

Aggregation and Distribution Devices and Switches



AI Overview

Aggregation and distribution switches are key components in hierarchical networks, with distribution switches aggregating traffic from access switches and aggregation switches optimizing and forwarding it to the core layer.

Network Hierarchy Overview

In enterprise networks, a three-layer hierarchical model is commonly used: access, distribution, and core layers. Each layer has specialized switches to manage traffic efficiently and ensure scalability, reliability, and security .

- Access Layer: Connects end-user devices like PCs, IP phones, and wireless access points. Access switches provide network access, often with high port density and PoE support .
- Distribution Layer: Serves as an intermediate layer, aggregating traffic from multiple access switches. Distribution switches enforce policies, provide inter-VLAN routing, and implement QoS and security measures .
- Core Layer: Acts as the high-speed backbone, connecting distribution switches and handling large volumes of traffic with minimal latency .

Distribution Switches

Distribution switches are positioned between the access and core layers. Their main functions include:...

Article Content

Mar 20, 2026

Core Switch vs. Distribution Switch vs. Access Switch

Core Switch vs. Distribution Switch vs. Access Switch: Understand Their Roles in Ethernet Networks Ethernet networks are growing

Sep 11, 2025

What Is an Aggregation Switch and How to Choose?

Discover the role of aggregation switches. Explore differences between aggregation,

May 10, 2026

Core, Aggregation, or Access Switches? Choose the

Discover the crucial differences between core, aggregation, and access switches. Find out

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Network Switches

Our rack-mount industrial switches provide versatile connectivity with PoE, high-speed ports, stacking

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The Ultimate Introduction to Distribution Switch

Dive into the heart of networking with our ultimate guide on the distribution switch – the linchpin of modern network

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Aggregation Switch Vs Distribution Switch

Network switches are the unsung heroes of modern data centers and enterprise networks. They connect devices, directing traffic

Dec 31, 2025

SMB Network Design: Core vs. Distribution vs. Access Switches

Don't overspend on network hardware. Our expert guide explains core, distribution, and access switches so you can

Apr 06, 2026

What is Link Aggregation (LAG) in Networking?

Link aggregation, sometimes referred to as LAG, which stands for Link Aggregation Groups, refers to the feature of network devices

Mar 25, 2026

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

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

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Core Switch vs. Distribution Switch vs. Access Switch

Comprehensive guide to Core, Distribution, and Access Switches. Roles in the network and important parameters explained.

Jan 24, 2026

SMB Network Design: Core vs. Distribution vs. Access Switches

Access Switches: Connect end-user devices like PCs and phones. Distribution Switches: Aggregate traffic and enforce

Nov 02, 2025

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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Link Aggregation Control Protocol

The Link Aggregation Control Protocol (LACP) is an IEEE standard protocol that combines multiple physical Ethernet

Aug 10, 2025

Aggregation layer | FortiSwitch 7.4.0 | Fortinet Document Library

Aggregation layer The aggregation (sometimes also called distribution) layer is a real crossroad. Its primary goal is to increase

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Everything You Need to Know About Aggregation Switch

Additionally, an aggregation switch can help load balancing so traffic is evenly distributed across the network,

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Access, Distribution, and Core Layers Explained

A distribution switch provides an aggregation point for access switches. If the core switches

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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

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Understanding the Role of Aggregation Switch in Modern Networking

Each aggregation switch undergoes extensive testing to ensure that it meets the highest standards of reliability and

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Link Aggregation Control Protocol

Link aggregation is formed only if the connected device operates in active mode. LACP Architecture and OSI Model

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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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Aggregation switches and routers

Mesh switching provides multiple paths for each network element, creating a highly fault-tolerant network. These switches can be

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Access vs. Distribution vs. Core Switch Comparison Guide

Each layer is served by specialized switches, with the access switch connecting end-user devices, the distribution switch aggregating

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Core vs Distribution vs Access Switch: Architecture Guide

Failing to properly categorize and deploy switches according to their designated tier leads to broadcast storms, routing

Dec 05, 2025

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®

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Access, Distribution, and Core Layers Explained

This tutorial provides an overview of the access, distribution, and core layers and explains

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Understanding Switch Aggregation: A Comprehensive

In an aggregation network, distribution switches connect end devices to the core layer,

Oct 30, 2025

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

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