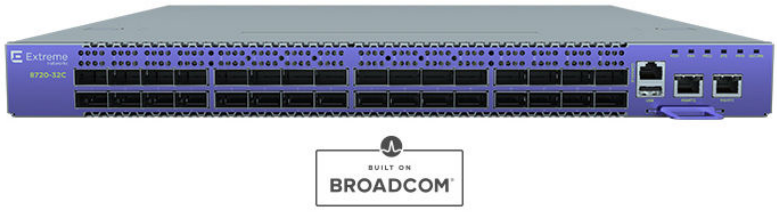
Extreme networks

Data Sheet

Extreme 8720

Highlights

- High-performance feature-rich, Fixed Form Factor Switch for Service Provider and Data Center
- Compact 1U form factor for reduced power and footprint
- Ability to deliver 100GbE to 4 x 25 GbE or 40GbE to 4 x 10 GbE using breakout cable
- Supply chain, boot, and runtime protection with Measured Boot
- Baseboard Management Controller (BMC) for lights-out management (LOM) for remote operations such as reboots, shutdowns, and out of band troubleshooting
- Redundant management port
- Supports Integrated Application Hosting to enable organizations to deploy Extreme-provided or third-party applications and tools directly on the switch
- Non-blocking, wire-speed switching architecture
- Offers a choice of AC/DC power supplies and F/R fans
- ExtremeCloud Orchestrator leverages Integrated Application Hosting and enables plug-n-play IP fabrics for infrastructure provisioning and configuration of all tenant services across the entire fabric at no additional cost
- Full featured SLX operating system with advanced features supporting switching, IP Fabrics, BGP- EVPN and VXLAN



Next Generation Secure Data Center and Mobile Edge Spine Switch

The Extreme 8720 is a high performance, feature-rich, and purpose built 10/25/40/100 GbE network hardware platform built for uncompromising performance in enterprise data centers and for mobile operators delivering critical 5G micro data center and multi-access edge compute (MEC) environments.

As part of Extreme's Trusted Delivery initiative, the Extreme 8000 Series of Universal switches introduce powerful security enhancements with a combination of Secure Boot technology, enhanced by an industry-first Measured Boot implementation. Measured Boot extends the security posture of the system into the execution of the operating system itself for greater protection against threats.

The Extreme 8720 network hardware platform enables organizations to design open networks that accommodate a variety of applications and east-west traffic patterns. With its high-density scale-out architecture, leading power efficiency, and airflow options, the 8720 platform delivers a cost-effective solution that optimizes power, cooling, and data center space, wherever your center of data might be.

Trusted Delivery

Trusted Delivery from Extreme Networks is designed to protect your key service delivery infrastructure at remote, often-unattended sites, as well as within colocation and data center environments where shared facility access is a concern. With Measured Boot—a security mechanism designed to verify the boot and runtime processes—Extreme Networks provides the capability to validate hardware components, boot process, and the operating system from factory to installation. Combined with remote attestation, where a trusted off-box challenger provides an objective measurement of trust, Measured Boot provides ongoing binary-level validation during operation.

Plug 'n Play Data Center Fabrics with ExtremeCloud Orchestrator

ExtremeCloud Orchestrator simplifies and accelerates the deployment of the data center IP Fabric. The on-box application runs as a service on the Integrated Application Hosting environment within the 8720 and uses industry-standard open API-based programmable interfaces to provide the easiest way to deploy, provision, and automate single or multiple data center IP Fabric networks in the fastest and most efficient way. ExtremeCloud Orchestrator is also the point of integration for VMware vCenter, Microsoft Hyper V, and OpenStack.

Modular, Virtualized Operating System

The 8720 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, Python, and NETCONF/RESTCONF. It is based on Linux, which offers all the advantages of open source and access to commonly used Linux tools.

With enhanced support for Trusted Delivery features, such as Measured Boot and strong security defaults, Extreme SLX-OS continues to further protect against ever-growing security threats to infrastructure.

Management

The 8720 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.

High-Availability and Reliability

The 8720 delivers the high performance and reliability required by modern enterprises and service provider data centers. 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.

Integrated Application Hosting

The 8720 can run onboard VM-based applications alongside the switch OS—all without impacting performance. This flexible and open solution enables organizations to deploy Extreme- provided or third-party applications and tools directly on the switch for security, monitoring, troubleshooting, or extended network functionality—based on customer need—without a separate hardware device. This unique design does not impact the control and forwarding plane of the switch and provides dedicated CPUs, memory, and SSD storage for flexible packet capture and offline processing.

