ExtremeRouting™ SLX 9640
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 analytics needs of digital organizations with innovative network automation and visibility build on the Extreme Insight Architecture.

Built to Suit Your Business Needs

Extreme Elements are the building blocks that allow you to tailor your network to your specific business environment, goals, and objectives. They enable the creation of an Autonomous Network that delivers the positive experiences and business outcomes most important to your organization.

Combining architecture, automation, and artificial intelligence, Extreme Elements enable you to ensure that your uses get what they need — when and where they need it. Providing these superior user experiences is as simple as mixing and matching the right elements.

Learn more at extremenetworks.com/elements.
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, MPLS/VPLS, and OpenFlow forwarding combines with Carrier Ethernet 2.0 and OAM capabilities to provide deployment flexibility.

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. These features are critical components to your overall multilayered security strategy.

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.

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, the Extreme Management Center (XMC) delivers a comprehensive unified management capability. XMC provides a consolidated view of users, devices and applications for wired and wireless networks - from data center to edge.

Modular, Virtualized Operation System

The SLX 9640 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. It is based on Ubuntu Linux, which offers all the advantages of open source and access to commonly used Linux tools.

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.

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Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>Extreme SLX 9640</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum 100 GbE/40 GbE ports</td>
<td>12²</td>
</tr>
<tr>
<td>Maximum 10/1 GbE, 100 Meg</td>
<td>24</td>
</tr>
<tr>
<td>Switch fabric capacity (data rate, full duplex)</td>
<td>900 Gbps</td>
</tr>
<tr>
<td>Forwarding capacity (data rate, full duplex)</td>
<td>810 Mpps</td>
</tr>
<tr>
<td>Airflow</td>
<td>Front to back or back to front (orderable option)</td>
</tr>
<tr>
<td>Fan module slots</td>
<td>6 (5+1 redundancy)</td>
</tr>
<tr>
<td>Maximum AC power supply rating</td>
<td>650 W</td>
</tr>
<tr>
<td>Power Supplies Modular</td>
<td>650W AC power supply (up to two PSUs)</td>
</tr>
<tr>
<td>Power Supplies Modular</td>
<td>650W DC power supply (up to two PSUs)</td>
</tr>
<tr>
<td>Height</td>
<td>1.69 in./4.30 cm</td>
</tr>
<tr>
<td>Width</td>
<td>17.26 in./43.85 cm</td>
</tr>
<tr>
<td>Depth chassis only without cable management or fan handles</td>
<td>18.11 in./46.00 cm</td>
</tr>
<tr>
<td>Weight Chassis</td>
<td>2 PS, 6 fans: 20.05 lb, 9.09 kg</td>
</tr>
<tr>
<td>Weight Chassis</td>
<td>2 PS, 6 fans, rack mount kit: 21.65 lb 9.82 kg</td>
</tr>
<tr>
<td>Weight Empty chassis (no PS, no fans)</td>
<td>14.50 lb, 6.58 kg, Fan: 0.35 lb, 0.59 kg, PS: 1.70 lb, 0.77 kg</td>
</tr>
<tr>
<td>Port type</td>
<td>100 GbE QSFP-28, 40 GbE QSFP+, 10 GbE SFP+, 1 GbE SFP+</td>
</tr>
<tr>
<td>Packet buffers per switch</td>
<td>6 GB</td>
</tr>
<tr>
<td>MAC address scale</td>
<td>640,000</td>
</tr>
<tr>
<td>VLAN scale</td>
<td>4,096</td>
</tr>
<tr>
<td>Route scale</td>
<td>4,000,000 (IPv4), 800,000 (IPv6)</td>
</tr>
<tr>
<td>OptiScale™ Internet Routing</td>
<td>Yes</td>
</tr>
<tr>
<td>Jumbo frame (maximum size)</td>
<td>9,216 bytes</td>
</tr>
<tr>
<td>QoS priority queues (per port)</td>
<td>8</td>
</tr>
<tr>
<td>MPLS</td>
<td>With Extreme SLX-OS advanced feature license</td>
</tr>
<tr>
<td>NSX</td>
<td>With Extreme SLX-OS advanced feature license</td>
</tr>
<tr>
<td>OptiScale(TM) Internet Routing</td>
<td>With Extreme SLX-OS advanced feature license</td>
</tr>
</tbody>
</table>

² Software upgrade licenses are available for the Extreme SLX 9640-24S for Ports on Demand (PoD) to enable 100 GbE/40 GbE ports.

