

Core Switch Routing Settings



Overview

8 Steps to configure your network switch Follow these simple best practices to set up a new network switch. Still fuzzy?

Just like riding a bicycle, nobody.

Key Takeaways

Core switch routing configuration involves setting up VLANs, SVIs, inter-switch links, and routing protocols to ensure efficient Layer 3 traffic flow and high availability.

VLAN and SVI Configuration

On a Layer 3 core switch, VLANs are created to segment network traffic, and Switched Virtual Interfaces (SVIs) are assigned IP addresses to enable routing between VLANs. For example, if you have a public /21 subnet from your ISP, you can break it into smaller /24 subnets and assign each to a VLAN with an SVI interface. Each SVI acts as the default gateway for devices in that VLAN .

Routing Protocols

To avoid manually adding static routes for every subnet, enable a dynamic routing protocol such as OSPF or EIGRP between the core switch and upstream routers. This allows automatic route propagation and reduces administrative overhead . If dynamic routing is not possible, static routes can be configured per subnet, e.g., ip route 1.1.3.0 255.255.255.0 1.1.1.2 where 1.1.1.2 is the uplink to the router .

Inter-Switch Links and Redundancy

For high availability, core switches are often deployed in VSX or MC-LAG pairs, which allow multi-chassis link aggregation to access switches. This ensures that if one core switch fails, traffic can still flow through the other switch. Link Aggregation Groups (LAGs) are used for inter-switch links (ISLs) to provide redundancy and load balancing .

Firewall and ISP Integration

When connecting firewalls and ISPs, configure interconnection VLANs on the core switch and bind them to VPN instances if needed to isolate public and private traffic. Internet-bound traffic should be routed through firewalls before reaching the ISP, ensuring security compliance .

Best Practices

- Backplane bandwidth: Ensure the core switch has sufficient backplane capacity to handle inter-VLAN and inter-switch traffic without bottlenecks .
- Modular scalability: Use slots and modules to expand ports and interface types as network demands grow .
- OOB management: Configure out-of-band management interfaces for monitoring and VSX keepalives .
- Route summarization: Summarize routes where possible to reduce routing table size and improve efficiency.
- Monitoring and SLA tracking: Implement SLA tracking or link monitoring to detect ISP or link failures and trigger failover automatically .

By combining VLAN/SVI setup, dynamic routing, VSX redundancy, and firewall integration, a core switch can efficiently manage Layer 3 traffic, provide high availability, and scale with network growth.

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

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