

VLAN Port Aggregation Switch



AI Overview

VLAN switch port aggregation combines multiple physical ports into a single logical link to increase bandwidth, provide redundancy, and maintain VLAN traffic consistency. Overview of Port Aggregation Port aggregation, also known as Link Aggregation or LAG (Link Aggregation Group), allows multiple physical switch ports to function as a single logical interface. This provides load balancing, redundancy, and higher throughput between switches or between a switch and a high-performance client device, such as a server. Aggregation can be static (manual configuration) or dynamic using LACP (Link Aggregation Control Protocol) for automatic negotiation.

Key Considerations for VLANs When aggregating ports that carry VLAN traffic, it is essential that all ports in the aggregation group have consistent VLAN configurations:

- Port VLAN ID (PVID) must match across all aggregated ports.
- Permitted VLANs on trunk or hybrid ports must be identical.
- Port attributes such as speed, duplex mode (full duplex only), and link type (access, trunk, or hybrid) must be consistent.
- Any change to one port in the aggregation group is automatically synchronized to the other ports in the group on most managed switches.

Aggregation Modes

- Static Aggregation (ON mode):** Ports are manually added to a logical group. LACP is not required. This is simple but does not provide automatic failover negotiation.
- Dynamic Aggregation (LACP):**
 - Active mode:** Port initiates LACP negotiation with the peer device.
 - Passive mode:** Port responds to LACP negotiation but does not initiate it.

Dynamic groups can have multiple active ports and backup ports; if an active port fails, a backup port takes over.

- MC-LAG (Multi-Chassis LAG):** Two switches act as a single logical unit, allowing redundancy and load balancing across devices.

Configuration Steps (Cisco Example)

- Access the switch CLI and enter configuration mode.
- Clear existing port configurations if necessary.
- Create a VLAN and assign a VLAN ID.
- Add the desired physical ports to a port-channel (logical aggregati...

Article Content

Configuring Cisco WLC Link Aggregation (LAG) with Port-Channel ...

Cisco Wireless Controllers (WLC) support the configuration of Link Aggregation (IEEE 802.3ad - LAG) which bundles the controller ports into a single port channel.

5 Port Gigabit Easy Managed Switch, ES205G

5-Port 10/100/1000 Mbps Easy Smart Switch Plug-and-play for instant connectivity and simple setup; centralized cloud management via web or Omada app Automatic loop prevention and

Configuring Cisco Switches for Link Aggregation Load Sharing Mode

These are sample configuration commands for Cisco switches (for the exact commands, refer to the Cisco documentation for your switch model and the switch operating system version).

HPE Aruba Networking CX switches

HPE Aruba Networking CX 6400 Switch Series High-availability modular chassis and line card switches for versatile edge aggregation, core, and data center

How to Configure LAG/LACP and VLANs using SFP

Configuring VLANs on a LAG is similar to configuring VLANs on the individual Ethernet ports. The LAG is treated as a single logical interface even

What Is a Core Switch? Network Backbone Architecture Guide

A core switch is a high-capacity, high-performance Layer 3 switch positioned at the physical backbone of an enterprise network. Engineered to aggregate massive volumes of data from

AXIS D8308 Fiber Aggregation Switch

With AXIS D8308 Fiber Aggregation Switch you can connect multiple Axis devices using fiber midspans over long distances. It also enables easy expansion by simply adding more fiber or network switches.

Create and configure a virtual switch with Hyper-V

Learn how to create and configure a virtual switch for use by the Hyper-V host and guest virtual machines.

UniFi Switching

Intuitive Port & VLAN Management Global Switch Configuration Centralized Remote Management MC-LAG Multi-Chassis Link Aggregation (MC-LAG) pairs two

Port Aggregation FAQs

Port Aggregation FAQs What is the benefit of aggregating ports? Port aggregation can increase maximum throughput, and allow for network redundancy. It does this by splitting traffic across

Planet 48-Port Gigabit PoE+ L3 Managed Switch with 6x10G SFP

High-performance Layer 3 PoE+ managed switch with 48 Gigabit ports, 6 10G SFP+, 740W PoE budget, and advanced enterprise networking features.

Tutorial of Switch Link Aggregation (V4.80) — Zyxel

Zyxel switches support two methods of link aggregation: Static Binding (Trunking) and LACP (Dynamic Bonding). Note: To prevent the formation of network loops,

Switches-H3C

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Fiber Switch ECS5512F: Cloud Managed 12-Port 10Gig | EnGenius

12-Port Fiber Aggregate Switch The EnGenius ECS5512F enterprise cloud-managed switch delivers high-performance fiber connectivity, 12 x 10G fiber uplinks, Layer 2+ switching features, and scalable

OLT Port Configuration, Cisco Catalyst PON Series Switches

Port aggregation is useful for implementing load balancing and provides a redundant link backup. To allow port aggregation, the basic configuration on all the ports must be consistent.

28 Port Gigabit Easy Managed Switch with 24 PoE+ Ports, 2 SFP,

8-Port Easy Smart Managed Switch featuring 26 x 10/100/1000 Mbps RJ45 ports (including 24 PoE+ ports compatible with 802.3af/at) and 2 x Gigabit SFP ports; 250 W power budget, with up to 30 W

Link Aggregation on Cisco Switch

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

6 Port 2.5G Smart Web Managed Switch, 4 x 2.5G Base-T Ports, 2

Web Managed Switch: This 2.5gb switch is equipped with basic Layer 2 management functions, supports device/port status query and various network configurations, such as Static Link

Configuring MC-LAG in UniFi Network - Ubiquiti Help Center

Configuring MC-LAG in UniFi Network Multi-Chassis Link Aggregation Group (MC-LAG) enables redundancy and load balancing by connecting two ECS-Aggregation switches as an MC-LAG pair.

Port Aggregation FAQs

Port aggregation can increase maximum throughput, and allow for network redundancy. It does this by splitting traffic across multiple ports instead of forcing clients to use a single uplink port on a switch.

Planet 8-Port 2.5G L3 Managed PoE+ Switch with 2×10G SFP

This switch provides 802.1Q tagged VLAN, Q-in-Q, voice VLAN and GVRP Protocol functions. By supporting port aggregation, the MGS-6311-8P2X allows the operation of a high-speed trunk

Switch, 5-Port, Gigabit Ethernet, PoE+

Flexible Integration Managed features include loopback detection, RSTP, static link aggregation, VLAN, IGMP snooping, and QoS for flexible network integration. Ports Four Gigabit PoE+ ports and one

Chapter18:Link Aggregation Configuration

To aggregate multiple physical ports into a logical channel, you can use static aggregation or LACP protocol for negotiation.

Contact Us

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