



DELL EMC NETWORKING S4100-ON

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

The S4100-ON 10GbE switches comprise Dell EMC's 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, mid-market and Tier2 cloud service provider 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's 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 Networking S4100-ON switches support the open source Open Network Install Environment (ONIE) for zero touch installation of Dell EMC's OS10 networking operating system, as well as of alternative network operating systems.

Maximum performance and functionality

The S4100-ON series are high-performance, multi-function, 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, S4148F-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 1588v2 supported (hardware only) on 48 port models

Key Features with Dell EMC Networking 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 EMC layer 2 and 3 switching and routing protocols with integrated IP services, quality of service, manageability and automation features
- 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



	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+)	36	36 (28 10GbT and 8 SFP+)	72	72	72 (48 10GbT and 24 SFP+)	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 (over- subscribed)	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 (over- subscribed)	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
Latency (nano sec)	800	2500	800	2500	800	850	2500	800
LRM optics support						•		
1588v2 PTP timing					•	•	•	•
Maximum 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/h

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 Panel to PSU Airflow S4112T, 12x 10GBASE-T, 3x 100GbE QSFP28, 2x AC Fixed PSU, 3x Fixed Fan, I/O Panel to PSU Airflow S4112F, 12x 10GbE SFP+, 3x 100GbE QSFP28, 2x DC Fixed PSU, 3x Fixed Fan, I/O Panel to PSU 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 10GBASE-T, 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 S4112R, 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 S4148F, 48x 10GbE SFP+, 2x QSFP+, 4x 100GbE QSFP28, 2x AC PSU, 4x Fan module, 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 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 S4148U, 24x Unified port SFP+, 24x 10GbE SFP+, 2x QSFP+, 4x
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 Transceiver, 10GbE, ZR SFP+ extra extended reach 10G, Transceiver, 10GbE, USR, SFP+ Transceiver, 10GbE, USR, SFP+ Transceiver, 10GbE, LRM, SFP+ (for S4148FE only) Transceiver, 10GBASE-T use with GSA in QSFP+ port, 30m reach on CAT6a/7 Transceiver, 40GbE, SR4 optic QSFP+ Transceiver, 40GbE, eSR4 optic QSFP+ Transceiver, 40GbE, ER4 optics QSFP+ Transceiver, 40GbE, ER4 optics QSFP+ Transceiver, 40GbE, ER4 optics QSFP+ Transceiver, 40GbE, PSM4-LR MPO 10Km QSFP+ to LC Transceiver, 40GbE, LM4 / SM4 Duplex QSFP+ Transceiver, 100GbE, SR4 QSFP28 Transceiver, 100GbE, LR4 QSFP28 Transceiver, 100GbE, LR4 QSFP28 Transceiver, 100GbE, CWDM4 2Km QSFP28 Transceiver, 100GbE, PSM4 500m QSFP28 Transceiver, 100GbE, PSM4-IR, QSFP28 Transceiver, 100GbE, PSM4-IR, QSFP28 Transceiver, SFP+, 16Gbps Fibre Channel, SWL, 850nm, LC Duplex (S4148U model only) Transceiver, QSFP+, 4x16Gbps Fibre Channel, SW4, 850nm, MPO MMF (S4148U model only) Transceiver, QSFP28, 4x32Gbps Fibre Channel, SW4, 850nm, MPO MMF (S4148U model only)
Cables	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, GSFP28 to GSFP28, active optical 100GbE, QSFP28 to QSFP28, passive DAC 100GbE, QSFP28 to QSFP28, passive DAC 100GbE, QSFP28 to QSFP28, passive DAC 100GbE, 2x50GbE, QSFP28 to 2xQSFP28, passive DAC, breakout (*)



