PartnerDirect

Data centre switching

Quick reference guide

Last update: August 2014

Data centre core and aggregation systems

	C-Series		E-Series		Z-Series	
						
Models	**C7004**	**C7008**	**E600i**	**E1200i**	**Z9000**	**Z9500**
Overview	The C-Series modular 1/10GbE chassis is best suited for end-user aggregation or campus LAN wiring closet environments requiring PoE+.		E-Series chassis systems provide flexible, high-density 1/10GbE connectivity for data centres and enterprise LANs. Ideal for cost-effective, collapsed-core designs and large-scale aggregation.		Massively scalable, 10/40GbE switch delivers high density and high performance in a 2RU footprint.	Massively scalable, 10/40GbE switch delivers high density and high performance in a 3RU footprint.
Performance						
Switching capacity	768 Gbps	1.536 Tbps	1.75 Tbps	3.5 Tbps	2.5 Tbps	10.4 Tbps
Slot capacity – half duplex (Gbps)	96	96	125	125	—	—
Forwarding capacity (Mpps)	476	952	1,042	2,083	1,904	7,850
Ports						
10/100/1000 BASE-T	192	384	630	1,260	—	528 (using QSFP+ breakout)
1GbE (SFP)	192	384	350	700	128 (using QSFP+ breakout)	512 (using QSFP+ breakout)
10GbE	32 (64*)	64 (128*)	70 (280 max)	140 (560 max)	128 (using QSFP+ breakout)	528 (using QSFP+ breakout)
40GbE	24	48	—	—	32	132
Power over Ethernet (IEEE 802.3af Class 3)	192	384	—	—	—	—
Power over Ethernet + (IEEE 802.3at)	156	312	—	—	—	—
Power and cooling						
Power consumption (W)	1,647**	2,707**	3,982	6,934	800 (max)/450 (nominal)	3100 (max)/2000 (nominal)
Power options	AC	AC	AC	AC	AC or DC	AC
Redundant power (hot swappable)	Yes (6)	Yes (8)	Yes	Yes	Yes	Yes
Airflow	Hot-swappable fans move air from side to side		Hot-swappable fans move air from bottom front side and exhausts to top rear		Hot-swappable fans move air from I/O panel to PSU or PSU to I/O panel (direction must be selected at order)	Hot-swappable fans move air from IO to PSU
Features						
Dell Networking OS	Dell Networking OS is a modular Unix-based operating system that separates application processes for increased levels of stability and leverages a multi-threaded architecture to deliver protocols and quality of service policies.					
Industry-standard CLI (Console, Telnet, SSHv1/v2)	Yes, Dell Networking OS uses a full-featured industry-standard Command Line Interface, so your customers' staff can configure Layer 2 and 3 switch and routing without special training.					
Open Automation software	—	—	—	—	Yes	Yes
Special features	—	—	Virtual Routing and Forwarding (VRF)	VRF	OpenFlow compliant, FIPS certified, Virtual Link Trunking (VLT)	OpenFlow*, FIPS certified*, VLT* (*=Phase 2 delivery in Q2FY15)
Max VLANs (configured/choices)	1,000/4,096	1,000/4,096	4,096/4,096	4,096/4,096	4,096/4,096	4,096/4,096
Max MAC entries	256K	512K	784K	1,568K	128K	160K
Link aggregation (groups/members)	128/8	128/8	32/64 or 255/8	32/64 or 255/8	128/8	128/8 - 128/16*
Jumbo frames (bytes)	9,252	9,252	9,252	9,252	12,000	12,000
Max routes (IPv4/IPv6)	12K/6K	12K/6K	688K/128K	688K/128K	16K/8K	48K/24K
IPv4 routing	RIP, OSPF, BGP	RIP, OSPF, BGP	RIP, OSPF, BGP, IS-IS, VRF	RIP, OSPF, BGP, IS-IS, VRF	RIP, OSPF, BGP, IS-IS	RIP, OSPF, BGP, IS-IS
IPv6 routing	OSPFv3, BGP	OSPFv3, BGP	OSPFv3, BGP, IS-IS	OSPFv3, BGP, IS-IS	OSPFv3, BGP, IS-IS	OSPFv3, BGP, IS-IS
Multicast routing	IGMP, PIM	IGMP, PIM	IGMP, MLD, PIM, MSDP	IGMP, MLD, PIM, MSDP	IGMP, PIM, MSDP	IGMP, PIM, MSDP
Chassis						
Chassis height (RU)	9	13	16	24	2	3
Line card slots	4	8	7	14	—	—

*RJ-45, 2014
**100/120V AC, 1600W PSU

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Top-of-rack and access systems

