Highlights

- Delivers industry-leading price and port density per blade
- Ensures predictable traffic behavior with ultra-deep packet buffers
- Maximizes investment protection with a unique 1.5U module design for higher density, routes, statistics, and policy scalability
- Meets diverse deployment needs with models that can support 10, 40, and 100 GbE and optimization for the data center core, spine, and super-spine or MPLS

ExtremeRouting SLX 9850 Interface Modules

Flexible, Future-Ready Connectivity for Digital Businesses

Businesses are rapidly changing their approach to data, from how it is generated to how it is accessed, driving the need to support new devices and services. The increasing demand for data requires increasing network bandwidth, and as organizations continue to digitize and adapt to these growing IT workloads, data center and Wide Area Networks (WANs) are straining to keep pace.

These challenges stem from the prevalence of dynamic application environments, the increasing migration to cloud consumption models, the ubiquity of mobile devices, the exponential growth of 4K HD video, and the emergence of the Internet of Things (IoT). Fortunately, organizations can meet this challenge while reducing costs and maximizing ROI—by leveraging a modern infrastructure solution that supports high-performance 10, 40, and 100 Gigabit Ethernet (GbE) traffic with built-in flexibility and investment protection.

Industry-Leading Module Architecture to Maximize Investment Protection

ExtremeRouting SLX 9850 interface modules deliver industry-leading port density, price, and performance for 10, 40, and 100 GbE. These modules are designed with a unique 1.5U form factor that optimizes port density and line module capabilities, and an innovative direct connection to the ExtremeRouting SLX 9850 switch fabric modules. This connection removes the need for a midplane in the system, maximizing system airflow and minimizing internal signal degradation. Combined with the ExtremeRouting SLX 9850 chassis architecture, the interface module design helps optimize port density, scale, and system performance while reducing system space, power, and cooling requirements.

This extensible system architecture delivers a highly reliable, carrier-class routing platform with investment protection, enabling the ExtremeRouting SLX 9850 to support connectivity needs today and well into the future as bandwidth, device, and application workload requirements grow.

Each interface module features multiple merchant silicon-based packet processors for forwarding and an Intel-based X86 CPU for control functionality. Ultra-deep packet buffers provide optimal handling of bursty traffic, enabling predictable traffic behavior for distributed application, video, wide area traffic, and more.

Ultra-High Density Data Center Core, Spine, Super-Spine, and Interconnect

These modules far surpass the limitations of traditional network topologies and solutions. Such legacy infrastructure was not designed to support increasingly virtualized environments, the massive scale needed by modern data centers and interconnect providers, and the dynamic application, bandwidth, and service standards expected by customers and end users. Using the SLX 9850 and its ultra-high-density 10, 40, and 100 GbE interface modules deployed in flexible Extreme IP fabrics, organizations can easily scale and extend their data center networks to meet these requirements.

Embedded Network Visibility

All SLX 9850 interface modules support a dedicated internal data path between each interface module and the system management module. Powered by the Extreme SLX-OS and SLX 9850 hardware innovation, this dedicated path is part of the ExtremeSLX Insight Architecture that supports real-time network analytics, monitoring, and troubleshooting through dynamic flow identification, intelligent pre-processing, and flexible data streaming. This highly flexible visibility architecture enables organizations to easily deploy monitoring and troubleshooting applications throughout their networks by leveraging an open guest KVM environment resident on each management module. The dedicated internal analytics path for data traffic increases performance for analytics, monitoring, and troubleshooting while eliminating disruption to network production traffic. For more information on the SLX Insight Architecture, please see the SLX 9850 data sheet and the SLX Insight Architecture at-a-glance.

Maximizing Investments

To help optimize technology investments, Extreme Networks and its partners offer complete solutions that include professional services, technical support, and education. For more information, contact a Extreme sales partner or visit www.extremenetworks.com.

SLX 9850 Interface Modules Feature Support

The SLX 9850 interface module hardware supports up to the maximum capabilities shown below.

Capbility	Module Type	
Subhead	D Modules	M Modules
MPLS	No	Yes
Packet Buffers per Dual Speed (10/1 GbE) module	8 GB	12 GB
Packet Buffers per Flex Speed (100/40/10 GbE) module	24 GB	36 GB
Carrier Ethernet 2.0 (CE 2.0)	No	Yes[1]
Route Scale	256,000 (IPv4)	1,500,000 (IPv4), 140,000 (IPv6)
OptiScale™ Internet Routing	No	Yes

[1] Carrier Ethernet 2.0 in M modules is not supported in the current release of Extreme SLX-OS.

