

Article Overview

To adjust virtualization on a core switch, you typically configure features like StackWise Virtual, VLAN virtualization, and Layer 3 interface settings to enable a single logical switch from multiple physical devices.

Enable StackWise Virtual

For Cisco Catalyst switches, StackWise Virtual allows two physical switches to operate as a single logical switch, sharing a control and management plane. To configure it:

- o Connect the two switches using the recommended Ethernet links.
- o Enable StackWise Virtual on both switches.
- o Ensure that MAC addresses for SVIs or routed ports are consistent across the switches, particularly the first four most significant bytes (4MSB) if Layer 3 injected packets are used.
- o Avoid enabling FIPS 140-2 simultaneously, as it is mutually exclusive with Secure StackWise Virtual.
- o Only 128-bit authorization keys are supported, and DAD links are not compatible with StackWise Virtual .

Configure VLANs and VPN Instances

- o Create interconnection VLANs on the core switch and assign interfaces to these VLANs.
- o Bind VLANIF interfaces to VPN instances to isolate traffic between public networks and firewall return paths.
- o Configure OSPF or other routing protocols to ensure proper connectivity between user networks and egress networks .

Layer 3 and Redundancy Considerations

- o Fine-tune First Hop Redundancy Protocol (FHRP) and PIM timers for rapid fault detection and recovery.
- o Align FHRP priorities with STP root priorities to prevent loops and ensure consistent Layer 2 and Layer 3 operation.
- o Ensure that all SVIs or routed ports that require Layer 3 injected packets follow the MAC address consistency rules .

CPU Virtualization (Optional)

If the core switch supports virtualized network functions or hypervisor-based services, you may need to enable CPU virtualization in the BIOS/UEFI:

- o For Intel CPUs, enable VT-x; for AMD CPUs, enable SVM Mode.

Core Switch Virtualization Configuration

o This allows the switch or associated virtual machines to efficiently utilize CPU resources for virtualized workloads .

Summary

Adjusting virtualization on a core switch involves:

- o Enabling StackWise Virtual for logical switch operation.
- o Configuring VLANs, VLANIF interfaces, and VPN instances for traffic isolation.
- o Fine-tuning Layer 3 protocols and redundancy mechanisms.
- o Optionally enabling CPU virtualization if running virtualized network functions. Following these steps ensures optimized performance, high availability, and proper traffic segmentation on a virtualized core switch.

In the last few articles, we talked about Hyper-V 2019, and walked you through the procedure of installation, initial

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Nested virtualization in Hyper-V lets you run Hyper-V inside a VM. Learn how it works, supported scenarios, and when

Hyper-V networking basics Hyper-V networking uses a virtual switch and a virtual network adapter. The virtual switch

If you're looking to configure a switch for the first time, this post is for you. Learn step-by-step configuration commands

Introduction This chapter covers the design recommendations for a data center design deployment consisting of a Cisco Nexus®;

The following is a sample configuration for configuring a StackWise Virtual Fast Hello dual-active-detection link on the

This lab simulates a real-world enterprise network upgrade involving the replacement and configuration of core switches, port

Aruba Virtual Switching Extension (VSX) is virtualization technology for aggregation/core switches running the AOS-CX operating

Core Switch Virtualization Configuration

This lesson explains the advantage of using logical switches in Cisco Campus Network Designs.

Transform your data center and cloud networking infrastructure with Cisco Nexus 9000 Series and Cisco MDS switches.

Nested virtualization enables you to run Hyper-V inside a virtual machine, allowing you to emulate complex

This article describes the modes of virtual processor scheduling logic in Windows Server and Windows. These modes,

Install optional software Note: The Optional Software page is a new addition starting Citrix Virtual Apps and Desktops

Learn what Cisco StackWise Virtual is, how it differs from StackWise-480, and how to deploy it across Catalyst 9000 switches.

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