D&LLTechnologies

S4100 SPEC SHEET



DELL EMC POWERSWITCH S4100-ON

High-performance open networking top-of-rack switches with multirate Gigabit Ethernet and unified ports

The S4100-ON 10GbE switches comprise DellTechnologies' latest disaggregated hardware and software data center networking solutions, providing state-of-the-art 100GbE uplinks, fibre channel connectivity and a broad range of functionality to meet the growing demands of today's data center environment. These innovative, next-generation top-of-rack open networking switches offer optimum flexibility and cost-effectiveness for the enterprise, midmarket and tier 2 cloud service providers with demanding compute and storage traffic environments.

The compact S4100-ON models provide industry-leading density with up to 48 ports of 10GbE or up to 48 ports of 10GBaseT ports, 2 ports of 40GbE and 4 ports of 100GbE in a 1RU form factor. The S4148U-ON model can support up to 28 8/16G fibre channel ports, or 16 ports of 32G* fibre channel ports. The S4112-ON is a half-rack width model that supports up to 12 ports of 10GbE or 12 ports 10GBaseT, and 3 ports of 100GbE.

Using industry-leading hardware and a choice of Dell EMC SmartFabric OS10 or select 3rd party network operating systems and tools, the S4100-ON Series offers flexibility by provision of configuration profiles and delivers non-blocking performance for workloads sensitive to packet loss. The compact S4100-ON models provide multirate speed, enabling denser footprints and simplifying migration to 100Gbps. Also unique to the S4100-ON series is the ability to meet the demands of converged and virtualized data centers

by offering unified ports (S4148U) and hardware support for L2 and L3 VXLAN Gateway. Priority-based flow control (PFC), data center bridge exchange (DCBX) and enhanced transmission selection (ETS) make the S4100-ON ideally suited for DCB environments. Dell EMC PowerSwitch S4100-ON switches support the open source Open Network Install Environment (ONIE) for zero touch installation of Dell EMC SmartFabric OS10 networking operating system, as well as of alternative network operating systems

Maximum performance and functionality

The S4100-ON series are high-performance, multifunction, 1/10/25/40/50/100 GbE and 8/16/32G FC top-of-rack (ToR) switches purpose-built for applications in high-performance data center, cloud and computing environments. Architectural features to optimize data center network flexibility, efficiency and availability 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.

Key applications

- Organizations looking to enter the software-defined data center era with a choice of networking technologies designed to maximize flexibility
- Multi-functional 1/10/25/40/50/100 GbE switching in High Performance Computing Clusters or other business-sensitive deployments requiring the highest bandwidth. High-density 1/10 GbE ToR server access in high-performance data center environments

- iSCSI and FC storage deployment, including DCB converged lossless transactions
- Small-scale data center fabric implementation via the S4100-ON switch in leaf and spine along with S-Series 1/10GbE ToR switches
- VXLAN layer 2/layer 3 gateway support (available in hardware only)

Key features

- 1RU high-density 10/40/100 GbE ToR switches with up to 48 ports of 10 GbE (SFP+) or up to 48 ports of 10GBaseT ports, or up to 28 ports of 8/16 fibre channel, two ports of 40 GbE (QSFP+), and up to four ports of 100GbE (QSFP28) or four ports of 8/16/32G fibre channel
- The S4112 is a 1RU, half-rack width 10/100GbE ToR switch with up to 12 ports of 10GbE (SFP+) or up to 12 ports of 10GBaseT ports, and up to three ports of 100GbE (QSFP28)
- Multi-rate 100GbE ports support 10/25/40/50 GbE. 40GbE ports support 10GbE. 10GbE ports support 1GbE. Up to four different simultaneous speeds are possible in a given profile.
- Supports dynamic reconfiguration of unified ports on S4148U product as 10GbE or 8/16G FC on SFP+ ports, and 25GbE or 16/32Gb FC on QSFP28 ports
- 1.76Tbps (full-duplex) non-blocking, cut-through switching fabric delivers line-rate performance under full load on S4148F-ON, S4148FE-ON, S4148T-ON and S4148U-ON.
- 960Gbps (full-duplex) non-blocking, cut-through switching fabric delivers line-rate performance under full load on S4128F-ON and S4128T-ON
- 840Gbps (full-duplex) non-blocking, cut-through switching fabric delivers line-rate performance under full load on S4112F-ON and S4112T-ON
- VXLAN gateway functionality support for bridging and routing the non-virtualized and the virtualized overlay networks with line rate performance
- Converged Network support with DCB
- · IO panel to PSU airflow or PSU to IO panel airflow
- Redundant, hot-swappable power supplies and fans (S4112-ON has redundant, fixed power supplies and fans)
- Support for 10GBASE-LRM optics over OM1/OM2 fiber on S4148FE-ON product (not supported on other products in S4100 product family)
- · IEEE 1588√2 supported (hardware only) on 48 port models

