodes have different form factor NVMe SSDs.

Upgrade Procedure

Procedure Summary

1. Ensure that the entire S3260 system with M4 server node is running 3.0(3e).
2. Disconnect all power cords to remove power from the system.
3. Replace the M4 server node with an M5 server node.
4. Reconnect cables and power cords.
5. Upgrade the entire S3260 system with M5 server node to 3.1(3x).
6. Boot the system and set CMC and BMC to factory defaults.
7. Configure IP addresses and network settings.
8. Perform drive zoning for hard drives.

Upgrading a S3260 System With Two M4 Server Nodes to S3260 with Two M5 Server Nodes



Caution

You must upgrade your system firmware to the required minimum level *before* you upgrade to M5 server nodes. Older firmware versions cannot recognize the new CPUs and this results in a non-bootable server.

-
- Step 1** Ensure that the entire Cisco S3260 system with M4 server nodes is running Cisco IMC 3.0(3e) firmware before you begin the upgrade.
- If the system is running an earlier version, download and run the S3260 Host Upgrade Utility (HUU) for release 3.0(3e): [HUU Guides](#)
- Step 2** Shut down and remove power from the entire system. You must disconnect all power cords to completely remove power.
- Step 3** Remove the existing M4 server nodes and replace them with new M5 server nodes.
- See [Replacing a Server Node, page 3-26](#) for instructions.
- Step 4** Reconnect power cables to the system. Wait for approximately five minutes to let the server nodes boot to standby power during the first bootup.
- Step 5** Use the S3260 HUU for 3.1(3x) to upgrade the entire system to Cisco IMC release 3.1(3x).
- Boot HUU on server node 1 to upgrade the firmware for the SIOC 1 adapter; boot HUU on server node 2 to upgrade the firmware in SIOC 2.



Note

To upgrade firmware on a SIOC adapter, you must boot HUU on the server node that controls that SIOC. Boot HUU on server node 1 to upgrade the firmware for the SIOC 1 adapter; boot HUU on server node 2 to upgrade the firmware in SIOC 2.



Note

Use the HUU from the S3260 downloads page, not the C3160 downloads page.

- Step 6** Verify that all components were upgraded to Cisco IMC 3.1(3x).
- Check the firmware versions for the CMC, BMC, BIOS, SAS expander, and both SIOC adapters.
- Step 7** Connect a KVM cable (Cisco PID N20-BKVM) to the KVM connector on either server node at the rear of the system. Connect a USB keyboard and a VGA monitor to the KVM cable.

- Step 8** Open the Cisco IMC Configuration Utility:
- Press and hold the front panel power button for four seconds to boot the system. Watch the screen for the prompt to press F8.
 - During bootup, press **F8** when prompted to open the Cisco IMC Configuration Utility.
This utility has three windows that you can toggle between by pressing F1 or F2.
- Step 9** The utility prompts you to change the default user password. Set a default user password before continuing.
- Step 10** Set the CMCs in all SIOCs and the BMCs in all server nodes to the factory defaults.
The **Factory Default** check box has two options but you must perform two resets in this order:
- Select **Chassis Controller Configuration** and save your changes. Both CMCs in the SIOCs are set to the factory default state.
 - Select **Server Controller Configuration** and save your changes. The server node is set back to its factory default state and the server/host reboots.



Note The BMC reboots after resetting to defaults. Watch for the prompt to press F8 when the server reboots in the next step.



Note Set the BMC in the second server node to factory defaults also.

- Step 11** When prompted, press **F8** to enter the Cisco IMC Configuration Utility again.
- Step 12** Set a new Cisco IMC password when prompted.
- Step 13** Configure the management, CMC, and BMC IP addresses for the system.



Note If you use a DHCP server and you already have QSFP cables attached to the SIOCs, the management IP address and network settings are already filled in. If you disable DHCP, you must set your own static management IP address and network settings.

- Step 14** **This step only for setting static IPs (DHCP disabled)**—Set the CMC and BMC internal IP addresses by using the Cisco IMC interface, as described in [Setting Static CMC and BMC Internal IP Addresses, page 2-18](#).
- Step 15** Use the Cisco IMC (GUI or CLI) to define hard drive zoning, which maps the hard drives to individual server nodes. Use either the Cisco IMC GUI or the Cisco IMC CLI:
- Using the Cisco IMC GUI:
 - Use the management IP address of the system to log in to the Cisco IMC management software.
 - Navigate to the following tab:
Chassis > Inventory > Dynamic Storage > Zoning
 - Select the drives and then assign them to Server1 or Server2.
 - Using the Cisco IMC CLI, enter the following commands with your choices:

```
Server# scope chassis
Server /chassis# scope dynamic-storage
Server /chassis/dynamic-storage# assign-drive <server ID> <drive-slotid-list>
```

For example:

```
Server# scope chassis
Server /chassis # scope dynamic-storage
svbu-huu-sanity-col2-1-vcmc /chassis/dynamic-storage # assign-drive server2 27
Are you sure you want to assign drives 27 to server2
Enter 'yes' to confirm -> yes
assign-drive operation successful.
```

Installing a Second Server Node or SIOC to the S3260 System With M5 Server Node

- [Installing a Second SIOC, page E-29](#)
- [Installing a Second M4 Server Node, page E-29](#)

Installing a Second SIOC

It is important that the CMC firmware in the new S3260 SIOC is the same version as the CMC firmware in the existing SIOC. If the CMC versions are different, you must upgrade them to match.

**Note**

When the second SIOC is inserted, its chassis management controller (CMC) becomes the standby CMC. If you move a S3260 SIOC from one chassis to another, the SIOC's CMC configuration is treated as incompatible and is automatically deleted. The new SIOC CMC will sync with the active CMC in the existing SIOC.

- Step 1** A second S3260 SIOC can be installed without removing system power:
- a. Push the SIOC into the empty SIOC bay until it stops against the internal backplane.
 - b. Close the two ejector levers on the SIOC to fully engage the SIOC connector with the midplane connector.
 - c. Tighten the thumbscrew on the SIOC ejector levers.

- Step 2** Attach QSFP cabled to the QSFP ports on the second SIOC.

**Note**

If you are using the *Dedicated* NIC mode, connect an RJ-45 Ethernet cable to the dedicated management port.

