SLX 9240

Highlights

- Delivers agility at all layers of the data center stack
- Provides high-density 100/40 GbE spine and leaf connectivity in a 1U fixed form factor
- Includes a programmable ASIC to accelerate adoption of new protocols and technologies
- Utilizes the Integrated Application Hosting Architecture and Extreme SLX Visibility Services for flexible, real-time monitoring of virtualized,dynamic workloads to streamline troubleshooting
- Provides payload timestamping to more accurately set and measure performance SLAs
- Incorporates turnkey and customizable automation for the entire network lifecycle

Programmable, Flexible, High-Density Switch

As data centers and cloud service providers embrace new high- performance servers and distributed applications, they increasingly need dense 100/40 GbE switches for leaf and spine configurations. Traditionally, infrastructure has been slow to evolve, and it can be a barrier to innovation. With flexibility at all layers of the data center stack, IT teams can drive agility. The ExtremeSwitching™ SLX 9240 Switch is designed to help organizations stay ahead of this application- and data-driven network transformation without compromising performance.

The SLX 9240 delivers the high-density 100 GbE connectivity required by high-end enterprise and cloud data centers. The underlying hardware is programmable, enabling a faster transition to emerging protocols and new technologies. Workload visibility combined with end-to-end network visibility helps infrastructure teams continue to improve SLAs as they increase network virtualization.

The SLX 9240 is a fixed 100/40 GbE leaf and spine switch in a 1U form factor that supports 24 MB of dynamically shared packet buffer and an overall throughput of 3.2 Tbps/1.3 Bpps. It can be configured as a leaf switch or connect to 40 or 100 GbE uplinks from leaf switches.

By leveraging this high-density switch, data center networks can dramatically improve power, space, and cooling efficiencies, even at scale. A programmable ASIC enables the adoption of new protocols and technologies through an OS, rather than a forklift upgrade. Payload timestamping improves the accuracy of performance SLA setting and measurement.

Modular, Virtualized Operating System

The SLX 9240 runs Extreme 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 — enabling full lifecycle automation.

In addition, SLX-OS supports running third-party and customized monitoring, troubleshooting, and analytics applications.

SLX Packet Broker for Carrier-Grade Visibility

Network traffic growth in carrier networks is driving scalability and management challenges that service providers must urgently address. Wire-speed visibility into these networks is critical to enable effective control of this traffic as it scales. Part of a broad portfolio of network visibility solutions, the SLX 9240 can be deployed as a Network Packet Broker. From the aggregation layer of the network, SLX 9240 curates traffic and steers replicated flows to relevant analytics platforms to provide (for instance) DDoS mitigation, congestion management, differentiated treatment of voice and video, and billing. The SLX 9240 offers 100 GbE (32), 40 GbE (32), 25 GbE (128), and10 GbE (128) interface capacities.

For more information on the full portfolio of Extreme Networks Packet Broker solutions, visit https://www.extremenetworks.com/solutions/service-provider/visibility

SLX Visibility Services

As network complexity increases, isolated data points at the physical or virtual network layer provide little insight into the criticality of an issue. For example, bursty storage backup traffic slowing down an internal Web site is a lower priority than a slowdown for a revenue-generating application. Network administrators need workload context across the network to ensure the appropriate action is taken in each case.

SLX Visibility Services help simplify network operations with embedded visibility from the physical network to application workloads. By combining physical and virtual network traffic data with overlay and workload information across multiple network layers, this solution enables diverse, rule-based actions to maintain performance and mitigate risk. Other key functions include:

- Pervasive visibility at scale across the network for seamless support of highly distributed multitier application workloads
- Rich multilayer classification (such as IP and MAC addresses, port numbers, VNIs) and workload matching with network-wide scale
- Automated application of rule-based actions (such as count, drop, mirror) to incoming network traffic

SLX 9240 Switch Specifications

Switch

Form Factor	1U
Switching Bandwidth (data rate, full duplex)	3.2 Tbps in and 3.2 Tbps out for a sum total of 6.4 Tbps
Forwarding Capacity (data rate, full duplex)	(L2) 2.4 Bpps, (L3) 600 Mpps line-rate performance
Dimensions and Weight	440mm; 17.32 in. (Width), 444.7 mm; 17.5 in. (Depth) 43.7mm; 1.72 in. (Height) 9.07 kg; 20 lb
Port-to-port latency	2.5 usec
Architecture Store and Forward	Supported
100/40GbE Ports	32
Power Supplies	Two internal, redundant, field-replaceable, load-sharing AC or DC power supplies
Cooling Fans	Five field-replaceable fans
Dynamically Shared Packer Buffer	24MB

