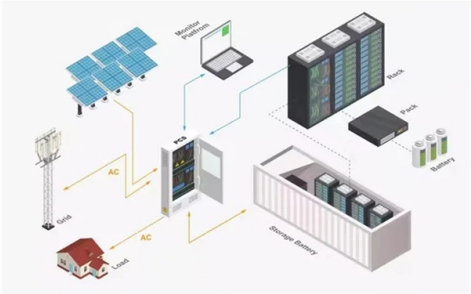
Configure Aggregation Mode for Switches



Overview

Configuring Cisco Switches for Link Aggregation Load Sharing ModeThese are sample configuration commands for Cisco switches (for the exact commands, refer.

Key Takeaways

Switch aggregation can be configured in static (manual) or dynamic (LACP) modes, with active and passive options for dynamic LAGs.Overview of Aggregation Modes

Link aggregation allows multiple physical ports to be combined into a single logical link, increasing bandwidth, providing redundancy, and enabling load balancing. Aggregation can be configured in:

• Static (ON/manual) mode: Ports are manually added to a LAG without using LACP. This mode is suitable when the remote device does not support LACP and all ports must have consistent settings such as speed, duplex, VLANs, and link type .

• Dynamic (LACP) mode: Ports negotiate aggregation automatically using the Link Aggregation Control Protocol (LACP). LACP ensures that only compatible ports are grouped and supports active and passive modes .
LACP Modes
• Active mode: The port actively initiates LACP negotiation with the remote device. This is recommended when both ends support LACP .

• Passive mode: The port responds to LACP requests but does not initiate negotiation. Useful when the remote device is set to active mode .

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• Fallback mode (FortiSwitch-specific): Allows a port to remain up even if the remote device does not send LACP PDUs, useful for PXE boot or non-LACP devices .
Key Configuration Considerations
• Port Consistency: All ports in a LAG must have the same:
• Speed and duplex mode (full duplex required)

• VLAN configuration (PVID and permitted VLANs)

• Link type (trunk, hybrid, or access)

• Flow control settings

• Number of Ports: Most switches support up to 8 ports per static aggregation group, though this may vary by vendor .

• Aggregator Selection (FortiSwitch): You can select the aggregator based on bandwidth (default) or port count when multiple aggregators exist .
Example Configuration Steps

Cisco/Dell Switches (CLI example):

• Enter configuration mode: configure terminal

• Select interfaces: interface range GigabitEthernet1/0/1 - 2

• Assign to a LAG:
• Static: channel-group 1 mode on

• Dynamic (LACP active): channel-group 1 mode active

• Exit configuration mode and save: end and write memory Huawei Switches (Manual Eth-Trunk):

• Create Eth-Trunk: interface Eth-Trunk 1

• Add member interfaces: interface GigabitEthernet0/0/1 → eth-trunk 1

• Ensure both ends match aggregation mode and port attributes FortiSwitch (CLI):

• Create LAG: config switch trunk → edit

• Set LACP mode: set lacp-mode active or passive

• Optionally configure aggregator selection: set aggregator-mode bandwidth or count

Verification
• Check LAG status: show interfaces port-channel (Cisco/Dell) or get switch trunk (FortiSwitch)

• Verify member ports are active and synchronized

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• Confirm traffic load balancing and redundancy
Best Practices
• Match LAG numbers on both ends for easier management

• Use LACP when possible for automatic negotiation and failover

• Ensure all member ports have identical configurations to prevent LAG failure

• Monitor LAG status regularly to detect misconfigurations or port flaps By following these steps and considerations, you can configure aggregation modes effectively to optimize bandwidth, redundancy, and network reliability across your switches .

Article Content

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Link Aggregation: Static vs Dynamic, LACP, and MLAG

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For LAG control, the FortiSwitch unit supports the industry-standard Link Aggregation Control Protocol (LACP). The FortiSwitch unit

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LACP configuration on Cisco switch. Link Aggregation Control Protocol IEEE 802.3ad (LACP) is an open standard of Ethernet link

UniFi Port Switch Aggregation: What Is Switch

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Dynamic vs Static Link Aggregation: Differences & Use

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What are Link Aggregation Groups (LAGs) and how do

What are Link Aggregation Groups (LAGs) and how do they work with my managed switch?

EtherChannel Link Aggregation Control Protocol (LACP)

This post explains Link Aggregation Control Protocol (LACP) in networking and provides LACP configuration and verification examples.

Support

When you configure suppression interval settings on an aggregate interface, make sure its peer interface is also an aggregate

Support

BFD sessions for link aggregation do not support the echo packet mode and the Demand mode. · H3C recommends not configuring

Example for Configuring Link Aggregation in LACP Mode When Switches

Overview Ethernet link aggregation increases link bandwidth by bundling multiple physical links to form a logical link. Link

How to configure Link Aggregation with NETGEAR switches by Derek ...

Using the Netgear switch web administration interface to perform link aggregation between two netgear switches by

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You can also configure more than one LAG on the same switch, or add more than two Ethernet links to the same LAG

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

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Networking: Link Aggregation

This mode provides fault tolerance. 802.3ad (IEEE 802.3ad Dynamic Link Aggregation): Creates aggregation groups that share the

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

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This post explains Port Aggregation Protocol (PAgP) and provides a sample configuration that can help you with your CCNA 200-301

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