Key Features with Dell EMC SmartFabric OS10

- Consistent DevOps framework across compute, storage and networking elements
- Standard networking features, interfaces and scripting functions for legacy network operations integration
- Standards-based switching hardware abstraction via Switch
 Abstraction Interface (SAI)
- Pervasive, unrestricted developer environment via Control Plane Services (CPS)
- OS10 Enterprise Edition software enables Dell Technologies layer 2 and 3 switching and routing protocols with integrated IP services, quality of service, manageability and automation features
- OS10 supports Precision Time Protocol (PTP, IEEE 1588v2) to synchronize clocks on network devices. **

- Leverage common open source tools and best practices (data models, commit rollbacks)
- Increase VM Mobility region by stretching L2 VLAN within or across two DCs with unique VLT capabilities
- Scalable L2 and L3 Ethernet Switching with QoS, ACL and a full complement of standards based IPv4 and IPv6 features including OSPF, BGP and PBR
- Enhanced mirroring capabilities including local mirroring, Remote Port Mirroring (RPM), and Encapsulated Remote Port Mirroring (ERPM)
- Converged network support for Data Center Bridging, with priority flow control (802.1Qbb), ETS (802.1Qaz), DCBx and iSCSI TLV Enhanced mirroring capabilities including local mirroring, Remote Port Mirroring (RPM), and Encapsulated Remote Port Mirroring (ERPM)
- Converged network support for Data Center Bridging, with priority flow control (802.1Qbb), ETS (802.1Qaz), DCBx and iSCSI TLV

	S4112F-ON	S4112T-ON	S4128F-ON	S4128T-ON	S4148F-ON	S4148FE-ON	S4148T-ON	S4148U-ON
Ports	12xSFP+ 3xQSFP28	12x10GbT 3xQSFP28	28xSFP+ 2xQSFP28	28x10GbT 2x QSFP28	48xSFP+ 2xQSFP+ 4xQSFP28	48xSFP+ 2xQSFP+ 4xQSFP28	48x10GbT 2xQSFP+ 4xQSFP28	48xSFP+ 2xQSFP+ 4xQSFP28
Unified port								•
Max 10GbE density	24	24 (12 10GbT and 12 SFP+)	6	36 (28 10GbT and 8 FP+)	72	72	72 (48 10GbT and 24 FP+)	72
Max 25GbE density	12	12	8	8	16	16	16	16
Max 40GbE density	3	3	2	2	6	6	6	6
Max 50GbE density	6	6	4	4	8	8	8	8
Max 100GbE density	3	3	2	2	4	4	4	4
Max FC 8G/16G ports (oversubscribed)	0	0	0	0	0	0	0	40
Max FC 16G line rate	0	0	0	0	0	0	0	28
Max FC 32G ports (oversubscribed)	0	0	0	0	0	0	0	16
Max FC 32G line rate	0	0	0	0	0	0	0	8
Switching capacity	840Gbps	840Gbps	960Gbps	960Gbps	1.76Tbps	1.76Tbps	1.76Tbps	1.76Tbps
Throughput	630Mpps	630Mpps	720Mpps	720Mpps	1320Mpps	1320Mpps	1320Mpps	1320Mpps
LRM optics support						•		
1588v2 PTP timing					•	•	٠	•
Max power consumption	180W	200W	260W	300W	370W	400W	440W	460W
Typical operating power	90W	120W	160W	250W	200W	240W	320W	300W
Number of fan trays	Fixed	Fixed	4	4	4	4	4	4
Fans per fan tray	3	3	1	1	1	1	2	2
Weight	8.30lbs	8.45lbs	19.66 lbs (8.92 kg)	20.67 lbs (9.38 kg)	20.15 lbs (9.14 kg)	20.85 lbs (9.46 kg)	22.37 lbs (10.15 kg)	20.52 lbs (9.31 kg)
Max thermal output	614 BTU/ hour	682 BTU/ hour	886 BTU/h	1,023 BTU/h	1261 BTU/h	1,364 BTU/h	1,500 BTU/h	1,568 BTU/

