Ultra-low-latency, data center optimized

The Dell Networking S-Series S4810 is an ultra-low-latency 10/40GbE 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 48 dual-speed 1/10GbE (SFP+) ports as well as four 40GbE QSFP+ uplinks to conserve valuable rack space and simplify the migration to 40Gbps in the data center core. Priority-based flow control (PFC), data center bridge exchange (DCBX) and enhance transmission selection (ETS), coupled with ultra low latency and line rate throughput, make the S4810 ideally suited for iSCSI storage, FCoE transit and DCB environments. In addition, the S4810 incorporates multiple architectural features that optimize data center network flexibility, efficiency and availability, including I/O panel to PSU airflow or PSU to I/O panel airflow for hot/cold aisle environments, and redundant, hot-swappable power supplies and fans.

The S4810 also supports Dell Networking’s Embedded Open Automation Framework, which provides advanced network automation and virtualization capabilities for virtual data center environments.

An Active Fabric™ design with S4810 switches can be built out to create scalable, high-performance 10/40GbE data center networks. The resiliency of an Active Fabric is superior to legacy, centralized core architectures, since the failure of a single node within a CLOS network cannot bring down the entire switching fabric.

The S4810 is supported with Active Fabric Manager (AFM), which helps automate design and deployment of multi-tier fabrics. AFM helps customers manage multiple fabrics from a single console, enabling a unified view of the entire fabric, when combined with Dell OMNM and other management solutions. With AFM, over 25 templates can be customized for specific workload and deployment scenarios, easily delivering active/active L2 or L3 designs for 1/10/40G with Dell Z Series switches to rack and blade infrastructures (including Dell MXL).

Key features

• 1RU high-density 10/40GbE ToR switch with 48 dual-speed 1/10GbE (SFP+) ports and four 40GbE (QSFP+) uplinks (totaling 64 10GbE ports with breakout cables)
• 1.28Tbps (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, including OSPF, BGP and Policy Based Routing (PBR) support
• VRF-lite enables sharing of networking infrastructure and provides L3 traffic isolation across tenants
• Increase VM Mobility region by stretching L2 VLAN within or across two DCs with unique VLT capabilities like Routed VLT, VLT Proxy Gateway
• User port stacking support for up to six units
• Embedded Open Automation Framework adds VM awareness as well as automated configuration and provisioning capabilities to simplify the management of virtual network environments. Supports In-Box Puppet agent for DevOps
• Modular Dell Networking OS software delivers inherent stability as well as advanced monitoring and serviceability functions
• Enhanced mirroring capabilities including 1:4 local mirroring, Remote Port Mirroring (RPM) and Encapsulated Remote Port Mirroring (ERPM). Rate shaping combined with flow based mirroring enables the user to analyze fine grained flows
• Redundant, hot-swappable power supplies and fans
• Hardware support for DCB, FIPS operation

Key applications

• High-density 10GbE ToR server aggregation in high-performance data center environments
• Design with the Z Series fabric core switch to create a flat, two-tier, non-blocking 1/10/40GbE data center network design
• Design a Clos-based Active Fabric with Z Series switches in leaf and spine with the S4810/S4820T 10GbE ToR switches for cost-effective aggregation of 10GbE uplinks
• Enterprise iSCSI (iSCSI over DCB)
• High-performance SDN/OpenFlow 1.3 enabled with ability to inter-operate with industry standard OpenFlow controllers

Ultra-low-latency 10GbE top-of-rack switch optimized for data center efficiency.