

Should the core device be a router or a switch



Article Overview

For a core network device, a Layer 3 switch or router is typically used, depending on whether the network primarily handles internal traffic or connects multiple networks.

Understanding the Roles

Switches operate mainly at Layer 2 (Data Link) of the OSI model and are designed to connect devices within a single network, such as computers, printers, and servers, enabling fast local communication by forwarding data based on MAC addresses . They are ideal for building the high-speed backbone of a local area network (LAN) and managing internal traffic efficiently . Routers operate at Layer 3 (Network) and are responsible for connecting multiple networks, directing data packets between them, and providing access to external networks like the Internet . Routers maintain IP addresses, determine optimal paths for data, and can implement security policies and traffic prioritization .

Core Device Considerations

- **Internal LAN Focus:** If the network is primarily local and requires high-speed internal communication, a Layer 3 switch is often preferred. It combines switching speed with basic routing capabilities, allowing efficient traffic management within the LAN while supporting inter-VLAN routing .
- **Multiple Networks or WAN Connectivity:** If the network needs to connect multiple LANs, branch offices, or provide Internet access, a router is essential as the core de...

Article Content

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Hub vs Switch vs Router: What are the Differences?

Have you ever wondered what the difference is among these devices? Router vs Switch vs Hub: The Devices

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Difference between a Core Switch and Router

A core switch can also be a router that is a layer 3 switch that has a router engine in it. In essence it is a router/switch

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What are the best practices for Users Getaway! Core Switch or Firewall ...

Dear Experts, I am wondering what are the best practices for the user getaway. Is Core Switch preferred to be the

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Switch vs. Router vs. Hub: How to Choose

What is the difference between an ethernet switch and a network switch, hub and router? Find out how to decide which

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Core Switch vs. Edge Switch: What's the Difference?

A core switch is focused on high-speed switching within the local network, moving frames very quickly between

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What is a Core Switch | Functions and Difference over Normal Switch

This is done via a high-speed communication forwarding route and as a result, the core layer switch application has

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do i actually need a "core" switch? : r/networking

there's 7 cabinets but only about 490 connected devices at any one time, spread across 4 vlans. I'd configure them as 3 stacks

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Understanding Routers, Switches, and Network Hardware

When should you use a router? Given the low cost of home routers and the benefits gained from installing one on your

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Router (computing)

An ISP core router is used to interconnect its edge and border routers. Core routers may also have specialized functions in virtual

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What's the difference between an edge router vs. core router?

When comparing an edge router vs. core router, these two network devices have vastly different routing

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What is a Network Switch and How Does it Work?

Switch establishes a temporary connection between the source and destination for communication and terminates the

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Routers vs. Switches vs. Access Points

A switch is designed to connect devices within a computer network, while a router is designed to connect across

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What is a Network Switch and How Does it Work?

How Does a Network Switch Works? When the source wants to send the data packet to the destination, the packet

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What Is a Core Switch? Network Backbone Architecture Guide

Generally, no. Environments with fewer than 50 connected devices typically do not generate enough internal traffic to

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Routers vs. Switches vs. Access Points

Switches – connect devices within a single network, transfer incoming and outgoing internet traffic between the

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Unraveling the Mystery: Do I Need a Router or a Switch?

When it comes to setting up a home or office network, one of the most common questions that arises is whether to use

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Router vs Network Switch Key Differences Explained

A router connects your network to the internet, while a switch links devices within your LAN. Compare router vs switch

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Question about Layer 3 core switches vs routers

The vlans don't make it a layer 3 switch, the ip routing makes it a layer 3 switch. Vlans are logical switches separating broadcast

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Differences Between the Core Switch and Normal Switch | FiberMall

A core switch is not a type of switch, but a switch placed at the core layer (the backbone of the network). Generally,

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Hub Vs Switch Vs Router: Choosing the right device for the task!

Hub vs Switch vs Router overview If you prefer to think of networking technology in terms of layers in a stack, the

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Routers vs. Switches

Switches and routers are networking devices. Both are primarily used to make connections between computers, networked devices,

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Should I add a layer 3 core switch or just use the router I have

My plan is to leave the existing switches as distribution layer switches and have them all connect to one layer 3 core switch, each

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Difference Between Router and Switch

The main objective of router is to connect various networks simultaneously and it works in the network layer, whereas

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What's the Difference Between a Hub, a Switch, and a Router?

Question: What's the difference between a hub, a switch, and a router? In a word, intelligence. Hubs, switches, and routers are all

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What Is a Core Switch?

A core switch is the backbone of a large-scale network, designed to handle massive volumes of traffic with ultra-low latency and

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Core Layer Functionality

The core layer is a high-speed backbone that should be designed to switch packets as quickly as possible to optimize

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Hub vs Switch vs Router: A Smarter Choice Guide

Hub, switch, or router? Learn their differences and make smarter choices to strengthen your network connections and

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What is a switch vs a router?

What is a router? Just as a switch connects multiple devices to create a network, a router connects multiple switches, and their

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How Is a Router Different From a Switch?

Routers and switches are two network components that help connect computers locally and remotely. Routers and

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15 Differences Between Switches and Routers

Switches and routers are both responsible for relaying information between networked endpoints. Learn how they are

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Network Devices

A switch is a high-speed networking device that connects devices (computers, printers, servers) within a Local Area

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Router vs Network Switch Key Differences Explained

This guide dives deep into the difference between router and switch, explaining their core functions, how they operate

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Hub vs Switch vs Router: Key Differences for Modern Networks (2026 ...

Understand the real difference between hubs, switches, and routers in 2026. Learn decision rules, comparison tables,

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ELI5: The difference between a router, switch, hub, a bridge ...

Router: Directs network traffic based on destination addresses and preset rules. These are usually situated between

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Is a core switch the same as a router?

Connect more devices. It is valid for layer 2 Ethernet switches. Some switches offer two features, such as layer 3

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Router vs Switch

Routers and switches are both computer networking devices that allow one or more computers to be connected to other computers,

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Why does a core switch need to be behind a router? : r/ccna

I noticed in most topologies there is a L3 switch at the distribution layer and the core layer. why would it need to run to a router after if

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Router vs Switch: What's the Difference and Which One Is Better for ...

Learn the key differences between a router vs switch, how each works, and which one is better. A complete guide to

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Modem vs Router vs Switch: Key Differences

Learn the differences between a modem, router, and switch, how each works, and which one you need for your home

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