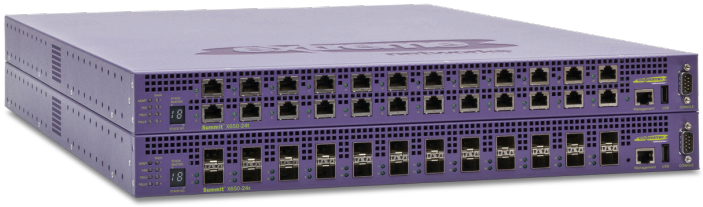
Summit X650 Series



Summit X650 Series—The ultimate Top of Rack 10 Gigabit Ethernet switch.

High-Performance Switching and Routing

- 24-port 10 Gigabit Ethernet non-blocking switching with 363 million packet per second forwarding rate in 1 Rack Unit (RU) form factor
- 256 Gbps ultra high-speed stacking for up to eight units in a stack to provide up to 192 10 Gigabit Ethernet ports in one logically integrated unit

Versatile Architecture

- From high-performance server switching to enterprise network aggregation and core deployment
- One network operating system for Extreme Networks® Ethernet switches everywhere in the network
- 10 Gigabit Ethernet over UTP cable and optical fiber with SFP+ transceivers for single-mode and multimode fiber installation

High Availability

- ExtremeXOS® modular operating system for highly available network operation
- Carrier-grade redundant networking protocol including Ethernet Automatic Protection Switching (EAPS)
- Internal redundant AC/DC power supply and field replaceable fan tray

Future-Proof

- 48-port 10 Gigabit Ethernet non-blocking switching with 512 Gbps SummitStack™512 technology
- Future support for 40 Gigabit Ethernet and 100 Gigabit Ethernet through Versatile Interface Module (VIM) slot

The Summit® X650 series switch is a purpose-built Top of Rack switch designed for emerging 10 Gigabit Ethernet-enabled servers, deployed in enterprise data centers. Summit X650 optimize new server deployments while providing a seamless migration path from existing Gigabit Ethernet-based servers to 10 Gigabit Ethernet-based high-performance servers to start the transition to a new virtualized environment.

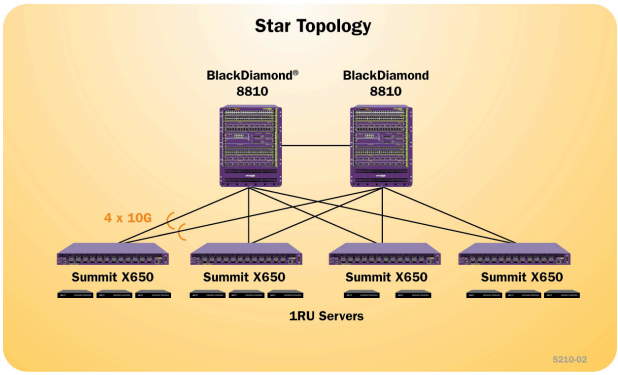
Summit X650 provides remarkable high-density for 10 Gigabit Ethernet in a very small 1RU form factor for up to 32 ports in one system and 192 ports in a stacked system. Summit X650 offers two of the most advanced 10 Gigabit Ethernet technologies, 10GBASE-T and SFP+, to accommodate the needs for both copper twisted pair cable and optical fiber-based 10 Gigabit Ethernet.

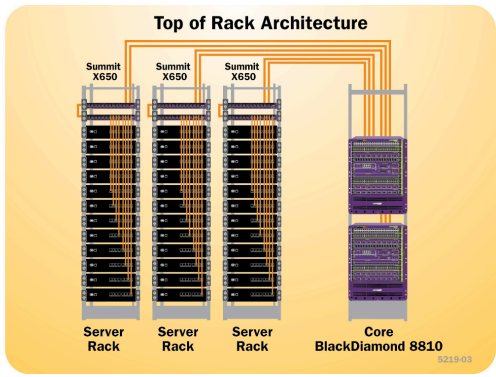
The versatile Summit X650 switch provides exceptional high-density Layer 2/3 switching. With ultra low latency and highly scalable IPv4 and IPv6 unicast and multicast routing, enterprise aggregation and core backbone deployment can be enabled in AC-powered and DC-powered environments.

