

# Cisco UCS X9516 X-Fabric

August 2025



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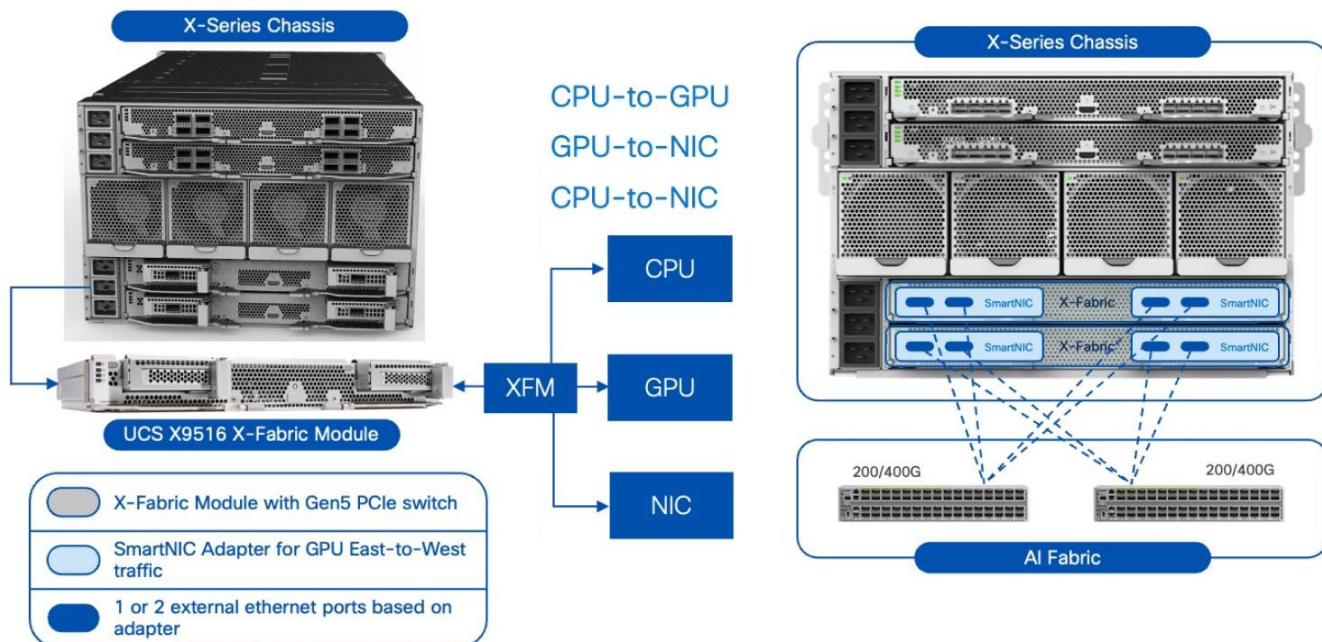
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Unbox the future with the Cisco UCS® X-Series Modular System and Cisco Intersight®. Together, the Cisco UCS X9516 X-Fabric Module and UCS X580p PCIe Node deliver a fully composable, cloud-operated infrastructure optimized for generative AI, HPC, VDI, and enterprise workloads. This future-ready solution provides high-speed PCIe switching, flexible GPU expansion, SmartNIC integration, and policy-driven resource provisioning to simplify IT and innovate at the speed of software.



## Product overview

The Cisco UCS X9516 X-Fabric Module is a key component of the Cisco UCS X-Series Modular System, delivering high-speed PCIe switching to meet the demands of modern GPU-intensive workloads such as generative AI, agentic AI, HPC, and high-performance visualization. As the second generation of X-Fabric technology from Cisco, the UCS X9516 enables true composable infrastructure with policy-based GPU and NIC provisioning tailored to application needs.

The Cisco UCS X9516 supports third-party SmartNICs and DPUs, which can be provisioned with servers and GPUs in the chassis, enhancing performance for distributed AI workloads and enabling east-west GPU-to-GPU communication at scale. Managed through Cisco Intersight®, the UCS X9516 simplifies operations with flexible, non-disruptive addition, removal, and upgrades of GPUs and fabric components.

The Cisco UCS X580p PCIe Node complements the UCS X9516 by expanding GPU capacity, supporting up to four dual-slot, full-height GPUs per node with NVLink Bridge and GPU Direct RDMA. This integration allows GPUs to be dynamically shared across servers, maximizing utilization and efficiency.

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The UCS X-Series chassis is engineered with a midplane-free design to optimize airflow, serviceability, and upgradeability. Its vertical compute and PCIe nodes connect directly to horizontal UCS X9516 modules, enabling a future-ready architecture that allows seamless upgrades across compute, GPU, and fabric components without forklift replacements.

**Key highlights:**

- High-speed PCIe switching for GPU, NIC, and server connectivity
- Policy-driven GPU and NIC assignment through Cisco Intersight
- Support for NVIDIA H200 NVL, L40S, and RTX Pro 6000 Blackwell GPUs
- NVLink Bridge and GPU Direct RDMA for GPU-to-GPU performance
- SmartNIC-enabled AI fabric support for large-scale distributed workloads
- Modular, composable design for disaggregated lifecycle management
- Scalability: up to 8 GPUs and 4 SmartNICs per chassis

