

Overview

This chapter provides an overview of the Cisco HX220c M4 HyperFlex Node features:

- [Cisco HyperFlex Systems Related Documentation, page 1-1](#)
- [External Features Overview, page 1-1](#)
- [Replaceable Component Locations, page 1-4](#)
- [Summary of Node Features, page 1-5](#)
- [Cisco HX220c All-Flash HyperFlex Nodes Overview, page 1-6](#)

Cisco HyperFlex Systems Related Documentation

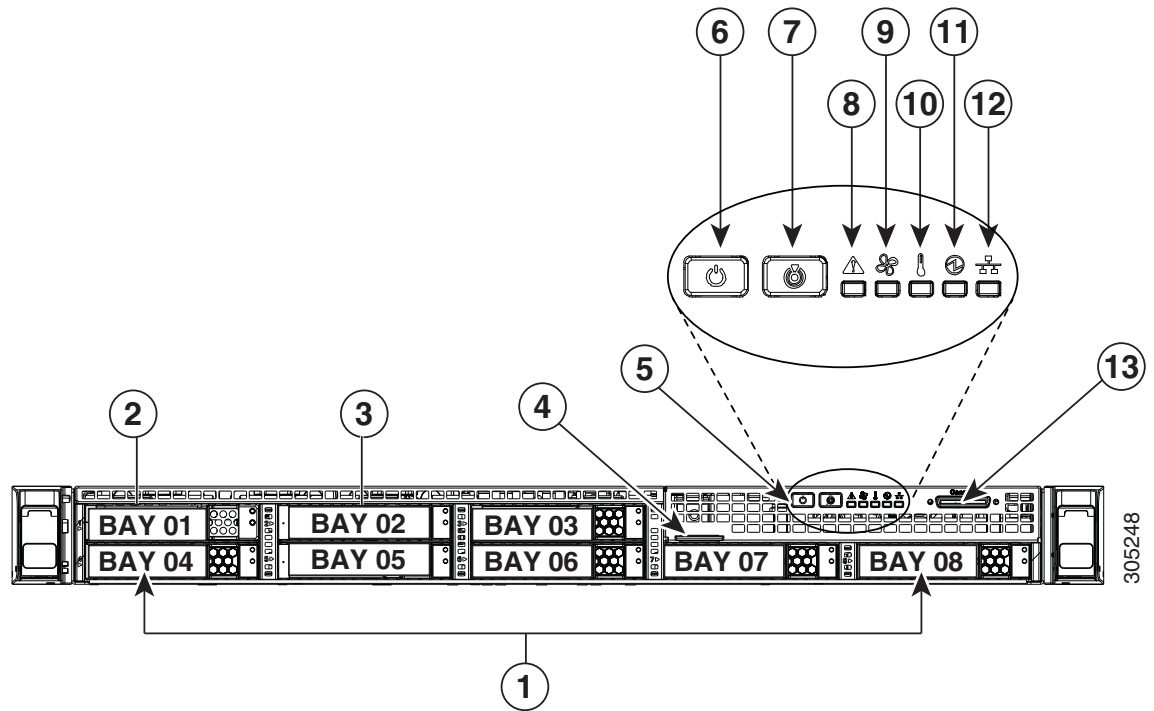
Links for related Cisco HyperFlex Systems documentation such as the Getting Started Guide, Administration Guide, and Release Notes are listed in the [Documentation Roadmap](#).

External Features Overview

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

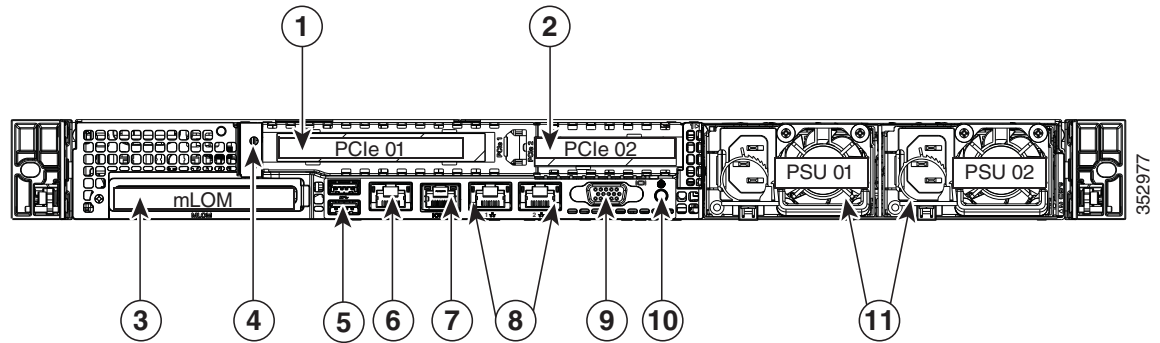
- The front-panel features are shown in [Figure 1-1](#).
- The rear panel features are shown in [Figure 1-2](#).

