Cisco Nexus 9000 Switch Support

VAST

New AI Applications Demand Infrastructure Agility

VAST Data is continuing to expand its certifications for the Cisco Nexus 9000 Series Ethernet Switches for the VAST Data Platform. As customers incorporate these switches into their storage fabrics, Cisco and VAST will deliver the scale, speed, and efficiency necessary to power AI applications.

Cisco Nexus switching delivers industry-leading performance and scalability, innovative congestion management and flow control algorithms, and visibility with real-time telemetry via the Cisco Nexus Dashboard. Combined with the VAST Data Platform's infinitely scalable, high-performance DataSpace, this partnership simplifies network management and operations. These benefits extend across infrastructure endpoints, accelerated by optimizations designed for advanced AI processes, like retrieval-augmented generation (RAG), and inference.

The VAST Data Platform leverages the Cisco Nexus 9000 Series Switches to support its requirements for low-latency, high-bandwidth interconnections between C-Nodes and D-Nodes.

This also includes:

- **PFC (Priority Flow Control)** – Prevents Ethernet frame drops by sending pause frames to appropriate senders to signal, control, and manage traffic flow along the path.

- **ECN (Explicit Congestion Notification)** – Provides end-to-end notification per IP flow by marking packets that experience congestion without dropping traffic.

- **RDMA/RoCEv2** – The Nexus 9000 Series offers lossless transport for Remote Direct Memory Access (RDMA) over Converged Ethernet (RoCE) and supports Data Center Bridging (DCB) protocols.

- **Dynamic Load Balancing (DLB) Per-Packet Mode** – Used for scenarios where the endpoints allow packet reordering, this mode distributes traffic across the available links to spread traffic evenly, reducing network congestion.

AI workloads can demand complexity from any infrastructure environment, but Cisco and VAST deliver **simplicity, observability,** and **scalability** in any situation, enabling organizations to flourish in a data-driven, AI-focused world.

Simplicity
Network composability enables a high-performance, scalable AI infrastructure by integrating Cisco's Nexus 9000 Series Switches with the VAST Data Platform, creating a best-in-class solution for evolving needs.

Observability
Cisco's Nexus switches, seamlessly integrated with VAST Data, ensure smooth data flow from edge to core to cloud, meeting the needs of data-hungry algorithms and services.

Scalability
Cisco and VAST offer a scalable solution that can grow with your business, ensuring management, visibility, and operational efficiency coupled with performance-optimized compute, storage, and networking.

These capabilities are on the Nexus 9364D-GX2A and 9332D-GX2B switch models today, and additional supported models will be coming soon. These switches have the following characteristics:

Nexus 9364D-GX2A	Nexus 9332D-GX2B
64x400 Gbps QSFP-DD & 2x1/10 Gbps SFP+ ports	32x400 Gbps QSFP-DD & 2x1/10 Gbps SFP+ ports
2RU with 51.2Tbps bidirectional bandwidth	1RU with 25.6Tbps bidirectional bandwidth
Buffer 120MB	Buffer 120MB

The QSFP-DD ports also support native 200G (QSFP56), 100G (QSFP28) and 40G (QSFP+). Each port can also support 4x10G, 4x25G, 4x50G, 4x100G, and 2x200G breakouts.

Bringing Transformative Solutions to the Modern AI Era
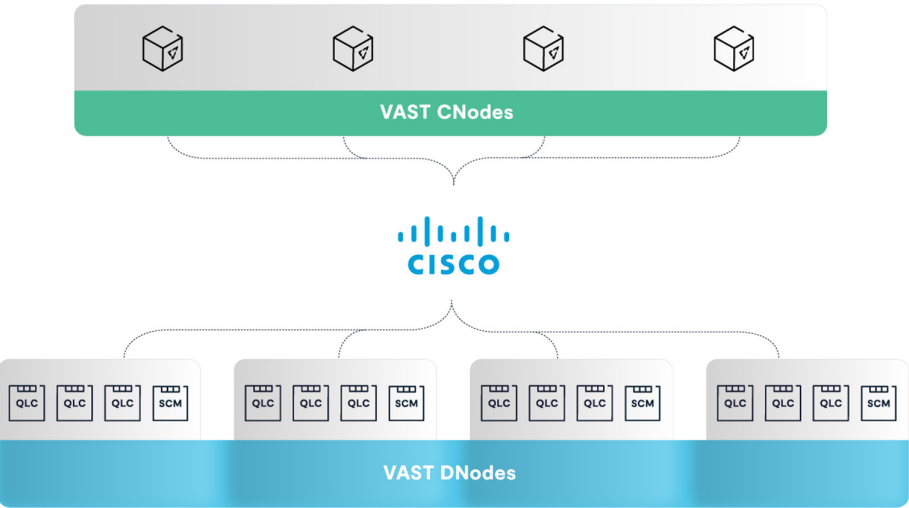
The growing use of Generative AI is driving an increased demand for GPUs and storage capacity. Modern AI applications require large clusters —often consisting of thousands of GPUs and storage devices —potentially scaling to tens of thousands as demands increase. With GPU speeds doubling every other year, it's essential to prevent compute and network bottlenecks with scalable network design. As application teams enhance compute capacity, network teams must carefully evaluate interconnects to ensure optimal performance. Networks that balance performance, simplicity, observability, and scalability will lead the AI revolution.

AI workloads demand storage that provides multi-protocol, scalable, and performance-oriented access to structured and unstructured data. This requires a reimagining of traditional storage solutions. A secure, multi-tenant solution, utilizing the performance and ubiquity of Ethernet, ensures that current and future challenges are quickly addressed with proven technologies.

Together, Cisco's Nexus 9000 Series Switches and the VAST Data Platform represent the ideal combination of simplicity, observability, and scalability through proven technologies like Ethernet and NVMe over Fabrics. Leveraging these combined resources, customers can confidently face any challenge AI presents.

About Cisco

Cisco (NASDAQ: CSCO) is the worldwide leader in IT, helping companies seize tomorrow's opportunities by proving that amazing things can happen when you connect with the previously unconnected. For more information, please visit **www.cisco.com**

About VAST Data

VAST Data is the data platform company built for the AI era. As the new standard for enterprise AI infrastructure, organizations trust the VAST Data Platform to serve their most data-intensive computing needs. VAST Data empowers enterprises to unlock their data's full potential by providing simple, scalable, and architected AI infrastructure to power deep learning and GPU-accelerated data centers and clouds. Launched in 2019, VAST Data is the fastest-growing data infrastructure company in history. For more information, please visit **www.vastdata.com**

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