Z-Series	100/400GbE Multi-rate			100GbE Multi-rate
Overview	High-performance, high-density 100/400GbE multi-rate aggregation switch			High-performance, high-density 100GbE multi-rate aggregation switch
Models	**Z9664F-ON**	**Z9432F-ON**	**Z9332F-ON**	**Z9264F-ON**
NPU	Broadcom® Tomahawk™4	Broadcom Trident4-X11	Broadcom Tomahaw3	Broadcom Tomahawk2
Form factor	2 U	1 U	1 U	2 U
Performance				
Switching capacity (Tbps, full duplex)	51.2	25.6	25.6	12.8
Forwarding capacity (Bpps)	10.2	5.2	5.1	2.5
Buffer size (MB)	114	132	64	42
Latency (ns)	<850	<850	<700	300 L2/400 L3
Ports*				
10GbE (SFP+)	256 (breakout) + 2	144 (breakout) + 2	144 (breakout) + 2	128 (breakout) + 2
25GbE (SFP28)	256 (breakout)	144 (breakout)	144 (breakout)	128 (breakout)
40GbE (QSFP+)	128 (breakout)	64 (breakout)	64 (breakout)	64
50GbE (QSFP28)	128 (breakout)	128 (breakout) + 16 (QSA) (PAM4)	128 (breakout) + 16 (QSA) (PAM4)	128 (breakout) + 2 (25G NRZ)
50GbE (SFP56)	256 (breakout)	128 (breakout)		N/A
100GbE (QSFP28)	256 (breakout)	128 (breakout)	128 (breakout)	64
200GbE (QSFP28-DD)	128 (breakout)	64 (breakout)	64 (breakout)	N/A
400GbE (QSFP56-DD)	64	32	32	N/A
Power and cooling				
Power consumption (W)	2125 (max)/500 (normal)	1404 (max)/900 (normal)	1500 (max)/900 (normal)	1404 (max)/340 (normal)
Power options	AC or DC		AC	AC or DC
Redundant power	2 hot swappable			
Airflow	Normal or Reverse, can be reversed in the field**			
Features				
Operating Systems	Dell SmartFabric OS10 and select 3rd party OS; Enterprise SONiC Distribution by Dell Technologies***			
Industry-standard CLI (Console, Telnet, SSHv1/v2)	Dell SmartFabric OS10 and select 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			64 links per group, 128 groups
Max routes (IPv4/IPv6)	400K/300K	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

*Port configuration capacities represent HW supportable modes. SW support varies by OS.

**Z9332 is orderable only as IO/PSU but can be reversed in the field

***In roadmap for Z9664F-ON

S-Series	10/25/40/50/100/200/400GbE					
Overview	High-performance, open networking 25GbE for compute and storage connectivity or 100/400GbE spine/leaf switches offer optimum flexibility and cost effectiveness					
Models	**S5212F-ON**	**S5224F-ON**	**S5232F-ON**	**S5248F-ON**	**S5296F-ON**	**S5448F-ON**
NPU	Broadcom Trident3-X5		Broadcom Trident3-X7	Broadcom Trident3-X5	Broadcom Trident3-X7	Broadcom Trident4-X9
Form factor	1 U compact	1 U	1 U	1 U	2 U	1 U
Performance						
Switching capacity (full duplex) (Tbps)	2.16	2.16	6.4	4.0	6.4	16
Forwarding capacity (Bpps)	880 Mpps	1.42	4.8	3.0	4.8	2.6
Buffer size (MB)	32					82
Latency (ns)	906	881	877	847	850	1135
Ports						
10GbE (SFP+)	12 +12 (breakout)	24 + 16 (breakout)	124 (breakout) + 2	48 + 32 (breakout)	96 + 32 (breakout)	48 + 24 (breakout) + 2
25GbE (SFP28)	12 +12 (breakout)	24 + 16 (breakout)	124 (breakout)	48 + 32 (breakout)	96 + 32 (breakout)	48 + 24 (breakout)
40GbE (QSFP28)	3	4	32	4 + 4 (breakout)	8	16 (Breakout)
50GbE (QSFP28)	6 (breakout)	8 (breakout)	64 (breakout)	16 (breakout)	16 (breakout)	16 (Breakout)
50GbE (SFP56)	N/A					48 + 24 (Breakout)
100GbE (QSFP28)	3	4	32	4 + 4 (breakout)	8	32 (breakout)
100GbE (SFP56-DD)	N/A					48
400GbE (QSFP56-DD)	N/A					8
Power and cooling						
Max. power consumption (W)	304 (max)/140 (normal)	455 (max)/200 (normal)	635 (max)/360 (normal)	647 (max)/310 (normal)	893 (max)/457 (normal)	920 (max)/250 (normal)
Power options	AC or DC					
Redundant power	2 fixed	2 hot swappable				
Airflow	Normal or Reverse	Normal or Reverse, can be reversed in the field				
Features						
Operating Systems	Dell SmartFabric OS10 and select 3rd party OS; Enterprise SONiC Distribution by Dell Technologies*					
Industry-standard CLI (Console, Telnet, SSHv1/v2)	Dell SmartFabric OS10 and select 3rd party OS					
iSCSI optimization	iSCSI optimization and FSB					
Max VLANs (Configured)**	4K per port					
Max MAC entries**	160K					256k
Link aggregation (Groups/Members)**	16 links per group, 128 groups					
Max routes (IPv4/IPv6)**	128K/64K					875K/310K (IPv6/64 ALPM), 240K (IPv6/128 ALPM)
Jumbo frames	9,216 bytes					
IPv4 routing	OSPF, BGP					
IPv6 routing	MP-BGP, OSPFv3					
Multicast routing	PIM-SM, PIM-SSM					
VXLAN	Routing and Bridging					

