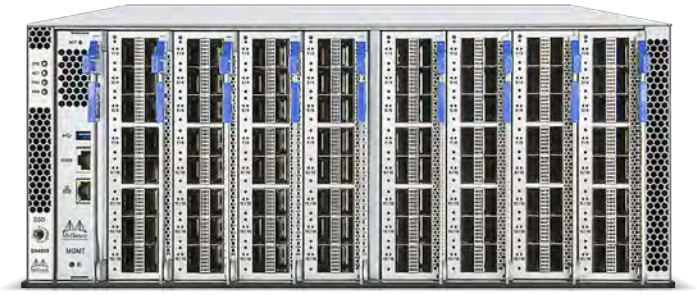
Spectrum®-3

OPEN ETHERNET™ | MELLANOX ONYX | CUMULUS | DENT | SONiC



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SN4000 Series

Ideal Data Center Switches for Cloud, Ethernet Storage Fabrics, and Machine Learning Solutions

Based on Mellanox Spectrum®-3 ASIC, the SN4000 series switches support industry-leading features and performance at speeds 1GbE through 400GbE.

SN4000 SWITCHES - BUILD YOUR CLOUD NETWORK WITHOUT COMPROMISE

Features without Compromise

- Advanced Network Virtualization with high performance single pass VXLAN routing and IPv6 segment routing
- Comprehensive Layer-2, Layer-3 and RoCE
- Programmable Pipeline with the ability to programmatically parse, process and edit packets
- Deep Packet Inspection - 512B Deep
- Cloud Scale NAT – 100K+ sessions

Performance without Compromise

- Fully shared packet buffer provides fair, predictable and high-performance data path - essential for scale out software defined storage and modern multi-tenant cloud deployments
- Robust RoCE transport to power NVMe over fabric and Machine Learning applications that leverage GPUdirect
- Consistent and low cut-through latency
- Intelligent hardware-accelerated data transport and load balancing such as adaptive routing, ECN and PFC

Scale without Compromise

- Best in class VXLAN scale with 10X more tunnels and tunnel endpoints than other solutions
- Up to 1M IPv4 route entries
- 512K shared forwarding entries that can be flexibly shared across ACL, LPM routes, Host routes, MAC, ECMP and Tunnel applications

Visibility without Compromise

- Reduced Mean Time to Recovery/Innocence.
  - Detailed and contextual telemetry with What Just Happened (WJH)
  - Instant answers to issues: When, What, Who, Where and Why
- Hardware-accelerated histograms track and summarize queue depths at sub-microsecond granularity, avoiding false-alerts common to simple watermarks/thresholds
- Inband Network Telemetry (INT)-ready hardware
- Streaming Telemetry
- 512K on-chip flow counters

† For illustration only. Actual products may vary.

OVERVIEW

The SN4000 series switches are the 4th generation of Mellanox Spectrum switches, purpose-built for leaf/spine/super-spine datacenter applications. Allowing maximum flexibility, SN4000 series provides port speeds spanning from 1GbE to 400GbE, and a port density that enables full rack connectivity to any server at any speed. In addition, the uplink ports allow a variety of blocking ratios to suit any application requirement.

The SN4000 series is ideal for building wire-speed and cloud-scale layer-2 and layer-3 networks. The SN4000 platforms deliver high performance, consistent low latency along with support for advanced software defined networking features, making it the ideal choice for web scale IT, cloud, hyperconverged storage and data analytics applications.

NETWORK DISAGGREGATION: OPEN ETHERNET

Open Ethernet breaks the paradigm of traditional switch systems, eliminating vendor lock-in. Instead of forcing network operators to use the specific software that is provided by the switch vendor, Open Ethernet offers the flexibility to use a choice of operating systems on top of Ethernet switches, thereby re-gaining control of the network, and optimizing utilization, efficiency and overall return on investment.

Open Ethernet adopts the same principles as standard open solutions for servers and storage, and applies them to the world of networking infrastructure. It encourages an ecosystem of open source, standard network solutions. These solutions can then be easily deployed into the modern data center across network equipment that eases management and ensures full interoperability.

With a range of system form factors, and a rich software ecosystem, SN4000 series allows you to pick and choose the right components for your data center.

