

Core Layer Switch Link Aggregation



AI Overview

Link aggregation at the core layer combines multiple physical links into a single logical connection to increase bandwidth, provide redundancy, and ensure high availability.

Core Layer Overview

The core layer serves as the backbone of a network, responsible for high-speed packet forwarding between aggregation or distribution layers. Core switches handle large volumes of traffic and are critical for maintaining low latency and high throughput across the network. They typically operate at Layer 3, supporting routing protocols like OSPF or BGP, and are designed for redundancy and fault tolerance.

Link Aggregation Concepts

Link aggregation allows multiple physical interfaces between switches to be combined into a single logical link. This provides:

- Increased bandwidth: Multiple links act as one, effectively multiplying throughput.
- Redundancy: If one link fails, traffic continues over the remaining links.
- Load balancing: Traffic is distributed across aggregated links using hashing algorithms based on source/destination IP, MAC, or port numbers. Common protocols include:
 - LACP (Link Aggregation Control Protocol): Dynamically negotiates and manages aggregated links.
 - Static Link Aggregation: Manually configured without dynamic negotiation....

Article Content

Aug 12, 2025

Link Aggregation: Static vs Dynamic, LACP, and MLAG

This article provides a comprehensive explanation of link aggregation — covering LACP,

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Link Aggregation and Load Balancing

Cisco Meraki MS switches use the open standard LACP to provide Layer 2 link aggregation in the form of link bonding

Nov 05, 2025

Configuring Link Aggregation Group and Link Aggregation Control

This chapter describes Link Aggregation Group, Link Aggregation Control Protocol, and manual load balancing. This chapter also

Sep 20, 2025

Access, Distribution, and Core Layers Explained

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

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Configuring Link Aggregation Group and Link Aggregation Control

Link Aggregation Group and Link Aggregation Control Protocol Configuration Procedures Cost savings resulting from use of existing

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Link Aggregation Configuration

S300, S500, S2700, S3700, S5700, S6700, S7700, and S9700 Series Switches Typical Configuration Examples (V200) This

Apr 25, 2026

Data Center Design: Basic 3 Layers, Core, Aggregation, and Access

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

Jan 30, 2026

What are link aggregation and LACP and how can I use

Some network devices support Link Aggregation Control Protocol (LACP), which helps to

May 06, 2026

MLAG High Availability Explained - How Link

Learn how MLAG (Multi-Chassis Link Aggregation) improves high availability and eliminates

Jan 11, 2026

Configuring Link Aggregation Group (LAG) on a Switch

Objective Link Aggregation Group (LAG) multiply the bandwidth, increase port flexibility, and provide link redundancy

Sep 27, 2025

What Is Link Aggregation and Link Aggregation Switch?

Besides, link aggregation load balance enables the processing and communications activity to be distributed across

Jul 24, 2025

FortiSwitchOS Switching Reference Architecture Guide

With the use of a core layer, each aggregation switch only needs 2x100-GbE links, and the core layer is the only place where you

Jan 03, 2026

Two-Tier Core

To establish a VSX relationship between the core switches, create a link aggregation (LAG) interface for assignment

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Configuration Guide for Cisco NCS 4000 Series

This chapter describes the procedures to configure Link Aggregation on Cisco NCS 4000 Series routers. Link

Dec 10, 2025

LAN Topologies

A pair of core switches joins the aggregation switches together using high-speed, Layer 3 links and multiple equal-cost

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Core, Aggregation, or Access Switches? Choose the

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

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What is an Aggregation Switch?

The aggregation switch is located in the middle of the network architecture, which is

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Two-Tier Core

The core switches are configured as a VSX pair to support Layer 2 multi-chassis link aggregation (MC-LAG) to the

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Link aggregation

Multiple logical connections can be made, but many of the higher level protocols were not designed to fail over completely

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Link Aggregation and Ethernet Bonding Feature Overview and ...

What is link aggregation? Link aggregation is a key component in resilient network design, since it increases the available bandwidth

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What Is an Aggregation Switch and How to Choose?

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

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Link Aggregation, LAG, LACP and MLAG in 2026:

Network-Switch can help you pick the right switches, design the right topology, and

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Switch Layer Hierarchy

Redundancy and High Availability: Deploy redundant core switches, use dynamic routing protocols (such as OSPF,

Apr 04, 2026

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

May 04, 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

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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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Link aggregation

Link aggregation Link aggregation between a switch and a server In computer networking, link aggregation is the combining

Contact Us

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