Power and Heat Dissipation

<table>
<thead>
<tr>
<th>Power and Heat Dissipation (BTU/hr)</th>
<th>650W AC PSU</th>
<th>650W DC PSU</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Fans high, all ports 100% traffic, 2 PSU)</td>
<td>Maximum Heat Dissipation (BTU/hr)</td>
<td>Maximum Power Dissipation (BTU/hr)</td>
</tr>
<tr>
<td></td>
<td>23-1000076-02/23-1000075-02</td>
<td>23-1000078-02/23-1000077-02</td>
</tr>
<tr>
<td>Dimensions</td>
<td>2.15” x 9.0” x 1.57”</td>
<td>2.15” x 9.0” x 1.57”</td>
</tr>
<tr>
<td></td>
<td>54.95mm x 228.6mm x 40mm</td>
<td>54.95mm x 228.6mm x 40mm</td>
</tr>
<tr>
<td>Weight</td>
<td>1.63 lb (0.741 kg)</td>
<td>1.74 lb (0.789 kg)</td>
</tr>
<tr>
<td>Voltage Input Range</td>
<td>90 to 264 Vac</td>
<td>-44 to -72 Vdc</td>
</tr>
<tr>
<td>Line Frequency Range</td>
<td>47 to 63 Hz</td>
<td>N/A</td>
</tr>
<tr>
<td>PSU Input Socket</td>
<td>IEC 320, C14</td>
<td>IEC 320, C14</td>
</tr>
<tr>
<td>Maximum Heat Dissipation (BTU/hr)</td>
<td>1,481 BTU/hr</td>
<td>434 W</td>
</tr>
</tbody>
</table>

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Acoustics

<table>
<thead>
<tr>
<th>Location</th>
<th>Bystander Sound Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front</td>
<td>51.9 dBA, re: 20 μPa</td>
</tr>
<tr>
<td>Rear</td>
<td>55.7 dBA, re: 20 μPa</td>
</tr>
<tr>
<td>Right Side</td>
<td>53.4 dBA, re: 20 μPa</td>
</tr>
<tr>
<td>Left Side</td>
<td>53.4 dBA, re: 20 μPa</td>
</tr>
<tr>
<td>Average</td>
<td>53.8 dBA, re: 20 μPa</td>
</tr>
</tbody>
</table>

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

Specifications

IEEE Compliance

- Ethernet
  - 802.3-2005 CSMA/CD Access Method and Physical Layer Specifications
  - 802.3ab 1000BASE-T
  - 802.3ae 10 Gigabit 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)
  - 802.3az 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.1731 OAM mechanisms for Ethernet

RFC Compliance

- General Protocols
  - RFC 768 UDP
  - RFC 791 IP
  - RFC 792 ICMP
  - RFC 793 TCP
  - RFC 826 ARP
  - RFC 854 TELNET
  - RFC 894 IP over Ethernet
  - RFC 903 RARP
  - RFC 906 TFTP Bootstrap
  - RFC 950 Subnet
  - RFC 951 BootP
  - RFC 1027 Proxy ARP
  - RFC 1042 Standard for The Transmission of IP
  - RFC 1166 Internet Numbers
  - RFC 1122 Host Extensions for IP Multicasting
  - RFC 1191 Path MTU Discovery
  - RFC 1340 Assigned Numbers
  - RFC 1542 BootP Extensions
  - RFC 1591 DNS (client)
  - RFC 1812 Requirements for IPv4 Routers
  - RFC 1858 Security Considerations for IP Fragment Filtering
  - RFC 2131 BootP/BootP Helper
  - RFC 2578 Structure of Management Information Version 2
  - RFC 2784 Generic Routing Encapsulation
  - RFC 3021 Using 31-Bit Prefixes on IPv4 Point-to-Point Links
  - RFC 3768 VRRP
  - RFC 4001 Textual Conventions for Internet Network Addresses
  - RFC 4632 Classless Interdomain Routing (CIDR)
  - RFC 4950 /MPLS Extensions for MPLS
  - RFC 5880 Bidirectional Forwarding Detection
  - RFC 5881 Bidirectional Forwarding Detection for IPv4 and IPv6 (Single Hop)3
  - RFC 5882 Generic Application of Bidirectional Forwarding Detection
  - RFC 5884 Bidirectional Forwarding Detection for Multihop Paths3 Egress ACL Rate Limiting

