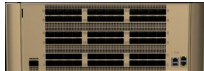


AI Fabric Switches		100/400/800GbE Multi-rate				
Overview		High-performance, high-density 100/400/800GbE multi-rate aggregation and AI fabric switches				
Models	SN5610	SN5600D	Z9864F-ON	Z9664F-ON	Z9432F-ON	SN4700
						
NPU	NVIDIA® Spectrum-4	NVIDIA Spectrum-4	Broadcom® Tomahawk™5	Broadcom Tomahawk 4	Broadcom Trident™ 4-X11	NVIDIA Spectrum-3
Form factor	2 U	2 U	2 U	2 U	1 U	1 U
Performance						
Switching capacity (Tbps, full duplex)	102.4	102.4	102.4	51.2	25.6	25.6
Forwarding capacity (Bpps)	33.3	33.3	20.3	10.2	5.2	8.4
Buffer size (MB)	160	160	165	114	132	64
Latency (ns)	N/A	N/A	<700	<850	<850	<650
Ports*						
10GbE (SFP+)	256 (breakout) +2	256 (breakout) +1	2	256 (breakout) + 2	144 (breakout) + 2	128 (breakout)
25GbE (SFP28)	256 (breakout) +2	256 (breakout) +1	N/A	256 (breakout)	144 (breakout)	128 (breakout)
40GbE (QSFP+)	128 (breakout)	128 (breakout)	N/A	128 (breakout)	64 (breakout)	40 (breakout)
50GbE (QSFP28)	256 (breakout)	256 (breakout)	N/A	128 (breakout)	128 (breakout) + 16 (QSA) (PAM4)	128 (breakout)
50GbE (SFP56)	256 (breakout)	256 (breakout)	N/A	256 (breakout)	128 (breakout)	128 (breakout)
100GbE (QSFP28)	256 (breakout)	256 (breakout)	320 (breakout)	256 (breakout)	128 (breakout)	64 (breakout)
200GbE (QSFP28-DD)	256 (breakout)	256 (breakout)	256 (breakout)	128 (breakout)	64 (breakout)	64 (breakout)
400GbE (QSFP56-DD)	128 (breakout)	128 (breakout)	128 (breakout)	64	32	32
800GbE (OSFP112 PAM4)	64	64	64	N/A	N/A	N/A
Power and cooling						
Power consumption (W)	900 (normal)	940 (normal)	2848 (max)/1500 (normal)	2125 (max)/500 (normal)	1404 (max)/900 (normal)	630 (normal)
Power options	AC	DC bus bar	AC or DC			AC
Redundant power	4 hot swappable	2 hot swappable	2 hot swappable			2 hot swappable
Airflow	Normal	Normal	Normal or Reverse, can be reversed in the field			Normal or Reverse
Features						
Operating Systems	NVIDIA Cumulus Linux, SONiC, Linux Switch		Enterprise SONiC Distribution by Dell Technologies	Enterprise SONiC Distribution by Dell Technologies; Dell SmartFabric OS10		NVIDIA Cumulus Linux, SONiC
iSCSI optimization	Optimized for RoCE		N/A	iSCSI optimization and FSB		Optimized for RoCE
VXLAN	Routing and Bridging			Routing and Bridging**		Routing and Bridging

* SN5610 has 64 OSFP + 2 SFP28 connectors, SN5600D has 64 OSFP + 1 SFP28 connectors, 400GbE and lower speeds use OSFP. Port configuration capacities represent HW supportable modes. SW support varies by OS.

** SONiC only.

AI Fabric InfiniBand Switches

Overview		Highest-performance, end-to-end 400/ 800Gb/s networking designed for massive-scale AI.		
Models	QM9700/9790	Q3200-RA	Q3400-RA	Q3401-RD
				
NPU	NVIDIA Quantum™2	NVIDIA Quantum 3	NVIDIA Quantum 3	NVIDIA Quantum 3
Form factor	2 U	2 U	4 U	4 U
Performance				
Switching capacity (Tbps)	25.6	57.6	115.2	115.2
Latency (ns)	N/A	N/A	N/A	N/A
Physical Interfaces				
800Gb/s (OSFP)	32	NA	NA	NA
1.6Tb/s (OSFP)	N/A	36	72	72
Supported Ports				
100Gb/s	N/A	NA	NA	NA
200Gb/s	NA	NA	NA	NA
400Gb/s	64	144	288	288
800Gb/s	N/A	72	144	144
Power and cooling				
Power consumption (W)	640-747	862-3486	2,900-7,000	2,900-7,000
Power options	AC			DC bus bar
Redundant power				
Airflow	Normal or Reverse	Normal (C2P)		Normal (C2P)
Features				
Operating Systems	NVIDIA MLNX-OS		NVIDIA Networking OS Software (NVOS)	

*Plus 10/100/1000Mb Ethernet management interface (RJ45)

