

Summit X670 Series*



The Summit X670 series switches are purpose-built top-of-rack switches designed to support 10 Gigabit Ethernet-enabled servers in enterprise and cloud data centers. Summit X670 helps optimize new server deployments with its optional future-proofing 40 GbE uplink support while providing seamless support from existing Gigabit Ethernet-based servers to 10 GbE-based high-performance servers.

The Summit X670 series is available in two models: Summit X670V and Summit X670. Summit X670V provides high density for 10 Gigabit Ethernet switching in a small 1RU form factor. The switch supports up to 64 ports in one system and 448 ports in a stacked system using high-speed SummitStack-V160, which provides 160 Gbps throughput and distributed forwarding. The Summit X670 model provides up to 48 ports in one system and up to 368 ports in a stacked system using SummitStack-V longer distance (up to 40 km with 10GBASE-ER SFP+) stacking technology.

With its versatile design, the Summit X670 series provides high density Layer 2/3 switching with low latency cut-through switching, and IPv4 and IPv6 unicast and multicast routing to enable enterprise aggregation and core backbone deployment. Summit X670 series include the ExtremeXOS modular operating system (OS), which is used amongst all Extreme Networks Summit and BlackDiamond® Ethernet switches.

Target Applications

- Top-of-rack switch for servers in enterprise and cloud data centers
- High-performance 10 GbE core switch for a small network
- High-performance 10 GbE aggregation switch in a traditional three-tiered network
- An ideal choice for 10 GbE Carrier Ethernet access and PON OLT aggregation
- Interconnect switch providing low latency connections for High Performance Cluster Computing (HPCC)



Summit® X670 Series—High density, low latency 10 Gigabit Ethernet stackable switch with optional 40 Gigabit Ethernet uplinks.

High-Performance Switching and Routing

- Up to 1.28 Tbps switching performance with 48 10 Gigabit Ethernet ports all running at wire rate.
- Optional 4-port 40 GbE module (Summit X670V), configurable as 16-port 10 GbE, all running at wire rate
- High-performance SummitStack™-V160 (Summit X670V with optional VIM) or SummitStack-V (both models) stacking support
- Sub-microsecond low latency for Layer 2 and Layer 3 switching
- Green design with very low power consumption and high efficiency power supply

Data Center Switching

- SFP+ 10 GbE ports support dual speed 10 Gigabit Ethernet and Gigabit Ethernet providing smooth migration from Gigabit Ethernet to 10 GbE
- Software configurable 40 GbE QSFP+ uplink ports for native 40 GbE as well as 4 x 10 GbE
- Data Center Bridging support with Priority Flow Control, Enhanced Transmission Selection and Data Center Bridging eXchange
- Scalable Virtual Machine (VM) deployments with Direct Attach™ (VEPA) for inter-VM switching and XNV™ for VM mobility
- Reversible air flow option to provide separation of cold and hot aisle in data center installation

High Availability

- ExtremeXOS® modular OS for highly available network operation
- Extends high availability across switches with Multi-Switch Link Aggregation (M-LAG)
- Carrier-grade packet ring protocol, Ethernet Automatic Protection Switching (EAPS)
- Internal redundant AC/DC power supply and 2+1 fan tray

*Future availability.

High-Performance Switching and Routing

Summit X670 is capable of Layer 2 and Layer 3 forwarding at up to 714 million packets per second forwarding rate in a small 1RU form factor, enabling next-generation, high-performance server deployment in data centers. Both models support SummitStack-V high-speed, longer distance stacking.

SummitStack-V capability utilizes 10 GbE ports as stacking ports, enabling the use of standard cabling and optics technologies used for 10 GbE. SummitStack-V provides long-distance stacking connectivity of up to 40 km with 10GBASE-ER optics. SummitStack-V enabled 10 GbE ports must be physically direct-connected. SummitStack-V is compatible with Summit X450e, X450a, X460, X480, X650 and X670 switches running the same version of ExtremeXOS.

