

DATA CENTER NETWORKING

QUICK REFERENCE GUIDE

Last update: March 2021



- ¹ 128 + 2 supported today, additional 16 support is in roadmap
- ² 128 supported today, additional 16 support is in roadmap
- ³ 50G NRZ supported today. 50G PAM4 support is in road mapz
- ⁴ 50G breakout is a future release feature

Z-Series	100/400GbE		10/25/40/50/100GbE
Overview	High-performance, high-density 100/400GbE multi-rate aggregation switch		High-performance, high-density 100GbE multi-rate aggregation switch
Models	Z9432F-ON	Z9332F-ON	Z9264F-ON
Performance			
Switching capacity (Tbps, full duplex)	25.6	25.6	12.8
Forwarding capacity (Bpps)	5.2	5.1	2.5
Buffer size (MB)	132	64	42
Latency	sub 850 ns	sub 700 ns	300 ns L2/400 ns L3
Ports			
1/10GBase-T		1	
10GbE (SFP+)	2	2	128 (breakout) + 2
10GbE	146 = 128 (breakout) + 16 + 2 ¹	146 = 128 (breakout) + 16 + 2 ¹	128 (breakout) + 2
25GbE	144 = 128 (breakout) + 16 ²	144 = 128 (breakout) + 16 ²	128 (breakout)
40GbE	64 (breakout)	64 (breakout)	64
50GbE	144 (breakout) ⁴	144 (breakout) ³	128 (breakout/ 2x25G NRZ)
100GbE	128 (breakout)	128 (breakout)	64
400 GbE	32	32	N/A
Expansion module slots (Modules support speed indicated)		N/A	
Power and cooling			
Power consumption (W)	1404 (max)/900 (normal)	1500 (max)/900 (normal)	750 (max)/340 (normal)
Power options	AC or DC	AC	AC or DC
Redundant power (hot-swappable)		2	
Airflow	Normal or Reverse as orderable options, can be reversed in the field		
Features			
Operating Systems	Dell EMC SmartFabric OS10 and select 3rd party OS; Enterprise SONiC Distribution by Dell Technologies		
Industry-standard CLI (Console, Telnet, SSHv1/v2)	Dell EMC SmartFabric OS10 and several 3rd party OS		
iSCSI optimization	iSCSI optimization and FSB		iSCSI aware (detect and prioritize 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 VLANs (Configured)		4K per port	
Max MAC entries	156K	8K	160K
Link aggregation (Groups/Members)	16 links per group, 128 groups	16 links per group, 128 groups	64 links per group, 128 groups
Max routes (IPv4/IPv6)	340K/310K	400K/300K	128K/64K
Jumbo frames		9,216 bytes	
IPv4 routing		OSPF, BGP	
IPv6 routing		MP-BGP, OSPFv3	
Multicast routing		PIM-SM, PIM-SSM	
VXLAN	L2 & L3 16k	Not supported	8k Bridging only

S-Series	10/25/40/50/100GbE				
Overview	Build a high-performance, cost-efficient data center leaf/spine fabric with this spine fabric switch	Provide optimum flexibility and cost-effectiveness for demanding compute and storage traffic environments	Double the amount of direct 25GbE ports with a ToR switch that features 96 x 25GbE SFP28	Low-density 1RU, half-width switch ideal for high-performance HCI connectivity	Low-density 1RU, full-width switch ideal for high-performance HCI connectivity
Models	S5232F-ON	S5248F-ON	S5296F-ON	S5212F-ON	S5224F-ON
Performance					
Switching capacity (full duplex) (Tbps)	6.4	4.0	6.4	2.16	2.16
Forwarding capacity (Mpps)	1.5 Bpps	1.9 Bpps	1.5 Bpps	892	954
Buffer size (MB)			32		
Latency	877	847	850	906	881
Ports					
1/10GBase-T			N/A		
1GbE (SFP)	126	80	128	12	24
10GbE	126	80	128	12	24
25GbE	124	80	128	12	24
40GbE	32	8	8	3	4
50GbE	64	16	16	6	8
100GbE	32	8	8	3	4
Expansion module slots		N/A		Redundant (fixed)	N/A
Power and cooling					
Max. power consumption (W)	635 (max)/360 (normal)	647 (max)/310 (normal)	893 (max)/457 (normal)	304 (max)/140 (normal)	455 (max)/400 (normal)
Power options	AC or DC				
Redundant power (hot-swappable)	2			N/A	2
Airflow	Normal or Reverse as orderable options, can be reversed in the field			Normal or Reverse	Normal or Reverse as orderable options, can be reversed in the field
Features					
Operating Systems	Dell EMC SmartFabric OS10 and select 3rd party OS; Enterprise SONiC Distribution by Dell Technologies				
Industry-standard CLI (Console, Telnet, SSHv1/v2)	Dell EMC SmartFabric OS10 and several 3rd party OS				
iSCSI optimization	iSCSI optimization and FSB				
Max VLANs (Configured)	4K per port				
Max MAC entries	160K				
Link aggregation (Groups/Members)	16 links per group, 128 groups				
Max routes (IPv4/IPv6)	128K/64K				
Jumbo frames	9,216 bytes				
IPv4 routing	OSPF, BGP				
IPv6 routing	MP-BGP, OSPFv3				
Multicast routing	PIM-SM, PIM-SSM				
VXLAN	Routing and Bridging				

