

SLX 9640

Highlights

- High-density, fixed form factor router with 12 x 100/40 GbE ports and a maximum of 24 x 1/10 GbE ports
- Compact 1U form factor for reduced power and footprint
- Ultra-deep buffers of 6 GB to ensure optimal performance to handle traffic virtually any network for bursty traffic patterns
- Provides industry leading Extreme routing for IPv4, IPv6, advanced MPLS/VPLS, Carrier Ethernet, and VXLAN overlay technology
- Route scale: Up to 5M IPv4 and 2.5M IPv6
- Integrated Application Hosting enables Extreme provided or 3rd-party applications without impacting switch performance
- Pay as you grow flexibility to enable ports on demand and capacity with demand licensing
- Hot-swappable modular power and fans
- AC and DC power supply options



High Performance Fixed Router for WAN Edge, Internet Border Routing, Interconnect at Service Provider and Enterprise Data Centers

With cloud services, HD video streaming, Internet of Things (IoT), and increasing mobile data usage for billions of devices becoming standard, organizations must modernize the way they communicate and conduct business. Increasingly organizations are expanding from on premise, private and hybrid cloud to full multi-cloud architectures to address agility, scale, security, reliability and cost requirements as digital transformation reshapes their business environment.

The SLX 9640 is designed to cost-effectively deliver the scale and performance needed to address the explosive growth in network bandwidth, devices, and services.

The flexible architecture is designed for optimal operations, supporting diverse deployment options — such as Internet border, collapsed border routing, and data center interconnect — that require deep buffering for lossless forwarding. In addition, the SLX 9640 helps address the increasing agility and analytic needs of digital organizations with innovative network automation and visibility build on the Extreme Integrated Application Hosting Architecture.

Flexible Border Routing with Internet Scale, Ultra-Deep Buffers, MPLS and EVPN

The SLX 9640 is a very powerful compact deep buffer Internet border router, providing a cost-efficient solution that is purpose-built for the most demanding service provider and enterprise data centers and MAN/WAN applications. The robust system architecture supported by SLX-OS, and a versatile feature set including IPv4, IPv6, and MPLS/VPLS with Carrier Ethernet 2.0 and OAM capabilities, provide deployment flexibility.

High Availability and Reliability

The SLX 9640 delivers high performance and reliability required by the most advanced routers. It is designed for high availability from both a software and hardware perspective, such as a clear separation between the control plane and data plane and redundant power supplies and fan modules.

Modular, Virtualized Operating System

The SLX 9640 runs SLX-OS, a fully virtualized Linux-based operating system that delivers process-level resiliency and fault isolation. SLX-OS supports advanced switching features and is highly programmable with support for REST API with the YANG data model, Python, and NETCONF.

Strong Network Security

Security is a top concern for every network design. The border routers are directly exposed to raw Internet traffic and therefore can be the first defense against malicious activity directed at your internal networks. Having multiple layers of security enhances protection. By starting at the border routers, you can utilize features such as BGP FlowSpec to mitigate directed denial of service attacks (DDoS) and advanced access control lists (ACLs) for CPU and data plane protection of the routers themselves.

Management

The SLX 9640 can be managed in a variety of ways. REST, NETCONF management interface or simple on-box management functions are delivered with CLI for manual configuration. For centralized management, ExtremeCloud IQ – Site Engine delivers a comprehensive unified management capability.

Pay as You Grow Flexibility

The SLX 9640 offers a unique procurement model with ports on demand and capacity demand licensing. The SLX can be purchased in a variety of available active port speeds and combinations, thus making it more cost-effective overpaying for all ports on the physical hardware. If additional port capacity is required in the future, simply apply a license to enable the ports on the fly.