S-Series Data Center Switches		10/25/40/50/100/200/400GbE				
Overview		High-performance, open networking 25GbE for compute and storage connectivity or 100/400GbE spine/leaf switches offering 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 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	Enterprise SONiC Distribution by Dell Technologies ; Dell SmartFabric OS10					
iSCSI optimization	iSCSI optimization and FSB					
VXLAN	Routing and Bridging					

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

1/10/25/40/50/100GbE

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	S4348F-ON	S4348T-ON
								
NPU			Broadcom Maverick				Trident3-X5	
Form factor	1 U compact		1 U					
Performance								
Switching capacity (full duplex) (Gbps)	840		960		1,760		2,016	2,016
Forwarding capacity (Mpps)	625		720		1,320		1,007	1,007
Buffer size (MB)			12				32	32
Latency (ns)	<800		<800	<2.3 μs	<800	<2.3 μs	<650	<3.5 μs
Ports								
1/10GBase-T	N/A	12	N/A	28	N/A	48	N/A	48
1GbE (SFP)	12 + 12 (breakout)	N/A	28 + 8 (breakout)	8 (breakout)	48 + 24 (breakout)	24 (breakout)	48	N/A
10GbE (SFP+)	12 + 12 (breakout)	12 (breakout)	28 + 8 (breakout)	8 (breakout)	48 + 24 (breakout)	24 (breakout)	48 + 12 (breakout)	12 (breakout)
25GbE (SFP28)	12 (breakout)		8 (breakout)		16 (breakout)		12 (breakout)	12 (breakout)
40GbE (QSFP28)	3		2		4 + 2 (QSFP+)		6	6
50GbE (QSFP28)	6 (breakout)		4 (breakout)		8 (breakout)		N/A	N/A
100GbE (QSFP28)	3		2		4		6	6
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)	362 (max)/ 119 (normal)	393 (max)/ 222 (normal)
Power options	AC		AC or DC					
Redundant power supplies	Fixed, redundant power supply and fan		2				Fixed, redundant power supply and fan	
Airflow	Normal or Reverse		Normal or Reverse, can be reversed in the field				Normal or Reverse	
Features								
Operating Systems	Dell SmartFabric OS10						Enterprise SONiC Distribution by Dell Technologies	
iSCSI optimization	iSCSI optimization and FSB						N/A	
Multicast routing	PIM-SM, PIM-SSM						IPv4 PIM-SSM	
VXLAN	Routing and Bridging							

Out-of-Band Management Switches

Overview	Ethernet switches for out-of-band data center management	
Models	S3248T-ON	SN2201
		
NPU	Broadcom Trident3-X3	NVIDIA Spectrum
Form factor	1 U	1U
Performance		
Switching capacity (full duplex) (Gbps)	576	448
Forwarding Capacity (Mpps)	800	667
Buffer size (MB)	8	16
Latency (µs)	2.38	N/A
Ports		
1GBase-T	48	48
10GbE (SFP+)	4	16
100GbE (QSFP28)	2	4
Power and cooling		
Power consumption (W)	212 (max)	100 (typical)
Power options	AC or DC	AC
Redundant power supplies	2	2
Airflow	Normal or Reverse	Normal or Reverse
Features		
Operating system	Enterprise SONiC Distribution by Dell Technologies ; Dell SmartFabric OS10	NVIDIA Cumulus Linux, SONiC, Linux Switch
iSCSI optimization storage features	N/A	Optimized for RoCE
VXLAN	L2 and L3	Bridging and Routing

Edge switches

Overview	High performance open networking 1GbE and 10GbE multigigabit switches for modern workloads at the network edge		
Models	E3224F-ON	E3248P-ON	E3248PXE-ON
			
NPU	Broadcom® Trident3-X3		Broadcom Trident3-X5
Form factor	1U		
Switch capacity (Gbps)	528	576	1560
Forwarding capacity (Mpps)	733	800	2167
Buffer size	8 MB	8 MB	32 MB
1G	24 (SFP)	48 (GBASE-T)	-
5GBase-T Multigig (1/2.5/5G)	-		
10GBase-T Multigig (1/2.5/5/10G)	-	-	48
10G (SFP+)	4	4	-
25G (SFP28)	-	-	4
100GbE (QSFP28)	2 (Rear side)		
Power-over-Ethernet ports	-	48x 802.3at (30W) PoE	48x 802.3bt Type-4 (90W) PoE
Power and cooling			
Max power consumption (watts)	230	1683	4869
Power options	AC	AC	AC
Internal power supplies	2 hot swappable redundant power supplies. 1 PSU included, 2 nd PSU optional.		
Redundant power	550W AC	1050W AC	1600W AC
Airflow	I/O to power supply. Supports field replaceable fans with N+1 redundancy.		
Features			
Operating Systems	Dell SmartFabric OS10	Enterprise SONiC Distribution by Dell Technologies	

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