



Dell Networking S3048-ON

1GbE top-of-rack open networking switch

High density 1000BASE-T switch

The Dell Networking S3048-ON 1000BASE-T Top-of-Rack (ToR) switch is the industry's first 1GbE enterprise switching platform to deliver both an industry hardened OS and support for open networking, providing freedom to run third-party operating systems (OS), such as Cumulus Linux.

This open networking platform is built for high-performance, software-defined data centers and provides the features to run traditional workloads and the flexibility to deploy new workloads such as Hadoop, SDS and Big Data. The S3048-ON offers the flexibility to run OS options optimized for diverse deployment needs on a common hardware platform and architecture.

The S3048-ON features a non-blocking switching architecture coupled with OS9.X software, delivering line-rate L2/L3 features for maximized network performance. The S3048-ON design provides (48) 1000BASE-T ports that support 10MbE/100MbE/1GbE and four 10GbE SFP+ uplinks. Each 10GbE interface can be used as uplinks to the network spine/core, as stack ports to connect up to six units in a stacked configuration, or a combination of both, depending on network architecture and uplink/stack bandwidth requirements.

The S3048-ON 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
- Redundant, hot-swappable power supplies and fans with color coded touch points for ease of identification/removal.
- Dell ReadyRails for efficient installation of the switch into data center cabinets.

The S3048-ON also supports Dell Networking's Embedded Open Automation Framework, which provides advanced network automation and virtualization capabilities for virtual data center environments. Embedded Open Automation Framework is a suite of network management apps 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 1000BASE-T ToR server aggregation in high-performance data centers environments
- Active Fabric™ designs with the S- or Z-Series core switch to create a two tier, 1/10/40GbE data center network architecture
- Enterprise, Web 2.0 and cloud service providers' data center networks for ToR applications
- High-performance SDN/OpenFlow 1.3 enabled with ability to inter-operate with industry standard OpenFlow controllers

Key features

- Four SFP+ 10GbE ports for maximum flexibility and investment protection
- I/O panel to PSU airflow or PSU to I/O panel airflow
- Redundant, hot-swappable power supplies and fans
- Supports ONIE for zero-touch installation of alternate network operating systems
- Open Networking offers choice of OS, such as Dell Networking OS9.X for inherent stability and feature richness, or the flexibility of a third-part OS (such as Cumulus Linux)
- VRF-lite enables sharing of networking infrastructure and provides L3 traffic isolation across tenants (including support for multicast and IPv6 routing)
- Enhanced automation capabilities (puppet agent, REST API extensions)
- Supports jumbo frames for high-end performance in virtualized environments and IP storage/server communication
- 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 managed as one logical device
- Embedded Open Automation Framework adds VM awareness automated configuration and provisioning capabilities to simplify the management of virtual network environments

1 gigabit Ethernet, open architecture, purpose-built switch for the software-defined era

draft-ietf-idr-bgp4-20 BGPv4
draft-michaelson-4byte-as-representation-05
4-byte ASN Representation (partial)
draft-ietf-idr-add-paths-04.txt ADD PATH

Multicast

1112 IGMPv1
2236 IGMPv2
3376 IGMPv3
MSDP
draft-ietf-pim-sm-v2-new-05
PIM-SMw

Network management

1155 SMIv1
1157 SNMPv1
1212 Concise MIB Definitions
1215 SNMP Traps
1493 Bridges MIB

1850 OSPFv2 MIB
1901 Community-Based SNMPv2
2011 IP MIB
2096 IP Forwarding Table MIB
2578 SMIv2
2579 Textual Conventions for SMIv2
2580 Conformance Statements for SMIv2
2618 RADIUS Authentication MIB
2665 Ethernet-Like Interfaces MIB
2674 Extended Bridge MIB
2787 VRRP MIB
2819 RMON MIB (groups 1, 2, 3, 9)
2863 Interfaces MIB
3273 RMON High Capacity MIB
3410 SNMPv3
3411 SNMPv3 Management Framework
3412 Message Processing and Dispatching for
the Simple Network Management Protocol
(SNMP)
3413 SNMP Applications
3414 User-based Security Model (USM) for
SNMPv3
3415 VACM for SNMP
3416 SNMPv2
3417 Transport mappings for SNMP
3418 SNMP MIB

3434 RMON High Capacity Alarm MIB
3584 Coexistence between SNMP v1, v2 and v3
4022 IP MIB
4087 IP Tunnel MIB
4113 UDP MIB
4133 Entity MIB
4292 MIB for IP
4293 MIB for IPv6 Textual Conventions
4502 RMONv2 (groups 1,2,3,9)
5060 PIM MIB
ANSI/TIA-1057 LLDP-MED MIB
Dell_ITA.Rev_1_1 MIB
draft-grant-tacacs-02 TACACS+
draft-ietf-idr-bgp4-mib-06 BGP MIBv1
IEEE 802.1AB LLDP MIB
IEEE 802.1AB LLDP DOT1 MIB
IEEE 802.1AB LLDP DOT3 MIB
sFlow.org sFlowv5
sFlow.org sFlowv5 MIB (version 1.3)
FORCE10-BGP4-V2-MIB Force10 BGP MIB
(draft-ietf-idr-bgp4-mibv2-05)
FORCE10-IF-EXTENSION-MIB
FORCE10-LINKAGG-MIB
FORCE10-COPY-CONFIG-MIB
FORCE10-PRODUCTS-MIB
FORCE10-SS-CHASSIS-MIB
FORCE10-SMI
FORCE10-TC-MIB
FORCE10-TRAP-ALARM-MIB
FORCE10-FORWARDINGPLANE-STATS-MIB
3376 IGMPv3
MSDP
draft-ietf-pim-sm-v2-new-05 PIM-SMw

Regulatory compliance

Safety

UL/CSA 60950-1, Second Edition
EN 60950-1, Second Edition
IEC 60950-1, Second Edition Including All
National Deviations and Group Differences
EN 60825-1 Safety of Laser Products Part 1:
Equipment Classification Requirements and
User's Guide
EN 60825-2 Safety of Laser Products Part
2: Safety of Optical Fibre Communication

Systems
FDA Regulation 21 CFR 1040.10 and 1040.11

Emissions

Australia/New Zealand: AS/NZS CISPR 22:
2006, Class A
Canada: ICES-003, Issue-4, Class A
Europe: EN 55022: 2006+A1:2007 (CISPR 22: 2006),
Class A
Japan: VCCI V3/2009 Class A
USA: FCC CFR 47 Part 15, Subpart B:2011,
Class A

Immunity

EN 300 386 V1.4.1:2008 EMC for Network
Equipment
EN 55024: 1998 + A1: 2001 + A2: 2003
EN 61000-3-2: Harmonic Current Emissions
EN 61000-3-3: Voltage Fluctuations and
Flicker
EN 61000-4-2: ESD
EN 61000-4-3: Radiated Immunity
EN 61000-4-4: EFT
EN 61000-4-5: Surge
EN 61000-4-6: Low Frequency
Conducted Immunity

RoHS

All S Series components are EU RoHS
compliant.

Certifications

Available with US Trade Agreements Act (TAA)
compliance
USGv6 Host and Router Certified on Dell
Networking OS
9.7 and greater
IPv6 Ready for both Host and Router
UCR DoD APL (core and distribution ASLAN
switch)**

Warranty

1 year return to depot

** UC APL certification is contingent upon successful test completion



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