- Step 3** Assign a CMC IP address to the new SIOC:
- If the S3260 system has been configured to use your DHCP server, allow it to assign the CMC IP address to the new SIOC.
 - If you are not using a DHCP server, use the Cisco IMC interface (CLI or GUI) to manually assign a CMC IP address for the new SIOC, as described in [Setting Up the System Using the Cisco IMC Configuration Utility, page 2-16](#).
- Step 4** Verify that the CMC and adapter firmware in the SIOC matches the firmware in the other SIOC. If they do not match, update the firmware in the SIOCs.

Installing a Second M4 Server Node

Items Required For This Procedure

- An M5 server node running Cisco IMC 3.1(3x) or later firmware.

Procedure

-
- Step 1** Verify that the target S3260 system is running Cisco IMC 3.1(3x) or later firmware.
- Step 2** A second server node can be installed without removing system power:
- If you have a drive expander module or I/O expander in the system, remove it from the system.
 - To remove a drive expander module, see [Replacing a Disk Expansion Tray, page 3-27](#).
 - To remove an I/O expander, you must remove the server node and then detach the I/O expander from it. See [Replacing an I/O Expander \(C3X60 M4 or S3260 M5 Server Nodes Only\), page 3-37](#).
 - With the two ejector levers open, align the new server node with the empty bay.
 - Push the server node into the bay until it engages with the midplane connectors and is flush with the chassis surface.
 - Rotate both ejector levers toward the center until they lay flat and their latches lock into the rear of the server node.
- Step 3** Verify that the server node is manageable from the S3260 Cisco IMC CLI or GUI. If the new server is not displayed in the CLI or GUI, then you must reset the server to factory defaults.

For example using the CLI:

```
S3260-Server# scope chassis
S3260-Server /chassis# show server
<Server ID> <Power state> <Serial number> <Product name> <PID> <UUID>
-----
1 on FCH1848793G UCS S3260 UCSC-C3K-M4SRB 36399C1B-6E9A-4E95-BEAC-B9003DCA6C7F
2 on FCH18407MY2 UCS S3260 UCSC-C3K-M4SRB C00E5CEO-A596-45E0-82CD-0B2F0A395FAC
```

- If the server is displayed in the CLI or GUI, go to the next step.
 - If the server is not displayed, set it to factory defaults as described in the following steps:
 - Use a KVM cable to attach a monitor and keyboard to the KVM connector on the rear of the server that you just inserted.
 - Boot the server node and when prompted, press **F8** to enter the Cisco IMC Configuration Utility.
 - Press **F1** to go to the second screen of the utility.
 - Select the **Factory Default** option for **Server Controller Configuration**. The selected server node is set back to its factory default state and the selected server/host reboots.
 - Press **F10** to save changes to reboot the server's BMC.
 - Wait for the reboot to complete (approximately five minutes).
- Step 4** Assign a BMC IP address to the new server node:
- If the S3260 system has been configured to use your DHCP server, allow it to assign the BMC IP address to the new server node then go to the next step.

- If you are not using a DHCP server, use the Cisco IMC interface (CLI or GUI) to manually assign a BMC IP address for the new server node.

For example using the CLI:

```
S3260-Server# scope network
S3260-Server /cimc/network# set v4-addr-bmc<n> <v4 ip-address>
S3260-Server /cimc/network# set v6-addr-bmc<n> <v6 ip-address>
```

For more information see *Cisco UCS C-Series Integrated Management Controller GUI Configuration Guide for S3260 Servers* or the *Cisco UCS C-Series Integrated Management Controller CLI Configuration Guide for S3260 Servers* here: [Configuration Guides](#).

The second M5 server node is now ready for use in the S3260 system.

Migrating From Version 02 SIOC to Version 03 SIOC

This procedure describes how to migrate from SIOC Version 02 (UCS-S3260-SIOC) to SIOC Version 03 (UCS-S3260-PCISIOC).

- The version 02 SIOC (UCSC-S3260-SIOC) uses an integrated Cisco UCS VIC 1300 Series chip on-board, so there is no removable adapter card. There are no storage drives in the SIOC.
- The Version 03 SIOC (UCS-S3260-PCISIOC) uses a removable PCIe-style adapter card (half-height, half-length, Gen-3, x8 lane). It also supports up to two 2.5-inch NVMe SSDs and an RTC battery.



Note The Version 03 SIOC is supported only with the S3260 M5 server node. It is not supported with earlier server nodes.



Note Do not mix Version 02 SIOCs with Version 03 SIOCs in the same system.



Note If your system has two Version 03 SIOCs, they must have identical adapter cards. Do not mix adapter cards between Version 03 SIOCs in a chassis.




Note Version 03 SIOCs require Cisco IMC 4.0(1n) or later and Cisco UCS Manager 4.0(1n) or later. The upgrade process is described in the following procedure.

Procedure Summary

1. Ensure that the entire S3260 system with Version 02 SIOCs (and M5 server nodes) is running 3.1(3a).
2. Disconnect all power cords to remove power from the system.
3. Replace the Version 02 SIOCs with Version 03 SIOCs.
4. Reconnect cables and power cords.
5. Upgrade the entire S3260 system with M5 server nodes to 4.0(1x).
6. Boot the system and set CMC and BMC to factory defaults.
7. Configure IP addresses and network settings.
8. Perform drive zoning for hard drives.

Full Procedure

-
- Step 1** Ensure that the entire Cisco S3260 system with M5 server node is running Cisco IMC 3.1(3a) firmware before you begin the upgrade.
- If the system is running an earlier version, download and run the S3260 Host Upgrade Utility (HUU) for release 3.1(3a): [HUU Guides](#)
- Step 2** Shut down and remove power from the entire system. You must disconnect all power cords to completely remove power.

