

Two VLANs of the core switch are interconnected



AI Overview

Two VLANs on a core switch can communicate through inter-VLAN routing, typically using Switch Virtual Interfaces (SVIs) or routed ports on a Layer 3 switch. Understanding the Concept By default, VLANs are isolated broadcast domains, meaning devices in VLAN 10 cannot communicate with devices in VLAN 20 without routing. Inter-VLAN routing allows traffic to pass between VLANs while maintaining the segmentation benefits of VLANs, such as improved security and reduced broadcast traffic. Configuration Methods

Switch Virtual Interfaces (SVIs) On a Layer 3 switch, you can create an SVI for each VLAN. Each SVI acts as the default gateway for devices in that VLAN. Once IP routing is enabled on the switch, traffic can flow between VLANs at wire speed. For example, VLAN 10 could have SVI 10.0.10.1/24 and VLAN 20 could have SVI 10.0.20.1/24.

Routed Ports Individual switch ports can be converted into Layer 3 routed ports, which are assigned IP addresses and can route traffic between VLANs. This method is suitable for point-to-point connections or when only a few devices need inter-VLAN communication.

Router-on-a-Stick (RoAS) If the switch is Layer 2 only, a router with subinterfaces can be used. A trunk port carries traffic for multiple VLANs to the router, which routes packets between VLANs. Each subinterface on the router is assigned an IP address corresponding to a VLAN.

Trunking Between Switches If multiple switches are involved, the VLANs must be interconnected via trunk ports using 802.1Q tagging. Trunk ports allow multiple VLANs to traverse a single physical link, ensuring that VLAN traffic reaches the core switch for routing.

Best Practices Enable IP routing on the Layer 3 switch to allow inter-VLAN communication. Assign unique subnets to each VLAN to avoid IP conflicts. Avoid using VLAN 1 as the native VLAN on trunks; choose an unused VLAN ID to prevent tr...

Article Content

Configure Inter VLAN Routing with Multiple Switches

The Cisco 3560 core switch below has the SVIs configured for routing the VLAN traffic. The two other 2960 switches are the Access switches

InterVLAN Routing: The Ultimate Guide

By default, VLANs don't allow access to resources from other VLANs. However, if you want to access resources in other VLANs, then the concept of Intervlan routing is used to enable this.

4.5.2 Lab - Implement Inter-VLAN Routing (Answers)

In Part 2, you will create VLANs as specified in the table above on both switches. You will then assign the VLANs to the appropriate interface and verify your configuration settings.

HPE Networking EX5200 Switch Series

Product overview The HPE Networking EX5200 Switch Series is a premium, high-performance access switching platform designed for enterprise campus and branch networks that require high-density

ROUTING AND SWITCHING: FOUNDATIONS OF

Routing and switching are essential for modern network design, enabling efficient data communication across various environments. The article emphasizes the

VLANs and Inter-VLAN Routing Explained for CCNA (2025) - ZILL E ALI

By default, devices in different VLANs cannot talk to each other. To enable communication between VLANs, we need a Layer 3 device — like a router or Layer 3 switch.

Solved: interconnecting two core switches

Yes, I'm connecting a pair of switches configured in VSS mode to another pair of switches configured in VSS mode. I need to establish connection between these switches for routing

Create a single VLAN on multiple switches

My setup includes a "Core" switch (3750-E) which is acting like a router for each of my (6) floor switches. The ports that link between the core and the floor switches are routed (no

Solved: interconnecting two core switches

Hi all, I need to connect two Cisco C4500X, using a 1000BaseLH transceiver. Each core switch manage its own VLANs. I just need to connect the two core switches and use this link for

VLAN vs VXLAN: Network Segmentation for Cloud and Enterprise

Understanding VLAN and VXLAN is essential for network engineers working with virtualization, cloud, and large-scale infrastructures. ☐☐ VLAN (Virtual Local Area Network) Layer 2 segmentation ...

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Inter VLAN Routing by Layer 3 Switch

Disadvantages: Complexity: Inter-VLAN routing by Layer 3 switch can be complex to configure and manage, particularly in large networks with many VLANs. Limited functionality: Layer 3

Industrial Product Security Guideline System overview with

Segment networks: Segment the network into zones with the same security level. Create zones within machines and the OT area using routers, VLANs or layer 3 switches.

#networkengineering #enterprisenetworking #cisco #ccna #ccnp

A strong network is not defined by the number of switches installed it's defined by how well those switches are architected, secured, and interconnected.

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How to configure VLAN and inter-VLAN Routing in

For this tutorial, we'll configure 2 VLANs on a switch. We will then proceed and configure a router to enable communication between the two VLANs.

Routing Between VLANs & Layer 3 Switches

Learn what a Router Sub-interface and a L3 Switch is, as well as how to configure both of them on Cisco devices to enable Routing between VLANs.

VLAN vs VRF Network Segmentation Explained

. [VLAN vs VRF - Understanding the Core Difference in Network Segmentation](#) [Network engineers often confuse VLAN and VRF, but they solve different problems.](#) [VLAN \(Virtual Local ...](#)

QFX5110 Ethernet Switch

—Campus fabric core-distribution: A pair of interconnected QFX5110 switches can provide EVPN L2 and L3 VXLAN gateway support. This eliminates the need for STP across the campus network by

Inter-VLAN Routing: RoAS, SVIs & What Breaks First

Once ip routing is enabled and SVIs are up, the switch builds a routing table with connected routes for each VLAN subnet. That's what enables traffic to move between VLANs at wire

Inter-VLAN Routing: Connect VLAN-to-VLAN

This article provides a step-by-step walkthrough, including configuring VLANs on a Cisco switch, setting up trunk ports, creating router sub

Configure Campus Fabric IP Clos | Mist | Juniper Networks

Follow these steps to set up a campus fabric IP Clos architecture, which enables Juniper Mist™ to provide integrated routing and bridging interfaces.

Configure Inter-VLAN Routing with Catalyst Switches

PrerequisitesBackground InformationConfigureVerifyRelated InformationThis document provides a sample configuration for Inter VLAN routing with a Catalyst 3850 series switch in a typical network scenario. The document uses two Catalyst 4500 series switch as Layer 2 (L2) switches that connect directly to the Catalyst 3850. The Catalyst 3850 configuration also has a default route for all traffic that goes to the Intern...See more on cisco Published: Jan 23, 2024NetworkLessons

InterVLAN Routing - NetworkLessons

In this lesson you will learn about the different options there are for routing between VLANs: Router on a stick, SVI interface or L3 interfaces.

Inter-VLAN Routing Configuration

In this guide, we will walk you through all three methods. This method of inter-VLAN routing relies on a router with multiple physical interfaces. Each interface is usually connected to the

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