# Which layer switch is appropriate for aggregation



## Overview

Which Aggregation Switch to Choose?

In-depth discussion of the key role and selection points of aggregation switches in network architecture, and compariso.

## Key Takeaways

Aggregation switches typically operate at Layer 2 and Layer 3 of the OSI model, forming the aggregation (distribution) layer between access and core switches.

### Role in Network Architecture

Aggregation switches sit in the middle tier of a network, consolidating traffic from multiple access switches, wireless access points, or other edge devices, and forwarding it to the core layer. This layer is often called the aggregation or distribution layer and serves as a convergence point for traffic, enabling efficient routing, filtering, and policy enforcement. By operating at both Layer 2 and Layer 3, aggregation switches can handle inter-VLAN routing, traffic segmentation, and IP-based forwarding while also supporting high-speed switching within VLANs.

### Functions of Aggregation Switches

Routing and Forwarding: Directs traffic between VLANs and toward the core layer. Traffic Filtering and Security: Implements access control lists (ACLs) and identity-based access.

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### Load Balancing and Qo

S: Manages bandwidth allocation and prioritizes critical traffic. Link Aggregation: Combines multiple physical links into a single logical connection for redundancy and higher throughput. Multicast and Broadcast Control: Reduces unnecessary traffic to improve network efficiency.

Placement in the Three-Tier ModelIn a three-tier hierarchical network, the layers are: Access Layer: Connects end devices like computers, phones, and wireless access points. Aggregation (Distribution) Layer: Aggregation switches consolidate access layer traffic, enforce policies, and provide uplinks to the core. Core Layer: High-speed backbone that interconnects aggregation switches and handles transit traffic without policy enforcement.

By operating at both Layer 2 and Layer 3, aggregation switches provide scalability, resiliency, and centralized policy management, making them essential for enterprise, campus, and data center networks.

## Article Content

Which Aggregation Switch to Choose?

In-depth discussion of the key role and selection points of aggregation switches in network architecture, and comparison of their differences with core layer and access layer switches.

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

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

Understanding Switch Aggregation: A Comprehensive Guide

A: An access switch is typically located at the edge of the network and connects end-user devices, while an aggregation switch is situated in the middle of the network architecture and

What is an Aggregate Switch?

Regular switches often lack the necessary bandwidth capacity, processing power, and features (like advanced QoS) to handle the demands of an aggregation layer. Using an undersized

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Everything You Need to Know About Aggregation Switch

An aggregation switch operates at Layer 2 or Layer 3 of the OSI model, depending on the configuration and topology of the network. The controller uses protocols, such as Link Aggregation

How to Choose Best Aggregation Switch?

Aggregation layer switches typically accept all traffic from the access layer and forward it to the core, so to ensure a high performance and secure operation of the network, we should usually

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 access layer and a few 100-GbE ports towards the core layer.

What is an Aggregation Switch?

Unlike the core switch, the aggregation switch can choose either the layer 2 switch or the layer 3 switch. When the layer 2 switches are selected, the

How to Understand Layer 3 Switch? What Are Its Main Functions and ...

However, when designing and deploying networks, appropriate devices should be selected based on specific requirements and environments. RG-CS85-48GT4XS-HPD 48-Port GE Electrical

Everything You Need to Know About Aggregation Switch

Aggregation switches provide several benefits to Layer 2 networks, including: Increased bandwidth: Aggregation switches consolidate traffic from

Link Aggregation and Load Balancing

Link Aggregation and Load Balancing Last updated Jun 16, 2026 Save as PDF Table of contents Link bonding Load balancing Load sharing Implementation by Cisco Meraki MS Series MX

What Is an Aggregation Switch and How to Choose?

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.

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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How to Choose Best Aggregation Switch?

Typically, core distribution and access layer switch function at Layer 3 with full L3 functionality, allowing for a more advanced approach to holding data management, and for

Data Center Aggregation Layer Design and Configuration with ...

Introduction This chapter covers the design recommendations for a data center design deployment consisting of a Cisco Nexus® 7000 Series Switch at the aggregation layer and a Cisco Nexus 5000

Which Aggregation Switch to Choose?

Aggregation Switch refers to a device used to aggregate multiple low-speed links in a network and connect them to a higher-speed core network or upper-layer switch. Aggregation

Aggregation layer | FortiSwitch 7.4.0 | 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

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

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