CHAPTER 1

Overview

This chapter provides an overview of the Cisco HX240c HyperFlex Node features:

Cisco HyperFlex Systems Related Documentation

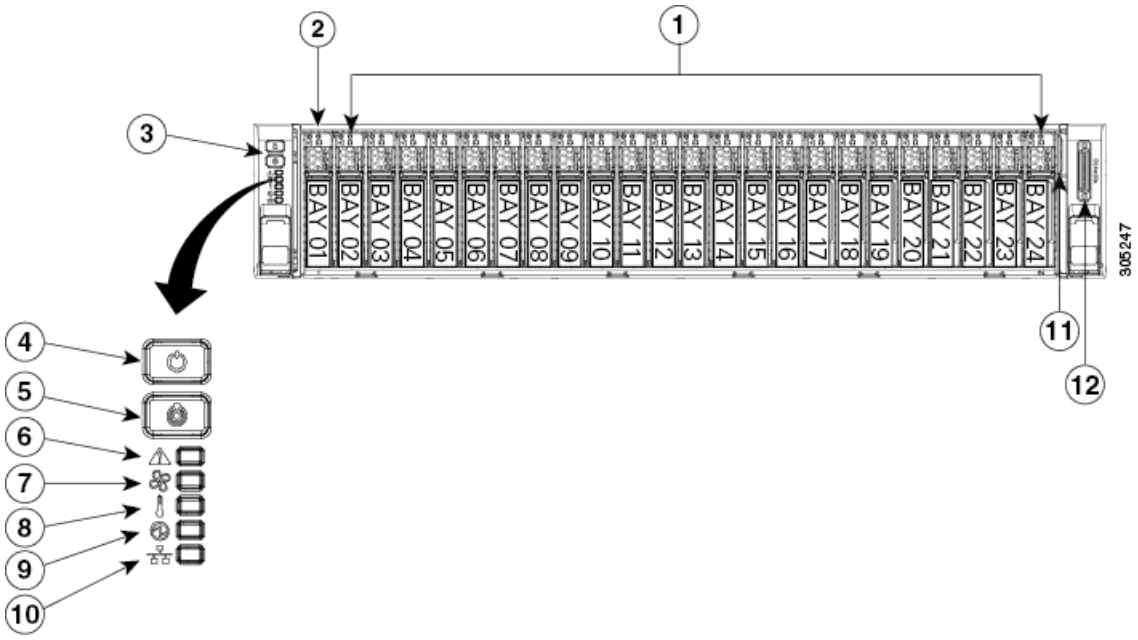
Links for related Cisco HyperFlex Systems documentation such as the Getting Started Guide, Administration Guide, and Release Notes are listed in the Documentation Roadmap.

External Features Overview

The figures in this chapter show an overview of external node features.

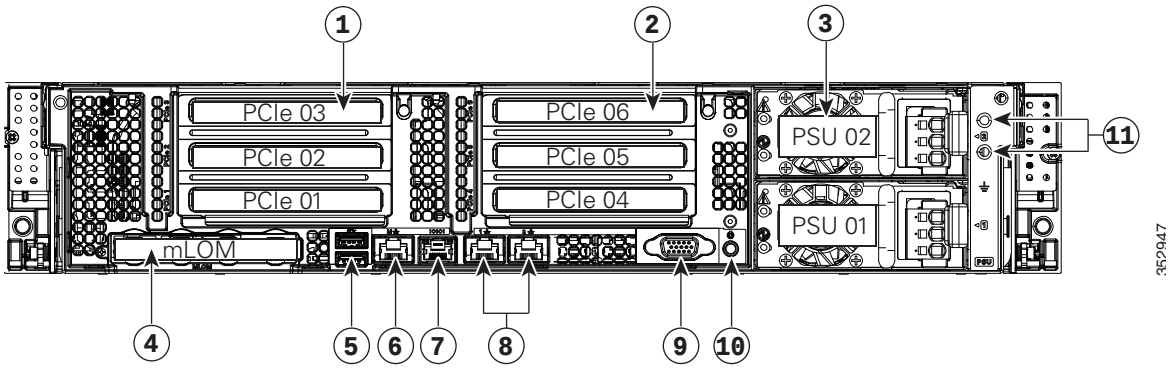
- The front-panel features are shown in Figure 1-1.
- The rear panel features are shown in Figure 1-2.