Figure 1. Open Ethernet Operating System and Hardware

SN4000 PLATFORMS

Mellanox SN4000 series platforms are based on the high-performance Mellanox Spectrum-3 ASIC with a switching capacity of 12.8 Tb/s. SN4000 platforms are available in a range of configurations, each delivering high performance combined with feature-rich layer 2 and layer 3 forwarding, ideally suited for both top-of-rack leaf and fixed configuration spines. The Mellanox SN4000 series provides full wire speed, cut through-mode latency, on-chip fully-shared 64MB packet buffering, and flexible port use in addition to advanced capabilities. Combining a wide range of innovations in the area of programmability, telemetry, and tunneling with industry leading performance, Mellanox SN4000 series is capable of addressing today's data center's complex networking requirements.

Front panel views

SN4700

Mellanox SN4700 spine/super-spine offers 32 ports of 400GbE in a compact 1U form factor. It enables connectivity to endpoints at varying speeds and carries a throughput of 25.6Tb/s, with a landmark 8.4Bpps processing capacity. As an ideal spine solution, the SN4700 allows maximum flexibility, with port speeds spanning from 1GbE to 400GbE per port.

SN4600

Mellanox SN4600 is a 2U 64-port 200GbE spine that can also be used as a high density leaf, fully splittable to up to 128 x 10/25/50 GbE ports when used with splitter cables. SN4600 allows for maximum flexibility, with ports spanning from 1GbE to 200GbE and port density that enables full rack connectivity to any server at any speed, and a variety of blocking ratios.

SN4800

Mellanox SN4800 is a modular switch platform that is well-suited to answer the challenging needs of large virtualized data centers and cloud environments, allowing flexibility and customization with up to 8 line cards and a single management card. Demonstrating a landmark 8.4Bpps processing capacity and up to 25.6Tb/s throughput in a versatile 4U form factor. The SN4800 offers diverse connectivity in combinations of 1/10/25/40/50/100/200/400 GbE. Available line cards include 16x100 GbE (QSFP28), 4x400 GbE (QSFP-DD) and 8x200 GbE (QSFP56).

PLATFORM SOFTWARE OPTIONS

SN4000 series platforms are available out of the factory in three different flavors:

- 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, installable with any ONIE-mounted OS. ONIE-based platforms utilize the advantages of Open Networking and the Mellanox Spectrum-3 ASIC capabilities.

HIGH AVAILABILITY

Mellanox SN4000 series switches are designed with the following features for high availability both from a software and hardware perspective:

- 1+1 hot-swappable power supplies and N+1 hot-swappable fans
- Color coded PSUs and fans
- Up to 128x100/50/25/10/1 GbE, 64x200GbE or 32x400GbE
- Multi-chassis LAG for active/active L2 multi-pathing
- 128-way ECMP routing for load balancing and redundancy

SN4000 SERIES: A RICH SOFTWARE ECOSYSTEM

MELLANOX ONYX

Mellanox Onyx is a high performance, flexible and cloud-scale switch operating system, designed to meet the demands of next-generation data centers. Whether building a robust storage fabric, cloud, financial or media & entertainment fabric, customers can leverage the flexibility of Mellanox Onyx to tailor their network platform to their environment. With built-in workflow automation, monitoring and visibility tools, enhanced high availability mechanisms, and more, Mellanox Onyx simplifies network processes and workflows, increasing efficiencies and reducing operating expenses and time-to-service.

Onyx leverages capabilities of the SN4000 series to provide greater magnitudes of scale, with up to 512K ACLs, state-of-the-art telemetry, enhanced QoS, exceptional programmability that enables a flexible pipeline supporting both new and legacy protocols, a larger fully-shared buffer, and more.

DOCKER CONTAINERS

Mellanox Onyx allows the running of third party containerized applications on the switch system itself. The third party application has complete access to the bare-metal switch via its complete access to the SDK. Alternately, the application can use JSON APIs to communicate with the system through the Onyx operating system. Mellanox Onyx support enables the customer to share selected storage spaces between the various containers and Onyx itself.

