Dell Networking S Series
S60 high-performance 1/10GbE access switch with ultra-deep packet buffering

Non-blocking switching and routing, stackable 48-port GbE switch with up to four 10GbE ports in just 1RU, ultra-deep packet buffering, integrated network automation and virtualization technology with Dell Networking’s Open Automation Framework in a flexible, resilient and energy-efficient design.

S Series S60 high-performance access switch
The Dell Networking S Series S60 is a high-performance 1/10GbE access switch optimized for lowering operational costs at the network edge. The S60 answers the key challenges related to network congestion in data center top-of-rack (ToR) and service provider aggregation deployments. As the use of bursty applications and services continues to increase, huge spikes in network traffic that can cause network congestion and packet loss also become more common. The S60 is equipped with one of the industry’s largest packet buffers (1.25GB), enabling it to deliver lower application latency and maintain predictable network performance even when faced with significant spikes in network traffic. Providing 48 GbE ports and up to four optional 10GbE uplinks in just 1RU, the S60 conserves valuable rack space. Further, the S60 design delivers unmatched configuration flexibility, high reliability, and power and cooling efficiency to reduce costs.

In addition to delivering a compact and scalable design, the S60 also supports the Dell Networking 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.

Applications
- 1/10GbE server aggregation at the ToR in high-performance data center environments
- With the S4810/S4820T/Z9000 virtualized switch/router to create a flat, two-tier, non-blocking 1/10GbE data center network design

Key features
- The 1RU S60 switch delivers 48 GbE access interfaces
  - 44 10/100/1000Base-T copper ports (RJ45)
  - 4 GbE ports that can be configured for copper or fiber (SFP)
- Plus, the S60 provides two optional high-speed slots that support any of the following uplink modules:
  - 2-port 10GbE SFP+ module
  - 2-port 12Gbps stacking module
  - 1-port 24Gbps stacking module
- Ultra-deep packet buffering (1.25GB) eliminate congestion associated with bursty applications and services
- Energy-efficient, versatile design supports the lowest power consumption in its class as well as I/O to PSU panel airflow or PSU to I/O panel airflow
- 176Gbps switching capacity delivers low-latency switching
- Highly scalable layer 2 and layer 3 switching with a full complement of standards-based IPv4 and IPv6 features for unicast and multicast applications
- Networking’s Open Automation Framework adds VM awareness as well as automated configuration and provisioning capabilities to simplify the management of virtual network environments
- Carrier-class, NEBS level 3 certified product design supports redundant, hot-swappable power supplies (AC or DC) and fans
- Stacking technology enables up to 12 S60 switches to be managed as a single unit
- Modular Dell FTOS software delivers inherent stability as well as advanced monitoring and serviceability functions
- Supports 9,252 byte jumbo frames

Wire-speed 1/10GbE with ultra-deep packet buffering delivers consistent and efficient application performance.
Specifications: S60 high-performance 1/10GbE ToR switch

Ordering Information

SG6
44 x 10/100/1000Base-T, 4 x 1GbE SFP, 1x AC PSU, 1x FM, I/O to PSU Panels (Normal)
44 x 10/100/1000Base-T, 4 x 1GbE SFP, 1x AC PSU, 1x FM, PSU to I/O Panels (Reverse)
44 x 10/100/1000Base-T, 4 x 1GbE SFP, 1x DC PSU, 1x FM, I/O to PSU Panels (Normal)
44 x 10/100/1000Base-T, 4 x 1GbE SFP, 1x DC PSU, 1x FM, PSU to I/O Panels (Reverse)

Redundant power supplies and fan modules*
AC Power Supply, I/O to PSU Panels (Normal)
AC Power Supply, PSU to I/O Panels (Reverse)
DC Power Supply, I/O to PSU Panels (Normal)
DC Power Supply, PSU to I/O Panels (Reverse)
Fan Module, 3 x Fan, I/O to PSU Panels (Normal)
Fan Module, 3 x Fan, PSU to I/O Panels (Reverse)

