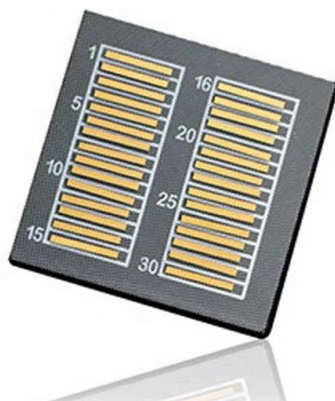


What are the models of core switches



Overview

There are different types of enterprise switches that perform various roles in these layer-based or hierarchical ethernet networks.

Key Takeaways

Core switches come in modular, fixed, and stackable models, designed for high-capacity, low-latency backbone networking in enterprise and data center environments.

Types of Core Switches

1. Modular Core Switches

- Feature a chassis-based design with slots for line cards, power supplies, and uplink modules.
- Highly scalable and suitable for large campuses or data centers.
- Examples: Cisco Catalyst 9600 Series, Cisco Nexus 9000 Series, Juniper QFX Series.
- Advantages: Hot-swappable modules, high port density, redundancy, and support for advanced Layer 3 routing protocols.

2. Fixed Core Switches

- Come with a set number of ports and integrated features.
- Ideal for midsize networks or smaller enterprise cores.
- Examples: Cisco Catalyst 9300 Series, HPE Aruba 8400 Series.

- Advantages: Lower cost, simpler deployment, still supports high-speed uplinks (10G–400G) and Layer 3 routing .

3. Stackable Core Switches

- Multiple switches can be interconnected to operate as a single logical unit.

- Provides flexibility and redundancy without a full modular chassis.

- Examples: Cisco Catalyst 9500 Series, Aruba 8320 Series.

- Advantages: Simplified management, scalable port count, and high availability .

Key Features Across Core Switch Models

- Layer 3 Routing: Supports IP routing between VLANs, subnets, and security zones.

- High Port Speeds: Typically 10G, 25G, 40G, 100G, and even 400G for data center cores.

- Redundancy: Dual power supplies, hot-swappable modules, and link aggregation (LAG).

- Scalability: Modular and stackable designs allow growth as network demands increase.

- Advanced Management: SNMP, CLI/Web GUI, ACLs, 802.1X, and network access control.

- High Availability: Features like HSRP/VRRP ensure minimal downtime .

Deployment Considerations

- Large Enterprises & Campuses: Modular core switches are preferred for centralizing traffic across multiple departments.

- Data Centers: High-throughput, low-latency models like Cisco Nexus or Juniper QFX are ideal for virtualization and AI workloads.

- Small to Medium Networks: Collapsed core architectures using high-performance fixed or stackable switches can reduce costs while maintaining performance .

In summary, core switch models vary by design (modular, fixed, stackable), port capacity, and Layer 3 capabilities, with vendor-specific series tailored to different network sizes and performance requirements. Choosing the right model depends on network scale, traffic volume, and redundancy needs .

Article Content

Core Switch vs. Distribution Switch vs. Access Switch

There are different types of enterprise switches that perform various roles in these layer-based or hierarchical ethernet networks.

Core Switch Vs Distribution Switch Vs Access Switch□What

Different types of Ethernet switches perform different roles in the layers of high-capacity networks. Core switches, distribution

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