



# Dell Networking H1024-OPF and H1048-OPF Edge Switches

HPC Fabrics that deliver high performance with breakthrough cost models

The Dell Networking H1024-OPF and H1048-OPF Edge switches deliver 100 Gbps port bandwidth with latency that stays low even at extreme scale. These 24- or 48-port 1U switches are based on Intel® Omni-Path Architecture.

## Accelerate HPC workloads at any scale

The Dell Networking H-series switches are purpose-built for HPC, delivering more networking bandwidth, lower end-to-end latency, higher message rates and better fabric resiliency, while reducing capital and operational costs.

## Rapidly move priority information

Eliminate performance bottlenecks for compute and storage-intensive workloads. The Dell H-series networking switches deliver high compute traffic throughput and low end-to-end latency:

- 100Gb/s per port, 25GB/s fabric bandwidth
- 100 to 110ns port-to-port switch latency includes error detection and correction

Boost network performance with up to 1.2 terabytes of aggregate bandwidth. The Dell H-series provide hardware-based error detection and correction features, including:

- Packet Integrity Protection (PIP) allows for rapid and transparent recovery of transmission errors on an Intel® OPA link without any additional latency, compared to alternate error recovery approaches such as Forward Error Correction (FEC).
- Traffic Flow Optimization (TFO) optimizes Quality of Service (QoS) by reducing the variation in latency seen through the network by high priority traffic in the presence of lower priority traffic.
- Dynamic Lane Scaling (DLS) is designed to maintain link continuity in the event of a failure of one of more physical lanes (each link contains four lanes). This enables a workload to continue to completion.

## Reach more nodes faster in fewer hops

Dell Networking H-series, 48-port fabric switches can dramatically lower fabric acquisition costs and simultaneously reduce space and power requirements.

The Dell H1048-OPF 48-port switch delivers a 33% increase in ports per switch compared to a standard 36-port switch.

## Extreme scalability and flexibility

Scale systems confidently with networking engineered for top performance today, and flexibility for tomorrow's compute and storage requirements. The H-series 48-port edge switch scales up to 27,648 end points at full bi-sectional bandwidth in a 5-hop fat-tree edge/core design, up from the 11,664 nodes that was possible with a standard 36-port switch.

## Support and Warranty

### Dell ProSupport Services and Tools

Spend less time resolving network issues. ProSupport and ProSupport Plus deliver 24x7x365 access to technical experts and automated remote monitoring, enabled by Dell SupportAssist technology, to proactively resolve issues, often before you realize they exist. Services for multivendor environments include third-party collaborative assistance, configuration assistance and best practice recommendations. With Dell Support Services and tools you gain more time to focus on your business objectives and stay competitive.

### Warranty

Get the peace of mind that comes with basic hardware warranty coverage that includes three-year 8x5 hardware and 90-day software technical support with basic troubleshooting and next business day repair or part replacement.

