Configuration of Core Network Intelligent Switch

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

A core network intelligent switch configuration involves VLAN creation, interface setup, routing, DHCP, and security features to ensure connectivity, isolation, and high availability across the network. 1.

VLAN and Interface Configuration

Create interconnection VLANs to connect the core switch with BRAS, firewalls, and access switches.

Assign VLAN I

Ds and bind them to VLANIF interfaces for Layer 3 connectivity.

Configure VLANI

F interfaces with static IP addresses to enable routing between VLANs and external networks.

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Each VLANI

F should be associated with a VPN instance if traffic isolation is required.

Enable MA

C learning on VLANs to optimize forwarding and prevent loops. 2.

Routing Configuration

Configure OSP

F or static routes on the core switch to ensure connectivity between user networks and egress routers. Set default routes pointing to the egress router for outbound traffic. Assign next-hop IP addresses for inter-VLAN and external routing.

Use VP

N instances to separate public network routes from internal or firewall return routes, enhancing security and traffic management. 3.

DHCP and IP Management

Enable DHC

P server on the core switch to dynamically assign IP addresses to users in different VLANs.

Configure DHC

P relay if the DHCP server is centralized, ensuring requests from multiple VLANs are forwarded correctly.

Enable DHC

P snooping on access switches to prevent unauthorized DHCP servers and protect IP address assignments. 4.

Security and Access Control

Enable IPS

G (IP Source Guard) on access switches to verify source IP and MAC addresses, preventing spoofing. Implement link aggregation between core and access switches to provide redundancy and high availability. Configure spanning tree protocol (STP) to prevent loops in the network topology.

5.

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Management and Monitoring

Assign management VLANs separate from user VLANs for secure switch administration. Set hostnames and domain names for easier identification and network management. Use templates or automation tools (e.g., iMaster NCE-Campus) to standardize VLAN, interface, and IP configurations across multiple core switches.

6. Interconnection with Other DevicesConnect core switch to BRAS and firewalls using dedicated VLANs and interfaces, ensuring proper routing and traffic isolation. Configure egress router interfaces for public network access and internal network communication, including default routes and DNS settings. 7. High Availability and Scalability Deploy link aggregation and redundant paths to maintain network uptime. Use hierarchical network design to separate core, distribution, and access layers, allowing easier scaling and management. Monitor traffic and performance using built-in switch features or AI-driven network assurance tools for proactive issue resolution. This configuration scheme ensures secure, scalable, and manageable core network operations, supporting multiple VLANs, dynamic IP assignment, routing, and high availability while maintaining traffic isolation and network integrity.

Article Content

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''s born knowing how to setup a network switch. And this process is a little more advanced

Configuring the Core Switch

In this scenario, IP addresses of the interfaces connecting the core switch to the BRASs and firewalls and OSPF need to be configured on the core switch, so as to implement connectivity

Smart Switching

Plan your upgrade path with guidance for sizing, migration, and rollout across the campus core and access layers. Design a core upgrade path with a clear migration plan—aligning capacity, resilience,

Configuring the Core Switch to Be Managed by the Controller (Switch ...

Configure the core switch to communicate with iMaster NCE-Campus in NETCONF over SSH Call Home mode. Configure the management VLAN on the core switch to be used for

How to Configure a Cisco Switch (step by step)

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Looking to configure a Cisco switch for the first time? If the answer is YES, you''re in the right place. In this post, I''m going to show you how to configure a Cisco switch step-by-step.

Core Switch Reference Configuration | Validated Solution Guide

The Core Switch Reference Configuration section provides a reference CLI configuration of the core switches as configured previously in this NetConductor Deployment guide.

How to configure Cisco switch in 11 steps?

By configuring your Cisco switch, you can effectively manage its functionality, ensuring versatility, power, and optimal performance. Discover the essential CLI switch commands and the 11 configuration

How to Configure a Cisco Switch in 10 Steps

Configuring a Cisco switch properly means your network can make connections efficiently. In this step-by-step guide, we walk you through configuring Cisco switches and look at some FAQs.

how to configure cisco core switch HSRP active active

In this video we will learn how to configure cisco core switch active active using HSRP step by step.

What Is a Core Switch in Networking?

Unlike access switches, which connect directly to end-user devices, the core switch focuses on aggregating and routing traffic between other switches, minimizing latency and

ITPro Today, Network Computing, IoT World Today combine

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Optical networks

The Nokia optical network portfolio leverages highly vertically integrated coherent optical engines to build an advanced-connectivity foundation for the AI

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Compare Nexus 9000 Series Switches

Compare N9000 Models The following tables compare hardware capabilities of Cisco N9000 Series Switches. For more product details, refer to the product data sheets or consult your Cisco

SME Network Solution Typical Configuration Examples

"Gateway + Core Switch + Access Switch + AP + AR180" Networking: Huawei eKit Cloud Management "Gateway + Core Switch + Access Switch + WAC + AP" Networking: Local Entire Network

A10 Networks: Enterprise Security & Infrastructure Solutions

A10 offers application security and infrastructure solutions to help you build high-performance, AI-ready infrastructure for mission-critical apps and networks.

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