Power

Power Inlet (AC)	C13
Input Voltage	90V to 264 V or 40.8 V to 60 V DC
Input Line Frequency	47Hz to 63 Hz
Inrush Current	25 A peak
Maximum Current	12A/AC, 14 A/DC
Typical Power Consumption	84W | Two AC PSU, five fan trays, 10% traffic, low fan speed
Maximum Power Consumption	581W | Two AC PSU, six fan trays, 100% traffic, high fan speed
Power Supply Rated Maximum (AC)	650W
Switch Power Consumption	DC PSU 563 W; AC PSU 581 W

Environment

Humidity	5% to 95% at 50°C
Altitude	Up to 3,000 m safety; 60 m to 4,000 m operational
Shock (operational)	20 G, 11 ms, half-sine wave
Vibration (operational)	1G sine, 0.4 gms random, 5 Hz to 500 Hz
Airflow	134 CFM (estimated with two PSU, six fan trays)
Acoustics(25°C)	52 dBA
MTBF (25°C)	327,539 hours

Software Specifications

Connector Options	10 GbE SFP+ (via splitter cable) 100 GbE QSFP-28 40 GbE QSFP+ Out-of-band Ethernet management: 10/100/1000 Mbps RJ-45 Console management: RJ45 serial port and USB type-C port with serial communication device class support Storage: USB port, standard-A plug
Maximum MAC Addresses	Up to 48,000
Maximum VLANs	4,096
Maximum Routes (in hardware)	Up to 40,000
Maximum ACLs	512
Maximum Members in a Standard LAG	16
Maximum Per-Port Priority Pause Level	8
Maximum Switches an mLAG Can Span	2
Maximum IPv4 Unicast Routes	48,000
Maximum IPv6 Unicast Routes	8,000
DCB Priority Flow Control Classes	4
Maximum Jumbo Frame Size	10,000 bytes
QoS Priority Queues (per port)	8

Standards Compliance

IEEE Compliance

Ethernet

IEEE 802.1D Spanning Tree Protocol

IEEE 802.1s Multiple Spanning Tree

IEEE 802.1w Rapid Reconfiguration of Spanning Tree Protocol

IEEE 802.3 Ethernet

IEEE 802.3ad Link Aggregation with LACP

IEEE 802.3ae 10G Ethernet

IEEE 802.1Q VLAN Tagging

IEEE 802.1p Class of Service Prioritization and Tagging

IEEE 802.1v VLAN Classification by Protocol and Port

IEEE 802.1AB Link Layer Discovery Protocol (LLDP)

IEEE 802.3x Flow Control (Pause Frames)

IEEE 802.3ab 1000BASE-T

IEEE 802.3z 1000BASE-X

RFC Compliance

For more information on the supported RFCs, visit https://www.extremenetworks.com/support/documentation. Search for the *Extreme SLX-OS Scale and Standards Matrix* document for your version of SLX-OS.

Ordering Information

Part Number	Description
BR-SLX-9240-32C	SLX 9240-32C Switch. No Fans/Power supplies included. 32x 100GE/40GE.
XBR-3250CFM-FAN-F	SLX Fixed FAN Front to Back airflow
XBR-3250CFM-FAN-R	SLX Fixed FAN Back to Front airflow
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 airflow. 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 airflow. Power cords not included.
XBR-R000297	SLX 9140/9240/9540/9640 Fixed Rack Mount kit 4-post mid/flush mount compatible

Upgrade License

Part Number	Description
BR-SLX-9240-ADV-LIC	Advanced License for BR-SLX-9240 License includes OVSDB integration, BGP EVPN, Guest VM, gRPC, 1588 BC, Timestamping, TPVM and NPB feature. The NPB feature set includes the following features: Traffic aggregation, Traffic replication (Transparent VLAN Flooding), L2 and L3 ACL, Route-map, Hash-based load balancing, and Timestamping.