Minimize fabric cost,  
maximize cluster capability

## Specifications: Dell Networking H-Series edge switches

Dell SKU description	Performance	Regulatory, environment and other compliance
<b>Switches</b> Dell Networking H1024-OPF: 24 port unmanaged Edge Switch in 1U Form-factor, 1 110/220VAC PSU, Service side to I/O side air flow Dell Networking H1024-OPF: 24 port unmanaged Edge Switch in 1U Form-factor, 2 110/220VAC PSU, Service side to I/O side air flow Dell Networking H1048-OPF: 48 port unmanaged Edge Switch in 1U Form-factor, 1 110/220VAC PSU, Service side to I/O side air flow Dell Networking H1048-OPF: 48 port unmanaged Edge Switch in 1U Form-factor, 2 110/220VAC PSU, Service side to I/O side air flow	<b>Switching capacity:</b> H1024-OPF: 4.8Tbps H1048-OPF: 9.6Tbps	<b>Regulatory, environment and other compliance</b> <b>Regulatory model designations</b> 100SWE24 and 100SWE48
<b>Management (optional)</b> Dell Networking H1000 Series, Edge Switch Management Card	<b>Dimensions</b> <b>Size:</b> H1024-OPF: 1 RU, 17.3" w x 1.72" h x 17.15" d (43.9cm w x 4.39cm d x 42.6cm d) H1048-OPF: 1RU, 17.3" w x 1.72" h x 17.15" d (43.9cm w x 4.39cm d x 42.6cm d) <b>Weight:</b> H1024-OPF: 12.44 lb (5.65kg) 1 PSU 13.64 lb (6.19kg) 2 PSU H1048-OPF: 13.5 lb (6.13 kg) 1 PSU 14.7 lb (6.67 kg) 2 PSU	<b>Safety and emissions</b> US/Canada • FCC Part 15, Subpart B, Class A • CAN ICES-3 (A) Europe • CISPR22 • CISPR32/EN55032 • EN55024 • EN61000-3-2 • EN61000-3-3 Japan • VCCI, Class A New Zealand/Australia • AS/NZS CISPR 22, Class A Customs Union: Russia, Belarus and Kazakhstan
<b>Cables</b> Omni-Path Fabric Passive Direct Attach Copper Cable QSFP-QSFP H, 0.5m Omni-Path Fabric Passive Direct Attach Copper Cable QSFP-QSFP H, 1m Omni-Path Fabric Passive Direct Attach Copper Cable QSFP-QSFP, 2m Omni-Path Fabric Passive Direct Attach Copper Cable QSFP-QSFP F, 3m Omni-Path Fabric Active Optical Cable QSFP-QSFP, 5m Omni-Path Fabric Active Optical Cable QSFP-QSFP, 10m Omni-Path Fabric Active Optical Cable QSFP-QSFP, 15m Omni-Path Fabric Active Optical Cable QSFP-QSFP, 20m Omni-Path Fabric Active Optical Cable QSFP-QSFP, 30m Omni-Path Fabric Active Optical Cable QSFP-QSFP, 50m Omni-Path Fabric Active Optical Cable QSFP-QSFP, 100m	<b>Environmental</b> <b>Operating temperature:</b> H1024-OPF: 0°C to 40°C (32°F to 104°F) H1048-OPF: 0°C to 40°C (32°F to 104°F) <b>Storage temperature:</b> H1024-OPF: -40°C to 70°C (-40°F to 158°F) H1048-OPF: -40°C to 70°C (-40°F to 158°F) <b>Operating humidity:</b> H1024-OPF: 5% to 85% non-condensing H1048-OPF: 5% to 85% non-condensing <b>Storage temperature:</b> H1024-OPF: 5% to 95% non-condensing H1048-OPF: 5% to 95% non-condensing	<b>Agency Approvals – Safety (Planned)</b> US/Canada • TUV NRTL: UL 60950-1, CSA 22.1.No. 60950-1 Europe • TUV SUD EN60950-1 International • CB Scheme: IEC 60950-1
<b>Physical</b> <b>Chassis</b> <b>Ports:</b> H1024-OPF: 24 H1048-OPF: 48 <b>Link speed:</b> H1024-OPF: 100Gb/s H1048-OPF: 100Gb/s <b>Interface type:</b> H1024-OPF: QSFP28 H1048-OPF: QSFP28 <b>Management ports:</b> H1024-OPF: 1 10/100/1000 BASE-T H1048-OPF: 1 10/100/1000 BASE-T <b>USB ports:</b> H1024-OPF: 1 Serial Type A H1048-OPF: 1 Serial Type A	<b>Power</b> <b>Power supply:</b> H1024-OPF: 100-240 VAC 50-60 Hz H1048-OPF: 100-240 VAC 50-60 Hz <b>Typical power consumption:</b> H1024-OPF: 146 Watts H1048-OPF: 186 Watts <b>Max. power consumption:</b> H1024-OPF: 179 Watts H1048-OPF: 238 Watts	<b>RoHS/REACH</b> • Complies with RoHS II Directive 2011/65/EU of the European Parliament
	<b>Availability</b> <b>Power supply redundancy:</b> H1024-OPF: 100-240 VAC 50-60 Hz H1048-OPF: 100-240 VAC 50-60 Hz <b>Fan redundancy:</b> H1024-OPF: N+1 H1048-OPF: N+1 <b>Airflow:</b> H1024-OPF: Front-to-back (reversible) H1048-OPF: Front-to-back (reversible)	

Learn more at [Dell.com/H-Series](https://Dell.com/H-Series).

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Dell Networking H1024/1048OPF Spec Sheet

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