- Step 3** Remove the Version 02 SIOC(s) and install the Version 03 SIOC(s). See [Replacing a System I/O Controller \(SIOC\)](#), page 3-28.
- If your system has only one server node, ensure that the SIOC is in the correct SIOC bay to communicate with the server node:
- If your single server node is in upper server bay 1, a SIOC must be installed in SIOC bay 1.
 - If your single server node is in lower server bay 2, a SIOC must be installed in SIOC bay 2.
- Step 4** Reconnect power cables to the system. Wait for approximately five minutes to allow the system to boot.
- Step 5** Use the S3260 HUU for 4.0(1x) to upgrade the entire system to Cisco IMC release 4.0(1x).
- Step 6** Verify that all components were upgraded to Cisco IMC 4.0(1x).
- Check the firmware versions for the CMC, BMC, BIOS, SAS expander, and SIOC adapter.
- Step 7** Connect a KVM cable (Cisco PID N20-BKVM) to the KVM connector on the server node at the rear of the system. Connect a USB keyboard and a VGA monitor to the KVM cable.
- Step 8** Open the Cisco IMC Configuration Utility:
- a. Press and hold the front panel power button for four seconds to boot the system. Watch the screen for the prompt to press F8.
 - b. During bootup, press **F8** when prompted to open the Cisco IMC Configuration Utility.
- This utility has three windows that you can toggle between by pressing F1 or F2.
- Step 9** The utility prompts you to change the default user password. Set a default user password before continuing.
- The following are the requirements for Strong Password:
- The password can have minimum 8 characters; maximum 14 characters.
 - The password must not contain the user's name.
 - The password must contain characters from three of the following four categories:
 - English uppercase letters (A through Z).
 - English lowercase letters (a through z).
 - Base 10 digits (0 through 9).
 - Non-alphabetic characters !, @, #, \$, %, ^, &, *, -, _, =, “
- Step 10** Set the CMCs in all SIOCs and the BMCs in all server nodes to the factory defaults.
- The **Factory Default** check box has two options but you must perform two resets in this order:
- a. Select **Chassis Controller Configuration** and save your changes. Both CMCs in the SIOCs are set to the factory default state.
 - b. Select **Server Controller Configuration** and save your changes. The server node is set back to its factory default state and the server/host reboots.
-  **Note** The BMC reboots after resetting to defaults. Watch for the prompt to press F8 when the server reboots in the next step.
- Step 11** When prompted, press **F8** to enter the Cisco IMC Configuration Utility again.

Step 12 Configure the management, CMC, and BMC IP addresses for the system.



Note If you use a DHCP server and you already have QSFP cables attached to the SIOC, the management IP address and network settings are already filled in. If you disable DHCP, you must set your own static management IP address and network settings.

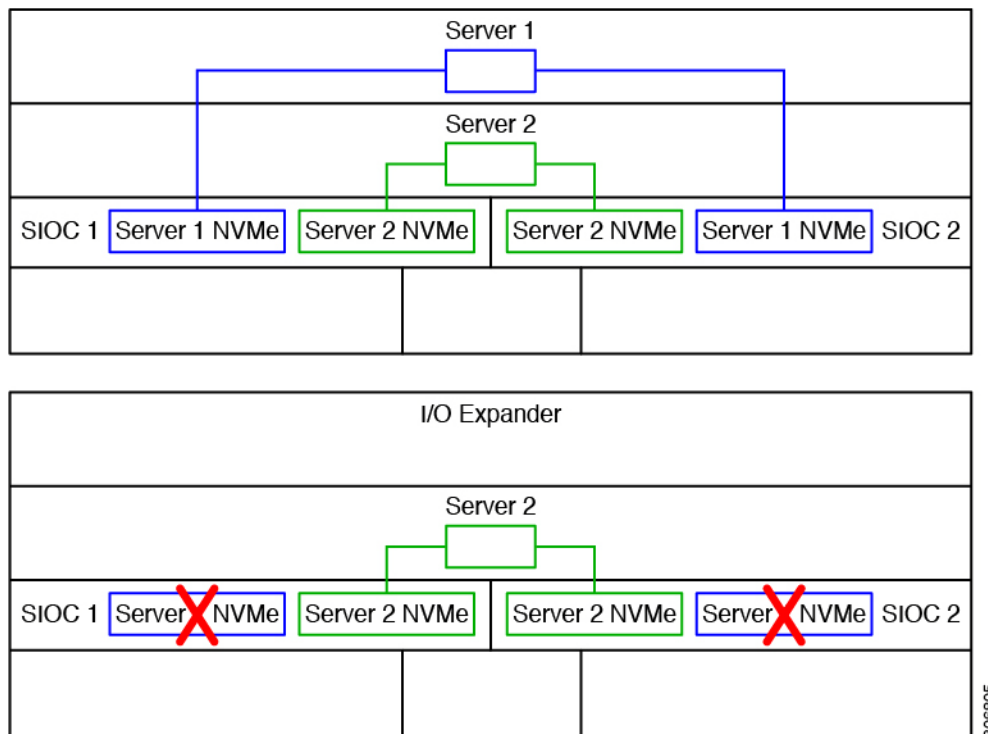
Step 13 **This step only for setting static IPs (DHCP disabled)**—Set the CMC and BMC internal IP addresses by using the Cisco IMC interface, as described in [Setting Static CMC and BMC Internal IP Addresses](#), page 2-18.

Step 14 Use the Cisco IMC (GUI or CLI) to define drive zoning, which maps the NVMe SSD drives in the Version 03 SIOC(s) to individual server nodes:



Note An NVMe SSD in the SIOC slot that is labeled *SERVER 1 NVME* is supported only by a server node in upper server bay 1. An NVMe SSD in the SIOC slot that is labeled *SERVER 2 NVME* is supported only by a server node in lower server bay 2. [Figure E-1](#) shows examples of the connectivity. In the lower view, the system has an I/O expander populated in server bay 1 and so the *SERVER 1 NVME* slots cannot be used.

Figure E-1 NVMe SSD Connectivity in Version 03 SIOC (UCS-S3260-PCISIOC)



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- Using the Cisco IMC GUI:
 - a. Use the IP address of the CMC in either SIOC to log in to the Cisco IMC management software.
 - b. Navigate to the following tab:
Chassis > Inventory > Dynamic Storage > Zoning
 - c. Select the drives and then assign them to Server1 or Server2.

- Using the Cisco IMC CLI, enter the following commands with your choices:

```
Server# scope chassis
Server /chassis# scope dynamic-storage
Server /chassis/dynamic-storage# assign-drive <server ID> <drive-slotid-list>
```

For example:

```
Server# scope chassis
Server /chassis # scope dynamic-storage
svbu-huu-sanity-col2-1-vcmc /chassis/dynamic-storage # assign-drive server2 2
Are you sure you want to assign drives 2 to server2
Enter 'yes' to confirm -> yes
assign-drive operation successful.
```

Older Migration and Upgrade Procedures

The procedures in this section are for migrating from M3 server nodes to M4 server nodes.