- BGP4
  - RFC 1745 OSPF Interactions
  - RFC 1772 Application of BGP in the Internet
  - RFC 1997 Communities and Attributes
  - RFC 2385 BGP Session Protection via TCP MD5
  - RFC 2439 Route Flap Dampening
  - RFC 2918 Route Refresh Capability
  - RFC 3392 Capability Advertisement
  - RFC 3682 Generalized T L Security Mechanism for eBGP Session Protection
  - RFC 4271 BGPv4
  - RFC 4364 BGP/MPLS IP Virtual Private Networks
  - RFC 4456 Route Reflection
  - RFC 4486 Sub Codes for BGP Cease Notification Message
  - RFC 4724 Graceful Restart Mechanism for BGP
  - RFC 4893 BGP Support for Four-octet AS Number Space
  - RFC 6793 BGP Support for Four-octet AS Number Space
  - RFC 5065 BGP4 Confederations
  - RFC 5291 Outbound Route Filtering Capability for BGP-4
  - RFC 5396 Textual Representation of Autonomous System (AS) Numbers
  - RFC 5668 4-Octet AS specific BGP Extended Community
draft-ietf-tgwg-bgp-pi-07.txt - BGP Prefix Independent Convergence
  - RFC 8092 BGP Large Community Attribute sFlow BGP AS path

OSPF

- RFC 1745 OSPF Interactions
- RFC 1761 OSPF Database Overflow
- RFC 2154 OSPF with Digital Signature (Password, MD-5)
- RFC 2328 OSPF v2
- RFC 3101 OSPF NSSA
- RFC 3137 OSPF Stub Router Advertisement
- RFC 3630 TE Extensions to OSPF v2
- RFC 3623 Graceful OSPF Restart
- RFC 4222 Prioritized Treatment of Specific OSPF Version 2
- RFC 5250 OSPF Opaque LSA Option
• IS-IS
  • RFC 1142 OSI IS-IS Intra-domain Routing Protocol
  • RFC 3277 IS-IS Blackhole Avoidance
  • RFC 5120 IS-IS Multi-Topology Support
  • RFC 5301 Dynamic Host Name Exchange
  • RFC 5302 Domain-wide Prefix Distribution
  • RFC 5303 Three-Way Handshake for IS-IS Point-to-Point
  • RFC 5304 IS-IS Cryptographic Authentication (MD-5)
  • RFC 5306 Restart Signaling for IS-IS (helper mode)
  • RFC 5309 Point-to-point operation over LAN in link state routing protocols

• IPv4 Multicast
  • RFC 1112 IGMP v1
  • RFC 2236 IGMP v2
  • RFC 4601 PIM-DM
  • RFC 4607 PIM-SSM
  • RFC 4610 Anycast RP using PIM
  • RFC 5058 BSR for PIM
  • PIM IPv4 MCT

• QoS
  • RFC 2474 DiffServ Definition
  • RFC 2475 An Architecture for Differentiated Services
  • RFC 2597 Assured Forwarding PHB Group
  • RFC 2697 Single Rate Three-Color Marker
  • RFC 2698 A Two-Rate Three-Color Marker
  • RFC 3246 An Expedited Forwarding PHB

