

Cisco Compute Hyperconverged X9508 Chassis

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Figure 1.
Cisco Compute Hyperconverged X9508 Chassis

Product overview

Cisco and Nutanix have partnered to introduce the industry’s first hyperconverged solution using a modular blade architecture. The Cisco Compute Hyperconverged X-Series System combines the operational simplicity of the Nutanix Cloud Platform with the flexibility and efficiency of the award-winning Cisco UCS® X-Series Modular System, enabling organizations to easily deploy, scale, and upgrade hyperconverged clusters with a more sustainable, future-ready solution. There is also support for Cisco UCS X-Series Direct to address all your edge, retail, and small and remote-office use cases.

The Cisco Compute Hyperconverged X-Series System with Nutanix combines the operational simplicity of Nutanix Cloud Platform (NCP) with the efficiency, flexibility, and sustainability of the Cisco UCS X-Series Modular System. The X-Series system comprises modular components that can be assembled into systems through the Cisco Intersight® cloud-operations platform.

The Cisco Compute Hyperconverged X-Series System is engineered to be adaptable and future-ready. With a midplane-free design, the system achieves I/O connectivity, using frontloading, vertically oriented compute and accelerator nodes that intersect with horizontally oriented I/O connectivity modules in the rear of the chassis. In the front of the chassis, Cisco Compute Hyperconverged X210c M7 All NVMe Nodes with Intel® Xeon® Scalable Processors offer compute density and storage capacity in a single form factor and the [Cisco UCS X440p PCIe Node](#) supports adding GPUs with PCIe Gen 4.0 with the Cisco UCS X9416 X-Fabric Module.

In the rear of the chassis, a unified Ethernet fabric is supplied with Cisco UCS 9108 100G Intelligent Fabric Modules and the Cisco UCS X9416 X-Fabric Module, part of the [Cisco UCS X-Fabric Technology](#), supply PCIe Gen 4 industry-standard protocols for GPU accelerators. Interconnections can be easily updated with new modules supporting faster Ethernet, PCIe Gen 5, and CXL.

Cisco Compute Hyperconverged X-Series Direct is a self-contained system with a pair of integrated fabric interconnects, and can be used if you do not want top-of-rack fabric interconnects and need to support edge, retail, and small or remote-office use cases.

The X-Series system was designed with sustainability in mind and is equipped with power-delivery and cooling innovations designed to reduce material waste and energy consumption.

Features and benefits

Main features

- 7-Rack-Unit (7RU) chassis has 8x front-facing flexible slots. These can house a combination of hyperconverged nodes, compute nodes, and a pool of future I/O resources that may include GPU accelerators, disk storage, and nonvolatile memory.
- 2x 9108 25G Intelligent Fabric Modules (IFMs) at the top of the chassis that connect the chassis to upstream 6400 Series Fabric Interconnects or 6500 Series fabric interconnects. Each IFM features:
 - Up to 100 Gbps of unified fabric connectivity per compute node.
 - 8x 25-Gbps SFP28 uplink ports / 8x 100-Gbps SFP28 uplink ports. The unified fabric carries management traffic to the Cisco Intersight cloud-operations platform, Fibre Channel over Ethernet (FCoE) traffic, and production Ethernet traffic to the fabric interconnects.
- At the bottom are slots ready to house future I/O modules that can flexibly connect the compute modules with I/O devices. We call this connectivity Cisco UCS X-Fabric technology because “X” is a variable that can evolve with new technology developments.
- Six 2800W Power Supply Units (PSUs) provide 54 V power to the chassis with N, N+1, and N+N redundancy. A higher voltage allows efficient power delivery with less copper and reduced power loss.
- Efficient, 4x100mm, dual counter-rotating fans deliver industry-leading airflow and power efficiency. Optimized thermal algorithms enable different cooling modes to best support the network environment. Cooling is modular so that future enhancements can potentially handle open-or closed-loop liquid cooling to support even higher-power processors.



Figure 2.

