

# Cisco Compute Hyperconverged X-Series Direct

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Cisco Compute Hyperconverged X-Series Direct expands the Cisco Compute Hyperconverged X-Series System with a new dimension of edge scale computing.

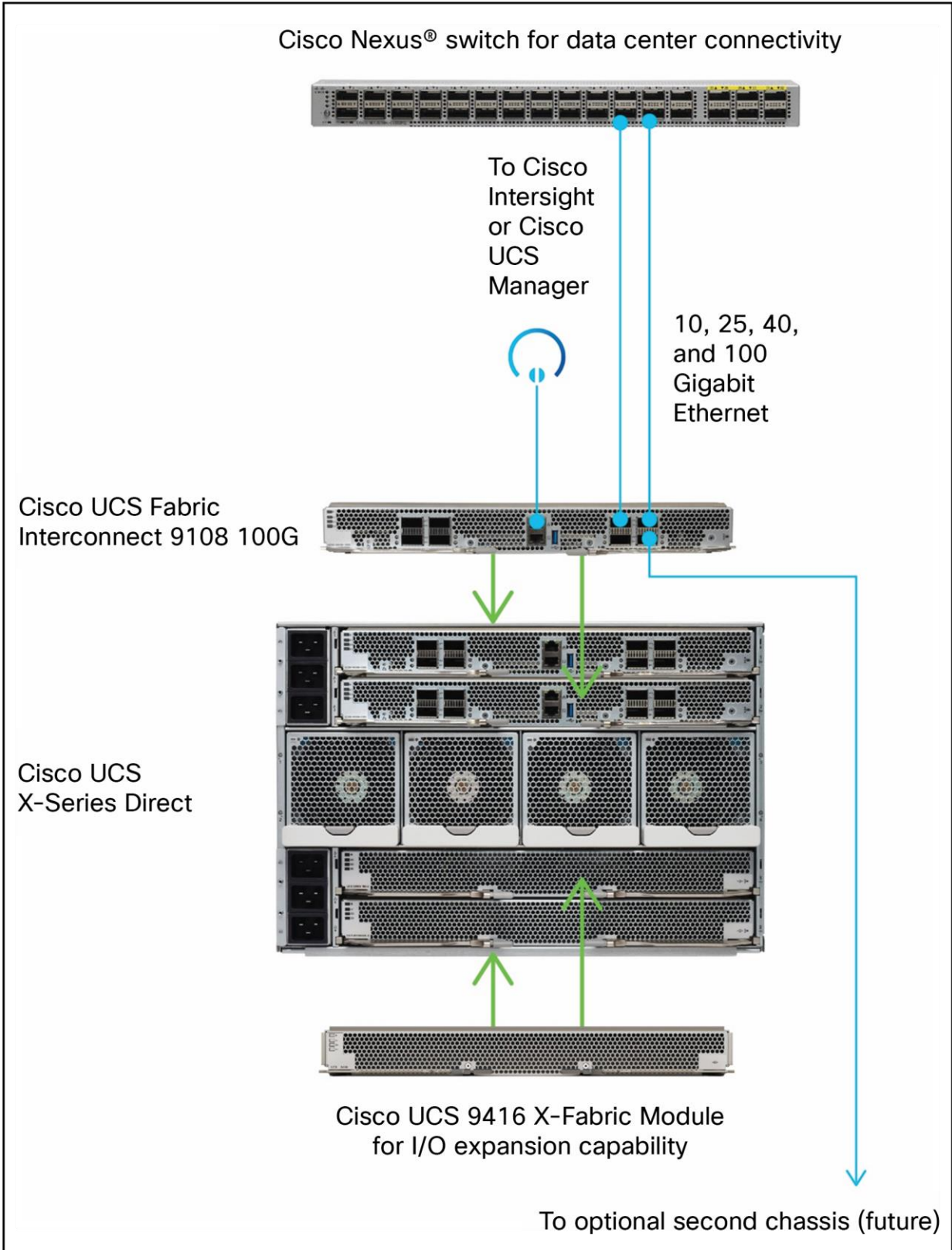
## Product overview

Cisco and Nutanix have partnered to introduce the industry's first hyperconverged solution using a modular server architecture. The Cisco Compute Hyperconverged X-Series Direct System solution combines the operational simplicity of the Nutanix Cloud Platform with the flexibility and efficiency of the award-winning Cisco UCS® X-Series Direct Modular System enabling organizations to easily deploy, scale, and upgrade hyperconverged clusters with a more sustainable, future-ready solution.