Physical					
yo.ou.		802.3ad	Link Aggregation with LACP		Internets
1 RJ45 console/manag	ement port with RS232	802.3ae	10 Gigabit Ethernet (10GBase-X)	2474	Diffserv Field in IPv4 and Ipv6
signaling		802.3ba	40 Gigabit Ethernet (40GBase-X)		Headers
1 RJ45 micro-USB-B c	onsole port	802.3i	Ethernet (10Base-T)	2597	Assured Forwarding PHB Group
	se-T management Ethernet	802.3u	Fast Ethernet (100Base-TX)	3195	Reliable Delivery for Syslog
port	oo i managomone Emornoe	802.3z	Gigabit Ethernet (1000BaseX)	3246	Expedited Forwarding PHB
Size: 1 RU, 1.75"(h) x 17	"(w) v 10"(d)	802.1D		4364	VRF-lite (IPv4 VRF with OSPF and
			Bridging, STP	4364	
(4.4cm (h) x 43.1cm	. ,	802.1p	L2 Prioritization		BGP)*
S4112: 1.7"(h) x 8.28	. , ,	802.1Q	VLAN Tagging, GVRP		ontrol Plane Policing
(4.125cm (h) x 20.9d	cm (w) x 45cm (d)	802.1Qbb	PFC	Policy Ba	sed Routing
Power supply: 100-240) VAC 50/60 Hz	802.1Qaz	ETS	General	IPv6 Protocols
Power supply (DC), ap	plicable to S4412: rated -40	802.1s	MSTP	1981	Path MTU Discovery*
to -72 VDC		802.1w	RSTP	2460	IPv6
	system: 6A/5A at 100/120V	PVST+	NOTI	2461	Neighbor Discovery*
		802.1X	Notwork Access Control		
AC; 3A/2.5A at 200.			Network Access Control	2462	Stateless Address AutoConfig
	0/120V AC; 1A/0.8A at	802.3ab	Gigabit Ethernet (1000BASE-T)	2463	ICMPv6
200/240V AC			or breakout	2464	Ethernet Transmission
S4112 (DC): -40V/5	A, -48V/4.2A, -72V/2.8A	802.3ac	Frame Extensions for VLAN Tagging	2675	Jumbo grams
Max. operating specific	ations:	802.3ad	Link Aggregation with LACP	3587	Global Unicast Address Format
Operating temperatu	re: 41° to 104° F (5° to	802.3ae	10 Gigabit Ethernet (10GBase-X)	4291	IPv6 Addressing
40°C)	`	802.3ba	40 Gigabit Ethernet (40GBase-	2464	Transmission of IPv6 Packets over
Operating humidity: 5	to 85% (RH) non-	002.000	SR4, 40GBase-CR4, 40GBase-LR4,	2.0.	Ethernet Networks
condensing) to 00% (IXIT), HOLL-			2711	IPv6 Router Alert Option
O .			100GBase-SR10, 100GBase-LR4,		
Max. non-operating sp		000 7: :	100GBase-ER4) on optical ports	4007	IPv6 Scoped Address Architecture
	: -40° to 149°F (-40° C to	802.3bj	100 Gigabit Ethernet	4213	Basic Transition Mechanisms for IPv6
65° C)		802.3u	Fast Ethernet (100Base-TX) on mgmt ports		Hosts and Routers
Storage humidity: 5 t	o 95% (RH), non-	802.3x	Flow Control	4291	IPv6 Addressing Architecture
condensing	, ,	802.3z	Gigabit Ethernet (1000Base-X) with QSA	5095	Deprecation of Type 0 Routing
Redundancy		ANSI/TIA			Headers in IPv6
•	ant power (not applicable to		TU support 9,416 bytes	IPv6	Management support (telnet, FTP,
S4112)	art power (not applicable to	Layer2 P		11 VO	
,					TACACS, RADIUS, SSH, NTP)
	ant fans (not applicable to	802.1D	Compatible		
S4112)		802.1p	L2 Prioritization	OSPF	
Fixed, redundant powe	r supply and fan for S4112	802.1Q	VLAN Tagging	1587	NSSA
Performance		802.1s	MSTP	1745	OSPF/BGP interaction
Packet buffer memory	12MB	802.1w	RSTP	1765	OSPF Database overflow
CPU memory:	4GB	802.1t	RPVST+	2154	MD5
MAC addresses:	272K (in Scaled L2 mode)		Link Aggregation with LACP	2328	OSPFv2
PVST:	128 instances		ual Link Trunking)	2370	
				3101	Opaque LSA
ARP table	200K (in Scaled L3 host	VLI Enna	ncements		OSPF NSSA
	1. 3.				000000 - 10 - 111