Overview

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

Models (all sized 1RU)	S4128F-ON	S4128T-ON	S4112F-ON	S4112T-ON
Performance				
Switching capacity (full duplex) (Gbps)	960		840	
Forwarding capacity (Mpps)	720		625	
Buffer size (MB)			12	
Latency (microseconds)	<800 ns	<2.3 ns		<800 ns
Ports				
1/10GBase-T	N/A	28	N/A	12
1GbE (SFP)	N/A		12	N/A
10GbE	36		12	
25GbE	8		12 (breakout)	
40GbE (QSFP+)	2		3	
50GbE	4		6	
100GbE	2		3	
Expansion module slots (Modules support speed indicated)			N/A	
Power and cooling				
Power consumption (W)	260 (max)/160 (normal)	300 (max)/250 (normal)	180 (max) / 90 (normal)	200 (max) / 120 (normal)
Power options		AC or DC		Fixed power supply
Redundant power supplies		2		Redundant Fixed fans
Airflow				Normal or Reverse
Features				
Operating Systems				Dell EMC SmartFabric OS10 and several 3rd party OS
Industry-standard CLI (Console, Telnet, SSHv1/v2)				Dell EMC SmartFabric OS10 and several 3rd party OS
iSCSI optimization				iSCSI optimization and FSB
Max VLANs (Configured)		500 L3 VLANs		4K/500
Max MAC entries				272K
Link aggregation (Groups/Members)				32 links per group, 128 groups
Max routes (IPv4/IPv6)				200K/130K
Jumbo frames				9,216 bytes
IPv4 routing				OSPF, BGP
IPv6 routing				OSPFv3, MP-BGP
Multicast routing				PIM-SM, PIM-SSM
VXLAN				Routing and Bridging

S-Series	10/40/100GbE			
Overview	Next generation open networking switches for enterprise, mid-market and Tier2 cloud service providers with demanding compute and storage traffic environments			
Models (all sized 1RU)	S4148F-ON	S4148T-ON	S4148FE-ON	S4148U-ON
Performance				
Switching capacity (full duplex) (Tbps)				1.76
Forwarding Capacity (Mpps)				1320
Buffer size (MB)				12
Latency (microseconds)	<800 ns	<2.3	<850 ns	<800 ns
Ports				
FC8/FC16		N/A		unified SFP+/SFP28
FC8/FC16/FC32		N/A		unified QSFP28
1/10GBase-T	N/A	48		N/A
10GbE				72
25GbE (QSFP28)				16
40GbE				6
50GbE				8
100GbE				4
Expansion module slots (Modules support speed indicated)				N/A
Power and cooling				
Max. power consumption (W)	370 (max)/200 (normal)	440 (max)/320 (normal)	400(max)/240 (normal)	460 (max)/300 (normal)
Power options	AC or DC			
Redundant power supplies	2			
Airflow	Normal or Reverse			
Features				
Stacking	Not supported			
Operating system	Dell EMC SmartFabric OS10 and select 3rd party OS			
Industry-standard CLI	Dell EMC SmartFabric OS10 and several 3rd party OS			
iSCSI optimization storage features	iSCSI optimization and FSB			iSCSI optimization, FSB, NPIV Proxy gateway, F_Port, FCoE/ FC hosts, FC zoning
Max VLANs (Configured)				500 L3 VLANs
Max MAC entries				272K
Link aggregation (groups/Members)				32 links per group, 128 groups
Max routes (IPv4/IPv6)				200K/130K
Jumbo frames (Bytes)				9,216
IPv4 routing				OSPF, BGP
IPv6 routing				MP-BGP, OSPFv3
Multicast routing				PIM-SM, PIM-SSM
VXLAN				Routing and Bridging

S-Series | N-Series

Overview	1GbE top-of-rack open networking switch	High performance open networking 1GbE and 10GbE multigigabit switch
Models (all sized 1RU)	S3048-ON	N3248TE-ON
Performance		
Switching capacity (full duplex) (Gbps)	260	576
Forwarding Capacity (Mpps)	131	800
Buffer size (MB)	4	8
Latency (microseconds)	3.7	2.38
Ports		
1GBase-T	N/A	48
1/10GBase-T	48	N/A
1GbE (SFP)		N/A
10GbE		4
25GbE		N/A
40GbE (QSFP+)		N/A
50GbE		N/A
100GbE		N/A
Expansion module slots (Modules support speed indicated)		N/A
Power and cooling		
Power consumption (W)	87 (max)/65 (normal)	212 (max)
Power options	AC	AC or DC
Redundant power supplies	2 hot-swappable	2 hot swappable redundant power supplies. 1 PSU included, 2nd PSU optional.
Airflow	Reversible	Normal (IO/PS) and reverse (PS/IO) airflow
Features		
Stacking	Up to 6 units	
Operating system	Dell EMC OS9, Dell EMC SmartFabric OS10 Consult the Dell EMC Open Networking 3rd Party OS Ordering Guide for up-to-date details	Dell EMC SmartFabric OS10 and select 3rd party OS; Enterprise SONiC Distribution by Dell Technologies
Industry-standard CLI	Dell EMC Networking OS9 and several 3rd party OS	Dell EMC SmartFabric OS10 and select 3rd party OS
iSCSI optimization storage features	N/A	
Max VLANs (Configured)	4096/1000	
Max MAC entries	64K	55K
Link aggregation (groups/Members)	16 links per group, 128 groups	
Max routes (IPv4/IPv6)	16K/8K	8K/4K
Jumbo frames (Bytes)	9,216	
IPv4 routing	OSPF, BGP	IPv4 and IPv6 functionality including BGP, VRF, BFD, PIM-SM/SSM, OSPFv2/v3
IPv6 routing	OSPFv3, BGPv6, IS-IS	
Multicast routing	PIM-SM, PIM-SSM	
VXLAN	Routing & Bridging	N/A

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