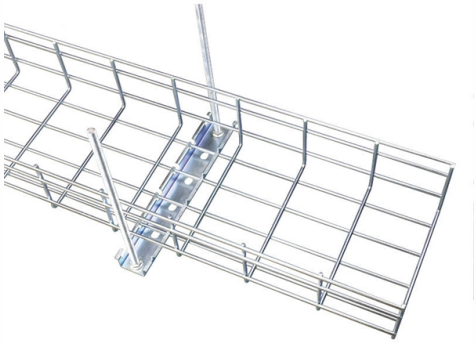
Load Balancing Core Switch



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

Load balancing across core switches can be achieved using Layer 2 link aggregation, Layer 3 ECMP routing, or dynamic load balancing protocols to distribute traffic evenly and ensure redundancy. Layer 2 Load BalancingAt Layer 2, link aggregation (LAG) or multi-chassis link aggregation (MC-LAG) can be used to combine multiple physical links into a single logical link between core switches and access switches. This allows traffic to be distributed across multiple links while providing redundancy in case one link fails.

For example, Cisco Meraki switches use LACP to hash traffic based on source/destination IP, MAC, and port, ensuring even load distribution and rapid failure detection. Aruba's VSX solution also supports MC-LAG between two core switches, creating a resilient inter-switch link (ISL) for Layer 2 aggregation. Layer 3 Load BalancingFor Layer 3 networks, dynamic routing protocols such as OSPF, EIGRP, or BGP can enable Equal-Cost Multi-Path (ECMP) routing.

ECM

P allows multiple paths to the same destination to be used simultaneously, distributing traffic across the available links. This approach provides both load balancing and redundancy, as traffic automatically reroutes if one core switch or path fails. Static routes can also be used with multiple equal-cost paths, but dynamic routing is generally preferred for scalability and automatic failover.

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Dynamic Load Balancing (DLB)Some platforms, like Juniper's Junos OS, support dynamic load balancing (DLB), which improves upon static hashing by considering link utilization and flow activity.

DL

B ensures that traffic is distributed more evenly across links, prevents congestion from “elephant flows,” and maintains packet ordering within a flowlet. This is particularly useful in data center environments where traffic patterns are unpredictable.

Best Practices

Stack or pair core switches: If using separate switches, configure them as a stack or VSX pair to behave as a single logical unit for Spanning Tree and link aggregation purposes. Configure downstream links first: When setting up LACP or MC-LAG, configure the access switch side before the core switch side to avoid stranded ports. Use consistent link characteristics: Ensure aggregated links have the same speed and media type to prevent uneven load distribution.

Combine Layer 2 and Layer 3 strategies: Use LAG/MC-LAG for access-to-core links and ECMP routing for core-to-core or core-to-distribution links to maximize redundancy and throughput. By combining these techniques, networks can achieve efficient traffic distribution, high availability, and rapid failover across core switches, supporting both enterprise and data center environments.

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 Load Balancing Switch and features

Web Hosting: Load Balancing Switches are extensively used for managing traffic to web servers, ensuring that no single server becomes a bottleneck during high-traffic periods, optimizing overall

Load-balanced switch

A load-balanced switch is a switch architecture that guarantees 100% throughput with no central arbitration at all, at the cost of sending each packet across the crossbar twice.

Optimizing Cisco Switches for High Availability and Load Balancing

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Learn how to optimize Cisco switches for high availability and load balancing to ensure seamless network performance and resilience in enterprise environments.

Understand EtherChannel Load Balance and Redundancy on Catalyst

This document describes how to use the EtherChannel for load balance and redundancy on Cisco Catalyst switches.

Two-Tier Core

Prepare switches for deployment in Aruba Central for building a Two-Tier Data Center. The L2 Two-Tier Data Center uses an MC-LAG core for performance and redundancy connected to

Configure network infrastructure to support the NLB

This article describes how the different Network Load Balancing (NLB) operation modes affect network infrastructure, and the best ways in which

Core Switch

Core switches are defined as high-capacity switches located at the top of a cloud data center network, connecting aggregation switches and providing interfaces to wide area networks (WANs).

Load Balancing Between VLANs with HSRP and STP

We can configure HSRP and STP to load balance between VLANs. This way we not only have the redundancy and loop prevention, but we also have an efficient network.

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

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core layer switch

Hi Team, I Have plan to Buy Cisco SG550X-28 28-Port Gigabit Managed Switch - core layer switches for my small office, One switch is enough to buy for core layer and this one switch can

2 locations, 2 core switch stacks, fibre in between, equal cost load ...

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They state: "Core switches shall be linked with 2x 1Gbps links bonded into a standard compliant Etherchannel" "Uplinks between access and core switches shall be non-blocking - for

What is Load Balancing Switch and features

What is Load Balancing Switch? A Load Balancing Switch is a networking device that manages and distributes incoming network traffic across multiple servers or resources. It operates at various levels

Load Balancing Overview | Junos OS | Juniper Networks

An EX8200 switch—Standalone switches support multicast load balancing, while Virtual Chassis does not. An L3 routed multicast setup—For information about configuring multicasting, see

Understand how Load Balancing Works

This document describes how load balancing works in the functionality of router software and platforms.

Understanding Load Balancing on Network Devices

As stated before, the exact hashing algorithm used by a switch is proprietary information. However, at a high level, the switch will do some quick math on the relevant headers of the packet

Cisco core switches high availability

Hello everyone, In my campus network i have cisco 2960x as access switches and one cisco 3750 as core switch which handling intervlan. I want to add another 3750 l3 at the core layer to

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