Cisco Compute Hyperconverged X-Series System, front (top) and back (bottom)

Benefits

Since we first delivered the Cisco Unified Computing System™ (Cisco UCS) in 2009, our goal has been to simplify the data center. We pulled management out of servers and into the network. We simplified multiple networks into a single unified fabric. And we eliminated network layers in favor of a flat topology wrapped into a single unified system. With the Cisco Compute Hyperconverged X-Series System, we take that simplicity to the next level:

- Simplified operations with a solution that combines the operational simplicity of hyperconverged software with the efficiency and flexibility of a modular system.
- Increased agility and response to the dynamic needs of your business with a solution that is inherently easy to scale and includes support for future generations of processors, storage, accelerators, networking technologies, and SaaS innovations.
- Improved sustainability with a solution that is engineered to be more energy efficient and can be easily upgraded and reused, lowering the consumption of power and raw materials when compared to traditional rack servers.

Product specifications

Table 1. Product specifications

Item	Specifications
Height	12.05 in (30.6 cm); 7 RU
Width	17.55 (44.6 cm); fits standard 19-inch square-hole rack
Depth	34.81 in (88.4 cm)
Node slots	8
Intelligent fabric module (IFM)	Intelligent fabric module options: <ul style="list-style-type: none">• 2 x 9108 25G Intelligent Fabric Module with 8x 25G SFP28 ports• 2 x 9108 100G Intelligent Fabric Module with 8x 100G QSFP28 ports
X-Fabric module (XFM)	X-Fabric module options: <ul style="list-style-type: none">• 2 x X9416 X-Fabric Modules for X9508 Chassis• 2x Fabric module rear blank slots
Fan module	4 x 100mm hot-swappable dual rotor fans
Power supply bays	6

Item	Specifications	
Power supplies	2800W titanium-certified	
	Input voltage	100 to 127 VAC 200 to 240 VAC
	Maximum input VA	3200 VA at 230 VAC
	Maximum output power per power supply	2800W @200-240 VAC nominal 1400 W @100-127 VAC nominal
	Frequency	50 to 60 Hz
	Output voltage	54 VDC
	Power connector	IEC320 C20
Power redundancy	Nonredundant, N+1, N+2, and grid (N+N)	
Power Entry Module (PEM)	2x PEM for AC inputs, PEM1 (PSU1,2,3), PEM2 (PSU4,5,6)	
Management	Cisco Intersight software (SaaS, Virtual Appliance, and Private Virtual Appliance)	
Temperature: operating	50 to 95°F (10 to 35°C) (as altitude increases, maximum temperature decreases by 1°C per 300 m)	
Temperature: nonoperating	-40 to 149°F (-40 to 65°C); maximum altitude is 40,000 ft	
Humidity: operating	10% to 90% noncondensing, 28°C max	
Humidity: nonoperating	5% to 93% noncondensing, 38°C max	
Altitude: operating	0 to 10,000 ft (0 to 3,000 m); maximum ambient temperature decreases by 1°C per 300 m	
Altitude: nonoperating	40,000 ft (12,000 m)	
Sound pressure level	83 dBA - at normal operating temperature	

Table 2. Regulatory standards compliance: safety and EMC

Specification	Description
Regulatory compliance	Products comply with CE Markings per directives 2004/108/EC and 2006/108/EC
Safety	<ul style="list-style-type: none"> • UL 60950-1 • CAN/CSA-C22.2 No. 60950-1 • EN 60950-1 • IEC 60950-1 • AS/NZS 60950-1 • GB4943

Specification	Description
EMC: Emissions	<ul style="list-style-type: none"> • 47CFR Part 15 (CFR 47) Class A (FCC Class A) • AS/NZS CISPR22 Class A • CISPR2 2 Class A • EN55022 Class A • ICES003 Class A • VCCI Class A • EN61000-3-2 • EN61000-3-3 • KN22 Class A • CNS13438 Class A
EMC: Immunity	<ul style="list-style-type: none"> • EN50082-1 • EN61000-6-1 • EN55024 • CISPR24 • EN300386 • KN 61000-4 Series

System requirements

Table 3. System requirements

Item	Requirements
X-Series chassis	Cisco Compute Hyperconverged X9508 Server Chassis
Fabric interconnect	6454, 64108, and 6536 fabric interconnects
Cisco Intersight	Intersight Managed Mode

Ordering information

Table 4 provides ordering information for the Cisco Compute Hyperconverged X9508 Chassis.

