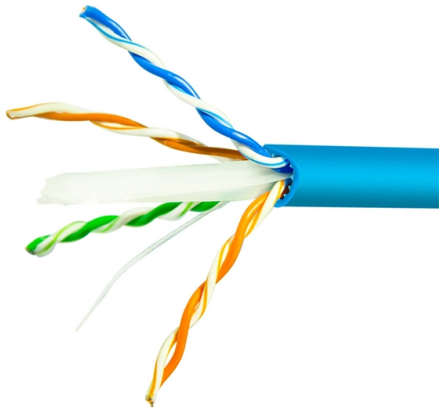
Are aggregation switches typically stacked



Overview

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Key Takeaways

Aggregation switches do not strictly need to be stacked, but stacking can simplify management, improve redundancy, and enhance performance in certain network designs.

Understanding Stacking and Aggregation

Switch stacking allows multiple switches to operate as a single logical unit, managed through one interface, with a master switch controlling configuration and failover. Stacking improves redundancy, simplifies management, and can optimize traffic flow between stacked switches . Aggregation switches, which sit between access switches and the core, often handle high traffic loads and require reliability and scalability .

When Stacking Is Beneficial
• Simplified Management: Stacked switches share a single configuration and IP address, reducing administrative overhead .

• Redundancy and High Availability: If one switch in the stack fails, another can take over, maintaining network uptime .

• Optimized Uplink Performance: Stacking can reduce bottlenecks by using dedicated high-speed stack links instead of standard uplinks .

• Scalability: Adding switches to a stack increases port count and switching capacity without complex reconfiguration .
When Stacking Is Not Required
• Distributed Switches: If aggregation switches are physically separated across racks or locations, stacking may not be feasible .

• Link-Level Redundancy Suffices: Using LAG or MLAG can provide redundancy and load balancing without stacking .

• Vendor or Hardware Limitations: Stacking often requires compatible hardware from the same vendor and may have stack size limits .
Recommended Approach

Many networks combine stacking and link aggregation: stack aggregation switches that are physically close to simplify management, and use LAG or MLAG between stacks or to the core for high-speed, redundant uplinks . This approach balances ease of management, redundancy, and performance. Proper planning ensures firmware consistency, balanced traffic, and minimal single points of failure .

Conclusion: Aggregation switches do not have to be stacked, but stacking is a practical option when switches are co-located and network simplicity, redundancy, and performance are priorities. Alternatives like LAG or MLAG can achieve similar goals when stacking is not feasible.

Article Content

Link Aggregation: What is it, and How Does it Work?

Link aggregation is a way of bundling a bunch of individual (Ethernet) links together so they

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