48-port core switch connected in series

Overview

Cisco Catalyst 1000 Series 24-Port and 48-Port Switch Hardware. The Cisco Catalyst 1000 Series switches are fixed-configuration, Gigabit Ethernet switche.

Key Takeaways

A 48-port switch can be connected in series using uplink ports, but for core network roles, careful planning of throughput, Layer 3 routing, and redundancy is essential. Using 48-Port Switches in SeriesConnecting switches in series, often called daisy-chaining, involves linking the uplink ports of one switch to the downlink ports of another. For 48-port switches, this is typically done via Gigabit or 10/25/100G SFP/SFP+ uplinks depending on the switch model.

While this setup is feasible for small to medium networks, it can introduce latency, bandwidth bottlenecks, and single points of failure if used as a core switch in larger networks.

Core Switch Considerations

Throughput and Uplinks: Core switches handle aggregated traffic from multiple access switches. Standard 48-port switches like Cisco Catalyst 1000 or NETGEAR models provide 1G uplinks or limited SFP+ ports, which may not suffice for high-density or high-throughput environments. Data center-grade switches like QSFPTEK S7600-48Y8C offer 25G access ports and 100G uplinks, suitable for aggregation and spine-leaf architectures.

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Layer 3 Capabilities: For a core switch, Layer 3 routing is important to manage inter-VLAN traffic efficiently. Managed switches with L3+ features support OSPF, BGP, static routing, and MLAG, which are critical for redundancy and scalability. Redundancy and Reliability: Daisy-chaining multiple switches without redundancy can create a single point of failure.

High-availability setups often use stackable switches or spine-leaf topologies, where multiple switches are interconnected with high-speed uplinks to prevent network outages.

Po

E Considerations: If the switches provide PoE, the total power budget must be monitored.

Exceeding the Po

E budget can result in ports being denied power, which may affect connected devices like IP phones or access points.

Best Practices

Use uplink ports or SFP/SFP+ modules for inter-switch connections rather than standard downlink ports to maximize bandwidth. Avoid long daisy chains for core switches; instead, consider stacking or a spine-leaf architecture for scalability and redundancy. Ensure the switch supports Layer 3 routing if it will handle inter-VLAN traffic.

Monitor Po

E budgets if powering devices through the switch. For high-performance environments, consider data center-grade switches with higher port speeds and redundant power supplies.

Summary

While a 48-port switch can be connected in series for small networks or access layers, using it as a core switch in larger networks requires careful attention to uplink capacity, Layer 3 routing, redundancy, and PoE management. For enterprise or data center cores, high-speed aggregation switches with multiple uplinks and L3 features are recommended to ensure performance and reliability.

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Article Content

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This article will explore three common connection methods: switch cascading, switch stacking, and switch clustering, and will help you determine the best approach based on network size, performance

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The RG-S5750-H Series offers fixed 4 10G fiber ports. Users can flexibly choose 10G fiber or copper ports in various quantities to meet their actual deployment needs.

Cisco 4948

Preface This preface describes the audience, organization, and conventions of the Catalyst 4948E and Catalyst 4948E-F Switch Installation Guide and provides

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Postal Redux wirst du im Shop finden, oder? Ich nicht! Da du mich jetzt superlieb und sympatisch findest (lol) denkst du dir hey, ich schenk dem guten guten Dexter das! In forum " Identity General

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Fortiswitch Core Wiring : r/fortinet

You could cable your WAN links directly to the FWs and use internal hardware switches to pass the connectivity between them. You basically create IRBs or SVIs (depending on your chosen vendor

How to Connect Multiple Ethernet Switches

When a single switch cannot meet the network''s growing demands (such as an insufficient number of ports or certain functional limitations), we typically combine multiple Ethernet switches. But how can

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RJ-45 console port. USB Type A port supports file system. The Cisco Catalyst 1000 Series Fast Ethernet switches are fixed-configuration, Layer 2 and Layer 3 Fast Ethernet access

Planning for a Core Switch Deployment

Hello All, I am planning for a core switch requirement is it should connect 2000 access ports in the distribution / access layer and scale in future. I have the option for using 9500-48 port (in

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Cisco 48 port 10G sfp based switch selection

Need a core switch with below spec. 1. 48 port (all 10G sfp) 2. Stacking Enabled, L3 support. 3. From this switch meraki MS250-48FP switch will be connected (sfp to sfp) So also please

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