

# Can Layer 2 switches aggregate data



## Overview

OSI layer 2 (data link layer, e. Ethernet frame in LANs or multi-link PPP in WANs, Ethernet MAC address) aggregation typically occurs across switch ports, which can be either physical ports or virtual ones managed by an operating system. An aggregation switch is a network device that consolidates traffic from multiple access switches, wireless access points, or other edge devices and forwards it to core switches or routers. Link aggregation increases total bandwidth beyond what a single connection could sustain, and provides redundancy where all but one of the physical links. Cisco Meraki MS switches allow the use of the open standard LACP to provide Layer 2 link aggregation, in the form of link bonding as described above. The MS's LACP hashing algorithm uses traffic's source/destination IP, MAC, and port to determine which bonded link to utilize. This provides highly. Simple Layer 2 features. Choose Smart Access Switches with PoE Smart access switches integrate access and converged networking, provide PoE technology and come in a variety of models with features that balance the functionality offered and the. In a large network, we will have different types of switches involved and they play different roles when it comes to the functions. We usually follow this order: Internet > WAN > NAT (Router) > Core Layer Switch > Aggregation. IEEE 802.3ad link aggregation enables you to group Ethernet interfaces to form a single link layer interface, also known as a link aggregation group (LAG) or bundle.

## Article Content

Apr 12, 2026

Difference between layer-2 and layer-3 switches

Layer 2 switches operate at the data link layer, forwarding data based on MAC addresses, while layer 3 switches route traffic using IP addresses.

May 16, 2026

Link aggregation

OverviewUsageMotivationArchitectureIEEE link aggregationProprietary link aggregationSupportLinux drivers

Link aggregation offers an inexpensive way to set up a high-capacity backbone network that transfers multiple times more data than any single port or device can deliver. Link aggregation also allows the network's backbone speed to grow incrementally as demand on the network increases, without having to replace everything and deploy new hardware. Most backbone installations install more cabling or fiber optic pairs than is initially necessary. This is d

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What Is a Layer 2 Managed Switch and When Should You Use One? |

A Layer 2 managed switch operates at the Data Link Layer, forwarding traffic based on MAC addresses within the same subnet or VLAN. It offers network segmentation, security features,

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What is Switch Aggregation, Its Role and Selection Advice

Functional management: Unlike core switches, aggregation switches can be either Layer 2 or Layer 3 switches. When a Layer 2 switch is used as the aggregation switch, routing and

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Layer 2 vs. Layer 3 Switching — A Comprehensive Comparative ...

Layer 2 vs. Layer 3 Switching — A Comprehensive Comparative Analysis for Modern Networks In today's networking

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Aggregated Ethernet Interfaces Overview | Junos OS | Juniper Networks

You can configure LAGs to connect a QFX Series product or an EX4600 switch to other switches, like aggregation switches, servers, or routers. This example describes how to configure LAGs to connect

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### Aggregated Ethernet Interfaces Overview

Overview IEEE 802.3ad link aggregation enables you to group Ethernet interfaces to form a single link layer interface, also known as a link aggregation group (LAG) or bundle. Aggregating multiple links

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### Understanding Layer 2 Switches: A Comprehensive Guide

Conclusion Layer 2 switches are essential building blocks in modern networking, providing efficient data forwarding within LANs and supporting a range of features that enhance network

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### Datacenter Core and Aggregation Design

The storage traffic can cause slow responses for real application data traffic. In the L2 access layer, redundant pairs of Cisco UCS 6120 switches

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### What Is an Aggregation Switch and How to Choose?

Unlike core switches, aggregation switches can be either Layer 2 or Layer 3 switches. When choosing a Layer 2 switch, the routing and management

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### Aggregation Switch

An aggregation switch refers to a type of switch used to connect multiple ToR switches to a core switch/router in a cloud data center network. It enables high-bandwidth aggregation ports to be

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### Link Aggregation and Load Balancing

Cisco Meraki MS switches allow the use of the open standard LACP to provide Layer 2 link aggregation, in the form of link bonding as described above. The MS's LACP hashing algorithm uses

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### Data Center Design: Basic 3 Layers, Core, Aggregation,

Data Center Basic Layered Design of Core, Aggregation, and Access The data center network design is based on a proven layered approach, which

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What is an Aggregation Switch?

The aggregation switch is located in the middle of the network architecture, which is equivalent to a middle-level manager of a company. It

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Data Center Network Switch Design

Redundancy and High Availability: Deploy redundant core switches, use dynamic routing protocols (such as OSPF, BGP) and link aggregation (LACP) to enhance network reliability.

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In-depth analysis: What is an aggregation switch?

In many network constructions, we have all heard of switches. So do you really understand switches? Why are aggregation switches often overlooked?

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Link Aggregation: What is it, and How Does it Work?

Link aggregation groups can also be coupled together onto one network switch, creating a link aggregation switch. The rule that defines which

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Core, Aggregation, or Access Switches? Choose the

Answer: A Explanation: Aggregation aggregates the traffic from the access switches, and protocols such as Virtual Port Channel (VPC) allows for

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Core, Aggregation, or Access Switches? Choose the

Discover the crucial differences between core, aggregation, and access switches. Find out which type can best transform your network's

Dec 11, 2025

Aggregation Layer

Introduction In Chapter 2, a new services aggregation layer is created to make way for the FCoE consolidation at the existing distribution or aggregation layer of the enterprise data center (DC) LAN.

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## Layer 2 Switch

Layer 2 Switch is a form of Ethernet switch that switches packets by looking at their physical addresses (MAC addresses). These switches operate at the data-link layer (or layer 2) of

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## Layer 2 or 3? Choose the right switch for optimal

Learn how to choose the right network switches for your enterprise. Explore Layer 2 and Layer 3 capabilities to optimize segmentation and enhance

May 03, 2026

## Understanding Switch Aggregation: A Comprehensive

Layer 2 and Layer 3 switches play distinct roles in network aggregation setups, and understanding their differences can help in making

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## What is an Aggregation Switch? | Features and Practical Benefits

Additionally, the access switch includes user management features like address authentication, user authentication, and user information collection in addition to offering sufficient

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## Layer-2 Link Aggregation Configuration

Link aggregation, also called trunking, is an optional feature available on the Ethernet switch and is used with Layer 2 Bridging. Link aggregation allows logical merge of multiple ports in a single link.

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## Why You Need a Fiber Aggregation Switch and How it

Layer 2 switches enable strong local communication within a VLAN, ensuring that data is handled efficiently with less configuration needed. On the

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## Aggregation layer | FortiSwitch 7.6.0 | Fortinet Document Library

This model allows the aggregation switches to easily accommodate thousands of devices passing through this layer while simplifying the design, maintenance, and operations. The following figure

## Contact Us

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