

How many layers should an aggregation switch be configured with



Article Overview

An aggregation switch typically operates at two layers: Layer 2 and Layer 3 of the OSI model.

Aggregation switches are positioned in the middle layer of a three-tier network architecture, which includes the access layer, aggregation (or distribution) layer, and core layer. Their primary role is to consolidate traffic from multiple access switches, wireless access points, or servers and forward it to core switches or routers, ensuring efficient traffic flow and reducing bottlenecks.

OSI Layer Operation

- Layer 2 (Data Link Layer): Aggregation switches can forward traffic based on MAC addresses, manage VLANs, and implement link aggregation protocols like LACP to combine multiple physical links into a single logical connection.
- Layer 3 (Network Layer): They can perform routing between VLANs or subnets, handle IP address-based forwarding, and enforce policies such as Quality of Service (QoS) and access control lists (ACLs).

Functional Role in Network Architecture

- Traffic Aggregation: Collects data from multiple access switches and consolidates it for the core layer.
- Redundancy and Load Balancing: Supports multiple paths and failover mechanisms...

Article Content

Aug 03, 2025

Data Center Aggregation Layer Design: Best Practices for Resiliency

Each aggregation switch should connect to two core switches for redundancy. Use EtherChannel to combine uplinks for higher

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Configuring Link Aggregation Group and Link Aggregation Control

LACP enables you to form a single Layer 2 link automatically from two or more Ethernet links. This protocol ensures that both ends

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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

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Datacenter Core and Aggregation Design

This design employs a pair of redundant Cisco Nexus 7010 switches on the aggregation and core layers. Virtual

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Link Aggregation and Load Balancing

Link bonding Link bonding, also known as teaming or bundling depending on the vendor, is generally implemented

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Data Center Network Switch Design

So, we have general guidelines and separate them into different layers. We usually follow this order: Internet > WAN

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What Is an Aggregation Switch and How to Choose?

These aggregation switches typically operate at Layer 2 or Layer 3 of the OSI model, depending on the network

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Data Center Multi-Tier Model Design

Data Center Core Layer The data center core layer provides a fabric for high-speed packet switching between multiple aggregation

Feb 12, 2026

Data Center Aggregation Layer Design and Configuration with ...

This chapter covers the design recommendations for a data center design deployment consisting of a Cisco Nexus® 7000 Series

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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

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Configuring LAG Settings on a Switch through the Command Line ...

All the member ports should have the same configuration and speed. The configuration is configured on both of the

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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

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Link Aggregation Configuration

For a fixed switch in V200R009 and later versions, VRRP can be configured on the VLANIF interface, Layer 3 Ethernet interface, and

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Port Aggregation Configurations

Port aggregation is useful for implementing load balancing and provides a redundant link backup. To allow port aggregation, the

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Link Aggregation - LACP Protocol

About Switch Independent Server Side Config If you have server side NIC teaming (link aggregation) configured for switch

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Large Campus Switching Best Practices

The best networks have redundancy, so our recommended environment will leverage the stackable switches capable of running

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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,

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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

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Configuring Link Aggregation Group (LAG) on a Switch

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

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Aggregation Layer

Aggregation-layer submodule The aggregation-layer submodule plays a pivotal role in providing a highly reliable, scalable “middle

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Understanding Switch Aggregation: A Comprehensive

A: An access switch is typically located at the edge of the network and connects end-user

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Link Aggregation: Static vs Dynamic, LACP, and MLAG

Static vs Dynamic Link Aggregation Link aggregation operates in two main modes — Static

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Understanding the Different Layers of Routing and Switching

Routing and switching layers are integral components of an enterprise network that managers can identify and separate to optimize

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Aggregation layer | FortiSwitch 7.6.0 | Fortinet Document Library

The most appropriate FortiSwitch unit to form the aggregation layer comprises many 10/25/40 gigabit Ethernet ports to address the

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Link Aggregation and Ethernet Bonding Feature Overview and ...

Link aggregation interfaces have names like "po1" and "sa1" depending on the aggregation method in use. Ethernet bonding is used to

Dec 05, 2025

Deployment Differences Between Two-Layer and Three-Layer

The aggregation layer is between the core and access layers and connects to both layers. Aggregation switches aggregate traffic

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How To Set Up Switch Link Aggregation

We covered both switches here a while back. Link Aggregation can also be set up with multiple NICs between a server and a switch,

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Switch Engine v33.2.1 User Guide

Designing and Configuring the Aggregation Layer The network switches in the aggregation layer provide additional resiliency

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://www.chromadecksigns-eastrand.co.za>

Email: sales@chromadecksigns-eastrand.co.za

Phone: +32 2 318 5792

Address: Avenue Louise 500, 1050 Brussels, Belgium

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