8720 Switch Specifications

8720 (32 x 100 GbE)	
Ports	32 x QSFP+/QSFP28 40GbE/100GbE ports 128 x 25/10 GbE using break-out cables 1 x Serial console port RJ-45 2 x 10/100/1000BASE-T out-of-band management port Micro-USB Type A storage port
Power Supplies	Modular 750W AC power supply (up to 2 PSUs) Modular 750W DC power supply (up to 2 PSUs) Front-Back and Back-Front airflow options
Fan Tray	6 fan modules, support one fan redundancy Front-Back and Back-Front airflow options
Dimensions	17.3 in W/22.4 in D/1.7 in H (44 cm/57.0 cm/4.3cm)
Weight	16.3 lb (7.4 kg) with no PSU / 19.9 lb (9.0 kg) with two PSUs
Performance	Line rate 6.4 Tbps Switching Capacity (3.2 Tbps ingress, 3.2 Tbps egress) Forwarding Rate: 2000 Mpps Typical Latency: 800 ns
CPU/Memory	8 Core Processor 16 GB DDR4 ECC memory 128 GB SSD memory
Packet Buffers	32MB
Operating Conditions	Operating Temperature – Front-to-back: 0°C (32°F) to 50°C (122°F) at sea level 0°C (32°F) to 45°C (113°F) up to 1800 m (6000 ft) 0°C (32°F) to 40°C (104°F) up to 1800 m (6000 ft), up to 3000 m (10000 ft) Operating Temperature – Back-to-front: 0°C (32°F) to 45°C (113°F) at sea level 0°C (32°F) to 40°C (104°F) up to 1800 m (6000 ft) 0°C (32°F) to 35°C (95°F) up to 1800 m (6000 ft), up to 3000 m (10000 ft)

Power and Heat Dissipation

Switch Model	Minimum Heat Dissipation (BTU/hr) (Idle, no ports linked)	Minimum Power Consumption (Watts) (Idle, no ports linked)	Maximum Heat Dissipation (BTU/hr) (Fans high, all ports 100% traffic)	Maximum Power Consumption (Watts) (Fans high, all ports 100% traffic)
8720-32C-AC-F 8720-32C-AC-R	972 BTU/hr	285W	1340 BTU/hr	393W
8720-32C-DC-F 8720-32C-DC-R	975 BTU/hr	286W	1381 BTU/hr	405W

Power Supply Specifications

	750W AC PSU XN-ACPWR-750W-F/R	750W DC PSU XN-DCPWR-750W-F/R
Dimensions	3.15 in W x 1.57 in H x 8.11 in D (8.0 cm x 4.0 cm x 20 .6 cm)	3.15 in W x 1.57 in H x 8.11 in D (8.0 cm x 4.0 cm x 20 .6 cm)
Weight	1.79 lb (0 .81 kg)	1.85 lb (0.85 kg)
Voltage Input Range	100-140 VAC / 200 -240 VAC	-48 to -60 VDC
Line Frequency Range	50/60Hz	N/A
PSU Input Socket	IEC 320 C14	Terminal Block
PSU Output Cord	IEC 320 C13	N/A
Operating Conditions	0°-55° C operation	0°-55° C operation

Technical Specs

Environmental Specifications

EN/ETSI 300 019-2-1 v2.1.2 - Class 1.2 Storage

EN/ETSI 300 019-2-2 v2.1.2 - Class 2.3 Transportation

EN/ETSI 300 019-2-3 v2.1.2- Class 3.1e Operational

EN/ETSI 300 753 (1997-10) - Acoustic Noise

ASTM D3580 Random Vibration Unpackaged 1.5 G

Environmental Compliance

EU RoHS 2011/65/EU

EU WEEE 2012/19/EU

China RoHS 2 GB/T 26572

Taiwan RoHS CNS 15663(2013.7)

IEEE Compliance

Ethernet

IEEE802.1D Spanning Tree Protocol

IEEE802.1s Multiple Spanning Tree

IEEE802.1s Multiple Spanning Tree

IEEE802.3 Ethernet

IEEE802.3ad Link Aggregation with LACP

IEEE802.3ae 10G Ethernet

IEEE802.1Q VLAN Tagging

IEEE802.1p Class of Service Prioritization and Tagging

IEEE802.1v VLAN Classification by Protocol and Port

IEEE802.1AB Link Layer Discovery Protocol (LLDP)

IEEE802.3x Flow Control (Pause Frames)

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

Layer 2 Switching

Conversational MAC Learning

Virtual Link Aggregation Group (vLAG) spanning

Layer 2 Access Control Lists (ACLs)

Address Resolution Protocol (ARP) RFC 826

Layer 2 Loop prevention in an overlay environment

MLD Snooping

IGMP v1/v2 Snooping

MAC Learning and Aging

Link Aggregation Control Protocol (LACP) IEEE 802.3ad/802.1AX

Virtual Local Area Networks (VLANs)

VLAN Encapsulation 802.1Q

Per-VLAN Spanning Tree (PVST+/PVRST+)

Rapid Spanning Tree Protocol (RSTP) 802.1w

Multiple Spanning Tree Protocol (MSTP) 802.1s

STP PortFast, BPDU Guard, BPDU Filter

STP Root Guard

Pause Frames 802.3x

Static MAC Configuration

Multi-Chassis Trunking (MCT)

Layer 3 Routing

Border Gateway Protocol (BGP4+)

DHCP Helper

Layer 3 ACLs

IGMPv2

OSPF v2/v3

Static routes

IPv4/v6ACL

Bidirectional Forwarding Detection (BFD)

