Ultra-low-latency, data center optimized

The Dell Force10 S-Series S4810 is an ultra low-latency 10/40 GbE Top-of-Rack (ToR) switch purpose-built for applications in high-performance data center and computing environments. Leveraging a non-blocking, cut-through switching architecture, the S4810 delivers line-rate L2 and L3 forwarding capacity with ultra low-latency to maximize network performance. The compact S4810 design provides industry-leading density of 48 dual-speed 1/10 GbE (SFP+) ports as well as four 40 GbE QSFP+ uplinks to conserve valuable rack space and simplify the migration to 40 Gbps in the data center core (Each 40 GbE QSFP+ uplink can support four 10 GbE ports with a breakout cable). Priority-based Flow Control (PFC), Data Center Bridge Exchange (DCBX), Enhance Transmission Selection (ETS), coupled with ultra low latency and line rate throughput, make the S4810 ideally suited for iSCSI storage, FCoE Transit & DCB environments. In addition, the S4810 incorporates multiple architectural features that optimize data center network flexibility, efficiency, and availability, including IO panel to PSU airflow or PSU to IO panel airflow, and redundant, hot-swappable power supplies and fans.

The S4810 also supports Dell Force10’s Open Automation Framework, which provides advanced network automation and virtualization capabilities for virtual data center environments. The Open Automation Framework is comprised of a suite of inter-related network management tools that can be used together or independently to provide a network that is more flexible, available and manageable while reducing operational expenses.

Key features

• 1RU high-density 10/40 GbE ToR switch with 48 dual-speed 1/10 GbE (SFP+) ports and four 40 GbE (QSFP+) uplinks (totaling 64 10 GbE ports with breakout cables)
• 1.28 Tbps (full-duplex) non-blocking, cut-through switching fabric delivers line-rate performance under full load with 800ns latency
• Scalable L2 and L3 Ethernet switching with QoS and a full complement of standards-based IPv4 and IPv6 features
• IO panel to PSU airflow or PSU to IO panel airflow
• Open Automation Framework adds VM-awareness as well as automated configuration and provisioning capabilities to simplify the management of virtual network environments
• Modular Dell Force10 Operating System (FTOS) software delivers inherent stability as well as advanced monitoring and serviceability functions
• Supports jumbo frames for high-end server connectivity
• 128 link aggregation groups with up to 8 members per group, using advanced hashing
• Redundant, hot-swappable power supplies and fans
• Hardware support for DCB
• Low power consumption
• VLT & eVLT: multichassis link to enable up to 576 10GE (3:1 over subscription)
• User Port stacking support for up to 6 units
• Support IPv6 Layer 2 and FIPS certification

Key applications

• Ultra-low-latency 10 GbE switching in HPCC, high-speed trading, or other business-sensitive deployments that require the highest bandwidth and lowest latency
• High-density 10 GbE ToR server aggregation in high-performance data center environments
• Design with the E-Series or Z-Series core switch/router to create a flat, two-tier, non-blocking 1/10/40 GbE data center network design
• Design a distributed core Clos fabric with S4810 switch in leaf and spine with the S-Series 1/10GbE ToR switches for cost-effective aggregation of 10 GbE uplinks
• Regular iSCSI Storage deployment
• Enterprise iSCSI (iSCSI over DCB)
• FIP Snooping Bridge as part of storage solution

Ultra low latency 10GbE Top-of-Rack switch optimized for data center efficiency
Specifications: S4810 High-Performance 10/40 GbE Top-of-Rack Switch

**Dell SKU description**

**S4810**

- 48 x 10GbE SFP+, 4 x QSFP+, 1 x AC PSU, 2 x Fans, IO Panel to PSU Airflow
- 48 x 10GbE SFP+, 4 x QSFP+, 1 x AC PSU, 2 x Fans, PSU to IO Panel Airflow

**IPv6 routes:** 8K (shared CAM space with IPv4)
**IPv4 routes:** 16K
**MAC addresses:** 128K

**Power supply:** 100–240 VAC 50/60 Hz
**Weight:** 14.39 lbs (6.54 kg)
**Size:** 1 RU, 1.73 h x 17.32 w x 18.11” d (4.4 h x 44 w x 46 cm d)

- 1 RJ45 console/management port with RS232 signaling
- 4 line-rate 40 Gigabit Ethernet QSFP+ ports

**IEEE Compliance**

<table>
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<tr>
<th>Standard</th>
<th>Description</th>
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<tr>
<td>802.1Q</td>
<td>VLAN Tagging, Double VLAN Tagging, GVRP</td>
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<td>Multicast Filtering</td>
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<td>LLDP-MED MIB (traps)</td>
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<td>Radius High Capacity Alarm MIB</td>
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<td>802.1Q</td>
<td>802.1X with RADIUS</td>
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<td>802.1Q</td>
<td>RADIUS High Capacity Alarm MIB</td>
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**Network Management**

- 4801 IP Forwarding Table MIB
- 4801 SNMPv3 MIB
- 4801 Management Frameworks
- 4801 IPv4 Configuration & User’s Guide
- 4801 IPv6 Configuration & User’s Guide
- 4801 IPv4v6 Configuration & User’s Guide

**Regulatory Compliance**

- UL/CSA 60950-1, Second Edition
- EN 60950-1, Second Edition

**Network Management**

- IPv4v6 Configuration & User’s Guide
- IPv4 Configuration & User’s Guide
- IPv6 Configuration & User’s Guide
- IPv4 Configuration & User’s Guide
- IPv6 Configuration & User’s Guide
- IPv4 Configuration & User’s Guide
- IPv6 Configuration & User’s Guide
- IPv4 Configuration & User’s Guide
- IPv6 Configuration & User’s Guide
- IPv4 Configuration & User’s Guide
- IPv6 Configuration & User’s Guide

**Physical**

- 48x10 Port Gigabit Ethernet SFP+ ports
- 4x40 Port Gigabit Ethernet QSFP+ ports

**Rack space:** 1 RU

**Network Management**

- IPv4v6 Configuration & User’s Guide
- IPv4 Configuration & User’s Guide
- IPv6 Configuration & User’s Guide
- IPv4 Configuration & User’s Guide
- IPv6 Configuration & User’s Guide
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- IPv6 Configuration & User’s Guide
- IPv4 Configuration & User’s Guide
- IPv6 Configuration & User’s Guide
- IPv4 Configuration & User’s Guide
- IPv6 Configuration & User’s Guide

**Redundancy**

- Hot swappable redundant power
- Hot swappable redundant fans

**Performance**

- IP Packet: 128K
- IPv4 routing: 16K
- IPv6 routes: 8K (shared CAM space with IPv4)

**Switch fabric capacity:** 1.28 Tbps (full-duplex)
**460 Gbps (half-duplex)**

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