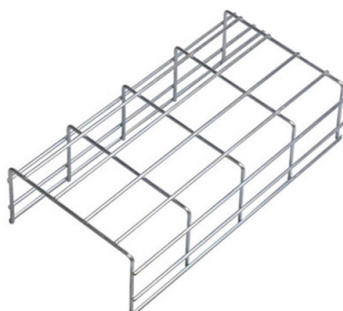


Main Configuration of Core Switch



Overview

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

Key Takeaways

Configuring a core switch involves setting up hardware modules, VLANs, VPN instances, interface IPs, and routing protocols to ensure scalable, secure, and efficient network connectivity.

Hardware Considerations

Slots and Modules: Core switches have multiple slots for installing function and interface modules. Each module provides a set number of ports, so the number of slots determines the switch's scalability and port capacity. Functional modules may include super engine modules, IP voice modules, network monitoring modules, and security service modules. Interface modules can support LAN, WAN, ATM, or high-speed connections like 10Gbps SFPs to meet complex network requirements .

Backplane Bandwidth: The backplane connects all interface modules and processors. Its bandwidth determines the maximum data transfer rate between ports. A higher backplane bandwidth ensures faster inter-port communication and reduces bottlenecks in high-traffic environments .

Software and Network Configuration

VLANs and VPN Instances: Create interconnection VLANs to link the core switch with BRASs and firewalls. For each VLAN, configure a VLANIF interface and bind it to a VPN instance to isolate public network routes from return traffic from firewalls . This ensures secure and segmented traffic flow. **Interface IPs:** Assign IP addresses to interfaces connecting the core switch to other network devices. This is essential for routing and management. Ensure that each interface is correctly mapped to its VLAN and VPN instance . **Routing Protocols:** Configure OSPF or other dynamic routing protocols to enable connectivity between the user network and egress networks. Proper OSPF configuration ensures efficient path selection and redundancy in the network . **Management and Security:** Set a hostname, domain name, and management IP for the switch. Configure SSH access with local AAA authentication, and secure console and VTY lines with strong passwords. Disable unused ports to enhance security .

Best Practices

- Plan VLANs carefully to segment traffic logically and reduce broadcast domains.
- Use trunk ports for inter-switch connections to carry multiple VLANs.
- Monitor backplane utilization to prevent congestion.
- Document configurations and maintain version control for firmware and settings.
- Regularly update routing and security policies to adapt to network growth and threats. By combining proper hardware selection with structured VLAN, VPN, and routing configurations, a core switch can provide high-performance, scalable, and secure network backbone functionality for enterprise environments .

Article Content

Core Switch Configuration Guide

This document outlines the configuration steps for a core switch in a server room, including connecting via serial cable, assigning

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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