Cisco UCS X440p PCle Node Data Sheet

Updated: September 4, 2024

Un/Box the future with Cisco UCS® X-Series Modular System and Cisco Intersight™. Embrace an adaptable, future-ready, and cloud-operated system to simplify IT and innovate at the speed of software.

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 your focus from administrative details to business outcomes—with hybrid cloud infrastructure that is assembled from the cloud, shaped to your workloads, and continuously optimized.

The Cisco UCS X-Series was engineered to be modular and flexible to offer adaptability and workload flexibility. With the introduction of PCIe Node and X-Fabric technology, X-Series now supports workloads that require GPUs. The unique architecture dramatically simplifies the addition, removal, or upgrade of GPUs to compute nodes. The Cisco UCS X440p PCIe Node allows you to add up to four GPUs to a Cisco X210c M6, X210c M7 or X410c M7 Compute Node with Cisco UCS X-Fabric Technology. Cisco UCS X-Series has no midplane; this innovative design provides fewer obstructions for better airflow. The vertically

Fabric modules. This enables seamless upgrades to future compute nodes, resource nodes, and X-Fabric modules without requiring any forklift upgrades.

Features and benefits

Main features

The Cisco UCS X440p PCIe Node is the first PCIe resource node to integrate into the Cisco UCS X-Series Modular System. The Cisco UCS X9508 Chassis has eight node slots, up to four of which can be X440p PCIe nodes when paired with a Cisco UCS X210c M6 Compute Node. The UCS X440p PCIe Node supports two x16 full-height, full-length dual slot PCIe cards, or four x8 full-height, full-length single slot PCIe cards and requires both UCS 9416 X-Fabric modules for PCIe connectivity. This provides up to 16 GPUs per chassis to accelerate your applications with the UCS X440p Nodes. If your application needs even more GPU acceleration, up to two additional GPUs can be added on each UCS X210c compute node.

Cisco UCS X440p supports following GPU options:

- Nvidia H100 NVL Tensor Core GPU
- Nvidia H100 Tensor Core GPU
- Nvidia L40 GPU
- Nvidia L40S GPU
- Nvidia L4 Tensor Core GPU
- Nvidia A100 Tensor Core GPU
- Nvidia A16 GPU
- Nvidia A40 GPU
- Nvidia T4 Tensor Core GPU
- Intel Data Center GPU Flex 140
- Intel Data Center GPU Flex 170

Product specifications

Table 1. **Product specifications**

Item	Specifications
GPUs	- Nvidia H100 Tensor Core GPU (dual slot) - Nvidia L40 GPU (dual slot) - Nvidia L40S GPU (dual slot) - Nvidia L4 Tensor Core GPU (single slot)

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Item	Specifications
	• Nvidia A16 GPU (dual slot) • Nvidia A40 GPU (dual slot) • Nvidia T4 Tensor Core GPU (single slot) • Intel Data Center GPU Flex 140 (single slot) • Intel Data Center GPU Flex 170 (dual slot)
Riser options	• Riser A for 1x dual slot GPU per riser • Riser B for 2x single slot GPUs per riser
Management	Cisco Intersight software (SaaS, virtual appliance and private virtual appliance) UCS Manager (UCSM) 4.3(4) or later
Temperature: operating	50° to 95°F (10° to 35°C)
Temperature: nonoperating	–40° to 149°F (–40° to 65°C)
Humidity: operating	5% to 93% noncondensing
Humidity: nonoperating	5% to 93% noncondensing
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)

System requirements

Table 2.   System requirements

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Item	Requirements
X-Series chassis	Cisco UCS X9508 Chassis
Fabric Interconnects	Cisco UCS 6454, UCS 64108, and UCS 6536 fabric interconnects
X-Fabric modules	Cisco UCS X9416 X-Fabric modules for X9508 chassis
Cisco Intersight	Intersight Managed Mode (minimum Essentials license per server)

Ordering information

Table 3 provides ordering information for the Cisco UCS X440p PCIe Node.

Table 3.   **Ordering information**

Part number	Description
UCSX-M6-MLB	UCSX M6 Modular Server and CHASSIS MLB
UCSX-M7-MLB	UCSX M7 Modular Server and CHASSIS MLB
UCSX-440P-U	Cisco UCS X-Series Gen4 PCIe node within MLB
UCSX-440P	Cisco UCS X-Series Gen4 PCIe node within UCS X210c config
UCSX-GPU-L4	NVIDIA L4 Tensor Core, 70W, 24GB
UCSX-GPU-L40	NVIDIA L40, PASSIVE, 300W, 48GB
UCSX-GPU-L40S	NVIDIA L40S, PASSIVE, 350W, 48GB

Part number	Description
UCSX-GPU-H100-80	NVIDIA H100, PASSIVE, 350W, 80GB
UCSX-GPU-H100-NVL	NVIDIA H100 NVL, PASSIVE, 400W, 94GB
UCSX-GPU-T4-16	NVIDIA T4 PCIE 75W 16GB
UCSX-GPU-A16	NVIDIA A16 PCIE 250W 4X16GB
UCSX-GPU-A40	TESLA A40 RTX, PASSIVE, 300W, 48GB
UCSX-GPU-A100-80	TESLA A100, PASSIVE, 300W, 80GB
UCSX-GPU-FLEX140	Intel GPU Flex 140, Gen4x8, HHHL, 75W PCIe
UCSX-GPU-FLEX170	Intel GPU Flex 170, Gen4x16, HHFL, 150W PCIe
UCSX-RIS-A-440P	Riser A for 1x dual slot GPU per riser, X440p PCle node (FHFL GPUs)
UCSX-RIS-B-440P	Riser B for 2x single slot GPUs per riser, X440p PCle node (HHHL GPUs)

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

For ordering information, see the X440p spec sheet.

Warranty information

The Cisco UCS X440p PCle Node 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®

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.

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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 4.   **Product 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

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

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.

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Document history

New or Revised Topic	Described In	Date
Nvidia H100 NVL Tensor Core GPU	Table 1	August 2024
Nvidia H100 Tensor Core GPU (dual slot)	Table 3	
UCS Manager (UCSM) 4.3(4) or later		
Nvidia L40S GPU	Table 1, Table 3	June 12, 2024

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