Is 10 Gigabit Ethernet enough for the core switch

Overview

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Key Takeaways

Yes, many core switches, including Cisco Nexus 5600 and Catalyst 4948, support 10 Gigabit Ethernet ports.Cisco Nexus 5600 Series

The Cisco Nexus 5600 platform includes 10-Gigabit Ethernet switches designed for data center deployment. For example, the Cisco Nexus 5672UP switch provides up to 72 10-Gigabit Ethernet ports using QSFP breakout cables, along with 40-Gigabit uplinks for network-facing connections. These switches support Layer 2 and Layer 3 features at wire speed, FCoE, and low latency (~1 microsecond), making them suitable for high-performance core or aggregation roles in enterprise and cloud environments .

Cisco Catalyst 4948

The Cisco Catalyst 4948 is a 1RU, fixed-configuration switch that offers 48 ports of 10/100/1000BASE-T and 2 ports of 10-Gigabit Ethernet using X2 optics. It is optimized for rack-level server aggregation and provides wire-speed, low-latency performance with advanced Layer 2–4 features, making it a viable option for core or distribution layers in smaller networks .

NETGEAR 10Gb Switches

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NETGEAR also offers core-capable switches with 10-Gigabit copper and fiber ports, such as the XS716T with 16 10GbE copper ports and 2 combo SFP+ fiber ports, and the XS728T with 24 10GbE copper ports plus 4 dedicated 10G SFP+ fiber ports. These switches can serve as the center of a small business network or as aggregation switches in larger networks, providing high-speed connectivity to servers, NAS devices, and other 10GbE-capable endpoints .

Summary

Core switches in modern enterprise and data center networks commonly support 10-Gigabit Ethernet, often alongside higher-speed uplinks (40GbE) and advanced Layer 2/3 features. When selecting a core switch, consider port density, uplink speed, latency, and support for virtualization or FCoE to ensure it meets your network performance requirements .

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