Supported

Product	Description			
S4100-ON	 S4112F, 12x 10GbE SFP+, 3x 100GbE QSFP28, 2x AC Fixed PSU, 3x Fixed Fan, I/O Panel to PSU Airflow S4112F, 12x 10GbE SFP+, 3x 100GbE QSFP28, 2x AC Fixed PSU, 3x Fixed Fan, I/O PSU to I/O Panel Airflow S4112T, 12x 10GBASE-T, 3x 100GbE QSFP28, 2x AC Fixed PSU, 3x Fixed Fan, I/O PSU to I/O Panel Airflow S4112T, 12x 10GBASE-T, 3x 100GbE QSFP28, 2x AC Fixed PSU, 3x Fixed Fan, I/O PSU to I/O Panel Airflow S4112F, 12x 10GbE SFP+, 3x 100GbE QSFP28, 2x AC Fixed PSU, 3x Fixed Fan, I/O PSU to I/O Panel Airflow S4112F, 12x 10GbE SFP+, 3x 100GbE QSFP28, 2x DC Fixed PSU, 3x Fixed Fan, I/O PSU to I/O Panel Airflow S4112T, 12x 10GbE SFP+, 3x 100GbE QSFP28, 2x DC Fixed PSU, 3x Fixed Fan, I/O PSU to I/O Panel Airflow S4112T, 12x 10GBASE-T, 3x 100GbE QSFP28, 2x DC Fixed PSU, 3x Fixed Fan, I/O PSU to I/O Panel Airflow S4112F, 28x 10GbE SFP+, 2x 100GbE QSFP28, 2x AC PSU, 4x Fan module, I/O Panel to PSU Airflow S4128F, 28x 10GbE SFP+, 2x 100GbE QSFP28, 2x AC PSU, 4x Fan module, I/O Panel to PSU Airflow S4128T, 28x 10GBASE-T, 2x 100GbE QSFP28, 2x AC PSU, 4x Fan module, I/O Panel to PSU Airflow S4128T, 28x 10GBASE-T, 2x 100GbE QSFP28, 2x AC PSU, 4x Fan module, PSU to I/O Panel Airflow S4128T, 28x 10GBASE-T, 2x 100GbE QSFP28, 2x AC PSU, 4x Fan module, PSU to I/O Panel to PSU Airflow S4148F, 48x 10GbE SFP+, 2x QSFP+, 4x 100GbE QSFP28, 2x AC PSU, 4x Fan module, PSU to I/O Panel Airflow S4148F, 48x 10GbE SFP+, 2x QSFP+, 4x 100GbE QSFP28, 2x AC PSU, 4x Fan module, PSU to I/O Panel Airflow S4148F, 48x 10GbE SFP+, 2x QSFP+, 4x 100GbE QSFP28, 2x AC PSU, 4x Fan module, PSU to I/O Panel Airflow S4148F, 48x 10GbE SFP+, 2x QSFP+, 4x 100GbE QSFP28, 2x AC PSU, 4x Fan module, PSU to I/O Panel Airflow S4148F, 48x 10GbASE-T, 2x QSFP+, 4x 100GbE QSFP28, 2x AC PSU, 4x Fan module, PSU to I/O Panel Airflow S4148F, 48x 10GBASE-T, 2x QSFP+, 4x 100GbE QSFP28, 2x AC PSU, 4x Fan module, PSU to			
Redundant power supplies (not applicable to S4112)	S4100, AC Power Supply, IO Panel to PSU Airflow S4100, AC Power Supply, PSU to IO Panel Airflow S4100, DC Power Supply, IO Panel to PSU Airflow (available as custom kit) S4100, DC Power Supply, PSU to IO Panel Airflow (available as custom kit) S4100, HV DC Power Supply, IO Panel to PSU Airflow S4100, HV DC Power Supply, PSU to IO Panel Airflow			
Fans (not applicable to S4112)	S4100 fan module, IO Panel to PSU Airflow S4100 fan module, PSU to IO Panel Airflow			
Optics	Transceiver, 10GbE, SR SFP+, short reach Transceiver, 10GbE, LR SFP+, long reach Transceiver, 10GbE, ER SFP+, extended reach 10G, Transceiver, 10GbE, USR, SFP+ Transceiver, 10GbE, LRM, SFP+ (for S4148FE only) Transceiver, 10GBASE-T use with QSA in QSFP+ port, 30m reach on CAT6a/7 Transceiver, 40GbE, SR4 optic QSFP+ Transceiver, 40GbE, LR4 optic QSFP+ Transceiver, 40GbE, LR4 optic QSFP+ Transceiver, 40GbE, ER4 optics QSFP+ Transceiver, 40GbE, SR4 optic QSFP+ Transceiver, 40GbE, LR4 optics QSFP+ Transceiver, 40GbE, LR4 optics QSFP+ Transceiver, 40GbE, LR4 optics QSFP+ Transceiver, 40GbE, LR4 Optics QSFP+ Transceiver, 40GbE, LR4 QSFP28 Transceiver, 100GbE, LR4 QSFP28 Transceiver, 100GbE, LR4Lite QSFP28 Transceiver, 100GbE, PSM4-LR, QSFP28 Transceiver, 100GbE, PSM4-1R, QSFP28 Transceiver, SFP+, 16Gbps Fibre Channel, SWL, 850nm, LC Duplex (S4148U model only) Transceiver, SFP+, 416Gbps Fibre Channel, LWL, 1310nm, LC SMF (S4148U model only) Transceiver, QSFP+2, 4x32Gbps Fibre Channel, SW4, 850nm, MPO MMF (S4148U model only)			
Cables	Iransceiver, GSFP28, 4x32Gbps Fibre Channel, SW4, 850nm, MPO MMF (S41480 model only) 40GbE, QSFP+ to QSFP+, active optical 40GbE, QSFP+ to QSFP+, passive DAC 40GbE, MTP to 4xLC optical breakout 40GbE, 4x10GbE, QSFP+ to 4xSFP+, passive DAC 100GbE, 4x25GbE, QSFP28 to 4xSFP28, passive DAC 100GbE, QSFP28 to QSFP28, active optical 100GbE, QSFP28 to QSFP28, passive DAC 100GbE, 2x50GbE, QSFP28 to 2xQSFP28, passive DAC, breakout			