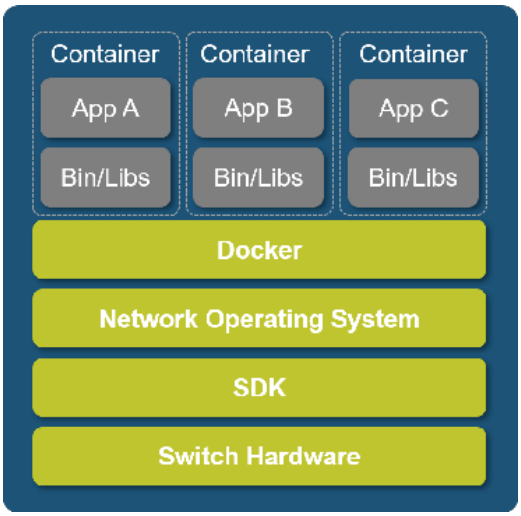


Figure 2. Docker Containers Support

CUMULUS-LINUX

Cumulus Linux embodies native Linux networking. Supercharged versions of the kernel and other networking-related packages encompass the latest industry thinking in networking while retaining compatibility with the full range of software available in Debian. The SN4000 series running Cumulus Linux provides standard networking functions such as bridging, routing, VLANs, MLAGs, IPv4/IPv6, OSPF/BGP, access control, VRF and VXLAN overlays. Cumulus Linux running on top of the Mellanox SN4000 series is a perfect fit for customers with a need for automated-cloud deployments, Routing on the Host deployments and "infrastructure as code" data centers.

ONIE

The Open Network Install Environment (ONIE) is an Open Compute Project open source initiative driven by a community to define an open "install environment" for bare metal network switches, such as the Mellanox SN4000 series. ONIE enables a bare metal network switch ecosystem where end users have a choice of different network operating systems.

SONiC

Microsoft open-source switch Operating System for Open Networking in the Cloud (SONiC) is the first solution to break monolithic switch software into multiple containerized components. At its core, SONiC is aimed at cloud networking scenarios, where simplicity and managing at scale are the highest priority. All together with monitoring and diagnostic capabilities, SONiC is a perfect fit for the Mellanox SN4000 series. Among other capabilities, SONiC on SN4000 series enables fine-grained failure recovery and in-service upgrades (ISSU), with zero downtime.

LINUX SWITCH and LINUX DENT

Linux Switch enables users to natively install and use any standard Linux distribution as the switch operating system, such as DENT, a Linux-based networking OS stack that is suitable for campus and remote networking. Linux Switch is based on a Linux kernel driver model for Ethernet switches (Switchdev). It breaks the dependency of using vendor-specific, closed-source software development kits. The open-source Linux driver is developed and maintained in the Linux kernel, replacing proprietary APIs with standard Linux kernel interfaces to control the switch hardware. This allows off-the-shelf Linux-based networking applications to operate on Mellanox Spectrum-based switches for L2 switching and L3 routing, including open source routing protocol stacks, such as FRR (Quagga), Bird and XORP, OpenFlow applications, or user-specific implementations.

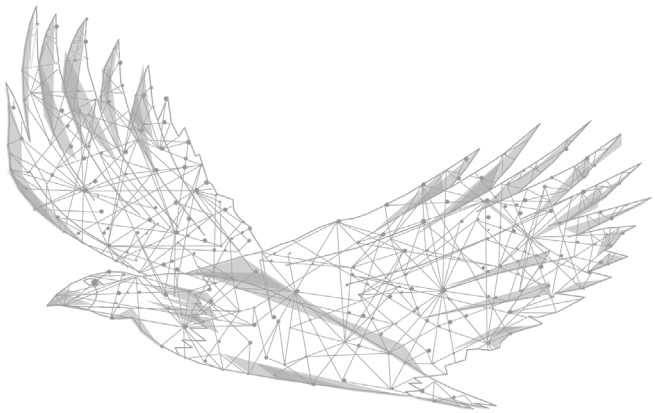
MELLANOX SPECTRUM-3: BUILD YOUR CLOUD WITHOUT COMPROMISE

PERFORMANCE WITHOUT COMPROMISE

Packet buffer architecture has a major impact on overall switch performance. The Mellanox Spectrum-3 packet buffer is fully shared across all ports, supporting cut-through line rate traffic from all ports, without compromising scale or features. With its fast packet buffer, Mellanox Spectrum-3 is able to provide a high-performance fair and bottleneck-free data path for mission-critical applications.

PERVASIVE VISIBILITY FOR SIMPLIFIED OPERATIONS (WHAT JUST HAPPENED)

Mellanox Spectrum-3 provides deep and contextual network visibility, which enables network operators to proactively manage issues and reduce mean time to recovery/innocence. Mellanox Spectrum's What Just Happened (WJH) feature leverages the underlying silicon and software capability to provide granular and event-triggered information about infrastructure issues. In addition, the rich telemetry information from Mellanox Spectrum-3 is readily available via open APIs that are integratable with third party software tools and work flow engines.



