

Debugging the Aggregation Switch



Overview

In the following example, a bridge aggregation has been configured between switches Rack4sw1 and Rack4sw2.

Key Takeaways

To debug an aggregation switch, systematically verify physical connections, port status, LACP configuration, and switch compatibility to identify and resolve LAG or LACP issues.

Step 1: Verify Physical Connections

Ensure that all member ports of the aggregation group are properly connected and free from physical faults. Check for loose cables, damaged ports, or incorrect connections. Use commands like `display interface` (H3C) or `show interfaces status` (TP-Link/Cisco) to confirm that each port is physically up .

Step 2: Check Port and Interface Status

- Confirm that the aggregated interface is not administratively down. If it is, enable it using commands like `undo shutdown` (H3C) or `no shutdown` (Cisco/Juniper) .
- Verify that all member ports are in the selected/active state for aggregation. Ports in an unselected state may indicate physical or configuration issues .

Step 3: Validate LACP or LAG Configuration

- Ensure consistent configuration across all member ports, including speed, duplex mode, VLAN settings, and LACP mode (active or passive) .
- Confirm that LACP is enabled on both ends of the link. At least one side should be in active mode to initiate negotiation .

- Check for switch-specific limitations, such as contiguous port requirements or maximum number of aggregated ports .

Step 4: Monitor LACP Activity

- Use vendor-specific commands to view LACP interactions:
- `entstat` (IBM AIX) to check LACP status and statistics per port .
- `debugging link-aggregation lacp packet` (H3C) to observe LACP PDUs and negotiation .
- LACP FSM logs (Cisco Nexus) to track state transitions and events .
- Look for key status indicators: Inactive, Negotiating, Aggregated, or Failed. Persistent negotiation or failure often points to configuration mismatches or incompatible port settings .

Step 5: Verify Device Compatibility

Ensure that both ends of the aggregation support the same LACP or static LAG standards. Incompatibility can prevent aggregation from forming correctly .

Step 6: Restart or Reinitialize Interfaces

If all configurations and physical connections are correct but the aggregation still fails, try restarting the aggregated interfaces or the switch to clear temporary faults .

Step 7: Consult Vendor Documentation

Each switch vendor may have specific commands, limitations, or best practices for LAG/LACP. Refer to the official documentation for detailed troubleshooting steps and configuration examples . By following these steps—physical verification, port status checks, configuration validation, LACP monitoring, and device compatibility review—you can systematically identify and resolve aggregation switch issues.

Article Content

Support

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HPE A-Series Switches

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S5900-24S4T2Q Link Aggregation Configuration Commands

The command prompt only shows the sharing policy that the switch supports. If the switch doesn't support any sharing policy or just

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This source provides a comprehensive guide on choosing the best aggregation switch,

Aggregation Switch

An Aggregation or "Top-of-Rack" switch is designed to connect everything in a rack at high speeds, then have an even bigger pipe

Chapter 1 Port Aggregation Commands

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The Aggregation Switch Reference Configuration section provides a reference CLI configuration of the aggregation

Troubleshoot Link Aggregation Control Protocol (LACP) on Nexus

This document describes how to troubleshoot Link Aggregation Control Protocol (LACP) on Nexus 9000 cloudscale

Aggregation Switch

An aggregation switch refers to a type of switch used to connect multiple ToR switches to a core switch/router in a cloud data center

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Configuring a switch for link aggregation with a SAN

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

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To debug any aggregation problems, it is best to verify the switch's configuration. The following IEEE 802.3ad Link Aggregation

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When configuring port aggregation, you can select the LACP negotiation mode. In Active mode, the port will transmit the LACP

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