Cisco Compute Hyperconverged X-Series Direct simplifies your data center, adapting to the unpredictable needs of modern applications while also providing an edge scaled for remote branch office workloads. It minimizes the IT infrastructure deployed at edge locations to achieve desired business outcomes. As customers are looking to increase the number of applications at the edge while deploying as little IT infrastructure as possible, Cisco Compute Hyperconverged X-Series Direct, powered by Cisco Intersight®, enables the benefits of scale together with a secure and unified connectivity.

Cisco Compute Hyperconverged X-Series Direct begins with the [Cisco Compute Hyperconverged X9508 Chassis](#), engineered to be adaptable and future ready. It is a standardized, 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. The I/O connectivity modules of the solution are the Cisco UCS X-Series Direct fabric interconnect modules, a unified fabric for Ethernet and Fibre Channel. Additionally, the X9508 chassis can have expanded GPU capabilities using the Cisco UCS X-Fabric technology, which interconnects X-Series compute and PCIe nodes using high-speed PCIe technology.



**Figure 1.** Cisco Compute Hyperconverged X-Series Direct architectural options

## Features and benefits

**Table 1.** Features and benefits

Feature	Benefit
<b>Adaptable system</b>	Enables the system to support new technologies for modern applications Improves operational efficiency and agility by reducing complexity
<b>Fabric interconnect modules</b>	Connects the chassis to upstream network switches for direct connectivity Reduces Capital Expenditures (CapEx) for small data centers and edge locations
<b>Enterprise-class server</b>	Offers performance, flexibility, and optimization for deployments in data centers, in the cloud, and at remote sites Offers one of the highest densities of compute, I/O, and storage per rack unit, reducing Operational Expenditures (OpEx)
<b>PCIe node</b>	Accelerates modern applications by connecting up to four GPUs per compute node Dramatically simplifies the addition, removal, or upgrade of GPUs to compute nodes
<b>X-Fabric module</b>	Creates a modular pool of resources to connect PCIe devices to compute nodes
<b>Intersight Infrastructure Service</b>	Brings all the benefits of SaaS delivery and full lifecycle management to Cisco Compute Hyperconverged X-Series Direct Transforms Cisco Compute Hyperconverged X-Series Direct from a set of components into a flexible HCI platform to propel the most important workloads

## Simplification for workloads at the edge

Cisco Compute Hyperconverged X-Series Direct provides a lossless and deterministic converged fabric for management, Ethernet, and storage connectivity for the Cisco UCS X-Series Modular System. With full Intersight management capabilities through the Cisco UCS Fabric Interconnect 9108 100G module, it offers the same simplicity and functionality as Cisco UCS X-Series and at the same time reduces the CapEx for small data centers and remote locations.

With the Cisco Compute Hyperconverged X-Series Direct, customers can extend their hyperconverged environments with fewer requirements for compute architecture yet still work on an enterprise level. A flat network-layer architecture allows simpler connectivity and helps connecting at the edge or in smaller domains. Cisco Compute Hyperconverged X-Series Direct takes the simplicity to a next level:

- **Get simplified connectivity at the edge:** with direct connectivity to the top-of-rack switch, Cisco Compute Hyperconverged X-Series Direct helps to further simplify connectivity to hyperconverged clusters, thereby reducing cost and easing access to all resources.
- **Support a broader range of use cases:** Cisco Compute Hyperconverged X-Series Direct, in combination with the Nutanix Cloud Platform, enables customers for multiple uses cases – ranging from edge storage, video analytics to AI/ML use cases and general-purpose storage in edge, remote branch and small-to-medium Data Center locations.