FEATURES WITHOUT COMPROMISE

For modern data center infrastructure to be software defined and agile, both its compute and network building blocks need to be agile. Mellanox Spectrum-3 features a unique feature rich and efficient packet processing pipeline that offers rich Data Center Network virtualization features without compromising on performance or scale. Mellanox Spectrum-3 is a programmable pipeline and a deep packet parser/editor that can process payloads up to the first 512B. Mellanox Spectrum-3 supports single pass VXLAN routing as well as bridging. Additionally, Mellanox Spectrum-3 supports advanced virtualization features such as IPv6 segment routing, and Network Address Translation (NAT).

SCALE WITHOUT COMPROMISE

The number of endpoints in the data center is increasing exponentially. With the current shift from virtual machine-based architectures to container-based architectures, the high-scale forwarding tables required by modern data centers and mega-clouds increase by up to an order of magnitude or more. To answer these needs for scalability and flexibility, Mellanox Spectrum-3 uses intelligent algorithms and efficient resource sharing, and supports unprecedented forwarding table, counters and policy scale.

- Fine-grained resource allocation to fit all specific needs, allowing up to 512K entries to be dynamically shared across MAC, ARP, IPv4/IPv6 routes, ACLs, ECMP, and Tunnels.
- An innovative algorithmic TCAM optimized for data centers and cloud environments, which can scale the number of rules to up to half a million rules.

END-TO-END SOLUTION

The SN4000 series is part of Mellanox's complete end-to-end solution which provides 1GbE through 400GbE interconnectivity within the data center. Other devices in this solution include ConnectX®-based network interface cards and LinkX® copper or fiber cabling. This end-to-end solution is topped with the Mellanox NEO® management application that relieves some of the major obstacles when deploying a network. NEO enables a fully certified and interoperable design, speeds up time to service and eventually speeds up ROI. The SN4000 series introduces superior hardware capabilities including dynamic flexible shared buffers and predictable wire-speed performance with no packet loss at any packet size. The SN4000 series supports all standard compliances and is fully interoperable with third party systems.

MELLANOX ONYX® FEATURE HIGHLIGHTS

Layer 2	Layer 3	Management and Automation
Multi chassis LAG (MLAG), MLAG with STP support	User and management VRFs	ZTP
IGMPv2/v3, Snooping, Querier	IPv4 & IPv6 routing	Ansible, Puppet, SaltStack
VLAN 802.1Q (4K)	BGP, MP-BGP, OSPFv2, route maps	FTP / TFTP / SCP
Q-In-Q	PIM-SSM, PIM-SM	AAA , RADIUS / TACACS+ / LDAP
802.1W Rapid Spanning Tree	BFD	JSON & CLI, Web UI
• BPDU Filter, Root Guard	VRRP, Multi Active Gateway Protocol (MAGP)	SNMP v1,2,3
• Loop Guard, BPDU Guard	DHCPv4/v6 Relay	In-band and OOB management
802.1s Multiple STP	ECMP, 64-way	DHCP, SSHv2, Telnet
Rapid per VLAN STP and PVRST	IGMPv2/v3 Snooping Querier	SYSLOG
802.3ad Link Aggregation (LAG) & LACP	Consistent/Resilient Hashing*	10/100/1000 Mb/s Ethernet RJ45 mng ports
802.1AB Link Layer Discovery Protocol (LLDP)		USB
Store & forward / cut-through mode of work		Console port for management
Head of Queue LifeTime Limit (HLL)		Dual SW image
Jumbo Frames (9216 Bytes)		Events history
Storm Control		Open Network Install Environment (ONIE)

Quality of Service (QoS)	Monitoring & Telemetry	Security
802.3X Flow Control	High Resolution Streaming Telemetry	Storm Control
WRED with Fast ECN	What Just Happened (WJH) Root Cause Analysis	Access Control Lists (ACLs L2-L4 & user defined)
802.1Qbb Priority Flow Control	sFlow	802.1X - Port Based Network Access Control
802.1Qaz ETS	Real time queue depth histograms & thresholds	Strict Security mode for DoD Apps & NIST 800 181A compliance
DCBX – App TLV support	Port mirroring (SPAN & ERSPAN)	Port Isolation
Advanced QoS – Qualification, Rewrite, Policers – 802.1AB	Enhanced Link & Phy Monitoring	
Simplified RoCE Configuration	BER degradation monitor	
One-click RoCE & RoCE statistics	Single command shared buffer management 3rd party integration (Splunk,etc.)	

