



CLOUD WITHOUT COMPROMISE

High Density 1GbE through 400GbE Ethernet Switch System Family



Mellanox provides the **Highest Performing Open Ethernet Switch Systems** at port speeds ranging from 1GbE through 400GbE, enabling Data Centers, Cloud Computing, Storage, Web2.0 and High Performance Computing applications to operate with maximum functionality at scale.

Benefits

Cloud Native Infrastructure

- Leaf/Spine architectures that easily scale up to 10K+ nodes in 2 tiers
- Best in class VXLAN
- Automation with best of breed tools including Ansible, Chef, Puppet, and SaltStack
- OpenStack Neutron Integration
- Hyperconverged Infrastructure Integration (Nutanix)
- Turnkey Data Center Interconnect solutions with VXLAN

Storage or Machine Learning Interconnect

- Fair, high bandwidth, low latency and bottleneck free data path
- Robust RDMA over converged Ethernet (RoCE) transport for NVMe-oF or GPUDirect®
- Mellanox NEO based orchestration and seamless integration with various storage solutions
- Built-in telemetry with What Just Happened (WJH)™

Choice of Software - Open Ethernet

- Mellanox Onyx®, Cumulus® Linux, DENT, Microsoft SONiC, and more

The Mellanox Spectrum® Open Ethernet family includes a broad portfolio of fixed form factor switches, ranging from 16 through 128 ports and with speeds from 1Gb/s to 400Gb/s, allowing the construction of purpose-built data centers at any scale with any desired blocking ratio. This enables network and data center managers to design and implement a cost-effective switch fabrics based on the “pay-as-you-grow” principle. Thus a fabric consisting of a few servers can gradually expand to include hundreds of thousands of servers.

Incorporating SDN attributes, the Mellanox Ethernet solution rewards the data center administrator with tools that provide a clean, simple and flexible view, and orchestration capabilities for the infrastructure. The result is an easily accessible framework that provides the data center applications with utmost elasticity.

Accompanied by Mellanox NEO® Networking Orchestrator, as well as the world's fastest network interface cards, interconnect modules and cables, Mellanox provides a complete end-to-end Ethernet solution that scales to perform at the highest level.

Mellanox specializes in designing advanced silicon and systems to accelerate software-defined data centers (SDDC). Mellanox Spectrum switches support rich features while concurrently delivering the highest performance for the most demanding workloads.

The SN4000, SN3000 and SN2000 series offer three modes of operation:

- Preinstalled with Mellanox Onyx®, a home-grown operating system utilizing common networking user experiences and an industry standard CLI.
- Preinstalled with Cumulus® Linux, a revolutionary operating system, taking the Linux user experience from servers to switches and providing a rich routing functionality for large scale applications.
- Bare metal including ONIE image ready to be installed with the aforementioned or other ONIE-mounted operating systems.

A CLOUD WITHOUT COMPROMISE

PERFORMANCE WITHOUT COMPROMISE

- Fully shared packet buffer provides fair and high bandwidth datapath
- Intelligent congestion management that enables robust RoCE transport
- Adaptive flowlet routing to maximize link utilization

VISIBILITY WITHOUT COMPROMISE

- Hardware based sub-microsecond buffer tracking and data summarization
- Granular and contextual visibility with What Just Happened (WJH)
- Streaming and Inband telemetry

FEATURES WITHOUT COMPROMISE

- Single pass VXLAN routing and bridging
- 10X better VXLAN scale
- Hardware-based NAT
- MPLS/IPv6 Segment Routing

SCALE WITHOUT COMPROMISE

- Massive Layer-2/Layer-3 and ACL scale
- Large scale flow counters



SN2000 SERIES



Spectrum®	SN2010	SN2100	SN2700	SN2410
General Specs				
Connectors	18 SFP28 25GbE + 4 QSFP28 100GbE	16 QSFP28 100GbE	32 QSFP28 100GbE	48 SFP28 25GbE + 8 QSFP28 100GbE
100GbE Ports	4	16	32	8
50GbE Ports	8	32	64	16
40GbE Ports	4	16	32	8
25GbE Ports	34	64	64	64
10GbE Ports	34	64	64	64
Height	1RU	1RU	1RU	1RU
Switching Capacity [Tb/s]	1.7	3.2	6.4	4
FRUs	--	--	PS and fans	PS and fans
PSU Redundancy	✓	✓	✓	✓
Fan Redundancy	✓	✓	✓	✓
CPU	x86	x86	x86	x86
Power Consumption [W]	57	94.3	150	165
Wire Speed Switching [Bpps]	1.26	2.38	4.76	2.97

SN3000 SERIES



General Specs				
Connectors	32 QSFP56 200GbE	32 QSFP56 100GbE	48 SFP56 50GbE + 6 QSFP-DD 400GbE	48 SFP28 25GbE + 12 QSFP28 100GbE
400GbE Ports	--	--	6	--
200GbE Ports	32	--	12	--
100GbE Ports	64 ⁺	32	24 ⁺	12
50GbE Ports	128*	64	48+48*	24
40GbE Ports	32	32	12	12
10GbE/25GbE Ports	128	128	48+48	48+48
1 GbE Ports	128	128	48+48	48+48
Height	1U	1U	1U	1U
Switching Capacity [Tb/s]	12.8	6.4	9.6	4.8
FRUs	✓	✓	✓	✓
PSU Redundancy	✓	✓	✓	✓
Fan Redundancy	✓	✓	✓	✓
CPU	x86	x86	x86	x86
Wire Speed Switching [Bpps]	8.33	4.76	7.16	3.58



SN4000 SERIES



SN4800*



SN4700



SN4600*



SN4600C

Specifications				
Connectors	Modular, based on line cards	32 QSFP-DD 400GbE	64 QSFP56 200GbE	64 QSFP28 100GbE
400GbE Ports	Up to 32 in full chassis	32	---	---
200GbE Ports	Up to 64 in full chassis	64	64	---
100GbE Ports	Up to 128 in full chassis	128	128	64
50GbE Ports	Up to 128 in full chassis	128	128	128
40GbE Ports	Up to 128 in full chassis	64	64	64
10GbE/25GbE Ports	Up to 128 in full chassis	128	128	128
1 GbE Ports	Up to 128 in full chassis	128	128	128
Height	4U	1U	2U	2U
Switching Capacity [Tb/s]	25.6	25.6	25.6	12.8
FRUs	✓	✓	✓	✓
PSU Redundancy	✓	✓	✓	✓
Fan Redundancy	✓	✓	✓	✓
CPU	x86	x86	x86	x86
Wire Speed Switching [Bpps]	8.4	8.4	8.4	8.4

** Available H2 2020



WARRANTY INFORMATION

Mellanox switches come with a one-year limited hardware return-and-repair warranty, with a 14 business day turnaround after the unit is received. For more information, please visit the [Mellanox Technical Support User Guide](#).



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*This brochure describes hardware features and capabilities. Please refer to the driver release notes on mellanox.com for feature availability.

*Actual product may differ from the images.

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