Figure 1-1 Front Panel Features



1	Drive bays 3–8: <ul style="list-style-type: none"> HX220c: HDD persistent data drives HX220c All-Flash: SSD persistent data drives See Replacing Drives, page 3-16 for information about supported drives.	8	Node status LED
2	Drive bay 1: housekeeping SSD for SDS logs	9	Fan status LED
3	Drive bay 2: SSD caching drive The supported SSD differs between the HX220c and HX220c All-Flash nodes. See Replacing Drives, page 3-16 .	10	Temperature status LED
4	Pull-out asset tag	11	Power supply status LED
5	Operations panel buttons and LEDs	12	Network link activity LED
6	Power button/power status LED	13	KVM connector (used with KVM cable that provides two USB 2.0, one VGA, and one serial connector)
7	Unit identification button/LED		

Figure 1-2 Rear Panel Features

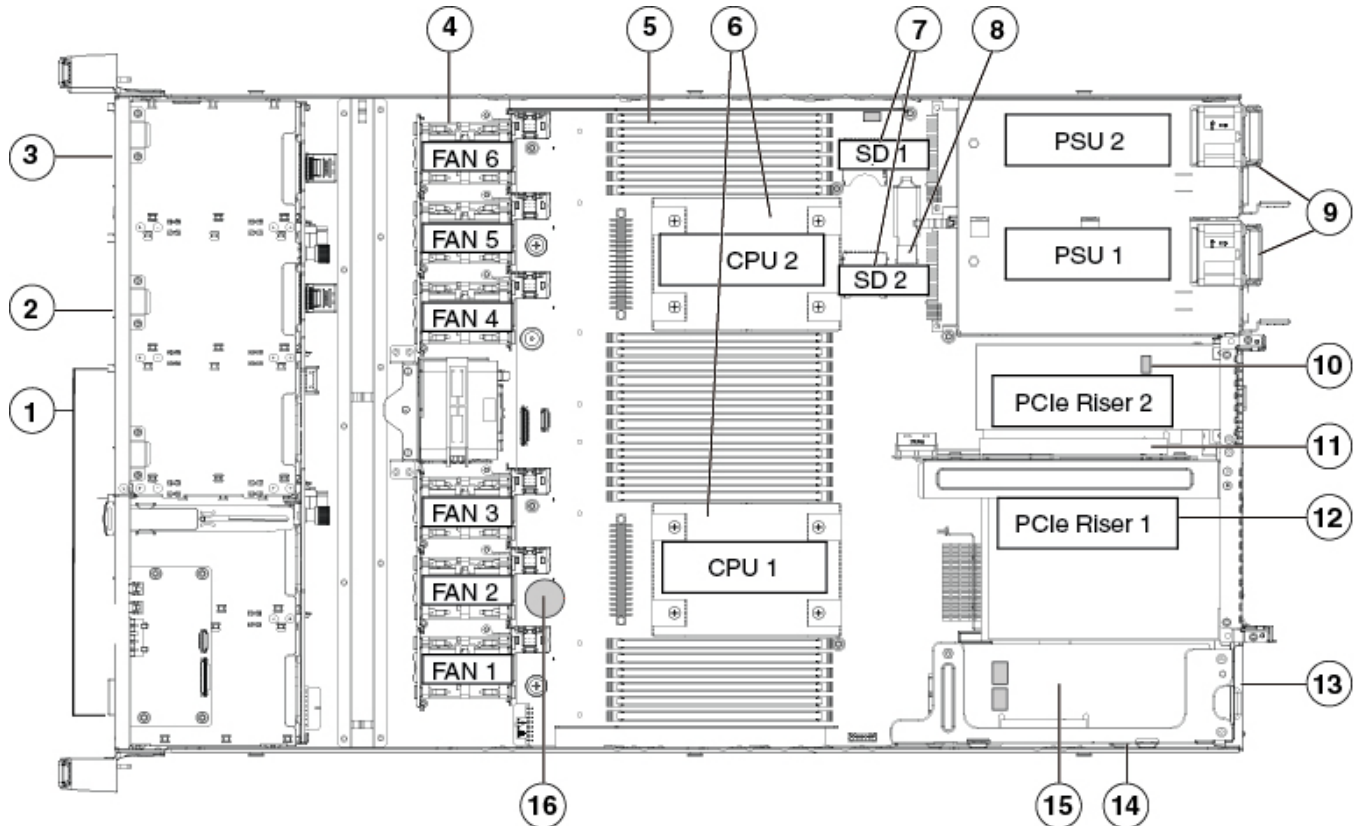


1	PCIe riser 1/slot 1	7	Serial port (RJ-45 connector)
2	PCIe riser 2/slot 2	8	Dual 1-Gb Ethernet ports (LAN1 and LAN2)
3	Modular LAN-on-motherboard (mLOM) card slot for Cisco VIC 1227	9	VGA video port (DB-15)
4	Grounding-lug hole (for DC power supplies)	10	Rear unit identification button/LED
5	USB 3.0 ports (two)	11	Power supplies (up to two, redundant as 1+1)
6	1-Gb Ethernet dedicated management port		

Replaceable Component Locations

This section shows the locations of the field-replaceable components. The view in [Figure 1-3](#) is from the top down with the top cover and air baffle removed.

Figure 1-3 Replaceable Component Locations



305249

1 Drive bays 3–8: <ul style="list-style-type: none"> • HX220c: HDD persistent data drives • HX220c All-Flash: SSD persistent data drives See Replacing Drives , page 3-16 for information about supported drives.	9 Power supplies (up to two, hot-swappable when redundant as 1+1)
2 Drive bay 2: SSD caching drive The supported caching SSD differs between the HX220c and HX220c All-Flash nodes. See Replacing Drives , page 3-16.	10 Trusted platform module (TPM) socket on motherboard (not visible in this view)
3 Drive bay 1: housekeeping SSD for SDS logs	11 PCIe riser 2 (half-height PCIe slot 2)
4 Cooling fan modules (six)	12 PCIe riser 1 (full-height PCIe slot 1)
5 DIMM sockets on motherboard (24)	13 Modular LOM (mLOM) connector on chassis floor for Cisco VIC 1227
6 CPUs and heatsinks (two)	14 Cisco modular HBA PCIe riser (dedicated riser with horizontal socket)
7 SD card bays on motherboard (two)	15 Cisco modular HBA card