*In roadmap for S5448F-ON

**Hardware maximum. Refer to Network Operating System (NOS) scalability for actual supported numbers with the NOS

S-Series	1/10/25/40/50/100GbE					
Overview	High-performance open networking 10GbE top-of-rack switches with 100GbE uplinks for compute and storage connectivity					
Models	**S4112F-ON**	**S4112T-ON**	**S4128F-ON**	**S4128T-ON**	**S4148F-ON**	**S4148T-ON**
NPU	Broadcom Maverick					
Form factor	1 U compact		1 U		1 U	
Performance						
Switching capacity (full duplex) (Gbps)	840		960		1,760	
Forwarding capacity (Mpps)	625		720		1,320	
Buffer size (MB)	12					
Latency (ns)	<800		<800	<2.3	<800	<2.3 µs
Ports						
1/10GBase-T	N/A	12	N/A	28	N/A	48
1GbE (SFP)	12 + 12 (breakout)	N/A	28 + 8 (breakout)	8 (breakout)	48 + 24 (breakout)	24 (breakout)
10GbE (SFP+)	12 + 12 (breakout)	12 (breakout)	28 + 8 (breakout)	8 (breakout)	48 + 24 (breakout)	24 (breakout)
25GbE (SFP28)	12 (breakout)		8 (breakout)		16 (breakout)	
40GbE (QSFP28)	3		2		4 + 2 (QSFP+)	
50GbE (QSFP28)	6 (breakout)		4 (breakout)		8 (breakout)	
100GbE (QSFP28)	3		2		4	
Power and cooling						
Power consumption (W)	180 (max)/90 (normal)	200 (max)/120 (normal)	260 (max)/160 (normal)	300 (max)/250 (normal)	370 (max)/200 (normal)	440 (max)/320 (normal)
Power options	AC		AC or DC			
Redundant power supplies	Fixed, redundant power supply and fan		2			
Airflow	Normal or Reverse		Normal or Reverse, can be reversed in the field			
Features						
Operating Systems	Dell SmartFabric OS10 and select 3rd party OS					
Industry-standard CLI (Console, Telnet, SSHv1/v2)	Dell SmartFabric OS10 and select 3rd party OS					
iSCSI optimization	iSCSI optimization and FSB					
Max VLANs (Configured)	4K/500		500 L3 VLANs		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	9,216 bytes					
IPv4 routing	OSPF, BGP					
IPv6 routing	OSPFv3, MP-BGP					
Multicast routing	PIM-SM, PIM-SSM					
VXLAN	Routing and Bridging					

1GbE open networking switches for data center management

Overview	1GbE top-of-rack open networking switch	
Models	**S3048-ON**	**N3248TE-ON**
NPU	Broadcom Helix4	Broadcom Trident3-X3
Form factor	1 U	
Performance		
Switching capacity (full duplex) (Gbps)	260	576
Forwarding Capacity (Mpps)	131	800
Buffer size (MB)	4	8
Latency (µs)	3.7	2.38
Ports		
1GBase-T	48	48
10GbE (SFP+)	4	4
100GbE (QSFP28)	N/A	2
Power and cooling		
Power consumption (W)	87 (max)/65 (normal)	212 (max)
Power options	AC	AC or DC
Redundant power supplies	2 hot swappable redundant power supplies. 1 PSU included, 2nd PSU optional.	
Airflow	Normal or Reverse	Normal or Reverse
Features		
Stacking	Up to 6 units	
Operating system	Dell OS9, Dell SmartFabric OS10	Dell SmartFabric OS10 and select 3rd party OS; Enterprise SONiC Distribution by Dell Technologies
Industry-standard CLI	Dell OS9, Dell SmartFabric OS10 and select 3rd party OS	Dell 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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