

Article Overview

Large modular core switches are high-performance, scalable network devices designed for data centers, enterprise cores, and campus networks, offering flexible port configurations, redundancy, and advanced management features.

Overview

Large modular core switches are chassis-based switches that allow network operators to scale capacity by adding line cards, uplinks, and modules as needed. They are typically deployed in data centers, campus cores, and large enterprise networks to handle high traffic volumes, provide low-latency forwarding, and ensure network resiliency.

Key Features

- o Scalability and Port Density: Modular switches support multiple line cards, enabling high port counts and a mix of speeds such as 1GbE, 10GbE, 40GbE, 100GbE, and even 400GbE. For example, the HPE FlexFabric 12900E supports chassis with 1, 2, 4, 8, or 16 slots, while Juniper QFX10016 can support up to 480 100GbE ports .
- o High Performance: These switches deliver multi-terabit throughput per chassis, with per-slot switching capacity reaching several terabits per second, ensuring low-latency and high-speed packet forwarding .
- o Redundancy and Reliability: Most modular core switches include redundant power supplies, cooling modules, and supervisor engines, enabling hitless failover and continuous operation during maintenance or component failure .
- o Advanced Layer 2/3 and Data Center Features: They support Layer 2/3 routing, EVPN-VXLAN fabrics, MC-LAG, SDN integration, and virtualization, allowing flexible network designs and seamless integration with cloud and virtualized environments .
- o Management and Security: Centralized management platforms, such as HPE Aruba Central, FortiSwitchNMS, or Ruijie RG-UNC, provide real-time monitoring, configuration backup, policy enforcement, and automated threat protection .

Examples of Large Modular Core Switches

- o HPE FlexFabric 12900E: Designed for virtualized data centers and cloud deployments, supporting high-density 1-400GbE ports, SDN capabilities, and advanced Layer 2/3 features .
- o Juniper QFX10000 Series: Offers up to 96 Tbps system throughput, scalable to over 200 Tbps, with flexible chassis options and support for EVPN-VXLAN and MC-LAG architectures .
- o FortiSwitch AX9000G: Modular chassis for enterprise core and campus networks, featuring redundant power, cooling, and supervisory modules, integrated with Fortinet Security Fabric .



Large Modular Core Switch

- o Ruijie RG-S7805C: Compact 4RU chassis with hot-swappable line cards, CPU protection policies, fast failover, and centralized management via RG-UNC, suitable for medium-sized core networks .
- o Cisco Catalyst and Meraki Core Switches: Scalable and secure switches for campus LAN cores, offering high intelligence and integration with Cisco management tools .

Deployment Considerations

When selecting a large modular core switch, consider:

- o Network scale and port requirements
 - o Redundancy and high availability needs
 - o Integration with existing network management and security systems
 - o Support for virtualization, SDN, and cloud-ready features
 - o Budget and total cost of ownership, including power and cooling
- Large modular core switches provide the flexibility, performance, and reliability required for modern enterprise and data center networks, enabling operators to scale efficiently while maintaining high availability and advanced network services.

The HPE FlexNetwork 7500X Switch Series delivers versatile, multi-layered, high performance, modular switches for enterprise LAN

What Is a Core Switch in Networking? Understanding the Backbone of Your Network A core switch in networking

Large Format IC Core Schlage® Design The ICSC series key switch incorporate design features which meet or exceed the varied &

Huawei Ethernet Switches Turbocharge your enterprise network with high-performance, high-availability for resilient services and

The Catalyst 9600 Series is the first modular 100 and 40 Gbps enterprise campus switch purpose built for security, the Internet of

In medium to large networks, core switches are key devices to ensure efficient, stable and secure network operation.

The Huawei CloudEngine S8700 Series represents the pinnacle of modular, core-level switching for large enterprises

100GE Data Center Modular Core Switch RG-N18006-X Up to 192 x 100GE ports, 144 x 40GE ports, and



Large Modular Core Switch

576 x 10GE ports for line

Product Number: MTS8003-Chassis MAMMUTHUS Layer3 Modular Core Switch - MTS8000 Series

MDC virtualizes one S7500X switch into multiple logical switches, enabling multiple services to share one core switch. The 1:N

Unlike access or distribution switches, a core switch is optimized for Layer 3 performance, modular scalability, and redundancy. In

Modular Core Switch RG-S7810C-X Compact chassis design with a height of 10 RU improves cabinet space utilization. Eight line

This article focuses on the hierarchical internetworking and core switch vs access switch differences. We also

A core switch is the backbone of a large-scale network, designed to handle massive volumes of traffic with ultra-low latency and

Kaufen Sie modulare HPE Ethernet Power Switches - ideal für die Verbesserung Ihrer Netzwerkverbindung. Entdecken Sie Preis,

Discover what a Core Switch is, its pivotal role in network architecture, and how it boosts performance and reliability in

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