Synchronization	Network Virtualization	Software Defined Network (SDN)
NTP	VXLAN eVPN	OpenFlow 1.3:
PTP IEEE-1588 (SMPTE profile)	Integration with VMware NSX* & OpenStack, etc.	• True hybrid mode with programmable pipeline
		• Supported controllers: ODL, ONOS, FloodLight, RYU, etc.
		• NAT

Docker Container
Full SDK access through the container
Persistent container & shared storage
Container-secured mode of work: limit CPU, memory and SSD usage

* Roadmap feature.

Standards	SNMP MIBs	SNMP MIBs
802.1D Bridging and Spanning Tree	RFC 4001 INET-ADDRESS-MIB	RFC 4292 IP-FORWARD-MIB
802.1p QOS	IANAifType-MIB	RFC 2790 HOST-RESOURCES-MIB
802.1Q VLAN Tagging	RFC 2863 IF-MIB	RFC 1213
802.1w Rapid Spanning Tree	RFC 4318 RSTP-MIB	SNMPV2-CONF
802.1s Multiple Spanning Tree Protocol	LLDP-MIB 802.1AB-2005	RFC 2579 SNMPV2-TC MIB
802.1AB Link Layer Discovery Protocol	RFC 4363 Q-BRIDGE-MIB	RFC 3417 SNMPV2-TM MIB
802.1Qaz ETS	RFC 4188 BRIDGE-MIB	RFC 3826 SNMP-USM-AES-MIB
802.1Qbb PFC	RFC 4133 ENTITY-MIB	Mellanox SMI MIB
802.3ad Link Aggregation with LACP	RFC 3433 ENTITY-SENSOR-MIB	Mellanox IF-VPI-MIB
802.3ba	RFC 4268 ENTITY-STATE-MIB	Mellanox enhanced ENTITY-MIB
802.3x Flow Control	RFC 2572 SNMP-MPD-MIB	Mellanox Power-Cycle-MIB
1000BASE-KX	RFC 4293 IP-MIB	Mellanox SW-Update-MIB
802.3ae 10 Gigabit Ethernet	RFC 4022 TCP-MIB	Mellanox Config-MIB
	RFC 4113 UDP-MIB	

Specifications

Switch Model	SN4800	SN4700	SN4600
Connectors	Based on Line Cards	32 QSFP-DD 400GbE	64 QSFP56 200GbE
Max. 400GbE Ports	Up to 32 in full chassis	32	---
Max. 200GbE Ports	Up to 64 in full chassis	64	64
Max. 100GbE Ports	Up to 128 in full chassis	128	128
Max. 50GbE Ports	Up to 128 in full chassis	128	128
Max. 40GbE Ports	Up to 128 in full chassis	64	64
Max. 25GbE Ports	Up to 128 in full chassis	128	128
Max. 10GbE Ports	Up to 128 in full chassis	128	128
Max. 1GbE Ports	Up to 128 in full chassis	128	128
Switching Capacity [Tb/s]	25.6Tb/s	25.6Tb/s	25.6Tb/s
Wire Speed Switching [Bpps]	8.4Bpps	8.4Bpps	8.4Bpps
CPU	Multi-core x86	Quad-core x86	Quad-core x86
System Memory	---	16GB	16GB
SSD Memory	128GB	64GB	64GB
Packet Buffer	64MB	64MB	64MB
100/1000Mb/s Mgmt Ports	1	1	1
Serial Ports	1 RJ45	1 RJ45	1 RJ45
USB Ports	1	1	1
Hot-Swap Power Supplies	4 (2+2 redundant)	2 (1+1 redundant)	2 (1+1 redundant)
Hot-Swappable Fans	8(N+1 redundant)	6 (N+1 redundant)	Contact Mellanox
Reversible Airflow Option	Yes	Yes	Yes
Power Supplies	---	Frequency: 50-60Hz Input range: 100-264 AC	Frequency: 50-60Hz Input range: 100-264 AC
Size (H x W x D)	---	1.72'' x 16.84'' x 22'' (44mm x 428mm x 559mm)	3.46'' x 16.84'' x 22''(88mm x 428mm x 559mm)