Figure 1-1 Front Panel Features



1	Persistent drive bays: • HX240c: bays 2–24 support HDD persistent data drives • HX240c All-Flash: bays 2–11 support SSD persistent data drives. (With Cisco HX Release 2.0, 10 SSDs are supported.) See Replacing Drives, page 3-19 for information about supported drives.	**7**	Fan status LED
2	Drive bay 1: SSD caching drive The supported SSD differs between the HX240c and HX240c All-Flash nodes. See Replacing Drives, page 3-19.	**8**	Temperature status LED
3	Operations panel buttons and LEDs	**9**	Power supply status LED
4	Power button/LED	**10**	Network link activity LED
5	Unit Identification button/LED	**11**	Pull-out asset tag
6	Node status LED	**12**	KVM connector (used with KVM cable that provides two USB 2.0, one VGA, and one serial connector)

Figure 1-2 Rear Panel Features

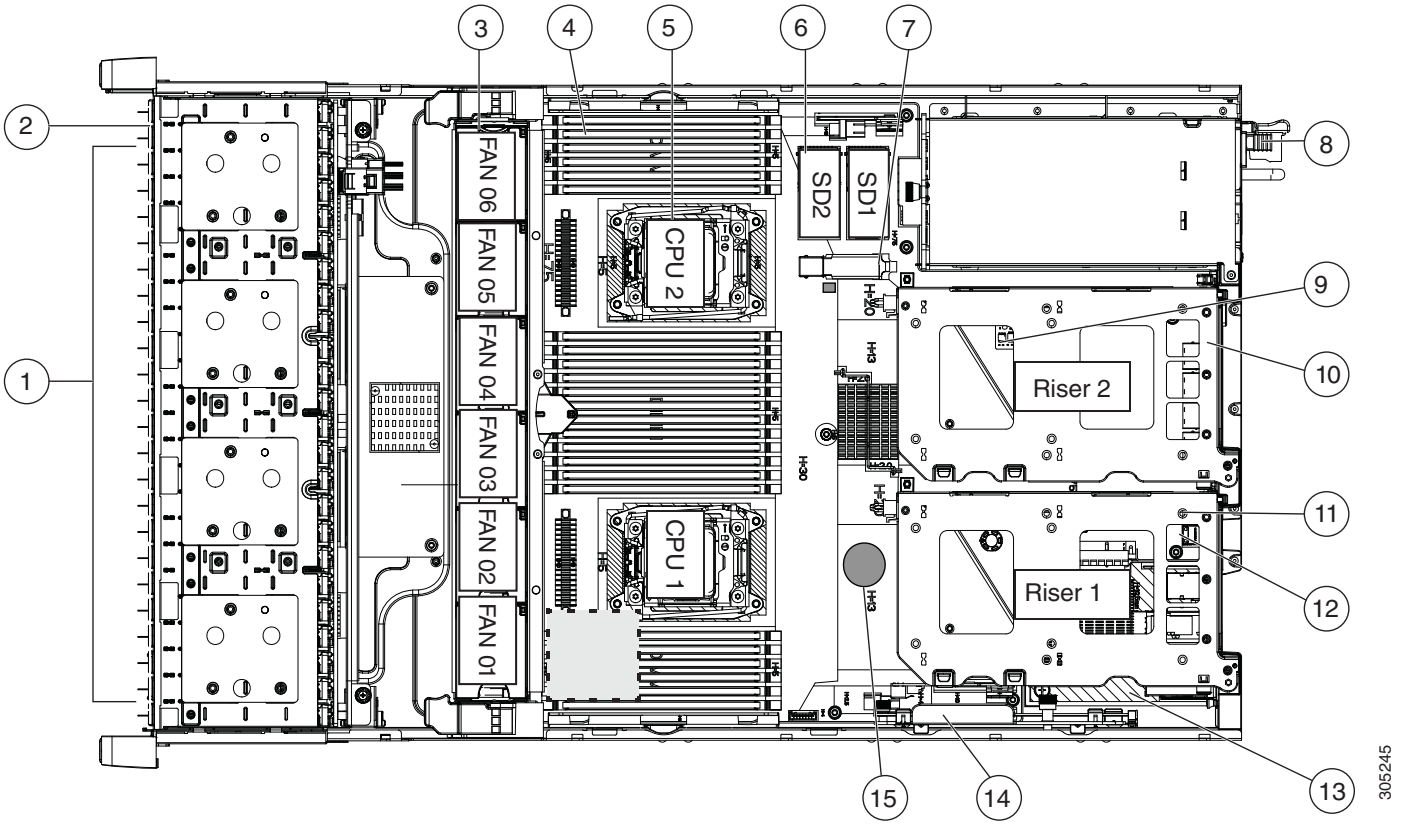


1	PCIe riser 1 (slots 1, 2, 3*) *Slot 3 is taken by two internal SDS log drives (SATA SSDs) in this node.	**7**	Serial port (RJ-45 connector)
2	PCIe riser 2 (slots 4, 5, 6)	**8**	Dual 1-Gb Ethernet ports (LAN1, LAN2)
3	Power supplies (DC power supplies shown)	**9**	VGA video port (DB-15 connector)
4	Modular LAN-on-motherboard (mLOM) card slot	**10**	Rear Unit Identification button/LED
5	USB 3.0 ports (two)	**11**	Grounding-lug holes (for DC power supplies)
6	1-Gb dedicated management port		

Replaceable Component Locations

Figure 1-3 shows the locations of the field-replaceable components. The view shown is from the top down with the top covers and air baffle removed.