- [Upgrading a S3260 System With M3 Server Node to S3260 with M4 Server Node, page E-19](#)
- [Upgrading a S3260 System With Two M3 Server Nodes to S3260 with Two M4 Server Nodes, page E-23](#)
- [Migrating From C3160 With One M3 Server Node to S3260 With One M4 Server Node, page E-27](#)

Upgrading From S3260 With One M3 Server Node to S3260 With One M4 Server Node

This procedure upgrades a Cisco UCS S3260 system that is using one C3X60 M3 server node to a Cisco UCS S3260 system that uses one C3X60 M4 server node.

Items Required For This Upgrade

Hardware

- A Cisco UCS S3260 system with one M3 server node and one SIOC. All chassis and server node components must be running Cisco IMC 2.0(7) or 2.0(9) firmware before you begin the upgrade.



Note Migration to S3260 with M4 server nodes is supported only with chassis part-number versions 68-5286-06 and later. The motherboard in these chassis versions supports all M4 system components.

- New M4 server node running Cisco IMC 2.0(13) or later firmware (the factory default).

Software

- Up to five IP addresses, either configured in your DHCP server or manually entered for static IP addresses. See [System IP Addresses, page 2-14](#) for more information.
- The latest Host Upgrade Utility package for Cisco IMC 2.0(7) or 2.0(9) firmware. This is used to update the entire Cisco S3260 system with M3 nodes to the prerequisite firmware.
- The Host Upgrade Utility package for Cisco IMC 2.0(13) or later firmware. This is used to upgrade the system to M4 server node requirements.

For instructions on downloading and using the utility, see the instructions in the guide for your release: [HUU Guides](#)

Upgrade Considerations

Note the following considerations:

- After the upgrade, you must manually define drive zoning to map the hard drives to the individual server node.
- After the upgrade, your boot SSDs might lose their operating system. In this case, reinstall your operating system to the boot SSDs.

Upgrade Procedure

Procedure Summary

1. Ensure that the entire S3260 system with M3 server node is running 2.0(7) or 2.0(9).
2. Upgrade the entire S3260 system with M3 server node to 2.0(13).
3. Disconnect all power cords to remove power from the system.
4. Replace the M3 server node with an M4 server node.
5. Reconnect cables and power cords.
6. Boot the system and set CMC and BMC to factory defaults.
7. Configure IP addresses and network settings.
8. Perform drive zoning for hard drives.

Upgrading a S3260 System With M3 Server Node to S3260 with M4 Server Node

**Caution**

You must upgrade your system firmware to the required minimum level *before* you upgrade to M4 server nodes. Older firmware versions cannot recognize the new CPUs and this results in a non-bootable server.

- Step 1** Ensure that the entire Cisco S3260 system with M3 server node is running Cisco IMC 2.0(7) or 2.0(9) firmware before you begin the upgrade.

If the system is running an earlier version, download and run the S3260 Host Upgrade Utility (HUU) for release 2.0(7) or 2.0(9). Use the Host Upgrade Utility User Guide for release 2.0(7) or 2.0(9) for instructions on downloading and using the utility: [HUU Guides](#)

- Step 2** Use the S3260 HUU for 2.0(13) to upgrade the entire system to Cisco IMC release 2.0(13).

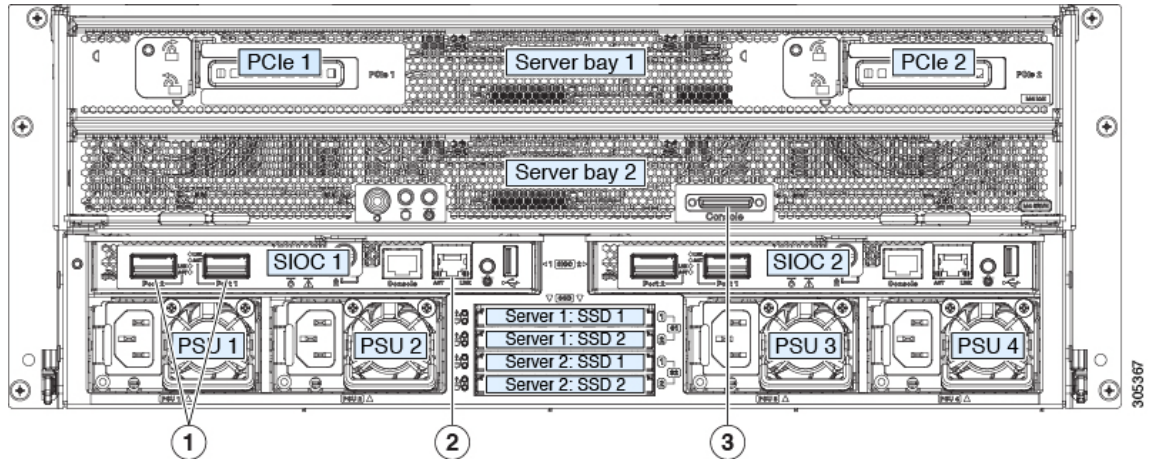


Note Use the 2.0(13) HUU from the S3260 downloads page, not the C3160 downloads page.

- Step 3** Verify that all components were upgraded to Cisco IMC 2.0(13).
Check the firmware versions for the CMC, BMC, BIOS, SAS expander, and SIOC adapter.
- Step 4** Shut down and remove power from the entire system. You must disconnect all power cords to completely remove power.
- Step 5** Remove the existing M3 server node and replace it with a new M4 server node in either server bay.
If your M4 server node has an I/O expander attached to its top, install them together with the server node in server bay 2.
See [Replacing a Server Node, page 3-26](#) for instructions.
- Step 6** If your system has only one SIOC, ensure that it is in the correct SIOC bay to communicate with the M4 server node that you just installed:
- If your single server node is in server bay 1 (see [Figure E-2](#)), a SIOC must be installed in SIOC bay 1.
 - If your single server node is in server bay 2, a SIOC must be installed in SIOC bay 2.

