Cisco UCS X9508 Chassis

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Contents

Product overview	3
Features and benefits	4
Benefits	5
Product specifications	5
System requirements	8
Ordering information	8
Warranty information	8
Product sustainability	9
Product environmental information	9
Cisco and partner services	9
Cisco Capital	10
For more information	10

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Product overview

The Cisco UCS® X-Series Modular System simplifies your data center, adapting to the unpredictable needs of modern applications while also providing for traditional scale-out and enterprise workloads. It reduces the number of server types to maintain, helping to improve operational efficiency and agility as it helps reduce complexity. Powered by the Cisco Intersight™ cloud-operations platform, it shifts users' IT focus from administrative details to business outcomes—with a hybrid-cloud infrastructure that is assembled from the cloud, shaped to their workloads, and continuously optimized.

The Cisco UCS X-Series Modular System begins with the Cisco UCS X9508 Chassis engineered to be adaptable and future ready. It is a standard, open system designed to deploy and automate faster in concert with a hybrid cloud environment.

With a midplane-free design, I/O connectivity for the X9508 chassis is accomplished with frontloading, vertically oriented compute nodes intersecting with horizontally oriented I/O connectivity modules in the rear of the chassis. A unified Ethernet fabric is supplied with the Cisco UCS 9108 Intelligent Fabric Modules. In the future, Cisco UCS X-Fabric Technology interconnects will supply other industry-standard protocols as standards emerge. Interconnections can be easily updated with new modules.



Figure 1.
UCS X9508 Chassis

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Features and benefits

Main features

- 7-Rack-Unit (7RU) chassis has 8x front-facing flexible slots. These can house a combination of compute nodes and a pool of future I/O resources that may include GPU accelerators, disk storage, and nonvolatile memory.
- 2x Cisco UCS 9108 Intelligent Fabric Modules (IFMs) at the top of the chassis that connect the chassis to upstream Cisco UCS 6400 Series Fabric Interconnects. Each IFM features
  - Up to 100 Gbps of unified fabric connectivity per compute node
  - 8x 25-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 54V 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 UCS 9508 X-Series Chassis, front (top) and back (bottom)

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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 up into a single unified system. With the Cisco UCS X-Series Modular System, we take that simplicity to the next level:

- **Simplify with cloud-operated infrastructure:** We move management from the network into the cloud so that you can respond at the speed and scale of your business and manage all of your infrastructure. You can shape Cisco UCS X-Series Modular System resources to workload requirements with the Cisco Intersight cloud-operations platform. You can integrate third-party devices including storage from NetApp, Pure Storage, and Hitachi. And you gain intelligent visualization, optimization, and orchestration for all of your applications and infrastructure.
- **Simplify with an adaptable system designed for modern applications:** Today's cloud-native, hybrid applications are inherently unpredictable. They get deployed and redeployed as part of an iterative DevOps practice. Requirements change often, and you need a system that doesn't lock you into one set of resources when you find that you need another. For hybrid applications, and a range of traditional data center applications, you can consolidate onto a single platform that combines the density and efficiency of blade servers with the expandability of rack servers. The result: better performance, automation, and efficiency.
- **Simplify with a system engineered for the future:** Embrace emerging technology and reduce risk with a modular system designed to support future generations of processors, storage, nonvolatile memory, accelerators, and interconnects. Gone is the need to purchase, configure, maintain, power, and cool discrete management modules and servers. Cloud-based management is kept up to date automatically with a constant stream of new capabilities delivered by the Intersight software-as-a-service model.
- **Support a broader range of workloads:** A single server type supporting a broader range of workloads means fewer different products to support, reduced training costs, and increased flexibility.

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: • 2 x Cisco UCS 9108 25G Intelligent Fabric Module with 8x 25G SFP28 ports • 2 x Cisco UCS 9108 100G Intelligent Fabric Module with 8x 100G QSFP28 ports

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Item	Specifications	
X-Fabric module (XFM)	X-Fabric Module options: • 2 x Cisco UCS X9416 X-Fabric modules for X9508 chassis • 2x Cisco UCS X-Fabric module rear blank slots	
Fan module	4 x 100mm hot-swappable dual rotor fans	
Power supply bays	6	
Power supplies	2800W Titanium certified	
	Input voltage	100 to 127 V AC 200 to 240V AC
	Maximum input VA	3200 VA at 230 VAC
	Maximum output power per power supply	2800 W @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 300m)	
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 3000m); maximum ambient temperature decreases by 1°C per 300m	
Altitude: nonoperating	40,000 ft (12,000m)	
Sound pressure level	83 dBA – at normal operating temperature	

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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 60950-1 • CAN/CSA-C22.2 No. 60950-1 • EN 60950-1 • IEC 60950-1 • AS/NZS 60950-1 • GB4943
EMC: Emissions	• 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	• EN50082-1 • EN61000-6-1 • EN55024 • CISPR24 • EN300386 • KN 61000-4 Series

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System requirements

Table 3. System requirements

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

Ordering information

Table 4 provides ordering information for the Cisco UCS X9508 Chassis.

Table 4. Ordering information

Part number	Description
UCSX-M6-MLB	UCSX M6 Modular Server and CHASSIS MLB
UCSX-9508-U	UCS X9508 Chassis Configured
UCSX-9508-CH	DISTI: UCS X9508 Chassis

For information about installing or upgrading Cisco UCS X9508 Chassis, see the Hardware Installation guide. For ordering information, see the Cisco UCS X9508 Chassis spec sheet.

Warranty information

The Cisco UCS X9508 Chassis 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.

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

Product environmental information

Product environmental information for users per Commission Regulation (EU) 2019/424 https://www.cisco.com/web/dofc/EU86577.pdf.

Cisco and partner services

Cisco and our industry-leading partners deliver services that accelerate your transition to a Cisco UCS X-Series Modular System solution. Cisco Unified Computing Services (UCS) 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. For more information, visit https://www.cisco.com/go/unifiedcomputingservices.

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For more information

For more information about the Cisco UCS X9508 Chassis, refer to the Cisco UCS X-Series Solution Overview.

For more information about Cisco UCS X-Series, go to https://cisco.com/go/ucsx.

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