• IPv6 Core
  • RFC 1981 IPv6 Path MTU Discovery
  • RFC 2375 IPv6 Multicast Address Assignments
  • RFC 2450 Proposed TLA and NLA Assignment Rules
  • RFC 2460 IPv6 Specification
  • RFC 4862 IPv6 Stateless Address - Auto Configuration
  • RFC 2464 Transmission of IPv6 over Ethernet Networks
  • RFC 2471 IPv6 Testing Address allocation
  • RFC 2711 IPv6 Router Alert Option
  • RFC 3587 IPv6 Global Unicast—Address Format
  • RFC 4193 Unique Local IPv6 Unicast Addresses
  • RFC 4229 IPv6 Addressing Architecture
  • RFC 4301 IP Security Architecture
  • RFC 4303 Encapsulation Security Payload
  • RFC 4305 ESP and AH Cryptography
  • RFC 4443 ICMPv6
  • RFC 4552 Auth for OSPFv3 using AH/ESP
  • RFC 4835 Cryptographic Alg. Req. for ESP
  • RFC 4861 Neighbor Discovery for IPv6 (IPv6)
  • RFC 3315 Dynamic Host Configuration Protocol for IPv6 (DHCPv6)

• IPv6 Routing
  • RFC 5340 OSPFv3 for IPv6
  • RFC 2545 Use of BGP-4 for IPv6
  • RFC 5308 Routing IPv6 with IS-IS
  • Support for IPv6 Router Advertisements with DNS Attributes

• RFC 8106 Support for IPv6 Router Advertisements with DNS Attributes
  • RFC 6164 Using 127-bit IPv6 Prefixes on Inter-Router Links

• MPLS
  • RFC 2205 RSVP v1 Functional Specification
  • RFC 2209 RSVP v1 Message Processing Rules
  • RFC 2702 TE over MPLS
  • RFC 3511 RSVP Refresh Overhead Reduction Extensions
  • RFC 3031 MPLS Architecture
  • RFC 3032 MPLS Label Stack Encoding
  • RFC 3037 LDP Applicability
  • RFC 3097 RSVP Cryptographic Authentication
  • RFC 3209 RSVP-TE
  • RFC 3270 MPLS Support of Differentiated Services
  • RFC 3478 LDP Graceful Restart
  • RFC 3815 Definition of Managed Objects for the MPLS, LDP
  • RFC 4090 Fast Reroute Extensions to RSVP-TE for LSP Tunnels
  • RFC 4364 BGP/MPLS IP Virtual Private Networks
  • RFC 4379 QAM
  • RFC 4448 Encapsulation methods for transport of Ethernet over MPLS networks
  • RFC 5036 LDP Specification
  • RFC 5305 ISIS-TE
  • RFC 5443 LDP IG P Synchronization
  • RFC 5561 LDP Capabilities
  • RFC 5712 MPLS Traffic Engineering Soft Preemption
  • RFC 5918 LDP “Typed Wildcard” FEC
  • RFC 5919 Signaling LDP Label Advertisement Completion

• Layer 2 VPN and PWE3
  • RFC 3343 TT L Processing in MPLS networks
  • RFC 3985 Pseudowire Emulation Edge to Edge (PWE3) Architecture
  • RFC 4364 BGP/MPLS IP Virtual Private Networks
  • RFC 4447 Pseudowire Setup and Maintenance using LDP
  • RFC 4448 Encapsulation Methods for Transport of Ethernet over MPLS Networks
  • RFC 4664 Framework for Layer 2 Virtual Private Networks
  • RFC 4685 Service Requirements for Layer 2 Provider-Provided Virtual Private Networks
  • RFC 4762 VPLS using LDP Signaling
  • RFC 5542 Definitions of Textual Conventions for Pseudowire (PW) Management
  • RFC 6391 Flow-Aware Transport of Pseudowires
  • RFC 6870 PW Preferential Forwarding Status Bit3
  • RFC 7432 BGP MPLS-Based Ethernet VPN - Partial4
  • RFC 7458 Virtual Extensible Local Area Network (VXLAN): A Framework for Overlaying Virtualized Layer 2 Networks over Layer 3 Networks (Partial)
  • draft-sd-12vpn-evpn-overlay-03 (A Network Virtualization Overlay Solution using EVPN) Partial4
  • draft-ietf-bess-evpn-overlay-04 (A Network Virtualization Overlay Solution using EVPN with VXLAN encapsulation) Partial4
  • draft-ietf-bess-evpn-overlay-12 A Network Virtualization Overlay Solution using EVPN
  • draft-ietf-bess-evpn-igmip-mld-proxy-00 (IGMP and MLD Proxy for EVPV)