## Features and benefits

**Table 1.** Summary of features and benefits of the Cisco UCS X9516 X-Fabric

Feature	Benefit
<b>Scalable and flexible</b>	<ul style="list-style-type: none"><li>• Rapid deployment of AI and accelerated computing technologies</li><li>• Suited for any data center environment</li></ul>
<b>PCIe Gen5 switching</b>	<ul style="list-style-type: none"><li>• PCIe Gen5 host-to-GPU and host-to-NIC connectivity</li></ul>
<b>2x CEM slots to support HHHH NIC cards</b>	<ul style="list-style-type: none"><li>• Scale out with external connectivity to AI fabric</li></ul>
<b>Managed XFM modules with BMC support</b>	<ul style="list-style-type: none"><li>• Provides out-of-band management capabilities</li></ul>
<b>Intersight-based management</b>	<ul style="list-style-type: none"><li>• Dynamic GPU and NIC provisioning</li><li>• See, control, and automate your compute, GPU, and networking infrastructure throughout its lifecycle</li></ul>
<b>GPU direct support over RDMA</b>	<ul style="list-style-type: none"><li>• Enables high-performance memory-to-memory data transfers between nodes</li></ul>
<b>GPU backend (east-west traffic) network support</b>	<ul style="list-style-type: none"><li>• Handle large volumes of GPU-to-GPU communication</li></ul>

## Product sustainability

Information about Cisco's environmental, social, and governance (ESG) initiatives and performance is provided in the Cisco CSR and sustainability [reporting](#).

**Table 2.** Cisco environmental sustainability information

Sustainability topic		Reference
<b>General</b>	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 the Cisco Takeback and Reuse Program	<a href="#">Cisco Takeback and Reuse Program</a>
	General sustainability inquiries	Contact: <a href="mailto:csr_inquiries@cisco.com">csr_inquiries@cisco.com</a>
<b>Material</b>	Product packaging weight and materials	Contact: <a href="mailto:environment@cisco.com">environment@cisco.com</a>

## Product specifications

**Table 3.** Specifications of Cisco UCS X9516 X-Fabric

Item	Specifications
<b>X-Fabric</b>	<ul style="list-style-type: none"><li>• X-Fabric modules with PCIe switching</li></ul>
<b>Network adapter (east-west traffic)</b>	<ul style="list-style-type: none"><li>• NVIDIA OEM MCX715105AS-HEAT 1x 400 GbE QSFP112 PCIe gen5 NIC</li><li>• NVIDIA OEM MCX755106AS-HEAT 2x 200 GbE QSFP112 PCIe gen5 NIC</li></ul>
<b>Management</b>	<ul style="list-style-type: none"><li>• <a href="#">Cisco Intersight software</a> (SaaS)</li></ul>
<b>Temperature: operating</b>	<ul style="list-style-type: none"><li>• 50° to 81°F (10° to 27° C)</li></ul>
<b>Temperature: nonoperating</b>	<ul style="list-style-type: none"><li>• -40° to 149°F (-40° to 65° C)</li></ul>
<b>Humidity: operating</b>	<ul style="list-style-type: none"><li>• 5% to 93% noncondensing</li></ul>
<b>Humidity: nonoperating</b>	<ul style="list-style-type: none"><li>• 5% to 93% noncondensing</li></ul>
<b>Altitude: operating</b>	<ul style="list-style-type: none"><li>• 0 to 10,000 ft (0 to 3000 m); maximum ambient temperature decreases by 1° C per 300 m</li></ul>
<b>Altitude: nonoperating</b>	<ul style="list-style-type: none"><li>• 40,000 ft (12,000 m)</li></ul>

## System requirements

**Table 4.** System requirements

Item	Requirements
<b>X-Series chassis</b>	<ul style="list-style-type: none"><li>• Cisco UCS X9508 Chassis</li></ul>
<b>Compute nodes</b>	<ul style="list-style-type: none"><li>• Cisco UCS X210c M8 &amp; UCS X215c M8 Compute Nodes</li></ul>
<b>Fabric interconnects</b>	<ul style="list-style-type: none"><li>• Cisco UCS fourth-, fifth-, and sixth-generation fabric interconnects</li></ul>
<b>X-Fabric modules</b>	<ul style="list-style-type: none"><li>• Cisco UCS X9516 X-Fabric Modules for UCS X9508 Chassis</li></ul>
<b>Cisco Intersight</b>	<ul style="list-style-type: none"><li>• Intersight Managed Mode (minimum Essentials license per server attached)</li></ul>

## Ordering information

**Table 5.** Ordering information for the Cisco UCS X9516 X-Fabric

Part number	Description
<b>UCSX-FS-9516</b>	• UCS X9516 X-Fabric PCIe Gen5 switch module for 9508 chassis
<b>UCSX-M8-MLB</b>	• UCSX M8 Modular Server and CHASSIS MLB
<b>UCSX-P-N7S400GFO</b>	• NVIDIA OEM MCX715105AS-HEAT 1x 400 GbE QSFP112 PCIe Gen5 NIC
<b>UCSX-P-N7D200GFO</b>	• NVIDIA OEM MCX755106AS-HEAT 2x 200 GbE QSFP112 PCIe Gen5 NIC

For information about installing or upgrading your server, see the Hardware Installation Guide.

For ordering information, see the UCS X9516 Spec Sheet.

## Warranty Information

### Warranty services

The Cisco UCS X9516 X-Fabric Module 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 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 43% more quickly on average than with product support alone. Cisco Solution Support is a critical element in data center administration, helping rapidly resolve issues 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. Transform your IT environment with [Cisco Services](#).

## 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 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

## Flexible payment solutions to help you achieve your objectives

Cisco Capital™ financing 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 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. [Cisco Capital](#).

## Document history

Table 6. Document history

New or revised topic	Described in	Date
Initial version	Document	August 2025

Americas Headquarters  
Cisco Systems, Inc.  
San Jose, CA

Asia Pacific Headquarters  
Cisco Systems (USA) Pte. Ltd.  
Singapore

Europe Headquarters  
Cisco Systems International BV Amsterdam,  
The Netherlands

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