Summit X650 simplifies network operation with an ExtremeXOS modular operating system amongst all Extreme Networks® Ethernet switches. The ExtremeXOS operating system provides high availability and simplicity with one operating system everywhere in the network.

Target Applications

- Top of Rack switch for servers in enterprise data centers
- High-performance 10 gigabit core switch for a small network
- High-performance 10 gigabit aggregation switch in a traditional three-tiered network
- Interconnect switch providing low latency connections for High Performance Cluster Computing (HPCC)





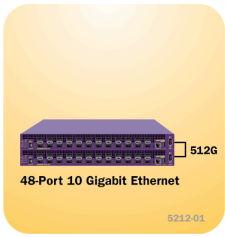
High Performance Switching and Routing

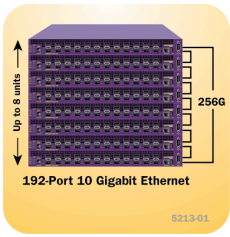
- 24-port 10 Gigabit Ethernet non-blocking switching at 363 million packets per second forwarding rate in 1RU form factor
- 48-port 10 Gigabit Ethernet non-blocking switching at 714 million packets per second with optional 512 Gbps stacking module
- 256 Gbps ultra high-speed stacking for up to eight units in a stack to provide up to 192 10 Gigabit Ethernet ports in one logically integrated unit
- 32-port 10 Gigabit Ethernet per 1RU height with optional eight-port 10 Gigabit Ethernet SFP+ interface module
- Low latency switching for HPCC

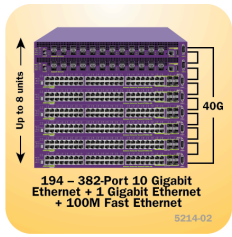
Versatile Architecture

- From high-performance server switching to enterprise network aggregation and core deployment by supporting highly-scalable Layer 2 and IPv4/v6 unicast and multicast routing
- One network operating system for the Extreme Networks Ethernet switches everywhere in the network
- 10GBASE-T for up to 100 meters over UTP, and SFP+ for fiber and direct attach passive copper installation
- Flexible SummitStack architecture provides virtualized switching system for 10 gigabit, gigabit and Fast Ethernet ports

Virtualized Port Density in a Stack	Rack Units	Stacking Bandwidth
24-port 10G	1RU	–
32-port 10G	1RU	–
48-port 10G	2RU	512 Gbps
192-port 10G	8RU	256 Gbps
194 - 382-port 10G + 1G + 100M	8RU	40 Gbps







High Availability

- ExtremeXOS modular operating system for highly-available network operation
- Carrier-grade redundant networking protocol including EAPS
- Hot-swappable redundant AC/DC power supply and field-replaceable fan tray with front to back cooling

Specifications

Ports	24-port 10GBASE-T or 24-port SFP+ with one VIM1 slot
Layer 2/3/4 throughput	363 million Packets Per Second (PPS) (24-port 10GbE wire rate) and up to 506 million PPS aggregated throughput (with VIM1-10G8X)
Management port	One 10/100/1000BASE-T RJ-45 port for out-of-band management
Console port	RS-232 DB-9 console port
Power Supply	Dual redundant AC or DC
Fan/Cooling	Removable fan module / Front-to-back cooling
Dimensions and Weight	1.73 x 17.32 x 25.8 (inch) / 26.5 inch depth including PSU handle, 24.07 lbs (Summit X650-24t), 20.35 lbs (Summit X650-24x), 3 lbs (AC PSU)
Layer 2 Switching	IEEE 802.D, IEEE 802.1W, IEEE 802.1S, EAPSv2, ESRP
Layer 3 Routing	Static, RIPv1,RIPv2,OSPFv2,OSPFv3, IS-IS, BGP4
VLANs	4,094 VLANs with Port, 802.1Q tag, Protocol, MAC-based VLAN
IP Multicast Routing	PIM-DM, PIM-SM, PIM-SSM, Multicast Source Discovery Protocol (MSDP)
ACL	Wire-speed ingress and egress ACL support
QoS	8 egress queues per port, 802.1p, Diffserv, ACL based, Strict Priority and WFQ with min/max bandwidth control
Stacking Support	SummitStack (40 Gbps Default), SummitStack256 (256 Gbps), SummitStack512 (512 Gbps)

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