3 Supported with Extreme SLX-OS 17.1.100 and later software.
4 Supported with Extreme SLX-OS 17.1.101 and later software.
Management and Visibility

- Integrated industry-standard Command Line Interface (CLI)
- RFC 854 Telnet
- RFC 2068 HTTP
- RFC 2818 HTTPS
- RFC 3776 sFlow v5
- sFlow extension to VXLAN
- RFC 4253 Secure Shell (SSH)
- Secure Copy (SCP v2)
- SFTP
- RFC 8040 RESTCONF Protocol - PATCH, PUT, POST, DELETE support
- RFC 5905 Network Time Protocol Version 4
- RFC 3986 Uniform Resource Identifier (URI): Generic Syntax
- RFC 6241 NETCONF Configuration Protocol (Partial)
- RFC 4722 "Using the NETCONF Configuration Protocol over Secure Shell (SSH)")
- RFC 6020. "YANG - A Data Modeling Language for the Network Configuration Protocol (NETCONF)")
- RFC 6021. "Common YANG Data Types"
- RFC 4741 NETCONF (Partial)
- OpenFlow 1.3
- Chrome
- Curl
- Tcpdump
- Wireshark
- SNMP Infrastructure (v1, v2c, v3)
- RFC 1157 Simple Network Management Protocol
- RFC 1908 Coexistence between Version 1 and Version 2 of the Internet-standard Network Management Framework
- RFC 2578 Structure of Management Information Version 2
- RFC 2579 Textual Conventions for SMIV2
- RFC 2580 Conformance Statements for SMIV2
- RFC 3410 Introduction and Applicability Statements for Internet Standard Management Framework
- RFC 3411 An Architecture for Describing SNMP Management Frameworks
- RFC 3412 Message Processing and Dispatching
- RFC 3413 SNMP Applications
- RFC 3414 User-based Security Model
- RFC 3415 View-based Access Control Model
- RFC 3416 Version 2 of SNMP Protocol Operations
- RFC 3417 Transport Mappings
- RFC 3418 Management Information Base (MIB) for the SNMP
- RFC 3584 Coexistence between Version 1, Version 2, and Version 3 of the Internet-standard Network Management Framework
- RFC 3826 The Advanced Encryption Standard (AES) Cipher Algorithm in the SNMP User-based Security Model
- SNMP MIBs
  - IANA-ADDRESS-FAMILY-NUMBERS-MIB
  - IANA-IIfType-MIB
  - sFlow v5 MIB
- RFC 1213 Management Information Base for Network Management of TCP/IP-based Internets: MIB-II
- RFC 2790 Host Resource MIB
- RFC 2819 RMON Groups 1, 2, 3, 9
- RFC 2863 The Interfaces Group MIB (IF)
- RFC 3289 Diffserv MIB
- RFC 3635 Etherlike Interface Type MIB
- RFC 3811 MPLS TC STD MIB
- RFC 3812 MPLS TE STD MIB
- RFC 3813 MPLS LSR MIB
- RFC 4001 Textual Conventions for Internet Network Addresses
- RFC 4022 Textual Conventions for Internet Network Addresses (TCP)
- RFC 4113 Management Information Base for the User Datagram Protocol (UDP)
- RFC 4133 Entity MIB
- RFC 4273 BGP-4 MIB
- RFC 4188 Bridge MIB
- RFC 4292 IP Forwarding Table MIB (IP-FORWARD)
- RFC 4293 Management Information Base for the Internet Protocol (IP)
- RFC 4365 Dot1q MIB
- RFC 4444 IS-IS MIB
- RFC 4750 OSPF v2 MIB
- RFC 4878 DODS-OAM-MIB
- RFC 7257 VPLS MIB (Partial)
- RFC 7331 BFD MIB
- IEEE/MEF MIBs
- IEEE-802 LLDP MIB
- MEF-FOAM-PM-MIB
- IEEE-8021-CFM-MIB
- IEEE-8021-CFM-V2-MIB