- Step 7** If your system has rear panel SSDs, ensure that they are in the correct SSD bays to communicate with the M4 server node that you just installed:
- If your single server node is in server bay 1 (see [Figure E-2](#)), only Server 1 bays SSD1 and SSD2 can be used.
 - If your single server node is in server bay 2, only Server 2 bays SSD1 and SSD2 can be used.

Figure E-2 Rear Panel Connectors for Setup



1	40-Gb QSFP ports (two on each SIOC)	3	KVM console connector on each server node
2	10/100/1000 dedicated management port		

- Step 8** Reconnect power cables to the system. Wait for approximately five minutes to allow the system to boot up.
- Step 9** Connect a KVM cable (Cisco PID N20-BKVM) to the KVM connector on the server node at the rear of the system (see [Figure E-3](#)). Connect a USB keyboard and a VGA monitor to the KVM cable.
- Step 10** Open the Cisco IMC Configuration Utility:
- Press and hold the front panel power button for four seconds to boot the system. Watch the screen for the prompt to press F8.
 - During bootup, press **F8** when prompted to open the Cisco IMC Configuration Utility.
This utility has three windows that you can toggle between by pressing F1 or F2.
- Step 11** The utility prompts you to change the default user password. Set a default user password before continuing.
- Step 12** Set the CMCs in all SIOCs and the BMCs in all server nodes to the factory defaults.
The **Factory Default** check box has two options but you must perform two resets in this order:
- Select **Chassis Controller Configuration** and save your changes. Both CMCs in the SIOCs are set to the factory default state.
 - Select **Server Controller Configuration** and save your changes. The server node is set back to its factory default state and the server/host reboots.



Note The BMC reboots after resetting to defaults. Watch for the prompt to press F8 when the server reboots in the next step.

Step 13 When prompted, press **F8** to enter the Cisco IMC Configuration Utility again.

Step 14 Set a new Cisco IMC password when prompted.

Step 15 Configure the management, CMC, and BMC IP addresses for the system.



Note If you use a DHCP server and you already have QSFP cables attached to the SIOC, the management IP address and network settings are already filled in. If you disable DHCP, you must set your own static management IP address and network settings.

Step 16 **This step only for setting static IPs (DHCP disabled)**—Set the CMC and BMC internal IP addresses by using the Cisco IMC interface, as described in [Setting Static CMC and BMC Internal IP Addresses, page 2-18](#).

Step 17 Use the Cisco IMC (GUI or CLI) to define hard drive zoning, which maps the hard drives to individual server nodes:

- Using the Cisco IMC GUI:
 - a. Use the IP address of the CMC in either SIOC to log in to the Cisco IMC management software.
 - b. Navigate to the following tab:

Chassis > Inventory > Dynamic Storage > Zoning
 - c. Select the drives and then assign them to Server1 or Server2.
- Using the Cisco IMC CLI, enter the following commands with your choices:

```
Server# scope chassis
Server /chassis# scope dynamic-storage
Server /chassis/dynamic-storage# assign-drive <server ID> <drive-slotid-list>
```

For example:

```
Server# scope chassis
Server /chassis # scope dynamic-storage
svbu-huu-sanity-col2-1-vcmc /chassis/dynamic-storage # assign-drive server2 27
Are you sure you want to assign drives 27 to server2
Enter 'yes' to confirm -> yes
assign-drive operation successful.
```

Step 18 If you want to add a second server node and SIOC to the system, continue with [Installing a Second Server Node or SIOC to the S3260 System With M4 Server Nodes, page E-28](#).

Upgrading From S3260 With Two M3 Server Nodes to S3260 With Two M4 Server Nodes

This procedure upgrades a Cisco UCS S3260 system that is using two C3X60 M3 server nodes to a Cisco UCS S3260 system that uses two C3X60 M4 server nodes.

Items Required For This Upgrade

Hardware

- A Cisco UCS S3260 system with two M3 server nodes. All chassis and server node components must be running Cisco IMC 2.0(7) or 2.0(9) firmware before you begin the upgrade.



Note Migration to S3260 with M4 server nodes is supported only with chassis part-number versions 68-5286-06 and later. The motherboard in these chassis versions supports all M4 system components.

- New M4 server nodes running Cisco IMC 2.0(13) or later firmware (the factory default).

Software

- Up to five IP addresses, either configured in your DHCP server or manually entered for static IP addresses. See [System IP Addresses, page 2-14](#) for more information.
- The latest Host Upgrade Utility package for Cisco IMC 2.0(7) or 2.0(9) firmware. This is used to update the entire Cisco S3260 system with M3 nodes to the prerequisite firmware.
- The Host Upgrade Utility package for Cisco IMC 2.0(13) or later firmware. This is used to upgrade the system to M4 server node requirements.

For instructions on downloading and using the utility, see the instructions in the guide for your release: [HUU Guides](#)

Upgrade Considerations

Note the following considerations:

- After the upgrade, you must manually define drive zoning to map the hard drives to individual server nodes.
- After the upgrade, your boot SSDs might lose their operating system. In this case, reinstall your operating system to the boot SSDs.

Upgrade Procedure

Procedure Summary

1. Ensure that the entire S3260 system with M3 server nodes is running 2.0(7) or 2.0(9).
2. Upgrade the entire S3260 system with M3 server nodes to 2.0(13).
3. Disconnect all power cords to remove power from the system.

4. Replace the M3 server nodes with M4 server nodes.
5. Reconnect cables and power cords.
6. Boot the system and set CMC and BMC to factory defaults.
7. Configure IP addresses and network settings.
8. Perform drive zoning for hard drives.

Upgrading a S3260 System With Two M3 Server Nodes to S3260 with Two M4 Server Nodes

**Caution**

You must upgrade your system firmware to the required minimum level *before* you upgrade to M4 server nodes. Older firmware versions cannot recognize the new CPUs and this results in a non-bootable server.

Step 1

Ensure that the entire Cisco S3260 system with M3 server nodes is running Cisco IMC 2.0(7) or 2.0(9) firmware before you begin the upgrade.

