Dell Force10 S-Series
S4820T high-performance 1/10/40GbE top-of-rack switch

High Density 1/10G BASE-T Switch
The Dell Force10 S-Series S4820T 1/10G BASE-T Top-of-Rack (ToR) switch is purpose-built for high performance data centers. By leveraging a non-blocking, cut-through (default mode is store and forward) switching architecture, the S4820T delivers line-rate L2/L3 features to maximize network performance. The S4820T design provides (48) 1/10G BASE-T ports that support 100Mb/1Gb/10Gb and four 40GbE QSFP+ uplinks. Each 40GbE QSFP+ uplink can be broken out into four 10GbE ports using breakout cables.

Priority-based Flow Control (PFC), Enhanced Transmission Selection (ETS), Data Center Bridge Exchange (DCBx) coupled with line rate throughput positions the S4820T as an ideal solution for data center ToR applications for servers, and storage arrays. In addition, the S4820T incorporates multiple architectural features that optimize data center network flexibility, efficiency, and availability. These features include IO panel to PSU airflow or PSU to IO panel airflow for hot/cold aisle environments, and redundant, hot-swappable power supplies and fans. S4820T 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 flexible, available and manageable while helping to reduce operational expenses.

Key applications
- High-density 1/10G BASE-T ToR server aggregation in high-performance data center environments
- Design with the Z-Series core switch to create a two-tier, non-blocking 1/10/40GbE data center network architecture
- Lossless iSCSI storage deployments using DCB
- Enterprise, Web 2.0, and cloud service providers’ data center networks for ToR and end of row applications

Key features
- 1/10GbE copper connectivity for maximum flexibility and investment protection
- 1.28 Tbps (full-duplex) non-blocking, cut-through (default mode is store and forward) switching fabric offers line-rate performance
- IO panel to PSU airflow or PSU to IO panel airflow

1/10G BASE-T Cabling Distances

<table>
<thead>
<tr>
<th>Cable Type</th>
<th>1G BASE-T</th>
<th>10G BASE-T</th>
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</thead>
<tbody>
<tr>
<td>Cat 6 UTP</td>
<td>100m (330 ft)</td>
<td>55m (180 ft)</td>
</tr>
<tr>
<td>Cat 6 STP</td>
<td>100m (330 ft)</td>
<td>100m (330 ft)</td>
</tr>
<tr>
<td>Cat 6A UTP</td>
<td>100m (330 ft)</td>
<td>100m (330 ft)</td>
</tr>
<tr>
<td>Cat 7</td>
<td>100m (330 ft)</td>
<td>100m (330 ft)</td>
</tr>
</tbody>
</table>

Flexible, powerful top-of-rack switch for data centers of all sizes
Specifications: S4820T 1/10G BASE-T High-Performance Top-of-Rack Switch

**Multicast**
- 112 IGMPv1
- 226 IGMPv2
- 337 IGMPv3
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**Network Management**
- 1155 SNMP
- 1564 IPv4-ACL
- 1212 Concise MIB Definitions
- 2125 SNMP Traps
- 1495 Bridges MIB
- 1850 OSPFv2 MIB
- 1901 Community-based SNMPv2
- 2011 IP MIB
- 2042 TC P MIB
- 2013 UDP MIB
- 2096 IF Forwarding Table MIB
- 2106 MIB
- 2757 Management Frameworks
- 2757 Message Processing and Dispatching
- 2757 Coexistence Between SNMPv4/IPv6
- 2758 SMv2
- 2759 Technical Conventions for SMv2
- 2760 Conformance Statements for SMv2
- 2761 RADL/Authentication MIB
- 2665 Ethernet-like Interfaces MIB
- 2674 Extended Bridging MIB
- 2678 VRRP MIB
- 2819 RMON MIB (groups 1, 2, 3, 9)
- 2861 Interfaces MIB
- 2865 RADIUS
- 3273 RMON High-Capacity MIB
- 3416 SNMPv2
- 3418 SNMPv3
- 3434 RMON High-Capacity Alarm MIB
- 3580 102.1X with RADIUS
- 5060 PM MIB

**ANSI/TIA-1057**
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**RFC and I-D Compliance**

**General Internet Protocols**

**General IPv4 Protocols**

**General IPv6 Protocols**

**BGP**

**Regulatory Compliance**

**Safety**

**Emissions**

Australia/New Zealand: AS/NZS CISPR 22 Class A

Canada: IEC/EN 60950-1, 2nd Edition

Europe: EN 60950-1, 2nd Edition Including all National Deviations and Group Differences

Laser Safety

Optical Fibre Communication Systems

FDI Regulation 21 CFR 1040.10 and 1040.11

**RoHS**

All S-Series components are EU RoHS compliant.