	1/10GbE		10/40GbE		10Gb Converged	40GbE
						
Models (all sized 1RU)	**S55**	**S60**	**S4810/ S4810-ON***	**S4820T**	**S5000**	**S6000/ S6000-ON***
Overview	High-throughput switch for demanding apps	Deep buffer switch to smooth out traffic spikes	High-performance switches designed to deliver non-blocking throughput for dense traffic environments		Fully modular converged fabric switch to unify the SAN and LAN	Maximum bandwidth for large-scale virtualised data centres
Performance						
Switching capacity	176 Gbps	176 Gbps	1.28 Tbps		1.28 Tbps	2.56 Tbps
Forwarding capacity (Mpps)	131	131	960		960	1,462
Buffer size	4MB	1.25GB	9MB		9MB	12MB
Latency (Microseconds)	< 5 µs	< 9 µs	0.8 µs	3.3 µs	0.8 µs	0.6 µs
Ports						
10/100/1000 BASE-T	44	44	—	48 (multi-speed 1/10Gb)	—	—
1GbE (SFP)	4	4	48 (multi-speed 1/10Gb)	—	Up to 48 using modules (multi-speed 1/10Gb)	—
10GbE	4 (using SFP+ module)	4 (using SFP+ module)	48 or 64 using breakout cables		48 or 64 using breakout cables	Up to 96 using breakout cables
40GbE (QSFP+)	—	—	4		4	32
Expansion module slots (modules support speed indicated)	2 slots and 2 modules Choose from: • 2-port 10GbE SFP+ • 2-port 12Gbps stacking	2 slots and 3 modules Choose from: • 2-port 10GbE SFP+ • 2-port 12Gbps stacking • 1-port 24Gbps stacking	—		4 slots and 2 modules Choose from: • 12 port 1/10GbE • 12 port 10GbE or 2, 4, 8Gb FC	—
Power and cooling						
Max. power consumption (W)	130	225	350	420	550	371
Power options	AC or DC	AC or DC	AC or DC		AC or DC	AC or DC* (*Future)
Redundant power supplies	2 hot swappable	2 hot swappable	2 hot swappable		2 hot swappable	2 hot swappable
Airflow	Hot-swappable fans move air from IO panel to PSU or PSU to IO panel (direction must be selected upon ordering)					
Features						
Stacking	Up to 12 using modules	Up to 12 using modules	Up to 6 using front ports		Up to 6 using front ports	None (future feature)
Operating system	Dell Networking OS9 (ON versions offer the choice of Cumulus Linux OS or Big Switch Networks Switch Light™ OS, as well as Big Switch Networks Big Tap™ Monitoring Fabric application)					
Industry-standard CLI	Yes, Dell Networking OS uses a full-featured industry standard Command Line Interface, so your customers' staff can configure Layer 2 and Layer 3 switch and routing without any special training. (Console, Telnet, SSHv1/v2)					
Open Automation software	Includes an integrated software suite of advanced network management tools to automate data centre processes and hypervisor switch communications					
Special features	—	—	OpenFlow compliant, FIPS certified, VLT (Virtual Link Trunking), and FCoE transit capability	VLT (Virtual Link Trunking)	Supports DCB, FCoE, Fibre Channel, NPIV gateway, lossless iSCSI, and VLT (Virtual Link Trunking)	VXLAN gateway, Fresh Air capable, VLT (Virtual Link Trunking), 48K ARP Table
iSCSI optimisation	iSCSI aware (detect and prioritise iSCSI traffic into pre-defined QoS); iSCSI Auto-Configuration (switch configuration routine for automated setup and optimal performance with Dell EqualLogic or Compellent arrays)					
Max L2 VLANs and L3 VLANs	4,096/1,000	4,096/1,000	4,096/511		4,096/511	1K/511
Max MAC entries	32K	32K	128K		128K	160K
Link aggregation (groups/members)	128/8	128/8	128/8		128/8	128/8
Jumbo frames (bytes)	9,252	9,252	12K		12K	12K
Max routes (IPv4/IPv6)	16K/8K	16K/8K	16K/8K		16K/8K	16K/8K
IPv4 routing	RIP, OSPF, BGP	RIP, OSPF, BGP	RIP, OSPF, BGP, IS-IS		RIP, OSPF, BGP, IS-IS	RIP, OSPF, BGP, IS-IS
IPv6 routing	Static	Static	Static, OSPFv3, BGP, IS-IS	Static, BGP, IS-IS	Static, BGP, IS-IS	Static, BGP, IS-IS
Multicast routing	IGMP, PIM	IGMP, PIM	IGMP, PIM, MTU		IGMP, PIM, MTU	IGMP, PIM, MTU

* Some features differ for Open Networking (ON) versions.

(1) Stacking between S4810 and S4820T models not supported.

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