Table 4. Ordering information

Part number	Description
HCIX-M7-MLB	Cisco Compute Hyperconverged X-Series M7 with Nutanix MLB
HCIX-9508-U	Cisco Compute Hyperconverged X9508 Server Chassis configured
HCIX-9508-CH	DISTI: Cisco UCS X9508 Chassis

For information about installing or upgrading Cisco Compute Hyperconverged X-Series, see the [Hardware Installation](#) guide. For ordering information, see the Cisco Compute Hyperconverged X-Series specification document.

Warranty information

The Cisco Compute Hyperconverged X-Series System has a three-year Next-Business-Day (NBD) hardware warranty and a 90-day software warranty.

Augmenting the Cisco Unified Computing System (Cisco UCS) warranty, Cisco Smart Net Total Care® and Cisco Solution Support services are part of Cisco's technical services portfolio. Cisco Smart Net Total Care combines Cisco's industry-leading and award-winning foundational technical services with an extra level of actionable business intelligence that is delivered to you through the smart capabilities in the Cisco Smart Net Total Care portal. For more information, please refer to <https://www.cisco.com/c/en/us/support/services/smart-net-total-care/index.html>.

Cisco Solution Support includes both Cisco® product support and solution-level support, resolving complex issues in multivendor environments on average 43 percent more quickly than with product support alone. Cisco Solution Support is a critical element in data center administration, helping rapidly resolve any issue encountered while maintaining performance, reliability, and return on investment.

This service centralizes support across your multivendor Cisco environment for both our products and solution partner products that you have deployed in your ecosystem. Whether there is an issue with a Cisco product or with a solution partner product, just call us. Our experts are the primary point of contact and own the case from first call to resolution. For more information, please refer to <https://www.cisco.com/c/en/us/services/technical/solution-support.html>.

Product sustainability

Information about Cisco's Environmental, Social, and Governance (ESG) initiatives and performance is provided in Cisco's CSR and sustainability [reporting](#).

Table 5. Cisco environmental sustainability information

Sustainability topic		Reference
General	Information on product-material-content laws and regulations	Materials
	Information on electronic waste laws and regulations, including our products, batteries, and packaging	WEEE Compliance
	Information on product takeback and reuse program	Cisco Takeback and Reuse Program
	Sustainability inquiries	Contact: csr_inquiries@cisco.com
	Operating and nonoperating conditions	Table 1. Product specifications
	Regulatory compliance	Table 2. Product specifications
Power	Power supply	Main features Table 1. Product specifications
	Thermal overview	Main features Table 1. Product specifications

Sustainability topic		Reference
Material	Product packaging weight and materials	Contact: environment@cisco.com
	Modular design	Benefits

Cisco and partner services

Cisco and our industry-leading partners deliver services that accelerate your transition to a Cisco Compute Hyperconverged X-Series solution. Cisco partner services can help you create an agile infrastructure, accelerate time to value, reduce costs and risks, and maintain availability during deployment and migration. After deployment, our services can help you improve performance, availability, and resiliency as your business needs evolve, and help you further mitigate risk.

Cisco Capital

Flexible payment solutions to help you achieve your objectives

Cisco Capital® makes it easier to get the right technology to achieve your objectives, enable business transformation and help you stay competitive. We can help you reduce the total cost of ownership, conserve capital, and accelerate growth. In more than 100 countries, our flexible payment solutions can help you acquire hardware, software, services and complementary third-party equipment in easy, predictable payments. [Learn more.](#)

For more information

For more information about the Cisco Compute Hyperconverged X-Series System, refer to the <https://www.cisco.com/c/en/us/products/hyperconverged-infrastructure/compute-hyperconverged/index.html>.

For more information about Cisco Compute Hyperconverged with Nutanix, go to <https://www.cisco.com/c/en/us/support/hyperconverged-infrastructure/compute-hyperconverged-nutanix/series.html>.

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