	mode)	Minloss L		3623	OSPF Graceful Restart (Helper
IPv4 routes:	mode) 200K (in Scaled L3		lpgrades y Gateway		OSPF Graceful Restart (Helper mode)*
			y Gateway		mode)*
	200K (in Scaled L3	VLT Proxy	y Gateway	3623	mode)*
IPv4 routes: IPv6 hosts:	200K (in Scaled L3 routes mode) 64K	VLT Proxy RVPST or DCB, FSE	y Gateway ver VLT B, iSCSI over VLT	3623 Security 2865	mode)* RADIUS
IPv4 routes:	200K (in Scaled L3 routes mode) 64K 130K (in Scaled L3 routes	VLT Proxy RVPST of DCB, FSE RSPAN o	y Gateway ver VLT 3, iSCSI over VLT ver VLT	3623 Security 2865 3162	mode)* RADIUS Radius and IPv6
IPv4 routes: IPv6 hosts: IPv6 routes:	200K (in Scaled L3 routes mode) 64K 130K (in Scaled L3 routes mode)	VLT Proxy RVPST or DCB, FSE RSPAN o RFC Con	y Gateway ver VLT 3, iSCSI over VLT ver VLT npliance	3623 Security 2865 3162 4250, 425	mode)* RADIUS Radius and IPv6 51, 4252, 4253, 4254 SSHv2
IPv4 routes: IPv6 hosts: IPv6 routes: Multicast hosts:	200K (in Scaled L3 routes mode) 64K 130K (in Scaled L3 routes mode) 8K	VLT Proxy RVPST or DCB, FSE RSPAN o RFC Con 768	y Gateway ver VLT 3, iSCSI over VLT ver VLT npliance UDP	3623 Security 2865 3162 4250, 429 4301	mode)* RADIUS Radius and IPv6 51, 4252, 4253, 4254 SSHv2 Security Architecture for IPSec*
IPv4 routes: IPv6 hosts: IPv6 routes:	200K (in Scaled L3 routes mode) 64K 130K (in Scaled L3 routes mode) 8K 32 links per group, 128	VLT Proxy RVPST of DCB, FSE RSPAN o RFC Con 768 793	y Gateway ver VLT 3, iSCSI over VLT ver VLT npliance UDP TCP	3623 Security 2865 3162 4250, 429 4301 4302	mode)* RADIUS Radius and IPv6 51, 4252, 4253, 4254 SSHv2 Security Architecture for IPSec* IPSec Authentication Header*
IPv4 routes: IPv6 hosts: IPv6 routes: Multicast hosts: Link aggregation:	200K (in Scaled L3 routes mode) 64K 130K (in Scaled L3 routes mode) 8K 32 links per group, 128 groups	VLT Proxy RVPST of DCB, FSE RSPAN o RFC Con 768 793 854	y Gateway ver VLT 3, ISCSI over VLT ver VLT npliance UDP TCP Telnet	3623 Security 2865 3162 4250, 429 4301 4302 4303	mode)* RADIUS Radius and IPv6 51, 4252, 4253, 4254 SSHv2 Security Architecture for IPSec*
IPv4 routes: IPv6 hosts: IPv6 routes: Multicast hosts:	200K (in Scaled L3 routes mode) 64K 130K (in Scaled L3 routes mode) 8K 32 links per group, 128 groups 4K	VLT Proxy RVPST of DCB, FSE RSPAN o RFC Con 768 793 854 959	y Gateway ver VLT 3, iSCSI over VLT ver VLT npliance UDP TCP Telnet FTP	3623 Security 2865 3162 4250, 429 4301 4302	mode)* RADIUS Radius and IPv6 51, 4252, 4253, 4254 SSHv2 Security Architecture for IPSec* IPSec Authentication Header*
IPv4 routes: IPv6 hosts: IPv6 routes: Multicast hosts: Link aggregation:	200K (in Scaled L3 routes mode) 64K 130K (in Scaled L3 routes mode) 8K 32 links per group, 128 groups	VLT Proxy RVPST of DCB, FSE RSPAN o RFC Con 768 793 854	y Gateway ver VLT 3, ISCSI over VLT ver VLT npliance UDP TCP Telnet	3623 Security 2865 3162 4250, 429 4301 4302 4303	mode)* RADIUS Radius and IPv6 51, 4252, 4253, 4254 SSHv2 Security Architecture for IPSec* IPSec Authentication Header*