SLX 9850 Interface Modules Scalability

The SLX 9850 interface module hardware supports up to the maximum capacities shown below.

Item	Maximum Capacity			
	Dual-Speed (D) 72-port 10 GbE	Flex-Speed (D) 36-port 100 GbE	Dual-Speed (M) 72-port 10 GbE	Flex-Speed (M) 36-port 100 GbE
100 GbE ports per module/system	N/A	36/288	N/A	36/288
40 GbE ports per module/system	N/A	60/480	N/A	60/480
10 GbE ports per module/system	72/576	240/1,920	72/576	240/1,920
1 GbE ports per module/system	72/576	N/A	72/576	N/A
Port Type	10 GbE, 1 GbE	100 GbE QSFP-28, 40 GbE, 10 GbE breakout	10 GbE, 1 GbE	100 GbE QSFP-28, 40 GbE, 10 GbE breakout
MAC entries in hardware	750,000	750,000	750,000	750,000
IPv4 routes	256,000	256,000	256,000	256,000
IPv6 routes	64,000	64,000	64,000	64,000
OptiScale™ Internet Routing	N/A	N/A	1,500,000 (IPv4) 140,000 (IPv6)	1,500,000 (IPv4) 140,000 (IPv6)
MPLS labels	N/A	N/A	760,000	760,000
IPv4 ACLs in hardware	32,000	32,000	32,000	32,000
IPv6 ACLs in hardware	16,000	16,000	16,000	16,000
IPv4 multicast cache	32,000	32,000	32,000	32,000
OpenFlow flows (shared with ACLs)	32,000	32,000	32,000	32,000
Virtual Output Queues (VOQs) supported in hardware	96,000	96,000	96,000	96,000
Packet buffer	8 GB	24 GB	12 GB	36 GB
Trunk groups (LAGs) per system	512 (10 GbE), 480 (40 GbE), 288 (100 GbE)			
Ports per trunk group	64	64	64	64
Typical AC power consumption (W)	250	617	250	617
Maximum AC power consumption (W)	362	856	362	856

SLX 9850 Interface Modules Optics Support

Optic Type	Ethernet Standard	Safety Standards	Wavelength	Fiber Type	Maximum Distance	Digital Optical Monitoring
1 GbE						
E1MG-SX-OM	802.3z	FDA 21CFR 1040.10 Class 1, CSA 60950-1-03 / UL60950-1, EN 60825-1, EN 60950-1	850 nm	MMF	550m	Yes
E1MG-LX-OM	802.3z		1,310 nm	MMF/SMF	10km	Yes
E1MG-BXD	802.3ah		TX: 1,490 nm RX: 1,310 nm	SMF	10km	No
E1MG-BXU	802.3ah		TX: 1,310 RX: 1,490	SMF	10km	No
E1MG-TX	802.3z	CSA 60950-1-03/ UL 60950-1	N/A			
10 GbE						
10G-SFPP-USR	N/A	FDA 21CFR 1040.10 Class 1 CSA 60950-1-03/UL60950-1, EN 60825-1, EN 60950-1	850	MMF	100m	Yes
10G-SFPP-SR	802.3ae		850	MMF	300m	Yes
10G-SFPP-LR	802.3ae		1,310	SMF	10km	Yes
10G-SFPP-ER	802.3ae		1,550	SMF	40km	Yes
10G-SFPP-ZR	802.3ae		1,550	SMF	80km	Yes
40 GbE						
40G-QSFPP-SR4 INT	802.3ba	North America: UL/ CSA 60950, CDRH Class 1 European Union: EN 60950, EN 60825 Class 1	850	MMF	100m	No
40G-QSFPP-eSR4 INT	802.3ba		850	MMF	300m	No
40G-QSFPP-LR4	802.3ba		1,270, 1,290, 1,310, 1,330	SMF	10km	Yes
100 GbE						
100G-QSFP28-SR4	802.3bm	North America: UL/ CSA 60950, CDRH Class 1 European Union: EN 60950, EN 60825 Class 1	850	MMF	100m	Yes
100G-QSFP28-LR4	802.3ba		1,295, 1,300, 1,305, 1,310	SMF	10km	Yes
100G-QSFP28-LR4-LP	802.3ba		1,295, 1,300, 1,305, 1,310	SMF	10km	Yes
100G-QSFP28-LR4L	802.3ba		1,295, 1,300, 1,305, 1,310	SMF	2km	Yes
100G QSFP28-CWDM4	802.3bm		1,310	SMF	2km	Yes

