

How to configure the aggregation output of a switch

Article Overview

Switch port aggregation combines multiple physical ports into a single logical link to increase bandwidth, provide redundancy, and enable load balancing.

Key Considerations Before Configuration

To ensure proper aggregation, all ports in the group must have consistent settings:

- o Spanning Tree Protocol (STP): Enable/disable status, priority, and cost must match across ports .
- o VLAN settings: Port VLAN ID (PVID) and permitted VLANs should be identical .
- o Port attributes: Speed, duplex mode (full duplex only), and link type (trunk, hybrid, or access) must be consistent .
- o Load balancing: Decide whether to distribute traffic based on source MAC, destination MAC, or other criteria .

Aggregation Modes

- o Static Aggregation (ON mode): Ports are manually added to a group without negotiation. LACP is not required. Useful for simple setups but lacks automatic failover .
- o Dynamic Aggregation (LACP):
 - o Active mode: Port initiates LACP negotiation with the peer switch.
 - o Passive mode: Port responds to LACP negotiation initiated by the peer .
- o PAGP (Cisco proprietary): Can be configured in desirable (actively negotiates) or auto (passively waits) modes .

Configuration Steps (Cisco Example)

- o Enter privileged EXEC mode and then global configuration mode.
- o Select the interface(s) to aggregate:
interface range GigabitEthernet0/1 - 2
- o Add the port to an aggregation group:
channel-group 1 mode active Replace active with on for static or passive for LACP passive mode .
- o Verify the aggregation:
show etherchannel summary
- o Configure load balancing if needed:
port-channel load-balance src-mac Options include src-mac, dst-mac, or src-dst-ip depending on traffic distribution requirements .

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Best Practices

- o Configure aggregation from downstream to upstream to avoid misconfigurations .
- o Ensure all physical ports are operational before adding to a logical channel .
- o Avoid mixing different speeds, duplex modes, or VLANs in the same aggregation group .
- o For high availability, consider MC-LAG if supported, which allows two switches to act as a single logical unit for redundancy . By following these steps and considerations, you can configure a switch to aggregate multiple ports effectively, ensuring higher throughput, redundancy, and balanced traffic distribution.

Meraki's MS switches allow for the configuration of a single port to thousands of ports through our industry-first Virtual

This lesson explains how to configure Etherchannel (Link Aggregation) using PAgP and LACP on Cisco IOS Switches.

Introduction and overview This guide includes two sample configurations for Link Aggregation Control Protocol (LACP), or dynamic

An aggregation switch is a network device that consolidates traffic from multiple access switches, wireless access

This document shows you how to configure the load balancing algorithm, LAG management, and LAG settings on a

Link aggregation is a way of bundling a bunch of individual (Ethernet) links together so they

Link aggregation means combining two or more separate cabled links into a single logical channel. For example, a

Link Aggregation Group and Link Aggregation Control Protocol Configuration Procedures Cost savings resulting from use of existing

Article ID:2860 Configuring Link Aggregation Group (LAG) on a Switch Objective Link Aggregation Group (LAG)

The output shows that link aggregation group 1 is a Layer 2 dynamic aggregation group that contains three Selected ports. Example:

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Learn how to configure, test, and verify the Link Aggregation Control Protocol (LACP) on switches through a Packet

Setting up a LAG on my two switches was a simple task. You have to connect Ethernet cables to ports 1 and 2 on

What are Link Aggregation Groups (LAGs) and how do they work with my managed switch? Link aggregation lets a

You must configure the same aggregation mode at the two ends of an aggregate link. · For a successful static aggregation, make

To enable traffic from VLAN 10 and VLAN 20 to pass through Layer 2 aggregate interface Bridge-aggregation 1, perform the following

How to configure an etherchannel link between 2 cisco 2960 switches. The etherchannel allows to combine several

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