- Physical 1 RJ45 console/management port with RS232 signaling 1 RJ45 micro-USB-B console port 1 RJ45 10/100/1000Base-T management Ethernet port Size: 1 RU, 1.75"(h) x 17"(w) x 18"(d) (4.4cm (h) x 43.1cm (w) x 45.7cm (d)) S4112: 1.7"(h) x 8.28"(w) x 18"(d) (4.125cm (h) x 20.9cm (w) x 45cm (d) Power supply: 100-240 VAC 50/60 Hz Power supply (DC), applicable to S4412: rated -40 to -72 VDC Max. current draw per system: 6A/5A at 100/120V AC; 3A/2.5A at 200/240V AC S4112: 2A/1.7A at 100/120V AC; 1A/0.8A at 200/240V AC S4112 (DC): -40V/5A, -48V/4.2A, -72V/2.8A Max. operating specifications: Operating temperature: 41° to 104° F (5° to 40° C) Operating humidity: 5 to 85% (RH), non-condensing Max. non-operating specifications: Storage temperature: -40° to 149°F (-40° C to 65° C) Storage humidity: 5 to 95% (RH), non-condensing Redundancy Hot swappable redundant power (not applicable to S4112) Hot swappable redundant fans (not applicable to S4112) Fixed, redundant power supply and fan for S4112 Performance Packet buffer memory: 12MB CPU memory: 4GB MAC addresses: 272K (in Scaled L2 mode) PVST: 128 instances ARP table 200K (in Scaled L3 host mode) IPv4 routes: 200K (in Scaled L3 routes mode) IPv6 hosts: 64K IPv6 routes: 130K (in Scaled L3 routes mode) Multicast hosts: 8K Link aggregation: 32 links per group, 128 groups Layer 2 VLANs: 4K Laver3 VLANs: 500 MSTP: 32 instances LAG load balancing: Based on layer 2, IPv4 or IPv6 headers L2 Ingress ACL: 6K L2 Egress ACL: 1K IPv4 Ingress ACL: 6K IPv4 Egress ACL: 1K IPv6 Ingress ACL: 3K IPv6 Egress ACL: 500 Storage performance parameters iSCSI Sessions: 255 iSCSI Target: 16 F-Port: Max F-Port Sessions: 526 F-Port: Max members in a zone: 526
- Dell EMC SmartFabric OS10 Software Specifications IEEE Compliance 802.1AB LLDP TIA-1057 LLDP-MED