8 Internal USB 3.0 port on motherboard	16 RTC battery on motherboard

Summary of Node Features

Table 1-1 Cisco HX220c M4 HyperFlex Node Features

Feature	Description
Chassis	One rack-unit (1RU) 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	Supported connectors: <ul style="list-style-type: none"> • 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 VGA² connector • Two USB³ 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 LOM	Dedicated socket that 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 AC power supplies: 770 W AC each. Redundant as 1+1. See Power Specifications, page A-3 .
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	Two horizontal PCIe ⁴ expansion slots (single riser assembly).
InfiniBand	The bus slots in this node support the InfiniBand architecture.
Storage	Drives are installed into front-panel drive bays: <ul style="list-style-type: none"> • One housekeeping SSD for SDS logs in bay 1. • One solid state drive (SSD) caching drive in bay 2. • Persistent data drives: <ul style="list-style-type: none"> – HX220c: Up to six HDD persistent data drives in bays 3–8. – HX220c All-Flash: Up to six SSD persistent data drives in bays 3–8. See Cisco HX220c All-Flash HyperFlex Nodes Overview, page 1-6 for more information.
Internal USB	One internal USB 3.0 port on the motherboard that you can use with a USB thumb drive for additional storage.

Table 1-1 Cisco HX220c M4 HyperFlex Node Features (continued)

Feature	Description (continued)
SD cards	Two internal bays on the motherboard.
Disk Management	The node has a dedicated internal riser for a PCIe-style Cisco modular HBA card. For a list of controller options and required cabling, see Supported HBAs and Required Cables, page C-2 .
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 HX220c All-Flash HyperFlex Nodes Overview

The HX220c All-Flash HyperFlex node contains all SSDs, rather than the hybrid mix of SSDs and HDDs that is used in the HX220c 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.
- HX220c All-Flash HyperFlex nodes are ordered as specific All-Flash PIDs; All-Flash configurations are supported only on those PIDs.
- Conversion from hybrid HX220c configuration to HX220c All-Flash configuration is not supported.
- Mixing hybrid HX220c HyperFlex nodes with HX220c All-Flash HyperFlex nodes within the same HyperFlex cluster is not supported.

See [HX220c Drive Configuration Comparison, page 3-17](#) for specifics about drive PIDs supported in the node types.