How to install an aggregation switch



Overview

Discover the role of aggregation switches. Explore differences between aggregation, access, and core switches, and choose the right model for your network.

Key Takeaways

Installing an aggregation switch involves physical setup, stacking, uplink/downlink configuration, and initial network management to ensure efficient traffic aggregation and high availability.

Understanding the Aggregation Switch

An aggregation switch consolidates traffic from multiple access switches, wireless access points, or edge devices and forwards it to core switches or routers, operating at Layer 2 or Layer 3 depending on network design. It enhances bandwidth, redundancy, and failover capability through link aggregation protocols like LACP or static link aggregation. Aggregation switches are commonly deployed in enterprise backbones, data centers, and large campus networks.

Physical Installation

Rack Mounting: Secure the switch in a standard 19-inch rack using the provided brackets. Ensure proper ventilation and clearance around the device. Power Connection: Connect the switch to a reliable power source.

For PoE-capable models, verify the PoE budget to ensure sufficient power for connected devices. Cabling: Connect uplink ports to core switches and downlink ports to access switches or APs. Use high-quality Ethernet or fiber cables as required.

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Stacking (Optional): If supported, stack multiple aggregation switches to increase interface density and provide device-level redundancy. Configure stacking ports according to the manufacturer's instructions.

Network Configuration

Initial Management Access: Connect via console, SSH, or web interface to perform initial setup, including IP addressing, VLANs, and management credentials. Link Aggregation: Configure LACP or static link aggregation on uplink and downlink interfaces to combine multiple physical links into a single logical connection, improving bandwidth and redundancy. Routing and Forwarding: For Layer 3 switches, configure routing protocols and static routes to ensure optimal packet forwarding between access and core layers.

Security and Qo

S: Implement ACLs, 802. 1x authentication, Dynamic ARP Inspection, and QoS policies to prioritize critical traffic like voice or video and secure the network. Monitoring and Troubleshooting: Enable SNMP, RMON, or TAP aggregation for traffic monitoring and diagnostics, ensuring network performance and reliability.

Verification

After installation, verify connectivity, link aggregation status, VLAN assignments, and routing tables. Test failover scenarios if stacking or redundant links are configured to ensure high availability. By following these steps, an aggregation switch can be effectively installed and configured to provide high-throughput, reliable, and secure network aggregation for enterprise or campus environments.

Article Content

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What Is an Aggregation Switch and How to Choose?

Discover the role of aggregation switches. Explore differences between aggregation, access, and core switches, and choose the right model for your network.

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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 out to the rest of the network.

Linking Ubiquiti Aggregation Switches

So, what I want to do is install an aggregate switch at the source and feed as many of my other switch locations as possible and then add a second aggregate switch (about 800ft away)

UniFi Switch Pro Aggregation : Installation Guide

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Everything You Need to Know About Aggregation Switch

The primary function of an aggregation switch is to aggregate and forward data from multiple network devices, such as access switches, wireless access points, servers, and storage

Understanding Switch Aggregation: A Comprehensive

Switch aggregation, also known as link aggregation or trunking, is a method used in computer networking to combine (aggregate) multiple network

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The Ubiquiti UniFi Switch Aggregation (USW-Aggregation) is a powerful, high-capacity switch, perfect for streamlining and enhancing network performance. This guide will walk you through

Everything You Need to Know About Aggregation Switch

With an aggregation switch, traffic from multiple access switches is combined and streamlined, leading to better network performance and reduced downtime. Additionally, an

What Is an Aggregation Switch and How to Choose?

An aggregation switch is a network device that consolidates traffic from multiple access switches, wireless access points, or other edge devices and forwards it to core switches or routers.

Hi-Capacity Aggregation Installation Guide

How to install and set up Hi-Capacity Aggregation; Set up your USW-Pro-Aggregation for the first time.

RUCKUS Ethernet Switches

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Aggregation Switch : r/Ubiquiti

An aggregation switch would help with the load balancing for your setup, on a side note for both aesthetics and ease of use you should put your 48port switches in-between each of your 2 patch

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