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802.1s MSTP
802.1w RSTP
802.3ab Gigabit Ethernet (1000Base-T)
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	Link Aggrogation with LACD
802.3ad 802.3ae	Link Aggregation with LACP 10 Gigabit Ethernet (10GBase-X)
802.3ba	40 Gigabit Ethernet (40GBase-X)
802.3i	Ethernet (10Base-T)
802.3u	Fast Ethernet (100Base-TX)
802.3z 802.1D	Gigabit Ethernet (1000BaseX) Bridging, STP
802.1D 802.1p	L2 Prioritization
802.1Q	VLAN Tagging, GVRP
802.1Qbb	PFC
802.1Qaz	ETS
802.1s	MSTP
802.1w	RSTP
PVST+ 802.1X	Network Access Control
802.3ab	Gigabit Ethernet (1000BASE-T) or
	breakout
802.3ac	Frame Extensions for VLAN Tagging
802.3ad	Link Aggregation with LACP
802.3ae	10 Gigabit Ethernet (10GBase-X)
802.3ba	40 Gigabit Ethernet (40GBase- SR4, 40GBase-CR4, 40GBase-LR4,
	100GBase-SR10, 100GBase-LR4,
	100GBase-ER4) on optical ports
802.3bj	100 Gigabit Ethernet
802.3u	Fast Ethernet (100Base-TX) on mgmt
802.3x	ports Flow Control
802.3x	Gigabit Ethernet (1000Base-X) with
QSA	
	-1057 LLDP-MED
Jumbo M	TU support 9,416 bytes
Layer2 P 802.1D	Compatible
802.1p	L2 Prioritization
	VLAN Tagging
802.1s	MSTP
802.1w	RSTP
802.1t	RPVST+ Link Aggregation with LACP
VIT (Virt	
VLT (Virt VLT Enhar	ual Link Trunking)
VLT Enhar Minloss U	ual Link Trunking) ncements pgrades
VLT Ènhai Minloss U VLT Proxy	ual Link Trunking) ncements pgrades ^r Gateway
VLT Enhar Minloss U VLT Proxy RVPST ov	ual Link Trunking) ncements pgrades ^r Gateway ver VLT
VLT Enhar Minloss U VLT Proxy RVPST ov DCB, FSB	ual Link Trunking) ncements pgrades r Gateway rer VLT , iSCSI over VLT
VLT Enhar Minloss U VLT Proxy RVPST ov	ual Link Trunking) ncements pgrades v Gateway ver VLT , iSCSI over VLT ver VLT
VLT Enhar Minloss U VLT Proxy RVPST ov DCB, FSB RSPAN ov RFC Corr 768	ual Link Trunking) noements pgrades • Gateway rer VLT , iSCSI over VLT rer VLT pipliance UDP
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VLT Enhar Minloss U VLT Proxy RVPST ov DCB, FSB RSPAN ov RFC Com 768 793 854	ual Link Trunking) noements pgrades Gateway rer VLT , iSCSI over VLT ver VLT ppliance UDP TCP Telnet
VLT Enhar Minloss U VLT Proxy RVPST ov DCB, FSB RSPAN ov RFC Com 768 793 854 959	ual Link Trunking) nocements pgrades Gateway ver VLT , iSCSI over VLT ver VLT uDP TCP TCP Telnet FTP
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VLT Enhai Minloss U VLT Proxy RVPST ov DCB, FSB RSPAN ov RFC Com 768 793 854 959 1321 1350 2474 2698	ual Link Trunking) noements pgrades Gateway rer VLT , iSCSI over VLT rer VLT opliance UDP TCP Telnet FTP MD5 TFTP Differentiated Services Two Rate Three Color Marker
VLT Enhai Minloss U VLT Proxy RVPST ov DCB, FSB RSPAN ov RFC Com 768 793 854 959 1321 1350 2474 2698 3164	ual Link Trunking) noements pgrades Gateway ver VLT isCSI over VLT ver VLT uDP TCP Telnet FTP MD5 TFTP Differentiated Services Two Rate Three Color Marker Syslog
VLT Enhai Minloss U VLT Proxy RVPST ov DCB, FSB RSPAN ov RFC Com 768 793 854 959 1321 1350 2474 2698 3164 4254	ual Link Trunking) noements pgrades Gateway ver VLT isCSI over VLT ver VLT uDP TCP Telnet FTP MD5 TFTP Differentiated Services Two Rate Three Color Marker Syslog SSHv2
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VLT Enhai Minloss U VLT Proxy RVPST ov DCB, FSB RSPAN ov RFC Com 768 793 854 959 1321 1350 2474 2698 3164 4254 General I 791 792	ual Link Trunking) noements pgrades Gateway ver VLT , iSCSI over VLT ver VLT uDP TCP Telnet FTP MD5 TFTP Differentiated Services Two Rate Three Color Marker Syslog SSHv2 Pv4 ICMP
