

Multiple VLANs on the core switch



Overview

Configuring a switch to support multiple VLANs isolates network traffic, improving security and performance.

Key Takeaways

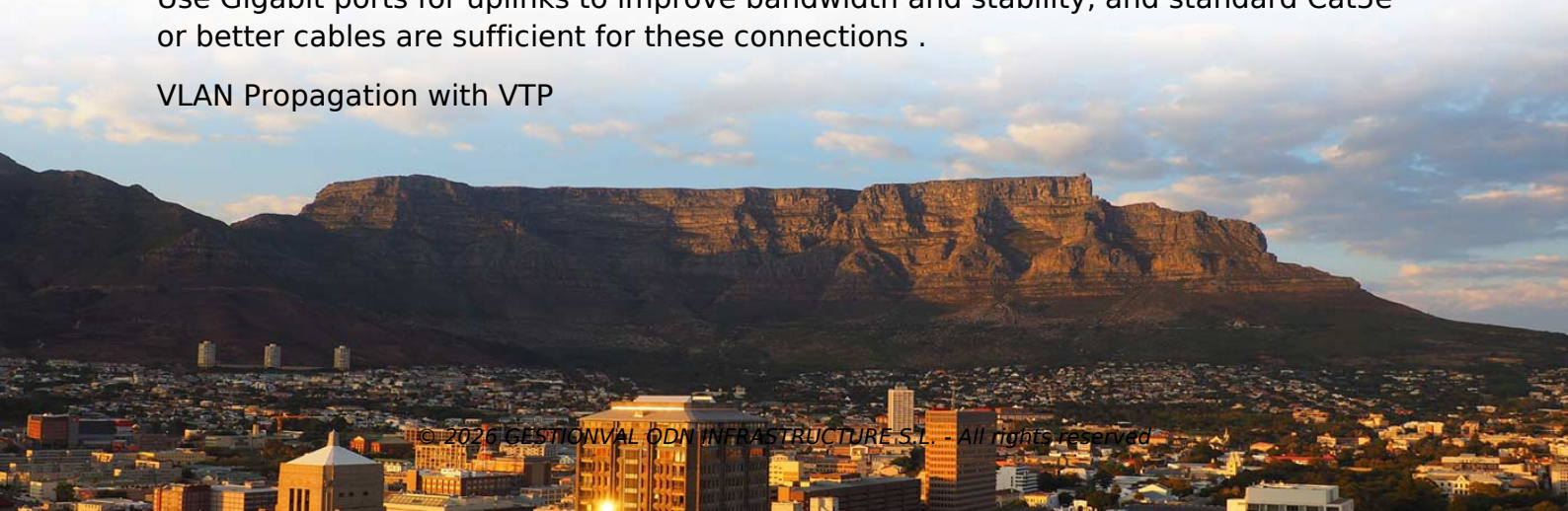
To implement multiple VLANs on a core switch, configure VLANs on the core, use trunk ports to connect to other switches, and optionally use VTP for centralized VLAN management. VLAN Creation and Assignment

Start by creating VLANs on the core switch using the `vlan` command in global configuration mode. Each VLAN should have a unique VLAN ID and name. Assign VLANs to switch ports using `switchport access vlan` for access ports connected to end devices. For ports connecting to other switches, configure them as trunk ports using `switchport mode trunk` to carry multiple VLANs across switches .

Trunking Between Switches

Trunk ports allow multiple VLANs to traverse a single link between switches. Ensure that all inter-switch links are set to trunk mode and allow the necessary VLANs. This enables devices in the same VLAN on different switches to communicate seamlessly . Use Gigabit ports for uplinks to improve bandwidth and stability, and standard Cat5e or better cables are sufficient for these connections .

VLAN Propagation with VTP



For Cisco switches, you can use VLAN Trunking Protocol (VTP) to centralize VLAN management. Configure the core switch as the VTP server and other switches as VTP clients. This ensures that any VLAN changes on the core switch automatically propagate to all client switches in the same VTP domain .

Inter-VLAN Routing

If devices in different VLANs need to communicate, configure a Layer 3 interface (SVI) on the core switch for each VLAN. Assign an IP address to each SVI to act as the default gateway for devices in that VLAN. Ensure that the trunk ports carry the VLANs to the core switch so routing can occur centrally .

DHCP Considerations

For multiple VLANs, DHCP requests are broadcast within a VLAN. To provide IP addresses across VLANs, either configure a DHCP server on the core switch or use a router with DHCP relay (IP helper) to forward requests from each VLAN to the DHCP server . Each VLAN should have its own subnet to avoid conflicts.

Best Practices

- Enable Spanning Tree Protocol (STP) to prevent loops in the network.
- Use separate VLANs for different departments or services to improve security and reduce broadcast domains.
- Limit VLANs on trunk ports to only those required to reduce unnecessary traffic.
- Document VLAN IDs, names, and IP subnets for easier management. By following these steps, you can successfully configure multiple VLANs on a core switch, ensure proper inter-switch communication, and maintain efficient network segmentation and routing.

Article Content

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Configuring VLAN Routing Using Engage

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Switching Architectures: VLANs

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DHCP Relay Multiple VLANs on Switch

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VLAN configuration over multiple Cisco Switches.

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Routing Between VLANs Overview [Networking Software (IOS & NX

The bridging domain is supported on various pieces of network equipment; for example, LAN switches that operate bridging

Creating multiple vlans across multiple switches

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We are currently looking to replace our core switch stack which at current has DHCP configured on the stack. I think I

Configuring a new core switch with VLANs

I have a core switch that I've purchased second hand, it's foundry switch. I have created 4 VLANs (VLAN1 to VLAN4). I

Using 3750x as a Core Switch With Multiple VLANs at DR Site

I am working on replacing our existing Cisco 3560 switch at our DR site with a new 3750X switch. The current 3560

Configure VLAN

Configure VLAN Virtual Local Area Network (VLAN) is a logical grouping that segments a network into smaller broadcast domains.

where would a logical vlan be configured on the Core switch, or

Configuring local Vlan I have learned to configure the vlan interfaces on the core switch- and then configure the

VLANs communication

Switch ports can be assigned multiple VLANs, either as trunk port or access ports that support a 2nd tagged VLAN.

Options for Vlan segmentation

Hello, Have a mid sized campus type network with about 30 switches (All Cisco) and 24 vlans. The network has a core

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How to Configure VLANs and SVIs on Cisco Switches Understanding how to configure VLANs (Virtual Local Area

how to configure vlan on cisco core switch

Pleas help me 100K sub / @tankirivann Hi everyone, in this video we are going to pratice on cisco vlan configuration.

Switch VLAN configuration basis and examples

Policy-based VLANs provide multiple VLAN assignment methods by combining factors such as switch ports, MAC

Best Practices for Inter-VLAN Routing in CISCO

Enable IP routing on the switch using the "ip routing" command. Ensure VLAN interfaces (SVIs) are active by connecting them to live

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How to span vlans across core layer in core/distribution/access campus ...

There are ways to extend vlans across a L3 network but the solutions available are very much dependant on the kit

How to configure VLAN with 3 cisco switches, core switch and ASA5510

A simple way to do it is to extend your isolated VLAN via layer 2 all the way to the ASA and deliver these VLANs over a

Extending VLANs over multiple switches

This is split into 6 VLANs, routing between the VLANs is carried out by means of a firewall. "Hanging off" this core

Switching Architectures: VLANs

You want to segment your network into multiple subnets, without buying more switches Separate broadcast domains for wired,

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