Supported Transceivers & Optical Fiber and Copper Cables	Interface Type	Description	SKU
400GbE PAM4 QSFP-DD	400BASE-CR8 copper	0.5m-2m DAC	MCP1660-W0xxxxx
	400BASE-SR8	850nm, MPO16, up to 100m	MMA1U50-WS
	400BASE-DR4	1310nm, MPO, up to 500m	MMS1V00-WM
	400BASE-AOC	3m-100m	MFA1U60-Wxxx
	400GbE to 2 x 200GbE QSFP56	1m-2m DAC	MCP7H60-W0xxxxx
	400GbE to 4 x 100GbE QSFP56	1m-2m DAC	MCP7F60-W0xxxxx
	400GbE to 4 x 100GbE SFP-DD	1m-2m DAC	MCP7F65-W0xxxxxx
	400GbE to 8 x 50GbE SFP56	1m-2m DAC	MCP7F80-W0xxxxx
200GbE PAM4 QSFP56	200BASE-CR4 copper	0.5m-2m LSZH DAC	MCP1650-V0xxxxx
	200BASE-AOC	3m-100m	MFS1S00-Vxxxx
	200BASE-SR4	850nm, MPO, up to 100m	MMA1T00-VS
	200BASE-FR4	1310nm, LC-LC, up to 2km	MMS1W40-VM
	200GbE to 4 x 50GbE SFP56	1m-3m DAC	MCP7H70-V0xxxxx
	200GbE to 2 x 100GbE QSFP56	1m-3m DAC	MCP7H50-V0xxxxx
	200GbE to 50GbE	QSA56 pluggable adapter	MAM1Q00A-QSA56
100GbE NRZ QSFP28	100BASE-CR4 copper	0.5m-5m LSZH DAC	MCP1600-C0xxxxxx
	100BASE-AOC	3m-100m	MFA1A00-CXXX
	100BASE-SR4	850nm, MPO, up to 100m	MMA1B00-C100D
	100BASE-PSM4	1310nm, MPO, up to 500m	MMS1C10-CM
	100BASE-LR4	1310nm, LC-LC, up to 10km	MMA1L10-CR
	100BASE-CWDM4	1310nm, LC-LC, up to 2km	MMA1L30-CM
	100GbE to 4 x 25GbE SFP28	1m-5m DAC	MCP7F00-A0xxxxxx
	100GbE to 4 x 25GbE SFP28	3m-30m AOC	MFA7A50-Cxxx
	100GbE to 2 x 50GbE QSFP28	1m-5m DAC	MCP7H00-G0xxxxxxx
	100GbE to 2 x 50GbE QSFP28	3m-20m AOC	MFA7A20-Cxxx
	100GbE to 25GbE	QSA28 pluggable adapter	MAM1Q00A-QSA28
50GbE PAM4 SFP56	50GBASE-SR	850nm, LC, up to 100m	Contact Mellanox
	50GBASE-AOC	850nm, LC, up to 100m	Contact Mellanox
	50GBASE-CR (DAC)	Up to 3m, DAC	MCP2M50-G0xxxxxxx
40GbE QSFP	40BASE-CR4	1m-5m DAC	MC2210130-00X
	40BASE-AOC	3m-100m	MC2210310-XXX
	40BASE-SR4	850nm, MPO, up to 100m	MMA1B00-B150D
		850nm, MPO, up to 300m	MC2210411-SR4E
	40BASE-LR4	1310nm, LC-LC, up to 10km	MC2210511-LR4
	40GbE to 4 x 10GbE	1m-5m DAC	MC26091XX-00X
	40GbE to 10GbE	QSA pluggable adapter	MAM1Q00A-QSA
25GbE SFP28	25BASE-CR	0.5m-5m DAC	MCP2M00-A0xxxxxx
	25BASE-AOC	3m-100m	MFA2P10-AXXX
	25BASE-SR	850nm, LC-LC, up to 100m	MMA2P00-AS
	25BASE-LR	1310nm, LC-LC, up to 10km	MMA2L20-AR
10GbE SFP+	10BASE-CR	1m-7m DAC	MC3309xxx-00X
	10BASE-SR	850nm, LC-LC, up to 300m	MFM1T02A-SR
	10BASE-LR	1310nm, LC-LC, up to 10km	MFM1T02A-LR