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VLT Enhai Minloss U VLT Proxy RVPST ov DCB, FSB RSPAN ov RFC Com 768 793 854 959 1321 1350 2474 2698 3164 4254 General I 792 826 1027	ual Link Trunking) noements pgrades Gateway rer VLT isCSI over VLT rer VLT pliance UDP TCP Telnet FTP MD5 TFTP Differentiated Services Two Rate Three Color Marker Syslog SSHv2 Pv4 Protocols IPv4 ICMP ARP Proxy ARP
VLT Enhai Minloss U VLT Proxy RVPST ov DCB, FSB RSPAN ov RFC Com 768 793 854 959 1321 1350 2474 2698 3164 4254 General I 791 792 826 1027 1035	ual Link Trunking) noements pgrades Gateway ver VLT isCSI over VLT ver VLT pliance UDP TCP Telnet FTP MD5 TFTP Differentiated Services Two Rate Three Color Marker Syslog SSHv2 Pv4 Protocols IPv4 ICMP ARP Proxy ARP DNS (client)
VLT Enhai Minloss U VLT Proxy RVPST ov DCB, FSB RSPAN ov RFC Com 768 793 854 959 1321 1350 2474 2698 3164 4254 General I 792 826 1027	ual Link Trunking) noements pgrades Gateway rer VLT isCSI over VLT rer VLT pliance UDP TCP Telnet FTP MD5 TFTP Differentiated Services Two Rate Three Color Marker Syslog SSHv2 Pv4 Protocols IPv4 ICMP ARP Proxy ARP
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VLT Enhai Minloss U VLT Proxy RVPST ov DCB, FSB RSPAN ov RFC Com 768 793 854 959 1321 1350 2474 2698 3164 4254 General I 791 792 826 1027 1035 1042 1191 1305 1519	ual Link Trunking) noements pgrades Gateway rer VLT isCSI over VLT rer VLT uDP TCP Telnet FTP Differentiated Services Two Rate Three Color Marker Syslog SSHv2 Pv4 Protocols IPv4 ICMP ARP Proxy ARP DNS (client) Ethernet Transmission Path MTU Discovery NTPv4 CIDR
VLT Enhai Minloss U VLT Proxy RVPST ov DCB, FSB RSPAN ov RFC Com 768 793 854 959 1321 1350 2474 2698 3164 4254 General I 791 792 826 1027 1035 1042 1191 1305 1519 1588v2	ual Link Trunking) noements pgrades Gateway ver VLT isCSI over VLT ver VLT pliance UDP TCP Telnet FTP Differentiated Services Two Rate Three Color Marker Syslog SSHv2 Pv4 Protocols IPv4 ICMP ARP Proxy ARP DNS (client) Ethernet Transmission Path MTU Discovery NTPv4 CIDR PTP support **
VLT Enhai Minloss U VLT Proxy RVPST ov DCB, FSB RSPAN ov RFC Com 768 793 854 959 1321 1350 2474 2698 3164 4254 General I 791 792 826 1027 1035 1042 1191 1305 1519 1588v2 1812	ual Link Trunking) noements pgrades Gateway rer VLT is CSI over VLT rer VLT opliance UDP TCP Telnet FTP Differentiated Services Two Rate Three Color Marker Syslog SSHv2 Pv4 Protocols IPv4 ICMP ARP Proxy ARP DNS (client) Ethernet Transmission Path MTU Discovery NTPv4 CIDR PTP support ** Routers
VLT Enhai Minloss U VLT Proxy RVPST ov DCB, FSB RSPAN ov RFC Com 768 793 854 959 1321 1350 2474 2698 3164 4254 General I 791 792 826 1027 1035 1042 1191 1305 1519 1588v2 1812	ual Link Trunking) noements pgrades Gateway rer VLT is CSI over VLT rer VLT pliance UDP TCP Telnet FTP Differentiated Services Two Rate Three Color Marker Syslog SSHv2 Pv4 Protocols IPv4 ICMP ARP Proxy ARP DNS (client) Ethernet Transmission Path MTU Discovery NTPv4 CIDR PTP support ** Routers IP Fragment Filtering
VLT Enhai Minloss U VLT Proxy RVPST ov DCB, FSB RSPAN ov RFC Com 768 793 854 959 1321 1350 2474 2698 3164 4254 General I 791 792 826 1027 1035 1042 1191 1305 1519 1588v2 1812	ual Link Trunking) noements pgrades Gateway rer VLT is CSI over VLT rer VLT opliance UDP TCP Telnet FTP Differentiated Services Two Rate Three Color Marker Syslog SSHv2 Pv4 Protocols IPv4 ICMP ARP Proxy ARP DNS (client) Ethernet Transmission Path MTU Discovery NTPv4 CIDR PTP support ** Routers

