

Core Switch Two-to-One Virtualization Technology



Summary of Content

Two-to-one switch virtualization allows two physical core switches to operate as a single logical switch, simplifying management, enhancing redundancy, and improving network resiliency.

Overview

Two-to-one virtualization technology enables two independent physical switches to function as a single logical switch, sharing the same configuration, management IP, and forwarding state. This approach is widely used in core and distribution layers to provide high availability, seamless failover, and simplified network topology . By virtualizing two switches, the network treats them as a single device, reducing the complexity of spanning-tree domains and enabling loop-free topologies.

Key Technologies

Cisco StackWise Virtual (SV)

- **Functionality:** Connects two Cisco Catalyst 9000 switches using a StackWise Virtual Link (SVL) over 10G, 40G, or 100G interfaces, forming a single logical switch .
- **Control Plane:** One switch acts as the Active unit, the other as Standby, but both forward traffic simultaneously.
- **Redundancy Features:** Includes Stateful Switch Over (SSO), Non-Stop Forwarding (NSF), and Dual Active Detection (DAD) to prevent split-brain scenarios .

Article Content

What is Nested Virtualization? Everything You Need to

What is Nested Virtualization? Explore how it works across platforms like KVM, VirtualBox,

2025-04-02

Virtual machines within OpenShift Virtualization benefit from sophisticated scheduling and management capabilities, including host

How to Enable Virtualization in BIOS for Intel and AMD

In the case of hardware virtualization, Intel's technology is known as Intel VT or VT-x. AMD, on the other hand, simply

Cisco Catalyst 9000 Platform StackWise Virtual White Paper

Cisco® Catalyst® 9000 platform StackWise® Virtual technology allows the clustering of two physical switches together

Cisco Switch Virtualization

One way of solving this problem is to create a logical switch. Cisco switches offer some technologies to convert two or more physical

Cisco Nexus 7000 Series Switches

Cisco Nexus 7000 Series Switches help you create the network foundation you need for your next

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What is Core Switch and How to Choose□

In this article, we will provide an overview of the core switch, its significance, and offer guidance on how to choose the

Does My Processor Support Intel® Virtualization Technology?

Provides methods to determine if your processor supports Intel® Virtualization Technology (Intel® VT).

Configuring the Core Switch

In this scenario, IP addresses of the interfaces connecting the core switch to the BRASs and firewalls and OSPF need

Configuring the Core Switch

Configuring the Core Switch Context In this scenario, IP addresses of the interfaces connecting the core switch to the

Understanding Virtualization: A Comprehensive Guide

Virtualization has become a cornerstone technology in modern IT infrastructure, enabling organizations to optimize

A Complete Guide to Enabling Hardware Assisted Virtualization

Hardware-assisted virtualization provides substantial performance, efficiency, and functionality benefits for running

What is CPU Virtualization & How to Enable it in BIOS?

Hardware-assisted virtualization: This type of virtualization relies on hardware features built

Enable Intel VT-x / AMD-V in BIOS (Windows 10/11) 2026

Step-by-step instructions for enabling hardware virtualization in BIOS/UEFI on Windows 10/11. Covers ASUS, Dell,

How to Enable Virtualization in BIOS/UEFI (VT-x & AMD-V)

Learn how to enable virtualization technology (Intel VT-x or AMD SVM) in BIOS/UEFI. Step-by-step instructions for

Cisco Nexus 9500 Series Switches Data Sheet

The Cisco Nexus ® 9000 Series Switches operate in one of two modes – Cisco Application Centric Infrastructure

How to Enable Intel VT-x in Your Computer's BIOS or

Whether your PC uses BIOS or UEFI, once you're in the settings menu, you can begin

What Is Switch Virtualization Technology and What Are Stacking and

With the switch virtualization technology, multiple physically connected switches can be logically integrated to increase the bandwidth

Part 2: Stackwise Virtual & configurations

So if the definition of the Stackwise virtual we talk it is a network system virtualization technology that pairs two

Virtualization in Cloud Computing and Types

Virtualization is the fundamental technology that powers Cloud Computing. It allows you to create multiple simulated

How to configure redundant core switch in collapsed core?

I am currently working with IOL Cisco devices in a virtual lab and have a collapsed core design. I have 2 core/distribution switches.

Hyper-V Virtual Switch | Microsoft Learn

Hyper-V Virtual Switch is a software-based layer-2 Ethernet network switch that is available in Hyper-V Manager when

Hyper-V

Hyper-V is a native hypervisor developed by Microsoft; it can create virtual machines on x86-64 systems running Windows. It is

Intel® Virtualization Technology for Directed I/O

The key Intel® Virtualization Technology (Intel® VT) for Directed I/O (Intel® VT-d) objectives are domain-based isolation and

How to enable CPU virtualization in your computer BIOS

Here's all you need to know about checking your system's compatibility with CPU virtualization and enabling it in your

Core Switch Two-to-One Virtualization Technology

Cisco ® Catalyst ® 9000 platform StackWise ® Virtual technology allows the clustering of two physical switches together into a single

How to Run Intel® Virtualization Technology Using Intel® Processor on...

Refer to the BIOS motherboard vendor for BIOS support Make sure that Hyper-V is supported in your operating

Contact Us

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