SLX 9640 Front View



SLX 9640 Rear View with Fan Modules

Specifications

Item	Extreme SLX 9640
Maximum 100 GbE/40 GbE ports	12*
Maximum 10/1GbE, 100 Meg	24
Switch fabric capacity (data rate, full duplex)	900 Gbps
Forwarding capacity (data rate, full duplex)	810 Mpps
Airflow	Front to back or back to front (orderable option)
Fan module slots	5 (4+1 redundancy)
Maximum AC power supply rating	650W
Power Supplies Modular	650W AC power supply (up to two PSUs)
Power Supplies Modular	650W DC power supply (up to two PSUs)
Height	1.75 in./4.45 cm
Width	17.25 in./43.82 cm
Depth chassis only without cable management or fan handles	18.25in./46.36 cm
Weight Chassis	2 PS, 6 fans: 23.42 lb, 10.62 kg
Weight Chassis	2 PS, 6 fans, rack mount kit : 25.03 lb, 11.35 kg
Weight Empty chassis	(no PS, no fans) 17.68 lb, 8.02 kg, Fan: 0.39 lb, 0.18 kg., PS: 1.68 lb, 0.76 kg
Port type	100 GbE QSFP-28, 40 GbE QSFP+, 10 GbE SFP+, 1 GbE SFP+
Packet buffers per switch	6 GB
MAC address scale	640,000
VLAN scale	4,096
Route scale	5,000,000 (IPv4), 2,500,000 (IPv6)
Jumbo frame (maximum size)	9,216 bytes
QoS priority queues (per port)	8
MPLS	With Extreme SLX-OS advanced feature license

* Software upgrade licenses are available for the Extreme SLX 9640-24S for Ports on Demand (PoD) to enable 100GbE/40GbE ports.

Power and Heat Dissipation

	650W AC PSU 23-1000076-02/ 23-1000075-02	650W DC PSU 23-1000078-02/ 23-1000077-02
Dimensions	2.15 in x 9.0 in x 1.57 in 54.5 mm x 228.6 mm x 40 mm	2.15 in x 9.0 in x 1.57 in 54.5 mm x 228.6 mm x 40 mm
Weight	1.63 lb (0.741 kg)	1.74 lb (0.789 kg)
Voltage Input Range	90 to 264 Vac	-44 to -72 Vdc
Line Frequency Range	47 to 63 Hz	N/A
PSU Input Socket	IEC 320, C14	IEC 320, C14

Maximum Heat Dissipation (BTU/hr) (Fans high, all ports 100% traffic, 2 PSU)	Maximum Power Dissipation (BTU/hr) (Fans high, all ports 100% traffic, 2 PSU)
1,481 BTU/hr	434 W

Optics/ Transceivers: For the latest and most up-to-date list of the optics and transceivers supported on this platform, refer to our Extreme Optics Compatibility Tool at <https://optics.extremenetworks.com/SLX/Model/SLX9640/>.

Acoustics

Location	Bystander Sound Pressure
Front	51.9 dBA, re: 20 µPa
Rear	55.7 dBA, re: 20 µPa
Right Side	53.4 dBA, re: 20 µPa
Left Side	53.4 dBA, re: 20 µPa
Average	53.8 dBA, re: 20 µPa

Note: Bystander A-weighted Sound Pressure Level, LpAm-By, measured at 27°C ambient.

Standards Compliance

IEEE Compliance

Ethernet

802.3-2005 CSMA/CD Access Method and Physical Layer Specifications

802.3ab 1000BASE-T

802.3ae 10Gigabit Ethernet

802.3u 100BASE-TX, 100BASE-T4, 100BASE-FX Fast Ethernet at 100 Mbps with Auto-Negotiation

802.3x Flow Control

802.3z 1000BASE-X Gigabit Ethernet over fiber optic at 1 Gbps

802.3ad Link Aggregation

802.1Q Virtual Bridged LANs

802.1D MAC Bridges

802.1w Rapid STP

802.1s Multiple Spanning Trees

802.1ag Connectivity Fault Management (CFM)

8023.ba 100 Gigabit Ethernet

802.1ab Link Layer Discovery Protocol

802.1x Port-Based Network Access Control

802.3ah Ethernet in the First Mile Link OAM3 ITU-T G.8013/Y.1731OAM mechanisms for Ethernet¹

¹Supported with Extreme SLX-OS 17r.1.0.1 and later software.

RFC Compliance

For more information on the supported RFCs, visit the [Extreme Documentation Portal](#). Search for the Extreme SLX-OS Scale and Standards Matrix document and select the SLX-OS version.