SLX 9850 Interface Modules: Direct-Attach Cables Support

Part Number	Description
10G-SFPP-TWX-0101	10 GbE SFP+ optics Twinax Active Copper cable: 1m
10G-SFPP-TWX-0108	10 GbE SFP+ optics Twinax Active Copper cable: 1m 8
10G-SFPP-TWX-0301	10 GbE SFP+ optics Twinax Active Copper cable: 3m
10G-SFPP-TWX-0308	10 GbE SFP+ optics Twinax Active Copper cable: 3m 8
10G-SFPP-TWX-0501	10 GbE SFP+ optics Twinax Active Copper cable: 5m
10G-SFPP-TWX-0508	10 GbE SFP+ optics Twinax Active Copper cable: 5m 8
40G-QSFP-QSFP-C-0101	40 GbE QSFP+ optics Active Optical cable: 1 m
40G-QSFP-QSFP-C-0301	40 GbE QSFP+ optics Active Optical cable: 3 m
40G-QSFP-QSFP-C-0501	40 GbE QSFP+ optics Active Optical cable: 5 m
40G-QSFP-QSFP-AOC-1001	40 GbE QSFP+ optics Active Optical cable: 10 m
40G-QSFP-4SFPP-C-0101	40 GbE QSFP+ to Quad SFP+ optics Active Copper cable: 1 m
40G-QSFP-4SFPP-C-0301	40 GbE QSFP+ to Quad SFP+ optics Active Copper cable: 3 m
40G-QSFP-4SFPP-C-0501	40 GbE QSFP+ to Quad SFP+ optics Active Copper cable: 5 m
40G-QSFP-4SFPP-AOC-1001	40 GbE QSFP+ to Quad SFP+ optics Active Optical cable: 10 m

SLX 9850 Interface Modules: Ordering Information

Part Number	Description
BR-SLX9850-10GX72S-D	ExtremeRouting SLX 9850 72-port 10 GbE/1 GbE dual-speed (D) interface module with IPv4/IPv6 hardware support. Requires SFP+ optics for 10 GbE connectivity and SFP optics for 1 GbE connectivity. Supports 750,000 MAC, 256,000 IPv4 routes, and 64,000 IPv6 routes.
BR-SLX9850-100GX36CQ-D	ExtremeRouting SLX 9850 36-port 100 GbE, 60-port 40 GbE, or 240-port 10 GbE flex-speed (D) interface module with IPv4/IPv6 hardware support. Requires QSFP-28 optics for 100 GbE connectivity, QSFP+ optics for 40 GbE connectivity, and 40 GbE to 10 GbE breakout for 10 GbE connectivity. Supports 750,000 MAC, 256,000 IPv4 routes, and 64,000 IPv6 routes.
BR-SLX9850-10GX72S-M	ExtremeRouting SLX 9850 72-port 10 GbE/1 GbE dual-speed (M) interface module with IPv4/IPv6/MPLS hardware support. Requires SFP+ optics for 10 GbE connectivity and SFP optics for 1 GbE connectivity. Supports up to 750,000 MAC. Supports up to 1,500,000 IPv4 routes, 140,000 IPv6 routes with OptiScale™ Internet Routing.
BR-SLX9850-100GX36CQ-M	ExtremeRouting SLX 9850 36-port 100 GbE, 60-port 40 GbE, or 240-port 10 GbE flex-speed (M) interface module with IPv4/IPv6/MPLS hardware support. Requires QSFP-28 optics for 100 GbE, QSFP+ optics for 40 GbE, and 40 GbE to 10 GbE breakout for 10 GbE connectivity. Supports up to 750,000 MAC. Supports up to 1,500,000 IPv4 routes, 140,000 IPv6 routes with OptiScale™ Internet Routing.
BR-SLX9850-100GX12CQ-M	Extreme SLX 9850 12-port 100 GbE, 20-port 40GbE, or 80-port 10GbE flex-speed (M) interface module with IPv4/IPv6/MPLS hardware support. Requires QSFP28, QSFP+ optics & 40GbE to 10GbE breakout (for 10 GbE) connectivity. Supports up to 750,000 MAC. Supports up to 1,500,000 IPv4 routes, 140,000 IPv6 routes with OptiScale™ Internet Routing.