7001	71 bit Drofivos				
3021	31-bit Prefixes				
3046	DHCP Option 82 (Relay)				
1812	Requirements for IPv4 Routers				
1918	Address Allocation for Private				
0474	Internets				
2474	Diffserv Field in IPv4 and Ipv6				
0507	Headers				
2597	Assured Forwarding PHB Group				
3195	Reliable Delivery for Syslog				
3246	Expedited Forwarding PHB				
4364	VRF-lite (IPv4 VRF with OSPF and				
	BGP)*				
	ontrol Plane Policing				
	sed Routing				
	Pv6 Protocols				
1981	Path MTU Discovery*				
2460	IPv6				
2461	Neighbor Discovery*				
2462	Stateless Address AutoConfig				
2463	ICMPv6				
2464	Ethernet Transmission				
2675	Jumbo grams				
3587	Global Unicast Address Format				
4291	IPv6 Addressing				
2464	Transmission of IPv6 Packets over				
	Ethernet Networks				
2711	IPv6 Router Alert Option				
4007	IPv6 Scoped Address Architecture				
4213	Basic Transition Mechanisms for IPv6				
12.10	Hosts and Routers				
4291	IPv6 Addressing Architecture				
5095	Deprecation of Type 0 Routing				
0000	Headers in IPv6				
IPv6 Man	agement support (telnet, FTP,				
	RADIUS, SSH, NTP)				
	KADIU3, 33H, NTF)				
OSPF					
1587	NSSA				
1745	OSPF/BGP interaction				
1765	OSPF Database overflow				
2154	MD5				
2328	OSPFv2				
2370	Opaque LSA				
3101	OSPF NSSA				
3623	OSPF Graceful Restart (Helper				
	mode)*				
Security					
2865	RADIUS				
3162	Radius and IPv6				
4250, 425	51, 4252, 4253, 4254 SSHv2				
4301	Security Architecture for IPSec*				
4302	IPSec Authentication Header*				
4303	ESP Protocol*				
BGP					
1997	Communities				
2385	MD5				
2439	Route Flap Damping				
2796	Route Reflection				
2842	Capabilities				
2918	Route Refresh				
3065	Confederations				
4271	BGP-4				
4360	Extended Communities				
4893	4-byte ASN				
4893 5396	4-byte ASN Representation				
5396 5492	Capabilities Advertisement				
Linux Distribution Debian Linux version 8.4					
Linux Kernel 3.16					
MIBS IP MIB– Net SNMP					
IP MIB- Net SNMP IP Forward MIB- Net SNMP					
Host Resources MIB- Net SNMP					
	Net SNMP				