If the system is running an earlier version, download and run the S3260 Host Upgrade Utility (HUU) for release 2.0(7) or 2.0(9). Use the Host Upgrade Utility User Guide for release 2.0(7) or 2.0(9) for instructions on downloading and using the utility: [HUU Guides](#)

Step 2

Use the S3260 HUU for 2.0(13) to upgrade the entire system to Cisco IMC release 2.0(13).

Boot HUU on server node 1 to upgrade the firmware for the SIOC 1 adapter; boot HUU on server node 2 to upgrade the firmware in SIOC 2.

**Note**

To upgrade firmware on a SIOC adapter, you must boot HUU on the server node that controls that SIOC. Boot HUU on server node 1 to upgrade the firmware for the SIOC 1 adapter; boot HUU on server node 2 to upgrade the firmware in SIOC 2.

**Note**

Use the 2.0(13) HUU from the S3260 downloads page, not the C3160 downloads page.

Step 3

Verify that all components were upgraded to Cisco IMC 2.0(13).

Check the firmware versions for the CMC, BMC, BIOS, SAS expander, and both SIOC adapters.

Step 4

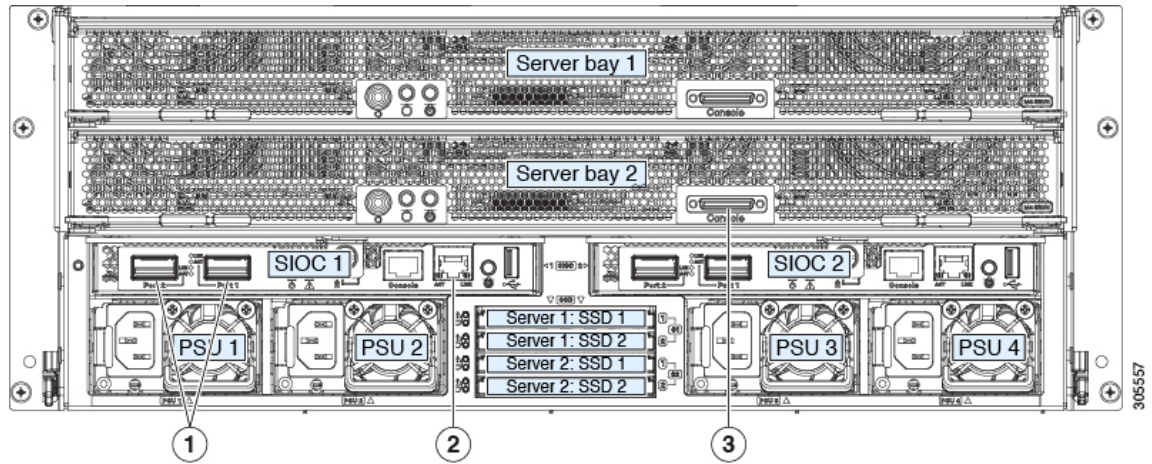
Shut down and remove power from the entire system. You must disconnect all power cords to completely remove power.

Step 5

Remove the existing M3 server nodes and replace them with new M4 server nodes.

See [Replacing a Server Node, page 3-26](#) for instructions.

Figure E-3 Rear Panel Connectors for Setup



1	40-Gb QSFP ports (two on each SIOC)	3	KVM console connector on each server node
2	10/100/1000 dedicated management port		

- Step 6** Reconnect power cables to the system. Wait for approximately five minutes to let the server nodes boot to standby power during the first bootup.
- Step 7** Connect a KVM cable (Cisco PID N20-BKVM) to the KVM connector on either server node at the rear of the system (see Figure E-3). Connect a USB keyboard and a VGA monitor to the KVM cable.
- Step 8** Open the Cisco IMC Configuration Utility:
- Press and hold the front panel power button for four seconds to boot the system. Watch the screen for the prompt to press F8.
 - During bootup, press **F8** when prompted to open the Cisco IMC Configuration Utility.
This utility has three windows that you can toggle between by pressing F1 or F2.
- Step 9** The utility prompts you to change the default user password. Set a default user password before continuing.
- Step 10** Set the CMCs in all SIOCs and the BMCs in all server nodes to the factory defaults.
The **Factory Default** check box has two options but you must perform two resets in this order:
- Select **Chassis Controller Configuration** and save your changes. Both CMCs in the SIOCs are set to the factory default state.
 - Select **Server Controller Configuration** and save your changes. The server node is set back to its factory default state and the server/host reboots.



Note The BMC reboots after resetting to defaults. Watch for the prompt to press F8 when the server reboots in the next step.



Note Set the BMC in the second server node to factory defaults also.

- Step 11** When prompted, press **F8** to enter the Cisco IMC Configuration Utility again.

- Step 12** Set a new Cisco IMC password when prompted.
- Step 13** Configure the management, CMC, and BMC IP addresses for the system.



Note If you use a DHCP server and you already have QSFP cables attached to the SIOCs, the management IP address and network settings are already filled in. If you disable DHCP, you must set your own static management IP address and network settings.

- Step 14** **This step only for setting static IPs (DHCP disabled)**—Set the CMC and BMC internal IP addresses by using the Cisco IMC interface, as described in [Setting Static CMC and BMC Internal IP Addresses, page 2-18](#).

- Step 15** Use the Cisco IMC (GUI or CLI) to define hard drive zoning, which maps the hard drives to individual server nodes. Use either the Cisco IMC GUI or the Cisco IMC CLI:

- Using the Cisco IMC GUI:
 - a. Use the management IP address of the system to log in to the Cisco IMC management software.
 - b. Navigate to the following tab:
Chassis > Inventory > Dynamic Storage > Zoning
 - c. Select the drives and then assign them to Server1 or Server2.
- Using the Cisco IMC CLI, enter the following commands with your choices:

```
Server# scope chassis
Server /chassis# scope dynamic-storage
Server /chassis/dynamic-storage# assign-drive <server ID> <drive-slotid-list>
```

For example:

```
Server# scope chassis
Server /chassis # scope dynamic-storage
svbu-huu-sanity-col2-1-vcmc /chassis/dynamic-storage # assign-drive server2 27
Are you sure you want to assign drives 27 to server2
Enter 'yes' to confirm -> yes
assign-drive operation successful.
```

Migrating From C3160 With One M3 Server Node to S3260 With One M4 Server Node

This procedure upgrades a Cisco UCS C3160 system that is using one C3X60 M3 server node to a Cisco UCS S3260 system that uses one C3X60 M4 server node.

