Configure aggregation on a VLAN switch



Overview

Example for Configuring VLAN Aggregation Configure VLAN aggregation on Switch B to add VLANs of different departments to a super-VLAN so that PCs in differ.

Key Takeaways

VLANs on an aggregation switch must be consistently configured across all member ports of a link aggregation group to ensure proper traffic forwarding and redundancy.

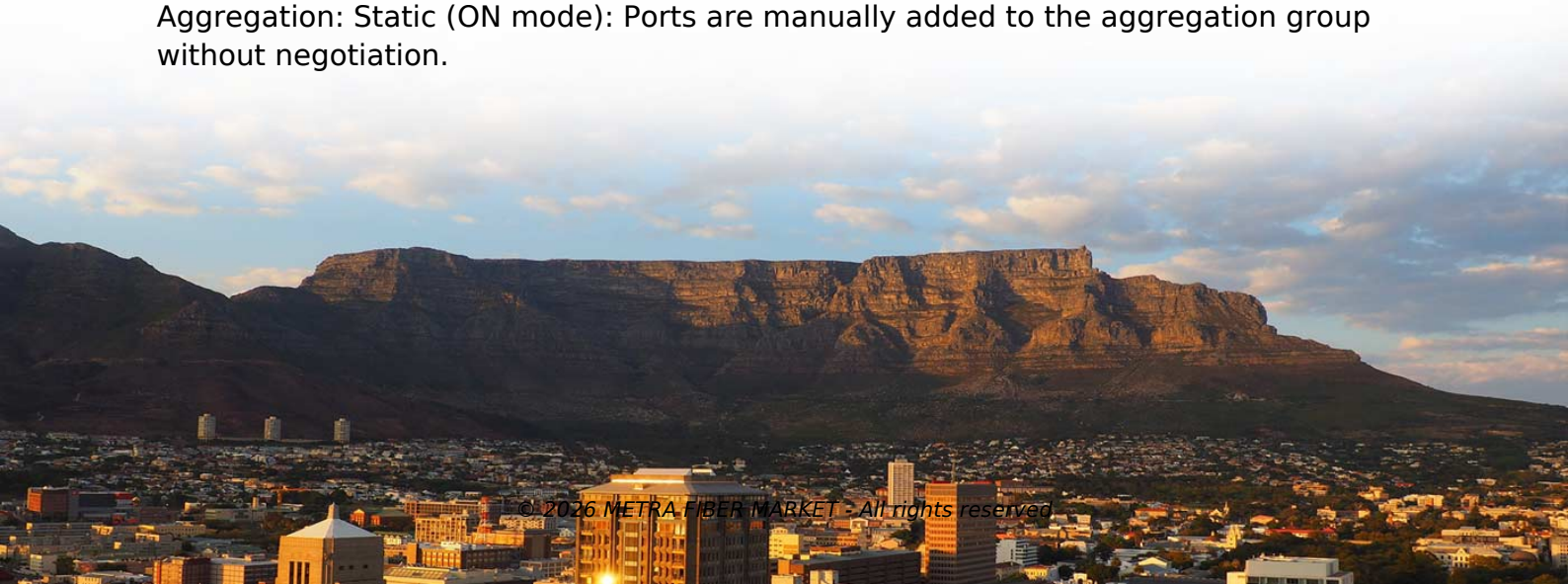
Key Principles

Consistency Across Ports: All ports in an aggregation group must have the same VLAN configuration, including permitted VLANs, PVID (Port VLAN ID), and link type (trunk, hybrid, or access) to avoid traffic loss or loops. Trunk vs Access Mode: Trunk Mode: Allows multiple VLANs to pass through the aggregated link. Configure the aggregation interface as a trunk and assign all relevant VLANs to it.

Access Mode: Used when the aggregated link carries traffic for a single VLAN.

Set the PVI

D to the desired VLAN and ensure all member ports match. Static vs Dynamic Aggregation: Static (ON mode): Ports are manually added to the aggregation group without negotiation.



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VLA

Ns must be pre-configured consistently on all ports. Dynamic (LACP Active/Passive): Ports negotiate aggregation using LACP.

VLA

N configuration still needs to be consistent, as LACP only manages link bundling, not VLAN tagging.

VLA

N Mapping and Aggregation: Some switches support VLAN aggregation or mapping, allowing multiple VLANs to be grouped logically for communication between hosts in different VLANs. Ensure that VLAN IDs on the aggregation interface match the VLANs configured on the connected switch to maintain end-to-end connectivity. Configuration Steps (Cisco Example): Enter configuration mode: configure terminalCreate VLANs: vlan 10 and vlan 20, add descriptionsConfigure member ports: interface range gigabitEthernet 1/0/1-2Set aggregation: channel-group 1 mode active (for LACP)Configure trunking: switchport mode trunk and switchport trunk allowed vlan 10,20 Verification: Check aggregation status: show etherchannel summaryVerify VLAN membership: show vlan brief or display vlan on H3C/Huawei switchesEnsure all member ports are in the active/selected state and forwarding traffic for the assigned VLANs.

