Port aggregation of different brands of switches

Article Overview

Port aggregation between switches of different brands is generally possible using the standardized LACP protocol, but careful configuration of VLANs, port attributes, and redundancy is essential.

Key Considerations

1. Protocol Compatibility: Link Aggregation Control Protocol (LACP, IEEE 802.3ad) is an industry-standard protocol that allows dynamic negotiation of aggregated links between switches, even if they are from different vendors . Static aggregation (manual configuration without LACP) is less flexible and more prone to misconfiguration, and may not interoperate reliably across brands . 2. Port Configuration Consistency: All ports in an aggregation group must have consistent settings, including:

o Speed and duplex mode (full duplex required)
o VLAN membership and PVID
o Link type (trunk, access, or hybrid)
o Spanning Tree Protocol (STP) settings Inconsistent configurations can cause traffic drops or loops. 3. VLAN and Trunking Considerations: When VLAN tagging is in use, aggregated links should be configured as trunk ports to carry multiple VLANs. LACP handles the logical bundling of physical links, but VLANs must match on both ends to ensure proper traffic segregation . 4. Redundancy and Loops: Port aggregation provides load balancing and redundancy, but loops can occur if multiple paths exist without STP or RSTP enabled. It is recommended to enable STP on all switches to prevent broadcast storms when connecting multiple switches in a ring or mesh topology . 5. Performance and Cabling:
o Aggregation increases bandwidth by combining multiple physical links.
o For high-performance servers or uplinks, consider using SFP+ or 10G connections if supported; CAT5 cabling may limit throughput and is generally unsuitable for 10G speeds . 6. Multi-Chassis Aggregation: Some vendors support Multi-Chassis Link Aggregation (MC-LAG), which allows two switches to act as a single logical unit for redundancy and load balancing. MC-LAG is vendor-specific and may not be interoperable across brands .

Practical Recommendations

o Use LACP for cross-vendor aggregation to ensure standard compliance and automatic failover.
o Ensure all aggregated ports have identical configurations for speed, duplex, VLANs, and STP.
o Limit aggregation to uplinks or high-traffic paths rather than every inter-switch connection.
o Enable STP to prevent loops if multiple paths exist.
o For mixed environments, test aggregation in a lab or during maintenance windows to verify interoperability and performance. By following these guidelines, you can safely implement port aggregation between switches

from different brands, improving bandwidth and redundancy while maintaining network stability .

Some network devices support Link Aggregation Control Protocol (LACP), which helps to prevent errors in the link

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Ethernet Switch Port Aggregation: Unlocking the Dual Code of Network Bandwidth and Reliability In the welding workshop of an

On Cisco documentation on EtherChannel, it states "A Gigabit EtherChannel bundles individual Gigabit Ethernet links

Chapter 1 Configuring Port Aggregation This chapter describes how to set the port aggregation of the switch.

There are two main topologies for connecting LAN switches, Star where each access switch directly connects back to

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Can I aggregate ports from different switches? What happens if one of the aggregated links fails? Is port aggregation

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"Explore Ascentoptics" expert guide on switch aggregation! Define, classify, and compare

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How is link aggregation implemented between devices from different vendors? The Link Aggregation Control Protocol (LACP) is a

This document provides a sample configuration for the configuration of cross-stack EtherChannel on a Cisco

Port aggregation of different brands of switches

Catalyst

Discover the crucial differences between core, aggregation, and access switches. Find out

Port aggregation can increase maximum throughput, and allow for network redundancy. It does this by splitting traffic across multiple

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