

Summit X480 Series



The Summit X480 series switch is a versatile, high-end Ethernet switch for data center, enterprise aggregation, and Carrier Ethernet deployments. Summit X480 helps optimize application performance for a variety of network deployments with its rich features and high scalability.

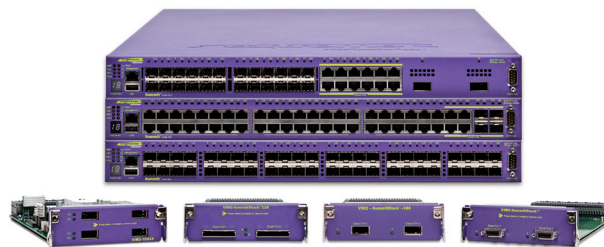
Summit X480 provides high density for Gigabit Ethernet in a very small 1RU form factor for up to 48 ports in one system and 384 ports in a stacked system using SummitStack™, high-speed SummitStack128 running at 128 gigabits per second, or SummitStack-V, which utilizes 10 GbE ports as stacking ports, enabling the use of standard cabling and optics technologies used for 10 GbE. Summit X480 also offers ten Gigabit Ethernet connectivity for up to six ports in one system and 16 ports in a stacked system.

For emerging demands from data, storage, voice, and data convergence, Summit X480 provides highly scalable Layer 2/3 switching and MPLS/H-VPLS by supporting up to 512k Layer 2 MAC addresses or 512k IPv4 Longest Prefix Match routing tables. Summit X480 enables data center, enterprise and Carrier Ethernet aggregation and core backbone deployment in AC- and DC-powered environments.

Summit X480 simplifies network operation with ExtremeXOS modular OS, available across Extreme Networks Ethernet switches. The ExtremeXOS operating system provides high availability and simplicity with one OS everywhere in the network.

Target Applications

- Top-of-rack switch for servers in enterprise data centers
- High-performance core switch for a small network
- High-performance gigabit aggregation switch in a traditional three-tiered network
- Carrier Ethernet network switch that can aggregate connectivity for first mile access concentrators such as DSLAM and CMTS



Summit® X480 Series—the highly scalable and versatile gigabit and 10 Gigabit Ethernet switch.

High-Performance Switching and Routing

- 48-port Gigabit Ethernet or 24-port gigabit and 2-port 10 Gigabit Ethernet connectivity in 1RU form factor
- Optional 4-port 10 Gigabit Ethernet to provide 40 Gbps uplinks
- Optional 40 Gbps stacking for up to eight switches in a stack to provide up to 384 Gigabit Ethernet in one logically integrated unit; optional 128 Gbps stacking for up to eight switches in a stack to provide high-speed stacking; or optional stacking via SummitStack-V for longer distance stacking via 10 GbE ports
- Supports Layer 2 and Layer 3 switching, as well as MPLS/VPLS

High Scalability in 1RU Compact Switch

- Up to 512k MAC address support for highly scalable Layer 2 networks
- Up to 512k IPv4 routes for highly scalable Layer 3 networks
- Up to 60k Access Control Lists (ACLs) for highly secure networks

High Availability

- ExtremeXOS® modular OS for a highly available network operation
- Carrier-grade redundant networking protocols including Ethernet Automatic Protection Switching (EAPS), internal redundant AC/DC power supply and field replaceable/hot swappable fan tray
- Virtualized Data Center support: Direct Attach™ and XNV™ (ExtremeXOS Network Virtualization)

Comprehensive Security Management

- Threat detection and response instrumentation to react to network intrusion with CLEAR-Flow Security Rules Engine
- User policy, host integrity enforcement and Identity Management

High Performance Switching and Routing

Summit X480 is available in three different port configuration options: 24-port Gigabit Ethernet and 2-port 10 Gigabit Ethernet (Summit X480-24x), 48-port copper Gigabit Ethernet (Summit X480-48t), or 48-port fiber Gigabit Ethernet (Summit X480-48x). All front panel ports run at non-blocking, wire-speed performance and can carry wire-rate traffic to the Versatile Interface Module-2 (VIM2) slot. Summit X480 offers flexible configuration by using optional VIM2 modules which include 4-port 10 Gigabit Ethernet Module (VIM2-10G4X), 2-port SummitStack Module (VIM2-SummitStack), 2-port SummitStack-V80 Module (VIM2-SummitStack-V80) or 2-port SummitStack128 Module (VIM2-SummitStack128).