Best Practices

Use trunk mode for inter-switch aggregation to carry multiple VLANs.

Keep VLA

N configuration identical on all member ports to prevent STP issues or traffic drops. For redundancy, distribute cables over different physical paths to avoid simultaneous link failure. Regularly verify VLAN and aggregation status after configuration changes.

By following these guidelines, an aggregation switch can efficiently handle multiple VLANs across bundled links, providing load balancing, redundancy, and consistent traffic flow.

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Article Content

Example for Configuring VLAN Aggregation

Configure VLAN aggregation on Switch B to add VLANs of different departments to a super-VLAN so that PCs in different departments can access the Internet using the super-VLAN.

VLAN Aggregation Configuration

VLAN aggregation, also called super-VLAN, partitions a broadcast domain on a physical network into multiple VLANs (sub-VLANs) and aggregates them into a single logical VLAN (super-VLAN).

01-04 VLAN AGGREGATION CONFIGURATION

4 VLAN Aggregation Configuration This chapter describes how to configure VLAN aggregation. VLAN aggregation implements communication of hosts on the same network segment in different VLANs. A

Tutorial

Learn how to configure a Cisco Switch Link Aggregation using the command-line, by following this simple step-by-step tutorial, you will be able to create a new Link aggregation and

How to configure VLAN and NIC Teaming step by step

Learn how to configure VLAN and NIC Teaming on Windows, VMware, and Linux, with clear examples, aggregation modes, and network best practices.

Link Aggregation Group

If you select trunk as the switch mode, enter the VLAN IDs that you want to assign as trunk links. To allow all VLAN IDs as trunk links, set Allowed VLANs to All.

Wired Aggregation | Validated Solution Guide

The HPE Aruba Networking Access and Services Aggregation Configuration chapter of the Validated Solutions Guide describes the procedures used to configure aggregation switch pairs

Two-Tier Core

Two-Tier Core Configure Two-Tier core switches as a VSX pair for Layer 2 aggregation of the data center access switches, IP data center services, and routing to the main campus. Table of

Cisco Catalyst 3750 Series Switches Data Sheet

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For mid-sized organizations and enterprise branch offices, the Cisco Catalyst 3750 Series Switches ease deployment of converged applications and

Virtual LAN (VLAN)

VLAN 1006 to VLAN 4094 (Extended VLAN Range): Designed for large-scale networks requiring a high number of VLANs. VLANs in this range are stored in the running configuration and typically require

Switch Port VLAN Assignment (Trunk & Access Ports)

Switch Port VLAN Assignment (Trunk & Access Ports) Configuring VLANs (Virtual Local Area Networks) on switch ports is essential for network segmentation and performance. This article explains how to

Layer 2 vs Layer 3 Switch: Key Differences and Use Cases

Layer 2 vs Layer 3 switch explained. Learn MAC vs IP forwarding, inter-VLAN routing, performance differences, and when to choose each switch type.

Secure VLAN configuration: a practical guide and best practices

Learn how to configure secure VLANs, segment your network, and avoid common failures. A practical guide with best practices for security and performance.

Cisco Catalyst 4500 Series Switches

Find software and support documentation to design, install and upgrade, configure, and troubleshoot Cisco Catalyst 4500 Series Switches.

Configuring Microsoft Entra ID as SAML IdP and FortiGate as SAML

FortiAnalyzer log caching Configuring multiple FortiAnalyzers (or syslog servers) per VDOM Configuring multiple FortiAnalyzers on a FortiGate in multi-VDOM mode Switching to an alternate FortiAnalyzer if

Layer 3 Routing – Ubiquiti Help Center

Note: When using a third-party gateway, it needs to support VLAN tagging and manual configuration of static routes. How does it work? Layer 3 Routing is enabled by setting the Router option on a new or

Cisco Catalyst 1300 and 1300X Series Switches

The Cisco Catalyst™ 1300/X Series Switches are affordable, simple-to-use switches designed and built for enterprise branch offices as well as SMB networks. Managed through the

mikrotik-config-gen/devices/crs-series.md at main

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Switching config lives in the bridge: add ports to one bridge, set hw=yes, enable vlan-filtering=yes after building the VLAN table, and do it in safe mode (you can cut your management link otherwise).

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