- **Simplify with future-ready technology:** with a modular system designed to support future generations of processors, storage, nonvolatile memory, and accelerators, Cisco Compute Hyperconverged X-Series Direct is ready to house technology for today with an approach that embraces the future.
- **Simplify with cloud-operated infrastructure:** with management removed from servers and chassis and placed in the cloud using Cisco Intersight (Intersight Managed Mode), you can manage your entire infrastructure and respond at the speed and scale of your business. You can shape Cisco Compute Hyperconverged X-Series Direct resources to workload requirements through the Cisco Intersight cloud-operations platform and gain intelligent insights, optimization, and orchestration for all of your applications and infrastructure. Automation drives agility and consistency, helping you reduce time to market while lowering cost and risk.

## 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 Compute Hyperconverged X-Series Direct 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.
- Accelerated IT transformation at the edge with simplified handling of various applications and use cases with flexible deployment options.
- Increased agility and responded 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.

## Platform support

**Table 2.** Platform support

Product family	Platform supported
HCIX-M7-MLB	Cisco Compute Hyperconverged C220 M7 Node with Nutanix Multi Line Bundle (MLB)

## Product specifications

**Table 3.** Product specifications

Item	Specification
<b>Server data path bandwidth</b>	1.6 Tbps for 8 compute nodes  (1x 100 Gbps or 4x25 Gbps per compute-node per HCIX-S9108-100G, for a total of 200Gbps per compute node with dual HCIX-S9108-100G per X9508 Chassis)
<b>Network data path bandwidth</b>	1.6Tbps  8x 100Gbps per HCIX-S9108-100G, with two FIs per chassis.
<b>Ethernet connectivity</b>	1, 10, 25, 40, 100 Gbps
<b>Number of Fibre Channel ports</b>	Up to 8x 32 Gbps through breakout cables
<b>Number of Ethernet uplink ports</b>	Up to 8x 100 Gbps
<b>Number of appliance ports</b>	Up to 8
<b>Management</b>	<a href="#">Cisco Intersight software</a> (SaaS, virtual appliance, and private virtual appliance)
<b>Physical (height x width x depth)</b>	4.3 cm x 37.9 cm x 25.8 cm (1.71 in, x 14.92 in x 10.15 in.)
<b>Temperature: operating</b>	10C to 35C (50F to 95 F)
<b>Temperature: nonoperating</b>	-40° C to 65° C (-40F to 149F)
<b>Humidity: operating</b>	Operating 8-80% RH, noncondensing
<b>Humidity: nonoperating</b>	Nonoperating 10-93% RH, noncondensing
<b>Altitude: operating</b>	0 to 10,000 ft at 30° C max.
<b>Altitude: nonoperating</b>	12,000 meters (39,370 feet)
<b>Weight</b>	3.9 kg (8.5 lb)

**Table 4.** Regulatory standards compliance: safety and EMC

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

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

## System requirements

**Table 5.** System requirements

Item	Description
<b>X-Series chassis</b>	Cisco Compute Hyperconverged X9508 Chassis
<b>Cisco Intersight</b>	Intersight Managed Mode

## Ordering information

**Table 6.** Ordering Information

Part #	Product description
<b>HCIX-S9108-100G</b>	Cisco UCS Fabric Interconnect 9108 100G



## Warranty information

Cisco Compute Hyperconverged X-Series Direct 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 issues 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 7.** Cisco environmental sustainability information

Sustainability topic		Reference
General	Information on product-material-content laws and regulations	<a href="#">Materials</a>
	Information on electronic waste laws and regulations, including our products, batteries, and packaging	<a href="#">WEEE Compliance</a>
	Information on product takeback and reuse program	<a href="#">Cisco Takeback and Reuse Program</a>
	Sustainability inquiries	Contact: <a href="mailto:csr_inquiries@cisco.com">csr_inquiries@cisco.com</a>
Material	Product packaging weight and materials	Contact: <a href="mailto:environment@cisco.com">environment@cisco.com</a>

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## Cisco and partner services

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

## Cisco Capital

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