High Scalability in 1RU Compact Switch

Summit X480 supports highly scalable Layer 2 or Layer 3 networks, as well as highly secure networks. Summit X480 has built-in TCAM expansion memory which can be partitioned by application types or by deployment scenarios. For larger Layer 2 network deployments, Summit X480 can support up to 512k MAC addresses. Similarly for larger Layer 3 routing environments, Summit X480 can support core routing class scalability for up to 512k IPv4 routing LPM entries in hardware.

Intelligent Switching and MPLS Support

Summit X480 supports sophisticated and intelligent Layer 2 switching, as well as Layer 3 IPv4/IPv6 routing including policy-based switching/routing, Provider Bridging, bidirectional ingress and egress Access Control List (ACL), and bandwidth control by 8 Kbps granularity both for ingress and egress. To provide scalable network architectures used mainly for Carrier Ethernet network deployment, Summit X480 supports MPLS LSP based Layer 3 forwarding and Hierarchical VPLS (H-VPLS) for transparent LAN services. With H-VPLS, transparent Layer 3 networks can be extended throughout the Layer 3 network cloud by using a VPLS tunnel between the regional transparent LAN services typically built by Provider Bridging (IEEE 802.1ad) technology.

Support for Virtualized Data Centers

Direct Attach eliminates switching at the virtual switch layer, simplifying the network and improving performance. Direct Attach enables data center simplification by reducing network tiers from 4 or 5 tiers to just 3 or 2 tiers, depending on the size of the data center. (Requires the Direct Attach Feature Pack, part number 11011.)

XNV (ExtremeXOS Network Virtualization) is a set of software modules for the ExtremeXOS-based switching product portfolio, and is available via the Data Center Feature Pack for Extreme Networks Ridgeline™, a network and service management application. XNV brings insight, control and automation for highly virtualized data centers to the network.

Carrier Ethernet Service Delivery

The Summit X480 switch supports a large number of MAC addresses for high subscriber and service scalability. It is a great choice for Ethernet Access or access aggregation. By supporting granular traffic classification and metering incoming packets at line rate, the switches are ideal solutions for carrier deployments. The switches support Extreme Networks vMAN tag stacking mechanism, compliant with the IEEE 802.1ad Provider Bridging standard, as well as MPLS/H-VPLS. Additional purpose-built features include multicast and MAC address scalability and advanced buffer control for consistent toll-quality service.

Comprehensive Security Management

User authentication and host integrity checking enforce admission and usage policies on dedicated

and shared ports at the edge of the network. The powerful technologies sFlow® and IPFIX offer continuous and simultaneous monitoring of application-level traffic flows on all interfaces.

The Universal Port dynamic scripting framework available in Summit X480 switches lets you implement security profiles to create fine-grained and robust security policies. Upon authentication, the switch can load dynamic ACL/QoS for a user or group of users, to deny/allow the access to the application servers or segments within the network.

Summit X480 switches complement perimeter firewalls by protecting the “soft interior” of the network that is often unprotected. Utilizing the industry’s most advanced CLEAR-Flow Security Rules Engine, Summit X480 switches can be programmed to automatically detect and mitigate security threats in seconds.

Identity Manager

Identity Manager allows network managers to track users who access their network. User identity is captured based on NetLogin authentication, LLDP discovery and Kerberos snooping. ExtremeXOS uses the information to then report on the MAC, VLAN, computer hostname, and port location of the user. Further, Identity Manager can create both roles and policies, and then bind them together to create role-based profiles based on organizational structure or other logical groupings, and apply them across multiple users to allow appropriate access to network resources. In addition, support for Wide Key ACLs further improves security by going beyond the typical source/destination and MAC address as identification criteria access mechanism to provide filtering capabilities.

Features	Summit X480 Series Switches
Copper 10/100/1000BASE-T	Summit X480-48t and Summit X480-24x
Fiber 1000BASE-X	Summit X480-48t, Summit X480-24x and Summit X480-48x
Fiber 10GBASE-X	Summit X460-24x, VIM2-10G4X
Optional VIM2 Modules	VIM2-10G4X (4 10GBASE-X XFP) VIM2-SummitStack VIM2-SummitStack128 VIM2-SummitStack-V80
DC PSU Version	Yes with optional DC PSU
Redundant Power Supply	Yes, dual and hot-swappable
IPv6 Routing	Yes
Policy-Based Routing/Switching	Yes
ExtremeXOS Advanced Edge License	Included
ExtremeXOS Core License	Optional
MPLS Feature Pack	Optional



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