IPv4 routes: IPv6 hosts: IPv6 routes: Multicast hosts: Link aggregation: Layer 2 VLANs:	200K (in Scaled L3 routes mode) 64K 130K (in Scaled L3 routes mode) 8K 32 links per group, 128 groups 4K	VLT Proxy RVPST of DCB, FSE RSPAN o RFC Con 768 793 854 959	y Gateway ver VLT 3, iSCSI over VLT ver VLT npliance UDP TCP Telnet FTP	3623 Security 2865 3162 4250, 425 4301 4302 4303 BGP	mode)* RADIUS Radius and IPv6 51, 4252, 4253, 4254 SSHv2 Security Architecture for IPSec* IPSec Authentication Header* ESP Protocol*
IPv4 routes: IPv6 hosts: IPv6 routes: Multicast hosts: Link aggregation: Layer 2 VLANs: Layer3 VLANs:	200K (in Scaled L3 routes mode) 64K 130K (in Scaled L3 routes mode) 8K 32 links per group, 128 groups 4K 500	VLT Proxy RVPST of DCB, FSE RSPAN o RFC Con 768 793 854 959 1321	y Gateway ver VLT 8, ISCSI over VLT ver VLT npliance UDP TCP Telnet FTP MD5	3623 Security 2865 3162 4250, 429 4301 4302 4303 BGP 1997	mode)* RADIUS Radius and IPv6 51, 4252, 4253, 4254 SSHv2 Security Architecture for IPSec* IPSec Authentication Header* ESP Protocol* Communities
IPv4 routes: IPv6 hosts: IPv6 routes: Multicast hosts: Link aggregation: Layer 2 VLANs: Layer3 VLANs: MSTP: LAG load balancing:	200K (in Scaled L3 routes mode) 64K 130K (in Scaled L3 routes mode) 8K 32 links per group, 128 groups 4K 500 32 instances	VLT Prox; RVPST or DCB, FSE RSPAN o RFC Con 768 793 854 959 1321 1350 2474	y Gateway ver VLT 8, ISCSI over VLT ver VLT npliance UDP TCP Telnet FTP MD5 TFTP	3623 Security 2865 3162 4250, 429 4301 4302 4303 BGP 1997 2385 2439	mode)* RADIUS Radius and IPv6 51, 4252, 4253, 4254 SSHv2 Security Architecture for IPSec* IPSec Authentication Header* ESP Protocol* Communities MD5 Route Flap Damping
IPv4 routes: IPv6 hosts: IPv6 routes: Multicast hosts: Link aggregation: Layer 2 VLANs: Layer3 VLANs: MSTP: LAG load balancing: or IPv6 headers	200K (in Scaled L3 routes mode) 64K 130K (in Scaled L3 routes mode) 8K 32 links per group, 128 groups 4K 500 32 instances Based on layer 2, IPv4	VLT Prox; RVPST of DCB, FSE RSPAN o RFC Con 768 793 854 959 1321 1350 2474 2698	y Gateway ver VLT B, iSCSI over VLT ropliance UDP TCP Telnet FTP MD5 TFTP Differentiated Services Two Rate Three Color Marker	3623 Security 2865 3162 4250, 429 4301 4302 4303 BGP 1997 2385 2439 2796	mode)* RADIUS Radius and IPv6 51, 4252, 4253, 4254 SSHv2 Security Architecture for IPSec* IPSec Authentication Header* ESP Protocol* Communities MD5 Route Flap Damping Route Reflection
IPv4 routes: IPv6 hosts: IPv6 routes: Multicast hosts: Link aggregation: Layer 2 VLANs: Layer3 VLANs: MSTP: LAG load balancing: or IPv6 headers L2 Ingress ACL:	200K (in Scaled L3 routes mode) 64K 130K (in Scaled L3 routes mode) 8K 32 links per group, 128 groups 4K 500 32 instances Based on layer 2, IPv4	VLT Prox; RVPST of DCB, FSE RSPAN o RFC Con 768 793 854 959 1321 1350 2474 2698 3164	y Gateway ver VLT B, iSCSI over VLT ver VLT npliance UDP TCP Telnet FTP MD5 TFTP Differentiated Services Two Rate Three Color Marker Syslog	3623 Security 2865 3162 4250, 429 4301 4302 4303 BGP 1997 2385 2439 2796 2842	mode)* RADIUS Radius and IPv6 51, 4252, 4253, 4254 SSHv2 Security Architecture for IPSec* IPSec Authentication Header* ESP Protocol* Communities MD5 Route Flap Damping Route Reflection Capabilities