64-Way ECMP

VRF Lite

VRF-aware OSPF, BGP, VRRP, static routes

VRRP v2 and v3
IPv4/IPv6 dual stack
ICMPv6 Route-Advertisement Guard
Route Policies
IPv6 ACL packet filtering
BGP Additional-Path
BGP-Allow AS
BGP Generalized TTL Security Mechanism (GTSM)
BGP Peer Auto Shutdown
IPv6 routing
OSPF Type-3 LSA Filter
Wire-speed routing for IPv4 and IPv6 using any routing protocol
BGP-EVPN Control Plane Signaling RFC 7432
BGP-EVPN VXLAN Standard-based Overlay
Multi-VRF
IP Unnumbered Interface
VRRP-E

Automation and Programmability

gRPC Streaming protocol and API
REST API with YANG data model
Python
PyNOS libraries
DHCP automatic provisioning
NETCONF API

High Availability

Bidirectional Forwarding Detection (BFD)

Quality of Service

ACL-based QoS
Class of Service (CoS) IEEE 802.1p
DSCP Trust
DSCP to Traffic Class Mutation
DSCP to CoS Mutation
DSCP to DSCP Mutation
Random Early Discard
Per-port QoS configuration
ACL-based Rate Limit
Dual-rate, three-color token bucket
ACL-based remarking of CoS/DSCP/Precedence
ACL-based sFlow
Scheduling: Strict Priority (SP), Deficit Weighted Round-Robin (DWRR)

Management and Monitoring

Zero-Touch Provisioning (ZTP)
IPv4/IPv6 management
Industry-standard Command Line Interface (CLI)
NETCONF API
RESTCONF API with YANG data model
SSH/SSHv2
Link Layer Discovery Protocol (LLDP) IEEE 802.1AB
MIB II RFC 1213 MIB
Syslog (RASlog, AuditLog)
Management VRF
Switched Port Analyzer (SPAN)
Telnet
SNMPv1, v2c, v3
sFlow version 5
Out-of-band management
RMON-1, RMON-2
NTP
Management Access Control Lists (ACLs)
Role-Based Access Control (RBAC) Range CLI support
Python
DHCP Option 82 Insertion
DHCP Relay
Timestamping

Security

Port-based Network Access Control 802.1X
RADIUS
AAA
TACACS+
Secure Shell (SSHv2)
TLS 1.1, 1.2
HTTP/HTTPS
BPDU Drop
Lightweight Directory Access Protocol (LDAP)
Secure Copy Protocol
Control Plane Policing (CPP)
LDAP/AD
SFTP
Port Security

Ordering Information

Part Number	Description
8720-32C	Extreme 8720-32C Switch with two empty power supply slots, six empty fan slots and a 4-post rack mount kit, Supports 32x100/40GE
8720-32C-AC-F	Extreme 8720-32C Switch with front to back airflow. Supports 32x100/40G with two AC power supplies, six fans and a 4-post rack mount kit
8720-32C-AC-R	Extreme 8720-32C Switch with back to front Airflow, Supports 32x100/40G with dual AC power supplies, six fans and a 4-post rack mount kit
8720-32C-DC-F	Extreme 8720-32C Switch with front to back Airflow, Supports 32x100/40G with dual DC power supplies, six fans and 4-post rack mount kit
8720-32C-DC-R	Extreme 8720-32C Switch with back to front Airflow, Supports 32x100/40G with dual DC power supplies, six fans and a 4-post rack mount kit
XN-ACPWR-750W-F	AC 750W PSU, Front -to-Back Airflow supported on VSP 7400, SLX 9150, SLX 9250, X695, 8720
XN-ACPWR-750W-R	AC 750W PSU, Back-to-Front Airflow supported on VSP 7400, SLX 9150, SLX 9250, X695, 8720
XN-DCPWR-750W-F	DC 750W PSU, Front -to-Back Airflow supported on VSP 7400, SLX 9150, SLX 9250, X695, 8720
XN-DCPWR-750W-R	DC 750W PSU, Back-to-Front Airflow supported on VSP 7400, SLX 9150, SLX 9250, X695, 8720
XN-FAN-001-F	Front to Back Fan for use in VSP 7400, SLX 9150, SLX 9250, X695, 8720
XN-FAN-001-R	Back to Front Fan for use in VSP 7400, SLX 9150, SLX 9250, X695, 8720
XN-4P-RKMT298	Four post rack mount rail kit supported on VSP 7400, SLX 9150, SLX 9250, X695, 8720
XN-2P-RKMT299	Two post rack mount rail kit supported on VSP 7400, SLX 9150, SLX 9250, X695, 8720
8000-PRMR-LIC-P	Extreme 8000 Premier Feature License (includes Integrated Application Hosting)

Optics/Transceivers

For a list of the optics/transceivers supported on the 8720 Series, refer to our Extreme Optics Compatibility Tool.

Power Cords

In support of Extreme Networks green initiatives, power cords are not included with the 8720 but can be ordered separately. They should be specified at time of ordering.

Warranty

All 8720 Series models are covered under Extreme's Universal LLW 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 our ExtremeWorks Maintenance Services page for more information.