LLDP MIB Entity MIB LAG MIB Dell-Vendor MIB TCP MIB – Net SNMP UDP MIB – Net SNMP SNMPv2 MIB – Net SNMP

Network Management SNMPv1/2

SSHv2 FTP, TFTP, SCP Syslog Port Mirroring RADIUS 802.1X Support Assist (Phone Home) Netconf APIs XML Schema CLI Commit (Scratchpad) sFlow Automation Control Plane Services APIs Linux Utilities and Scripting Tools Quality of Service Access Control Lists Prefix List Route-Map Rate Shaping (Egress) Rate Policing (Ingress) Scheduling Algorithms Round Robin Weighted Round Robin Deficit Round Robin Strict Priority Weighted Random Early Detect Data center bridging 802.1Qbb Priority-Based Flow Control 802.1Qaz Enhanced Transmission Selection (ETS)* Data Center Bridging eXchange (DCBx) DCBx Application TLV (iSCSI, FCoE*) Fibre Channel (applicable only to S4148U-ON) FCF F-Port FC Zoning

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 32: Class A
- Canada: ICES-003, Issue-4, Class A Europe: EN 55032: 2015+A1:2007 (CISPR 32), Class A
- Japan: VCCI V3/2009 Class A USA: FCC CFR 47 Part 15, Subpart B:2009, Class A

mmunity

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

RoHS

All S-Series components are EU RoHS compliant.

Certifications

Japan: VCCI V3/2009 Class A USA: FCC CFR 47 Part 15, Subpart B:2009, Class A Warranty 1 Year Return to Depot



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