Figure 1-3 Replaceable Component Locations



1	Persistent drive bays: • HX240c: bays 2–24 support HDD persistent data drives • HX240c All-Flash: bays 2–11 support SSD persistent data drives. (With Cisco HX Release 2.0, 10 SSDs are supported.) See Replacing Drives, page 3-19 for information about supported drives.	**9**	Trusted platform module (TPM) socket on motherboard, under PCIe riser 2
2	Drive bay 1: SSD caching drive The supported SSD differs between the HX240c and HX240c All-Flash nodes. See Replacing Drives, page 3-19.	**10**	PCIe riser 2 (PCIe slots 4, 5, 6)
3	Fan modules (six, hot-swappable)	**11**	PCIe riser 1 (PCIe slots 1, 2, 3*) *Slot 3 is taken by two internal SATA SSD sockets.
4	DIMM sockets on motherboard (24)	**12**	120 GB internal housekeeping SSDs for SDS logs (two SATA SSDs in PCIe riser 1 sockets)
5	CPUs and heatsinks (two)	**13**	mLOM card socket on motherboard under PCIe riser 1 for Cisco VIC 1227
6	Cisco SD card slots on motherboard (two)	**14**	Cisco UCS 12G SAS Modular HBA (dedicated slot and bracket)
7	USB socket on motherboard	**15**	RTC battery on motherboard
8	Power supplies (hot-swappable)		

Summary of Node Features

Table 1-1 lists a summary of node features.

Table 1-1 Cisco HX240c HyperFlex Node Features

Chassis	Two rack-unit (2RU) chassis.
Processors	Two Intel Xeon E5-2600 v3 or v4 Series processors.
Memory	24 DDR4 DIMM[1] sockets on the motherboard (12 each CPU).
Multi-bit error protection	Multi-bit error protection is supported.
Baseboard management	BMC, running Cisco Integrated Management Controller (Cisco IMC) firmware. Depending on your Cisco IMC settings, Cisco IMC can be accessed through the 1-Gb dedicated management port, the 1-Gb Ethernet LOM ports, or a Cisco virtual interface card.
Network and management I/O	The node provides these native connectors: • One 1-Gb Ethernet dedicated management port • Two 1-Gb BASE-T Ethernet LAN ports • One RS-232 serial port (RJ-45 connector) • One 15-pin VGA[2] connector • Two USB[3] 3.0 connectors • One front-panel KVM connector that is used with the KVM cable, which provides two USB 2.0, one VGA, and one serial (DB-9) connector.
Modular I/O	A dedicated socket can be used to add an mLOM card for additional rear-panel connectivity.
WoL	1-Gb BASE-T Ethernet LAN ports support the wake-on-LAN (WoL) standard.
Power	Two power supplies: • AC power supplies optionally 650 W AC, 1200 W AC, or 1400 W AC each. • DC power supplies 930 W DC each. Do not mix power supply types or wattages in the node. Redundant as 1+1.
ACPI	The advanced configuration and power interface (ACPI) 4.0 standard is supported.
Cooling	Six hot-swappable fan modules for front-to-rear cooling.
PCIe I/O	Five horizontal PCIe[4] expansion slots on two risers. Riser 1 contains PCIe slots 1 and 2, plus one internal SATA SSD. Riser 2 contains slots 4, 5, and 6.
InfiniBand	The InfiniBand architecture is supported by the bus slots.

Table 1-1 Cisco HX240c HyperFlex Node Features (continued)

Storage	The following storage disks: • One SSD cache drive in front bay 1. • Persistent data drives: – HX240c: Up to 23 HDD persistent data drives in bays 2–24. – HX240c All-Flash: Up to 10 SSD persistent data drives in bays 2–11. (With Cisco HX Release 2.0, 10 SSDs are supported.) • Two internal SATA SSDs for SDS logs in PCIe riser 1.
Internal USB	One internal USB 3.0 port on the motherboard that you can use with a USB thumb drive for additional storage.
SD cards	Two internal bays on the motherboard for up to two SD cards.
Disk Management	One Cisco UCS 12G SAS Modular HBA.
Native Video	VGA video resolution up to 1920 x 1200, 16 bpp at 60 Hz, and up to 256 MB of video memory.

1. DIMM = dual inline memory module
2. VGA = video graphics array
3. USB = universal serial bus
4. PCIe = peripheral component interconnect express

Cisco HX240c All-Flash HyperFlex Nodes Overview

The HX240c All-Flash HyperFlex node contains all SSDs, rather than the hybrid mix of SSDs and HDDs that is used in the HX240c HyperFlex node. Enterprise value SSDs are used for the persistent data drives. Enterprise high-endurance SSDs are used for the caching drives.

Note the following considerations and restrictions:

- The minimum Cisco HyperFlex software required is Release 2.0 or later.
- With Cisco HX Release 2.0, only 10 SSD persistent data drives are supported.)
- HX240c All-Flash HyperFlex nodes are ordered as specific All-Flash PIDs; All-Flash configurations are supported only on those PIDs.
- Conversion from hybrid HX240c configuration to HX240c All-Flash configuration is not supported.
- Mixing hybrid HX240c HyperFlex nodes with HX240c All-Flash HyperFlex nodes within the same HyperFlex cluster is not supported.

See HX240c Drive Configuration Comparison, page 3-20 for specifics about drive PIDs supported in the node types.