Standards Compliance	
Safety	CB, CE, cTUVus, CU
EMC	CE, ICES, FCC, RCM, VCCI
Operating Conditions	Operating: 0ºC to 40ºC; Non-Operating: -40ºC to 70ºC
Relative Humidity	5% to 85%
Operating Altitude	0-3050m
RoHS	RoHS compliant

Supported SKUs

MSN4700 Series:

MSN4700-WS2F	Mellanox Spectrum-3 based 400GbE 1U Open Ethernet Switch with Onyx, 32 QSFPDD ports, 2 Power Supplies (AC), x86 CPU, standard depth, P2C airflow, Rail Kit
MSN4700-WS2R	Mellanox Spectrum-3 based 400GbE 1U Open Ethernet Switch with Onyx, 32 QSFPDD ports, 2 Power Supplies (AC), x86 CPU, standard depth, C2P airflow, Rail Kit
MSN4700-WS2FC	Mellanox Spectrum-3 based 400GbE 1U Open Ethernet Switch with Cumulus Linux, 32 QSFPDD ports, 2 Power Supplies (AC), x86 CPU, standard depth, P2C airflow, Rail Kit
MSN4700-WS2RC	Mellanox Spectrum-3 based 400GbE 1U Open Ethernet Switch with Cumulus Linux, 32 QSFPDD ports, 2 Power Supplies (AC), x86 CPU, standard depth, C2P airflow, Rail Kit
MSN4700-WS2FO	Mellanox Spectrum-3 based 400GbE 1U Open Ethernet Switch with ONIE, 32 QSFPDD ports, 2 Power Supplies (AC), x86 CPU, standard depth, P2C airflow, Rail Kit
MSN4700-WS2RO	Mellanox Spectrum-3 based 400GbE 1U Open Ethernet Switch with ONIE, 32 QSFPDD ports, 2 Power Supplies (AC), x86 CPU, standard depth, C2P airflow, Rail Kit

MSN4600 Series:

MSN4600-VS2F	Mellanox Spectrum-3 based 200GbE 2U Open Ethernet Switch with Onyx, 64 QSFP56 ports, 2 Power Supplies (AC), x86 CPU, standard depth, P2C airflow, Rail Kit
MSN4600-VS2R	Mellanox Spectrum-3 based 200GbE 2U Open Ethernet Switch with Onyx, 64 QSFP56 ports, 2 Power Supplies (AC), x86 CPU, standard depth, C2P airflow, Rail Kit
MSN4600-VS2FC	Mellanox Spectrum-3 based 200GbE 2U Open Ethernet switch with Cumulus Linux, 64 QSFP56 ports, 2 power supplies (AC), x86 CPU, standard depth, P2C airflow, Rail Kit
MSN4600-VS2RC	Mellanox Spectrum-3 based 200GbE 2U Open Ethernet switch with Cumulus Linux, 64 QSFP56 ports, 2 power supplies (AC), x86 CPU, standard depth, C2P airflow, Rail Kit
MSN4600-VS2RO	Mellanox Spectrum-3 based 200GbE 2U Open Ethernet switch with ONIE, 64 QSFP56 ports, 2 power supplies (AC), x86 CPU, standard depth, C2P airflow, Rail Kit
MSN4600-VS2FO	Mellanox Spectrum-3 based 200GbE 2U Open Ethernet switch with ONIE, 64 QSFP56 ports, 2 power supplies (AC), x86 CPU, standard depth, P2C airflow, Rail Kit

Accessories & Replacement Parts

	SN4700	SN4600
Power Supply (PS)	MTEF-PSF-AC-F \ MTEF-PSR-AC-F	MTEF-PSF-AC-F \ MTEF-PSR-AC-F
Fan	MTEF-FANF-C \ MTEF-FANR-C	MTEF-FANF-F \ MTEF-FANR-F
Rail Kit (RK)	MTEF-KIT-J	MTEF-KIT-G

Warranty Information

Mellanox SN4000 series 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.

Additional Information

Support services including next business day and 4-hour technician dispatch are available. For more information, please visit the Mellanox Technical Support User Guide. Mellanox offers installation, configuration, troubleshooting and monitoring services, available on-site or remotely delivered. For more information, please visit the Mellanox Global Services web site.

350 Oakmead Parkway, Suite 100, Sunnyvale, CA 94085
Tel: 408-970-3400 • Fax: 408-970-3403
www.mellanox.com

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