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TECHNOLOGY SOLUTIONS

Summit® X450 Series

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Summit X450—Providing high availability, control and simplified management of your entire network with ExtremeXOS™.

Features

- High availability to prevent network outages
- Flexible Power over Ethernet (PoE) to meet growing demand of converged network applications
- Metro Ethernet service delivery
- Policy-based routing to customized traffic flow
- Comprehensive security using defense-in-depth
- Ease of management

Target Applications

- Core switch for a small network (Summit X450 and Summit X450a)
- Aggregation switch in a traditional three-tiered network that requires high availability and ExtremeXOS advanced features (Summit X450, Summit X450a)
- Customer Edge (CE) or Provider Edge (PE) device in a Metro Ethernet network, compliant with UNI 1.0 Metro Ethernet Forum (MEF) specification, supporting all service parameters of MEF 6, the traffic management specification (Summit X450, Summit X450a)
- Interconnect switch providing low latency connections for High Performance Cluster Computing (HPCC) (Summit X450, Summit X450a)
- Edge PoE switch providing high density gigabit PoE to the desktop in a network running ExtremeXOS from the core to the edge (Summit X450e)

Extreme Networks® Summit X450 series is based on ExtremeXOS, the revolutionary core-class operating system, and includes Summit X450, Summit X450a and Summit X450e products. Whether deployed at the network core, edge or as an aggregation device, the SummitX450 series benefits from the highly robust and modular architecture of ExtremeXOS and provides high levels of availability, resilience and simplified management of your entire network.

As an edge switch offering optimum support for converged applications, Summit X450e provides low latency line-rate performance and supports the 802.3af standards-based PoE on every port.

Summit X450a is highly flexible and scalable, making it an ideal aggregation switch for traditional small core enterprise networks and a first level aggregation device for DSLAMs at a local central office before traffic is passed on to Extreme Networks BlackDiamond® 12804R core switch at the Point of Presence (POP).

Extreme Networks continues its tradition in simplifying network deployment through consistent use of common hardware and software. Summit X450e and Summit X450a switches utilize the same proven non-blocking hardware technology found in Extreme Networks BlackDiamond 8800 series switches, delivering line-rate IPv6 capabilities for Gigabit Ethernet LAN deployments.

The versatile Summit X450 series supports a full range of Layer 2 – 4 features on each port. Each switch offers optional 10 Gigabit Ethernet in a compact 1RU format. Optional redundant power supplies are provided with each switch to secure against power anomalies, allowing a continuous operational network that is crucial in meeting your business needs.

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extreme networks™

High Availability

The Summit X450 series provides high availability by employing a modular operating system, incorporating resilient software features and supplying hardware redundancies.

High availability protocols such as the Ethernet Automatic Protection Switching (EAPS) that failover in less than 50 milliseconds provide toll-quality voice and picture-perfect video.

Layer 2 and Layer 3 resiliency protocols such as Open Shortest Path First (OSPF), Extreme Standby Router Protocol (ESRP) and Virtual Router Redundancy Protocol (VRRP) add to enhanced availability.

Redundancies in power supplies, uplink ports (at both gigabit and 10 gigabit levels), operating system and configuration images further contribute to continuous availability.

Flexible PoE for Converged Networks

Summit X450e provides advanced traffic management capabilities and allows large scale rollout of equipment such as IP telephones, wireless APs and other devices that require power from the LAN connection. With line-rate IPv6 support at the network edge, Summit X450e prepares for IPv6-capable edge devices as they become available.

Supporting LLDP, Summit X450e allows enterprises to add new access devices in a non-disruptive Plug-and-Play fashion while simplifying troubleshooting and minimizing complexities that arise from convergence-driven network changes.

Metro Ethernet Service Delivery

Summit X450 and Summit X450a switches meet dual service delivery requirements as a CE device and as an aggregation switch at the PE, which can reduce the provider's operational expense.

By supporting granular traffic classification and metering incoming packets at line-rate, the switches are ideal solutions for metro deployments. When deployed as a CE device, advanced traffic management features provide triple play delivery of voice, video and data services.

The switches support Extreme Networks vMAN tag stacking mechanism, compliant with IEEE 802.1ad Provider Bridging standard used for aggregating subscribers when deployed at the PE.

Summit X450a switches provide WAN PHY connectivity compliant with the 10 gigabit-based LW standard making it compatible with existing SONET OC-192 transport networks. This provides a compelling alternative to a more complex and costly SONET/SDH infrastructure.

Policy-based Routing

Policy-based routing on Summit X450 and Summit X450a switches provides a flexible mechanism for network administrators to customize the flow of traffic. Access Control Lists (ACLs) configured on the switch can redirect packets away from their normal path to another physical switch port. Packets are selected according to their ACL match conditions such as class of service, VLAN, IP addresses, protocol, port number or other criteria.

Comprehensive Security Using Defense-in-Depth

Summit X450 switches, when combined with Extreme Networks Sentriant™ security solutions allow you to adopt a defense-in-depth strategy in securing your network on multiple levels.

User authentication and host integrity checking enforces admission and usage policies on dedicated and shared ports at the edge of the network. The powerful technology, sFlow®, offers threat detection and response by providing continuous and simultaneous monitoring of application-level traffic flows on all interfaces. In the event of an attack, network managers can dynamically re-configure the switches to close vulnerabilities, hardening the network without shutting down network operation.

This layered approach of providing security at both the perimeter and core maximizes network protection.

Ease of Management

Extreme Networks has developed tools that save you time and resources in managing your network. EPICenter® provides fault configuration, accounting, performance and security functions, allowing effective management of Extreme Networks' multi-layer switching equipment in a converged network.

Features	Summit X450 Series Switches	Summit X450a Series Switches	Summit X450e Series Switches
Copper 10/100/1000BASE-T	Summit X450-24t	Summit X450a-24t Summit X450a-48t	Summit X450e-24p with PoE
Fiber 1000BASE-X	Summit X450-24x	NA	NA
Power over Ethernet	NA	NA	Yes
Optional 2 Port 10 Gigabit Module	XGM-2xn (for XENPAK)	XGM2-2xn (for XENPAK) XGM2-2xf (for XFP)	XGM2-2xn (for XENPAK) XGM2-2xf (for XFP)
DC PSU Version	NA	Summit X450a-24tDC	NA
External Redundant Power Supply	EPS-160	EPS-LD (Summit X450a-24t) EPS-500 (Summit X450a-48t) EPS-150DC (Summit X450a-24tDC)	EPS-LD
IPv6 Routing	Software assisted	Hardware-based line-rate	Hardware-based line-rate
Policy-Based Routing	NA	Yes	Yes
ExtremeXOS Advanced Edge License	Included	Included	Optional
ExtremeXOS Core License	Optional	Optional	NA

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