Items Required For This Migration

Hardware

- A Cisco UCS C3160 system with one M3 server node in server bay 1 (the upper bay). The system must be running Cisco IMC 2.0(8) or 2.0(9) firmware (only) before you can begin the migration.



Note Migration to S3260 with M4 server nodes is supported only with chassis part-number versions 68-5286-06 and later. The motherboard in these chassis versions supports all M4 system components.

- A new system I/O controller (SIOC), UCSC-S3260-SIOC. This new SIOC must be running Cisco IMC 2.0.13 or later firmware (the factory-installed default).
- A new C3X60 M4 server node.

Software

- Up to five IP addresses, either configured in your DHCP server or manually entered for static IP addresses. See [System IP Addresses, page 2-14](#) for more information.
- The latest Host Upgrade Utility package for Cisco IMC 2.0(8) or 2.0(9) firmware. This is used to update the entire Cisco C3160 system to the prerequisite firmware.
- The Host Upgrade Utility package for Cisco IMC 2.0(13) or later firmware. This is used to upgrade the system to Cisco S3260 with M4 server node requirements.

For instructions on downloading and using the utility, see the instructions in the guide for your release: [HUU Guides](#)

Upgrade Considerations

Note the following considerations:

- After the upgrade, you must manually define drive zoning to map the hard drives to individual server nodes.
- After the upgrade, your boot SSDs might lose their operating system. In this case, reinstall your operating system to the boot SSDs.

Migration Procedure

Procedure Summary

1. Ensure that the entire C3160 system is running Cisco IMC 2.0(8) or 2.0(9).
2. Upgrade the entire C3160 system to 2.0(13).
3. Disconnect all power cords to remove power from the system.
4. Replace the C3160 SIOCs with S3260 SIOCs (UCSC-S3260-SIOC).
5. Replace the M3 server node with an M4 server node.
6. Reconnect network cables and power cords.
7. Boot the system and set CMC and BMC to factory defaults.
8. Configure IP addresses and network settings.
9. Perform drive zoning for hard drives.

Migrating From C3160 With One M3 Server Node to S3260 With One M4 Server Node

Step 1 The entire Cisco C3160 system must be running Cisco IMC 2.0(8) or 2.0(9) before you can begin the migration.



Note This might require upgrading your system firmware if you are running a release earlier than 2.0(8).

If the system is running an earlier version, download and run the C3160 Host Upgrade Utility (HUU) for release 2.0(8) or 2.0(9). Use the Host Upgrade Utility User Guide for release 2.0(8) or 2.0(9) or later for instructions on downloading and using the utility: [HUU Guides](#)

Step 2 Use the C3160 HUU for 2.0(13) to upgrade the entire system to Cisco IMC release 2.0(13).

Step 3 Shut down and remove power from the entire system. You must disconnect all power cords to completely remove power.

Step 4 Remove all existing C3160 SIOC's from the system.

Step 5 Install one new S3260 SIOC (UCSC-S3260-SIOC=) into SIOC bay 1 (the left bay as you face the rear of the server, as shown in [Figure E-4](#)).

Step 6 Remove the existing M3 server node and replace it with a new M4 server node in either server bay.
If your M4 server node has an I/O expander attached to its top, install them together with the server node in server bay 2.

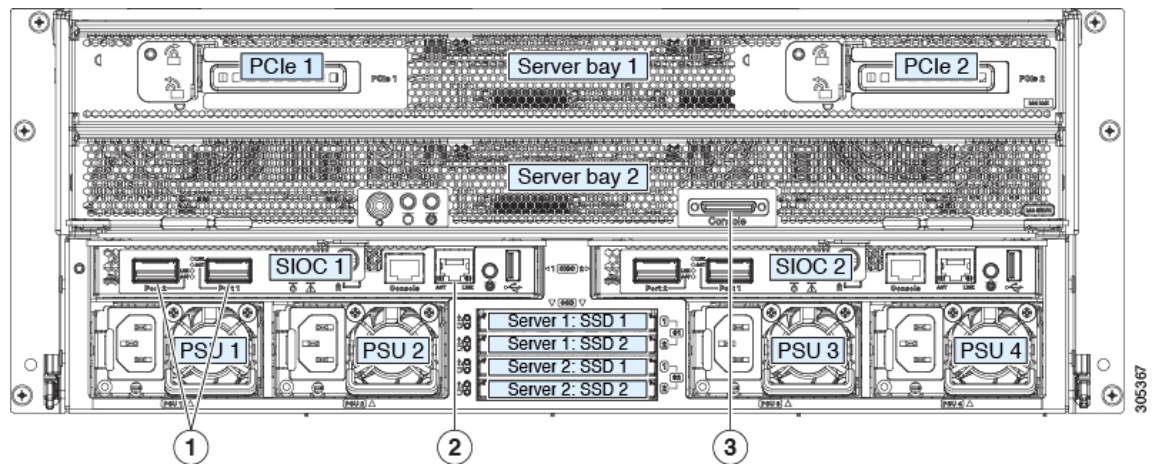
See [Replacing a Server Node, page 3-26](#) for instructions.

Step 7 Attach your networking cables to the new SIOC ports as desired.

Step 8 Connect a keyboard and monitor to the system:

- a. Connect a KVM cable (Cisco PID N20-BKVM) to the external KVM connector on the server node at the rear of the system (see [Figure E-4](#) for the connector location).
- b. Connect a VGA monitor and a USB keyboard to the connectors on the KVM cable.

Figure E-4 Rear Panel Connectors for Setup



1	40-Gb QSFP ports (two on each SIOC)	3	KVM console connector on each server node
2	10/100/1000 dedicated management port		

Step 9 Connect power cords and then power on the system. Watch for the prompt to press F8.

Step 10 When prompted, press **F8** to enter the Cisco IMC Configuration Utility.

This utility has three windows that you can toggle between by pressing F1 or F2.

Step 11 The utility prompts you to change the default user password. Set a default user password before continuing.

Step 12 Set the CMC in the SIOC and the BMC in the server node to the factory defaults.

The **Factory Default** check box has two options:

- Chassis Controller Configuration: Both CMCs in the SIOCs are set to the factory default state.
- Server Controller Configuration: the server node is set back to its factory default state and the server/host reboots.