Environment

Operating temperature: 0°C to 40°C (32°F to 104°F)
Storage temperature: -25°C to 55°C (-13°F to 131°F)
Relative humidity: 5% to 90%, at 40°C (104°F), non-condensing
Storage humidity: 95% maximum relative humidity, non-condensing
Operating altitude: 6,600 ft (2,012 m)
Storage altitude: 15,000 ft (4,500 m) maximum

Safety Agency Approvals

CAN/CSA-C22.2 No. 60950-1-07
ANSI/UL 60950-1
IEC 60950-1
EN 60950-1 Safety of Information Technology Equipment
EN 60825-1
EN 60825-2

Power and Grounding

ETS 300132-1 Equipment Requirements for AC Power Equipment Derived from DC Sources
ETS 300132-2 Equipment Requirements for DC Powered Equipment
ETS 300253 Facility Requirements

Physical Design and Mounting

19-inch rack mount supporting racks compliant with ANSI/EIA-310-D and GR-63-CORE Seismic Zone 4

Environmental Regulatory Compliance

EU 2011/65/EU RoHS
EU 2012/19/EU WEEE
EC/1907/2006 REACH

Ordering Information

Extreme SLX 9640 Switch Hardware

Part Number	Description
EN-SLX-9640 -24S	Base unit with 24 1G/10G SFP+ ports, 4 10Gb/25Gb/40Gb/ 50Gb/ 100Gb capable QSFP28 ports, 2 unpopulated power supply slots, 6 unpopulated fan slots, and a 4 post rack mount kit
EN-SLX-9640-24S-AC-F	Base unit with 24 1G/10G SFP+ ports, 4 10Gb/25Gb/40Gb/50Gb/100Gb capable QSFP28 ports, 1 AC power supply, 6 fan modules, front-to-back airflow, and a 4 post rack mount kit
EN-SLX-9640-24S-12C	Base unit with 24 1G/10G SFP+ ports, 12 10Gb/25Gb/40Gb/50Gb/100Gb capable QSFP28 ports, 2 unpopulated power supply slots, 6 unpopulated fan slots, and a 4 post rack mount kit
EN-SLX-9640-24S-12C-AC-F	Base unit with 24 1G/10G SFP+ ports, 12 10Gb/25Gb/40Gb/50Gb/100Gb capable QSFP28 ports, 1 AC power supply, 6 fan modules, front-to-back airflow, and a 4 post rack mount kit
XBR-R000297	SLX Fixed Rackmount kit: 4-post, mid/flush mount compatible
XBR-ACPWR-650-F	SLX Fixed AC 650W Power Supply Front to Back airflow, Power cords not included
XBR-ACPWR-650-R	SLX Fixed AC 650W Power Supply Back to Front, Power cords not included
XBR-DCPWR-650-F	SLX Fixed DC 650W Power Supply Front to Back airflow, Power cords not included
XBR-DCPWR-650-R	SLX Fixed DC 650W Power Supply Back to Front, Power cords not included
XEN-SLX9640-FAN-F	SLX 9640 FAN Front to Back airflow
XEN-SLX9640-FAN-R	SLX 9640 FAN Back to Front airflow

Extreme SLX 9640 Upgrade Software Licenses

Part Number	Description
EN-SLX-9640-4C-POD-P	Ports on Demand to enable 4x100 GbE/40 GbE ports (for Extreme SLX 9640-24S)
EN-SLX-9640-ADV-LIC-P	Advanced Feature License for MPLS, BGP-EVPN, and Integrated Application Hosting for SLX-9640

Optics/Transceivers

For the most up-to-date list of optics/transceivers supported on this product, refer to our Extreme Optics Compatibility Tool at <https://optics.extremenetworks.com>.

Power Cords

In support of Extreme Networks green initiatives, power cords are not included with the SLX 9640 but can be ordered separately. They should be specified at time of ordering.

Warranty

The SLX 9640 is covered under Extreme's Product Warranty Policy. For warranty details visit <http://www.extremenetworks.com/support/policies>

Maintenance Services

Extreme's maintenance and support services with 100% in-sourced engineering experts and over 90% first-person resolution ensure efficient operation of your business-essential network. 24x7x365 phone support, advanced parts replacement, and on-site support augment your staff with experienced resources that help you mitigate critical network issues fast. Visit Extreme Maintenance Services for more information.



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