CORNELIS® CN6000 800G OMNI-PATH® SWITCH

Natively designed for multi-plane.

48 ports at 800G, 76.8 Tb/s of full-duplex switching and latency as low as 105 ns, in one conduction-cooled 1U switch.



The Network AI and HPC Has Been Waiting For

Built for Scale and Efficiency

The CN6000 Omni-Path Switch is purpose-built for AI data centers and large-scale HPC. It delivers 800G on each of 48 ports — or 96 ports at 400G — and 76.8 Tb/s of full-duplex switching bandwidth in one 1U switch. The lossless fabric scales past 500,000 endpoints while keeping latency low and predictable.

Multi-Plane by Design

The switch holds two independent 48-port 400G planes. With one cable per node, each CN6000 Omni-Path SuperNIC reaches both planes at up to 800 Gb/s, while each plane keeps the radix and low hop count of a 400G fabric. A fault in one plane leaves the other running, so the cluster keeps working while you service it.

Intelligent, Congestion-Free Networking

Traditional Ethernet relies on packet drops and retransmissions. CN6000 stays lossless instead: incast-aware, credit-based flow control keeps buffers from overflowing, fine-grained adaptive routing and static dispersive routing balance traffic across paths, and low-latency link-level retransmission recovers from errors before applications notice. The result is lower tail latency and higher fabric utilization.

Optimized for AI and HPC Workloads

As models grow and training clusters expand, the network decides how much work accelerators get done. With switch latency as low as 105 ns and deterministic performance across thousands of nodes, CN6000 speeds training, disaggregated inference and scientific computing — raising CPU and GPU utilization and shortening time to results.

Advanced Telemetry, Simple Operations

Real-time telemetry reports link, congestion and buffer metrics. OpenBMC-based management supports Redfish and PLDM, in-band or out-of-band, plus a CLI over 10/100/1000BASE-T Ethernet with NTP and LDAP — for proactive monitoring, fast troubleshooting and simpler lifecycle management.

Enterprise-Class Reliability and Security

Secure boot, a secure key EEPROM and protected key storage guard the platform. Conduction cooling supports high-density racks, and hot-swappable, field-replaceable power supplies with N+N redundancy keep the switch running. Cornelis OPX open-source software manages the fabric from host to switch.

48 × 800G	76.8 Tb/s	105 ns	500K+
Ports, or 96 × 400G	Full-duplex switching	Latency, as low as	Endpoints in one fabric

WHERE OMNI-PATH FITS

AI

Train large language models, serve disaggregated inference, run agentic AI frameworks, and power fraud detection & computer vision on a lossless fabric.

HPC

Climate modeling, seismic analysis, aerospace and automotive simulation, and genomic research — MPI and SHMEM codes at national-lab scale.

CORNELIS® CN6000 800G OMNI-PATH® SWITCH

Technical Specifications

Switching and Fabric

Ports	48 × 800G QSFP-DD, or 96 × 400G
Bandwidth	76.8 Tb/s full duplex
Architecture	Two independent 48-port 400G planes; one cable per node reaches both
Switch latency	As low as 105 ns
Fabric scale	More than 500,000 endpoints
Virtual lanes	1 to 8 data VLs plus 1 management VL
Flow control	Credit-based and incast-aware; lossless under load
Routing	Fine-grained adaptive (FGAR); static dispersive (SDR)
Error recovery	Low-latency link-level retransmission; optional correction

Power and Environmental

Power input	240 to 277 VAC, 50/60 Hz, or 48 VDC
Power supplies	Dual, hot-swappable and field-replaceable; N+N redundant
Power, DAC	856 W typical, 929 W maximum (all ports DAC)
Power, AOC	1,663 W typical, 1,767 W maximum (all ports AOC)
Temperature	Operating 10 to 35 °C, derate 1 °C per 175 m above 900 m; storage –40 to 70 °C
Humidity	Operating 5% to 85%; storage 5% to 95%; non-condensing
Altitude	Operating 0 to 3,000 m; storage 0 to 12,000 m

Management, Security and Hardware

Management	Integrated OpenBMC; Redfish and PLDM; in-band and out-of-band
CLI	Over 10/100/1000BASE-T Ethernet; NTP and LDAP
Telemetry	Real-time link, congestion and buffer metrics
Security	Secure boot; secure key EEPROM; protected key storage
Software	Cornelis OPX open-source host and management software
Form factor	1U; 1.7 × 17.2 × 26.1 in (4.4 × 43.8 × 66.3 cm), H × W × D
Cooling	Conduction-cooled; fan-to-port or port-to-fan airflow
Weight	AC 17.5 kg (38.5 lb); DC 16.6 kg (36.5 lb)

Compliance

Emissions	FCC Part 15 Subpart B Class A; ICES-3(A)/NMB-3(A); EN 55032; EN 55035; VCCI Class A; AS/NZS CISPR 32 Class A; KS C 9832 and KS C 9835; BSMI CNS 15936 Class A
Safety	IEC/EN/CSA 62368-1 (NRTL, CB Scheme)
Environmental	RoHS 2011/65/EU and 2015/863; REACH (EC) No 1907/2006

The CN6000 Omni-Path Family

An end-to-end 800G fabric: the CN6000 Omni-Path Switch, the Omni-Path SuperNIC, cables, and open-source OPX host and management software. Pair the switch with CN6000 SuperNICs to enable its full congestion-free, lossless operation at scale.

Ordering Information

Item	Cornelis OPN	Description
980245	CN6SWE48G2WF	CN6000 Omni-Path Switch, 48-port, 240/277 VAC, dual power supply, conduction-cooled, fan-to-port airflow
TBD	CN6SWE48G2WP	CN6000 Omni-Path Switch, 48-port, 240/277 VAC, dual power supply, conduction-cooled, port-to-fan airflow
TBD	CN6SWE48D2WF	CN6000 Omni-Path Switch, 48-port, 48 VDC, dual power supply, conduction-cooled, fan-to-port airflow

Learn more at www.cornelisnetworks.com

Specifications are subject to change without notice; values marked TBD are pending confirmation. Contact your Cornelis Networks representative for the latest specifications and roadmaps. Features and benefits depend on system configuration and may require enabled hardware, software or service activation. Cornelis, the Cornelis logo and Cornelis product names are trademarks of Cornelis Networks. Other names and brands may be claimed as the property of others. © 2026 Cornelis Networks. All rights reserved. Revision 2.0, November 2026.