Note The BMC and the CMC reboot after resetting to defaults. Wait for the reboot to complete before continuing with the next step.

When the reboot finishes, the system is operating as a S3260 chassis.

Step 13 When prompted, press **F8** to enter the Cisco IMC Configuration Utility.

Step 14 Configure the networking properties for your desired IP addresses, NIC mode, and NIC redundancy.

- a. Be aware of the S3260 system requirement to set as many as five IP addresses. See [System IP Addresses, page 2-14](#) for more information.

At this point in the procedure, the system requires three addresses:

- One management IP address
- One CMC address for the SIOC
- One BMC address for the server node



Note If you use a DHCP server, the addresses are defined by the DHCP server. If you disable DHCP, you must set your own static management IP addresses and network settings.

- b. Make networking settings using the Cisco IMC Configuration Utility, which you opened by pressing F8 during boot. See [Setting Up the System Using the Cisco IMC Configuration Utility, page 2-16](#).

- c. If you want to set static IP addresses for the CMC and BMC controllers, you will be directed to use the Cisco IMC management interface as described in [Setting Static CMC and BMC Internal IP Addresses, page 2-18](#).

Step 15 Optional—At this point, you can install a second server node and a second SIOC to the Cisco S3260 chassis. See [Installing a Second Server Node or SIOC to the S3260 System With M4 Server Nodes, page E-28](#).

Installing a Second Server Node or SIOC to the S3260 System With M4 Server Nodes

- [Installing a Second SIOC, page E-29](#)

- [Installing a Second M4 Server Node, page E-29](#)

Installing a Second SIOC

It is important that the CMC firmware in the new S3260 SIOC is the same version as the CMC firmware in the existing SIOC. If the CMC versions are different, you must upgrade them to match.



Note

When the second SIOC is inserted, its chassis management controller (CMC) becomes the standby CMC. If you move a S3260 SIOC from one chassis to another, the SIOC's CMC configuration is treated as incompatible and is automatically deleted. The new SIOC CMC will sync with the active CMC in the existing SIOC.

- Step 1** A second S3260 SIOC can be installed without removing system power:
- Push the SIOC into the empty SIOC bay until it stops against the internal backplane.
 - Close the two ejector levers on the SIOC to fully engage the SIOC connector with the midplane connector.
 - Tighten the thumbscrew on the SIOC ejector levers.

- Step 2** Attach QSFP cabled to the QSFP ports on the second SIOC.



Note

If you are using the *Dedicated* NIC mode, connect an RJ-45 Ethernet cable to the dedicated management port.

- Step 3** Assign a CMC IP address to the new SIOC:
- If the S3260 system has been configured to use your DHCP server, allow it to assign the CMC IP address to the new SIOC.
 - If you are not using a DHCP server, use the Cisco IMC interface (CLI or GUI) to manually assign a CMC IP address for the new SIOC, as described in [Setting Up the System Using the Cisco IMC Configuration Utility, page 2-16](#).
- Step 4** Verify that the CMC and adapter firmware in the SIOC matches the firmware in the other SIOC. If they do not match, update the firmware in the SIOCs.

Installing a Second M4 Server Node

Items Required For This Procedure

- An M4 server node running Cisco IMC 2.0(13) or later firmware.

Procedure

- Step 1** Verify that the target S3260 system is running Cisco IMC 2.0(13) or later firmware.
- Step 2** A second server node can be installed without removing system power:
- If you have a drive expander module or I/O expander in the system, remove it from the system.

- To remove a drive expander module, see [Replacing a Disk Expansion Tray, page 3-27](#).
 - To remove an I/O expander, you must remove the server node and then detach the I/O expander from it. See [Replacing an I/O Expander \(C3X60 M4 or S3260 M5 Server Nodes Only\), page 3-37](#).
- b. With the two ejector levers open, align the new server node with the empty bay.
 - c. Push the server node into the bay until it engages with the midplane connectors and is flush with the chassis surface.
 - d. Rotate both ejector levers toward the center until they lay flat and their latches lock into the rear of the server node.

Step 3 Verify that the server node is manageable from the S3260 Cisco IMC CLI or GUI. If the new server is not displayed in the CLI or GUI, then you must reset the server to factory defaults.

For example using the CLI:

```
S3260-Server# scope chassis
S3260-Server /chassis# show server
<Server ID> <Power state> <Serial number> <Product name> <PID> <UUID>
-----
1 on FCH1848793G UCS S3260 UCSC-C3K-M4SRB 36399C1B-6E9A-4E95-BEAC-B9003DCA6C7F
2 on FCH18407MY2 UCS S3260 UCSC-C3K-M4SRB C00E5CEO-A596-45E0-82CD-0B2F0A395FAC
```

- If the server is displayed in the CLI or GUI, go to the next step.
- If the server is not displayed, set it to factory defaults:
 - a. Use a KVM cable to attach a monitor and keyboard to the KVM connector on the rear of the server that you just inserted.
 - b. Boot the server node and when prompted, press **F8** to enter the Cisco IMC Configuration Utility.
 - c. Press **F1** to go to the second screen of the utility.
 - d. Select the **Factory Default** option for **Server Controller Configuration**. The selected server node is set back to its factory default state and the selected server/host reboots.
 - e. Press **F10** to save changes to reboot the server's BMC.
 - f. Wait for the reboot to complete (approximately five minutes).

Step 4 Assign a BMC IP address to the new server node:

- If the S3260 system has been configured to use your DHCP server, allow it to assign the BMC IP address to the new server node then go to the next step.
- If you are not using a DHCP server, use the Cisco IMC interface (CLI or GUI) to manually assign a BMC IP address for the new server node.

For example using the CLI:

```
S3260-Server# scope network
S3260-Server /cimc/network# set v4-addr-bmc<n> <v4 ip-address>
S3260-Server /cimc/network# set v6-addr-bmc<n> <v6 ip-address>
```

For more information see *Cisco UCS C-Series Integrated Management Controller GUI Configuration Guide for S3260 Servers* or the *Cisco UCS C-Series Integrated Management Controller CLI Configuration Guide for S3260 Servers* here: [Configuration Guides](#).

The second M4 server node is now ready for use in the S3260 system.