The Summit X670V model can support an additional four QSFP+ ports of 40 GbE with the optional VIM4-40G4X module. With this option, you can maximize the number of interfaces for servers up to 48 ports while using the dedicated four-port 40 GbE module for uplink connectivity. The optional modular provides 160 Gbps aggregated bandwidth to the backbone. Each 40 Gigabit Ethernet port can be independently configured as 40 Gigabit Ethernet or 4 x 10 Gigabit Ethernet; thus with the VIM4-40G4X module, Summit X670V can support up to 64 ports of 10 Gigabit Ethernet in a 1RU form factor. This option provides 4:1 oversubscription from front ports (total 480 Gbps bandwidth) to uplink ports (total 160 Gbps bandwidth) and maximizes server port density.

Summit X670V together with VIM4-40G4X provides high speed stacking running at 160 Gbps through the SummitStack-V160 technology. SummitStack-V160 can be enabled on two 40 Gigabit Ethernet QSFP+ ports on the VIM4-40G4X. SummitStack-V160 is compatible with SummitStack-V80 which is available for Summit X460 and X480 series switches.

Summit X670 provides sub-microsecond latency and supports cut-through switching to help optimize the high frequency trading application as well as latency sensitive cluster computing.

The Summit X670 series is designed to be environmentally green. System power consumption is reduced at both high-load and idle situations through power-efficient hardware design. The power supplies are highly efficient, which minimizes the loss of power and unnecessary heat.

Support for Virtualized Data Centers

With the optional feature pack, Summit X670 switches support Direct Attach (VEPA), which eliminates the virtual switch layer, simplifying the network and improving performance. Summit X670 switches support XNV (ExtremeXOS Network Virtualization) which provides insight, control and automation for virtualized data centers.

DCB Support with Enterprise Core Class Scalability

The Summit X670 series supports Data Center Bridging features such as Priority Flow Control, Enhanced Transmission Selection and Data Center Bridging eXchange for data center convergence. The Summit X670 series can support up to 16,000 IPv6 longest prefix matching routing tables and 3,000 IP multicast group entries.

Low Power Consumption with Optimized Cooling Options

The Summit X670 series consumes very low power and provides optimized cooling options with 2+1 hot swappable fan tray offering effective front-to-back air flow, or back-to-front air flow. Back-to-front air flow allows placement of 10 Gigabit Ethernet SFP+ ports in the back side of the rack and reduces distance between switches and servers for 10GBASE-CR SFP+ direct attach copper cable installations.

High Availability

Powered by the ExtremeXOS OS, the Summit X670 series supports process recovery and application upgrades without the need for a system reboot.

EAPS allows the IP network to provide the level of resiliency and uptime that users expect from their traditional voice network. EAPS offers sub-second (less than 50 milliseconds) recovery that delivers consistent failover regardless of the number of VLANs, network nodes or network topology.

Summit X670 supports Spanning Tree (802.1D), Per VLAN Spanning Tree (PVST+), Rapid Spanning Tree (802.1w) and Multiple Instances of Spanning Tree (802.1s) protocols for Layer 2 resiliency.

Summit X670 continuously checks for problems in the uplink connections using advanced Layer 3 protocols such as OSPF, VRRP and Extreme Standby Router Protocol™, and dynamically routes traffic around the problem.

Equal Cost Multipath (ECMP) routing allows uplinks to be load balanced for performance and cost savings while also supporting redundant failover.

Link aggregation allows trunking of up to eight links on a single logical connection. M-LAG can address bandwidth limitations and improve network resiliency, in part by routing network traffic around bottlenecks, reducing the risks of a single point of failure, and allowing load balancing across multiple switches.

Hardware Redundancy

Summit X670 series switches support a dual redundant AC/DC power supply to provide high availability. The power supply can be hot-swapped and replaced should it fail. Summit X670 also supports N+1 redundant hot-swappable fan trays.

Comprehensive Security

MAC security allows the lockdown of a port to a given MAC address and to limit the number of MAC addresses on a port. In addition, an aging timer can be configured for the MAC lockdown, protecting the network from the effects of attacks using changing MAC addresses.

ExtremeXOS IP security framework helps protect the network infrastructure, network services such as DHCP and DNS and host computers from spoofing and man-in-the-middle attacks.

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.

Summit X670 supports motion sensor detection for physical security in data centers.



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