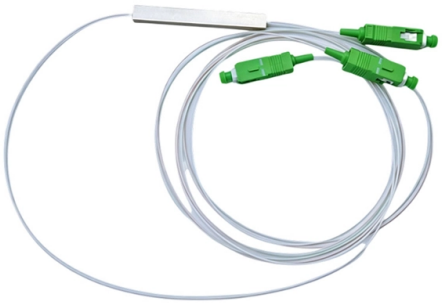
Cross-core switch link aggregation



Overview

Link Aggregation and Load Balancing You may want to set up and configure a bonded link between your Meraki MS switch and a Cisco switch. This is often refe.

Key Takeaways

Cross-core switch link aggregation is typically implemented using Multi-Chassis Link Aggregation (MLAG), allowing multiple physical links between core switches to act as a single logical link for redundancy, load balancing, and high availability. OverviewCross-core switch link aggregation involves connecting two or more core switches with multiple physical links that are logically combined into a single aggregated link. This approach enhances bandwidth utilization, provides device-level redundancy, and ensures active-active forwarding without blocked links, unlike traditional Spanning Tree Protocol (STP) setups.

Multi-

Chassis Link Aggregation (MLAG/MC-LAG)MLAG, also known as MC-LAG, is the most common technology for cross-core aggregation: Logical Single Switch: Two or more physical switches appear as a single logical switch to connected devices, allowing seamless traffic distribution.

Active-

Active Forwarding: All links are active simultaneously, maximizing throughput and eliminating idle backup links. Redundancy: If one switch or link fails, traffic automatically reroutes through the remaining operational switch, maintaining high availability. Control Plane Synchronization: MLAG peers synchronize MAC tables, VLAN configurations, and control plane information to behave as a unified system.

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Peer and Keepalive Links: Dedicated inter-switch links carry synchronization traffic and heartbeat messages to prevent split-brain scenarios.

Benefits

High Availability: Eliminates single-switch failure points and ensures uninterrupted traffic flow. Load Balancing: Distributes traffic across multiple links for optimal utilization. Simplified Layer 2 Topology: Creates a loop-free network without relying on STP, reducing configuration complexity.

Operational Flexibility: Allows independent upgrades or maintenance on one switch while the other continues handling traffic. Scalability: Supports seamless network expansion by adding more links or switches to the MLAG cluster. Implementation ConsiderationsLACP Configuration: Link Aggregation Control Protocol (LACP) must be enabled on both MLAG peers to discover and manage aggregated links.

Vendor-

Specific Protocols: While MLAG is conceptually standardized, implementations vary by vendor, and coordination protocols may be proprietary. Loop Prevention: MLAG ensures a loop-free Layer 2 topology without relying on STP, which is critical in large-scale core networks. SummaryCross-core switch link aggregation using MLAG/MC-LAG provides a robust, high-performance, and resilient network architecture.

It combines multiple physical links into a single logical interface, enabling active-active traffic forwarding, redundancy, and simplified management, making it ideal for modern data center and enterprise core networks.

Article Content

Link Aggregation and Load Balancing

You may want to set up and configure a bonded link between your Meraki MS switch and a Cisco switch. This is often referred to as link aggregation, link bonding or EtherChannel.

What is Multi-Chassis Link Aggregation (M-LAG)?

Multi-Chassis Link Aggregation Group (MLAG) is a sophisticated networking technology that enhances traditional Link Aggregation Group (LAG) by allowing link aggregation across multiple

MLAG High Availability Explained – How Link Aggregation Plus Works

MLAG allows two switches to act as one logical device, providing both link-level and device-level redundancy. This article explains how MLAG works, its architecture, and how it

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Understanding Switch Aggregation: A Comprehensive Guide

Ascentoptics: Everything You Need to Know About Aggregation Switch: This comprehensive guide covers everything about aggregation switches, focusing on how they

Link Aggregation Group

Using multi-LAG, you can connect multiple uplinks from the controller to separate uplink switches. Bundles several physical ports together to form a single logical channel. Negotiates automatic

Multichassis Link Aggregation User Guide for Routing and Switching

Multichassis link aggregation groups (MC-LAGs) enable a client device to form a logical LAG interface between two MC-LAG peers. An MC-LAG provides redundancy and load balancing

Solved: Link aggregation to 2 core switches

Solved: Hi guys, We''re planning to purchase 2 x WS-C3750G-12S-E core switches and a WS-C2960G-48TC-L access switches. I''d like to know, is it possible to uplink a fiber link from the WS

Link Aggregation: Static vs Dynamic, LACP, and MLAG

This article provides a comprehensive explanation of link aggregation — covering LACP, static vs dynamic link aggregation, and MLAG

What is Multi-Chassis LAG (MLAG)?

Multi-Chassis Link Aggregation or MLAG is a network technology that allows two or more network switches to appear as a single logical switch for link aggregation, which provides

MLAG vs. Stacking Differences: Which Is a Better Option?

Stacking simplifies management by combining multiple switches into a single logical device, making it well suited for campus access networks, while MLAG maintains independent

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

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

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Link Aggregation Control Protocol (LACP) Commands Step 1. From the Privileged EXEC mode of the switch, enter the Global Configuration mode by entering the following:

MLAG High Availability Explained – How Link

Learn how MLAG (Multi-Chassis Link Aggregation) improves high availability and eliminates single points of failure. Discover its architecture,

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

Understanding Switch Stacking and Link Aggregation

Learn more about how switch stacking and link aggregation serve different purposes, but they are often used together to build resilient and scalable networks.

Link Aggregation Switches: A Guide to LACP, LAG, and Throughput

Learn how link aggregation (LAG) and LACP increase network bandwidth and provide redundancy. Compare static vs. dynamic link bundling for switches and servers.

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 that allow the combining of

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 between network devices and it provides continuity of connectivity

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

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