Element Security

- AAA
- Username/Password (Challenge and Response)
- Bi-level Access Mode (Standard and EXEC Level)
- Role-Based Access Control (RBAC)
- RFC 2865 RADIUS
- RFC 2866 RADIUS Accounting
- TACACS/TACACS+ draft-grant-tacacs-02 TACACS+ - Command Authorization, Authentication, AccountingRFC 5905 NTP Version 4
- NTP 4.2.8p 10
- RFC 5961 TCP Security
- RFC 4250 Secure Shell (SSH) Protocol Assigned Numbers
- RFC 4251 Secure Shell (SSH) Protocol Architecture
- RFC 4252 Secure Shell (SSH) Authentication Protocol
- RFC 4253 Secure Shell (SSH ) Transport Layer Protocol
- RFC 4254 Secure Shell (SSH) Connection Protocol
- RFC 4344 SSH Transport Layer Encryption Modes
- draft-sht-secpkcs8-13.txt SSH File Transfer Protocol (SFTP)
- Secure Copy (SCP v2) (see RFC 4251)
- RFC 2068 HTTPRFC 4346 TLS 1.1
- RFC 5246 TLS 1.2
- Protection against Denial of Service (DoS) attacks such as TCP SYN or Smurf Attacks

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

### Physical Design and Mounting
- 19-inch rack mount supporting racks compliant with:
  - ANSI/EIA-310-D
  - OR-63-CORE Seismic Zone 4

### Environmental Regulatory Compliance
- EU 2011/65/EU RoHS
- EU 2012/19/EU WEEE
- EC/1907/2006 REACH

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### Power and Grounding
- ETS 300 132-1 Equipment Requirements for AC Power Equipment Derived from DC Sources
- ETS 300 132-2 Equipment Requirements for DC Powered Equipment
- ETS 300 253 Facility Requirements

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### Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Extreme SLX 9640 Switch Hardware</strong></td>
<td></td>
</tr>
<tr>
<td>EN-SLX-9640-24S</td>
<td>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.</td>
</tr>
<tr>
<td>EN-SLX-9640-24S-AC-F</td>
<td>Base unit with 24 1G/10G SFP+ ports, 1 AC power supply. 6 fan modules, front-to-back airflow</td>
</tr>
<tr>
<td>EN-SLX-9640-24S-12C</td>
<td>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.</td>
</tr>
<tr>
<td>EN-SLX-9640-24S-12C-AC-F</td>
<td>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</td>
</tr>
<tr>
<td>XBR-R000297</td>
<td>SLX Fixed Rackmount kit. 4-post. mid/flush mount compatible</td>
</tr>
<tr>
<td>XBR-ACPWR-650-F</td>
<td>SLX Fixed AC 650W Power Supply Front to Back airflow. Power cords not included.</td>
</tr>
<tr>
<td>XEN-SLX9640-FAN-F</td>
<td>SLX 9640 FAN Front to Back airflow</td>
</tr>
<tr>
<td>XEN-SLX9640-FAN-R</td>
<td>SLX 9640 FAN Back to Front airflow</td>
</tr>
<tr>
<td><strong>Extreme SLX 9640 Upgrade Software Licenses</strong></td>
<td></td>
</tr>
<tr>
<td>EN-SLX-9640-4C-POD-P</td>
<td>Ports on Demand to enable 4×100 GbE/40 GbE ports (for Extreme SLX 9640-24S)</td>
</tr>
<tr>
<td>EN-SLX-9640-ADV-LIC-P</td>
<td>Advanced Feature License for MPLS, BGP-EVPN, CE2.0, NSX, OptiScale™ Internet Routing (for Extreme SLX 9640-24S and SLX 9640 24S-12C)</td>
</tr>
</tbody>
</table>

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