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IPv4 routes: IPv6 hosts: IPv6 routes: Multicast hosts: Link aggregation: Layer 2 VLANs: Layer3 VLANs: MSTP: LAG load balancing: or IPv6 headers L2 Ingress ACL: IPv4 Ingress ACL: IPv4 Egress ACL: IPv6 Egress	200K (in Scaled L3 routes mode) 64K 130K (in Scaled L3 routes mode) 8K 32 links per group, 128 groups 4K 500 32 instances Based on layer 2, IPv4 6K 1K 6K 1K 3K 500 e parameters 255 16 ssions: 526 in a zone: 526 g OS10.3 Enterprise	VLT Proxy, RVPST or DCB, FSE RSPAN or RFC Con 768 793 854 959 1321 1350 2474 2698 3164 4254 General 791 792 826 1027 1035 1042 1191 1305 1519 1812 1858 2131 5798 3021 3046	y Gateway ver VLT 3, ISCSI over VLT ver VLT npliance UDP TCP Telnet FTP MD5 TFTP Differentiated Services Two Rate Three Color Marker Syslog SSHv2 IPv4 Protocols IPv4 ICMP ARP Proxy ARP DNS (client) Ethernet Transmission Path MTU Discovery NTPv4 CIDR Routers IP Fragment Filtering DHCP (server and relay) VRRP 31-bit Prefixes DHCP Option 82 (Relay)	3623 Security 2865 3162 4250, 428 4301 4302 4303 BGP 1997 2385 2439 2796 2842 2918 3065 4271 4360 4893 5396 5492 Linux Discussion Linux Ker MIBS IP MIB—II Forwal Host Res IF MIB—ILDP MII Entity MI Entity MI Entity MI	mode)* RADIUS Radius and IPv6 51, 4252, 4253, 4254 SSHv2 Security Architecture for IPSec* IPSec Authentication Header* ESP Protocol* Communities MD5 Route Flap Damping Route Reflection Capabilities Route Refresh Confederations BGP-4 Extended Communities 4-byte ASN 4-byte ASN Representation Capabilities Advertisement stribution nux version 8.4 rnel 3.16 Net SNMP rd MIB— Net SNMP Net SNMP Net SNMP B B



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

* Roadmap

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

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

Japan: VCCI V3/2009 Class A

USA: FCC CFR 47 Part 15, Subpart B:2009, Class A

Warranty

1 Year Return to Depot

IT Lifecycle Services for Networking

Experts, insights and ease

Our highly trained experts, with innovative tools and proven processes, help you transform your IT investments into strategic advantages.



Plan & Design

Let us analyze your multivendor environment and deliver a comprehensive report and action plan to build upon the existing network and improve performance.



Deploy & Integrate

Get new wired or wireless network technology installed and configured with ProDeploy. Reduce costs, save time, and get up and running fast.



Educate

Ensure your staff builds the right skills for long-term success. Get certified on Dell EMC Networking technology and learn how to increase performance and optimize infrastructure.



Manage & Support

Gain access to technical experts and quickly resolve multivendor networking challenges with ProSupport. Spend less time resolving network issues and more time innovating.



Optimize

Maximize performance for dynamic IT environments with Dell EMC Optimize. Benefit from in-depth predictive analysis, remote monitoring and a dedicated systems analyst for your network.



Retire

We can help you resell or retire excess hardware while meeting local regulatory guidelines and acting in an environmentally responsible way.

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