Specifications: S60 high-performance 1/10GbE ToR switch

Physical
44 x 10/100/1000Base-T ports
4 GbE SFP ports
1 R2S4, console management port with RS232 signaling
1 RJ45, Ethernet management port
1 USB-B management port
1 RJ45 console management port with RS232 signaling
44 x 10/100/1000Base-T ports
4 x 1GbE SFP, 1x AC PSU, 1x FM, I/O to PSU Panels (Normal)
4 x 1GbE SFP, 1x DC PSU, 1x FM, I/O to PSU Panels (Normal)

Software
FTOS – Networking Operating System Software, L3, S60

Power supply: 100–240V AC 50/60 Hz, –44 to –60V DC
1 USB-B management port
1 RJ45 console management port with RS232 signaling
4 GbE SFP ports
44 10/100/1000Base-T ports
1 USB-B management port
1 RJ45 console management port with RS232 signaling
4 GbE SFP ports
44 10/100/1000Base-T ports
4 x 1GbE SFP, 1x AC PSU, 1x FM, I/O to PSU Panels (Normal)
4 x 1GbE SFP, 1x DC PSU, 1x FM, I/O to PSU Panels (Normal)

Redundancy
Ring stacking topology with dynamic master election
Dual modular slots with up to four 10GbE ports
Link aggregation across stack members
Hot swappable redundant AC/DC power
Hot swappable redundant fans

Performance
MAC addresses: 32K
IPv4 routes: 16K
IPv4 routes: 8K

Switching capacity: 176Gbps
Forwarding capacity: 131Mpps
Link aggregation: 16 links per group, 128 groups per switch
Stacking capacity per group: 0 queues
VLANS: 4096
Layer 2 switching: All protocols, including IPv4 and IPv6
Layer 3 routing: IPv4 and IPv6
LAG load balancing: Based on layer 2, IPv4 or IPv6 headers
Swapping latency: <9 us for 64 byte frames
Packet buffer memory: 1.25GB
CPU memory: 2GB
SD card: 8GB

IEEE compliance
802.1AB LDP
802.1Q VLAN Link Tagging, Double VLAN Tagging, GVRP
802.1x Network Access Control
802.3 ac Fast Ethernet (100Base-TX)
802.3 Z Ethernet (10Base-T)
802.3 v Flow Control
802.3 z Gigabit Ethernet (10Gb-Ease-X)
802.3 x Gigabit Ethernet (10Gb-Ease-CX4)
802.3 i Gigabit Ethernet (10Gb-Ease-2)
802.3 T EtherCAT (100Base-TX)
802.3 g Gigabit Ethernet (10Gb-Ease)

RFC and I-D compliance
General internet protocols
768 UDP 1321 MDS
769 TCP 1350 TFTP
854 Telnet 2474 Differentiated Services
959 FTP 3164 Sygic

General IPv4 protocols
791 IPv4 1812
792 ICMPE 1858
802 ARP 2133
1027 Proxy ARP 2338
1035 DNS 3021
1119 Ethernet Transmission 3046
1150 Path MTU Discovery 3069
1151 NDP 3073
1152 CIDR 3074
1542 BOOTP (relay)

General IPv6 protocols
1981 Path MTU Discovery 2463
2461 Neighbor Discovery 2464
1521 NDP 2422
2328 OSPFv3 2428
2370 Opqae USA

BGP
1997 Communities 3065
2385 MDS 3460
2343 Route map Ramping 4893
2796 Route Reflection 5169
2843 Capabilities 5396
2858 Multiprotocol Extensions 4721
2918 Route Refresh 4724

Multicast
1112 IGMPV4 4541
2236 IGMPV2 4561
3376 IGMPV3 4601
3569 NSM 4622

Network management
1155 SNMPv1
1156 Internet MIB
1157 SNMPv2
1212 Concise MIB Definitions

© 2013 Dell, Inc. All rights reserved. Dell, Inc and the DELL logo are trademarks of Dell, Inc. All other company names are trademarks of their respective holders. Information in this document is subject to change without notice. Dell, Inc. assumes no responsibility for any errors that may appear in this document.

Learn More at Dell.com/Networking