

RIVO MULTITRADE OPTICAL SYSTEMS

How to configure a network using an aggregation switch



Overview

Link aggregation lets you combine multiple Ethernet links into a single logical link between two network devices.

Key Takeaways

Use Link Aggregation (LAG) to combine multiple switch ports into a single logical link for increased bandwidth and redundancy. Understanding Link Aggregation

Link Aggregation allows multiple physical ports on a switch to act as a single logical connection, increasing throughput and providing failover if one link fails . It is commonly used for:

- Switch-to-Switch connections to handle higher traffic loads and ensure redundancy .
- Switch-to-Server connections where a single device requires more bandwidth than one port can provide .
- Backbone connections in large networks to optimize port usage and network performance .

Key Considerations

- Port Consistency: All ports in a LAG must have the same speed, duplex mode, and link type (trunk, hybrid, or access) to function correctly .
- VLAN Configuration: Ensure VLAN settings are consistent across all aggregated ports. Ports in a LAG should not have conflicting VLAN assignments .

- Redundancy: Run cables over different physical paths to minimize the risk of simultaneous link failure .

- Port Selection: Use sequential ports if required by your switch, and avoid assigning ports already in another LAG .

Steps to Configure Link Aggregation

- Choose Aggregation Type:

- Static LAG: Manually configure ports on both ends; no negotiation protocol is used. Provides redundancy but requires careful configuration .

- Dynamic LAG (LACP): Uses the Link Aggregation Control Protocol (802.3ad) to automatically negotiate and manage the LAG, providing failover and reducing misconfiguration risk .

- Configure the Aggregation Group:

- Enter the switch's configuration mode.

- Assign a Channel Group ID to the aggregation group.

- Add the selected ports to the group using the appropriate mode (on for static, active or passive for LACP dynamic), .

- Enable Trunking:

- Configure the LAG as a trunk if connecting switches or as an access link if connecting a server.

- Apply the configuration to all ports in the group; most switches automatically synchronize settings across the LAG .

- Verify Configuration:

- Check that all ports are active and part of the LAG.

- Test redundancy by temporarily disconnecting one link to ensure traffic continues over remaining links .

- Load Balancing:

- Configure the load balancing policy, typically based on source MAC, destination MAC, or IP addresses, depending on switch capabilities .

- Ensure traffic is evenly distributed across all aggregated links.

Best Practices

- Use LACP dynamic aggregation whenever possible for easier management and automatic failover .

- Avoid mixing different port speeds or media types in the same LAG .

- For critical connections, consider Multi-Chassis LAG (MC-LAG) if supported, allowing two switches to act as a single logical unit for higher resilience .

- Document your LAG configuration and monitor traffic to ensure optimal performance. By following these steps and best practices, you can configure an aggregation switch to increase network bandwidth, provide redundancy, and optimize traffic flow across your network infrastructure .

Article Content

How to set up switch Link Aggregation (LAG) – HeelpBook

Link aggregation, or LAG is a method of using two Ethernet ports in parallel to provide trunking and network fault

What are link aggregation and LACP and how can I use them in my network ...

Network devices and management functions treat the link aggregation group (LAG) of multiple Ethernet connections as

What is link aggregation and how do I set it up in Insight?

Link aggregation lets you combine multiple Ethernet links into a single logical link between two network devices. The

Related Video Reference

This video was associated with the source search result. Verify technical details against current product documentation and project requirements.

Contact Us

Continue your research online:

Website: <https://rivomultitrade.co.za>

Technical inquiry: <https://rivomultitrade.co.za/contact.html>

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

