

Core Switches and L3 Switches



AI Overview

A core switch is not the same as a Layer 3 switch, but they can have overlapping functionalities in a network.

Core Switch Definition: A core switch is a high-capacity switch that operates at the core layer of a network. It is responsible for routing and switching data between different segments of the network, ensuring efficient data flow and high-speed communication.

Functionality: Core switches aggregate traffic from distribution switches and manage data routing across the network. They are designed for high performance, low latency, and redundancy, making them essential for large enterprise networks.

Use Cases: Core switches are typically used in the backbone of a network, connecting various subsystems and handling substantial data traffic. They are crucial for maintaining network reliability and performance.

Layer 3 Switch Definition: A Layer 3 switch operates at the network layer (Layer 3) of the OSI model. It combines the functionalities of a traditional switch and a router, allowing it to route traffic based on IP addresses.

Functionality: Layer 3 switches can perform routing between different VLANs (Virtual Local Area Networks) and manage inter-VLAN traffic. They inspect IP headers to determine the best path for data packets, making them suitable for larger networks that require efficient traffic management.

Use Cases: Layer 3 switches are commonly used in enterprise networks to facilitate communication between different subnets and VLANs, providing advanced features like Access Control Lists (ACLs) and Quality of Service (QoS).

Key Differences

Layer of Operation: Core switches primarily function at the core layer of a network, while Layer 3 switches operate at the network layer.

Routing Capabilities: While both can route traffic, core switches focus on high-capacity data transfer across the network backbone, whereas Layer 3 switches manage routing between VLANs and subnets.

Performance Focus: Core switches are optimized for speed and reliability in handling large volumes of data, while Layer 3 switches provide routing capabilities...

Article Content

Layer 2 vs Layer 3 Switch: Key Differences and Use Cases

Layer 2 vs Layer 3 switch explained. Learn MAC vs IP forwarding, inter-VLAN routing, performance differences, and when to choose each switch type.

Best Enterprise Switches 2025: Top 5 Network Switches

Our 2025 guide compares the top 5 enterprise switches from Cisco, HPE, Arista & more. Deep-dive on technical specs, AI capabilities, and use cases.

L3 SWITCHES

The L3 switch is ideal for service provider edge aggregation, enterprise wiring closets, data center aggregation, and network core deployment. These switches

48x25GbE Core Switch 8x100GbE Uplink SONiC NOS Installed

CX308P-48Y Enterprise SONiC NOS based 48-Port 25Gb core network switch with Marvell Falcon ASIC, 8 x 100Gb QSFP28 Uplinks.

L2 vs L3 Switches: How to Select Your Routing

Engineering guide on Layer 2 vs Layer 3 switching. Learn broadcast modeling, ASIC/TCAM hardware acceleration, and hybrid Huawei-NSComm design by

Meraki Switches

Meraki MS Switches combine enterprise-grade hardware with cloud management, allowing your organization to scale effortlessly. Explore the models.

Managed Industrial Switches: What Are the Differences ...

In the technical data of the Managed Industrial Switches, L2, L2+, and L3 are the most frequently used in switch management level. Many people always easy to confuse them and after

L2 SWITCHES

L2+/Lite L3 10G Multi-Gigabit Ethernet Switch The Edgecore ECS5500-12P switch is a 10G Ethernet access switch with 8 x 10GBASE-T ports and 2 x 10G SFP+/2

Enterprise DMZ Network Architecture — Palo Alto & H3C Diagram

Three-tier campus network architecture with Palo Alto PA-3200 firewall, redundant H3C S6520 core switches, L3 aggregation, and VLAN-based segmentation for office, finance

L3 or L2 Link between Core Switches

Those new distribution switches will have L3 redundant connections to the CORE switches running EIGRP so this will provide us high availability and load balancing.

L3 routing to multiple egress points : r/meraki

L3 routing to multiple egress points I have 2 L3 switches, let's call them Remote switch: RS and core switch: CS, connected via ELAN. Both with a default route 0.0.0.0 - Primary ISP which is at the CS

L2 vs L3 switching explained (and when you need each)

Layer 2 vs Layer 3 switching in plain English — what each does, VLAN routing, and how to decide which your network needs.

32-Port 100Gb Core Network Switch Enterprise SONiC

SONiC NOS-based 32x100Gb QSFP28, L3 ToR/spine/aggregation/core switch for enterprise and data center.

Core Switch vs. Distribution Switch vs. Access Switch

Further different types of network switches used in these networks are discussed, namely, core switches, distribution switches (layer 2 switches), and access switches (layer 3 switches).

L2 vs L3 Switch: How to Choose for Your Access Layer

Learn how to choose between L2 and L3 switches and build an access network that's reliable, scalable, and easy to manage.

What is L1, L2, L3, and L4 in Networking? (Beginner

Learn L1, L2, L3, and L4 in networking with simple examples. Understand OSI layers, switches, routers, TCP/UDP, and real-world interview

Understanding the Differences Between Layer 2 and

While Layer 2 switches have been the mainstay of small networks for ages, increasing requirements for reliability, speed, and features are bringing Layer 3

L1 vs L2 vs L3 Switches: Key Differences Explained

Confused between L1, L2, and L3 switches? Learn the key differences, features, and use cases to pick the right one for your network needs.

Network Switches

Cisco network switches deliver performance, flexibility, and security. Cisco switches are scalable and cost-efficient and meet the demands of hybrid work.

Which Layer Is the Core Switch Really In? 2026 L2 vs L3 Practical Guide

Usually, layer 3 switches offer such features. The core switch can receive the data packets, analyze them, define their routes, and transfer them. All this happens over the IP address of

Layer 3 Switch Example

For switch stacks performing L3 routing, ensure that the management IP subnet does not overlap with the subnet of any of its own configured L3 interfaces. Overlapping subnets on the management IP

Network redundancy and high availability: STP, link aggregation and ...

Switching Network redundancy and high availability: STP, link aggregation and failover How to design a network that survives a failure — spanning tree, link aggregation, redundant uplinks,

Enterprise Networking

Enterprise Networking Optimizing the network solution choices for enterprise users Edgecore Enterprise Switching solutions deliver high-performance, secure, and

MikroTik · Switches

MikroTik makes networking hardware and software, which is used in nearly all countries of the world. Our mission is to make existing Internet technologies

Remote location core switch : r/Cisco

We have several remote locations with their own L3 switch that we use for routing. Some have direct fiber to our central core others uplink via another router and use VPN to tunnel back to our central

Layer 2 vs Layer 3 Switches in 2026: Optimizing

Introduction Planning a new network or upgrading an existing one inevitably raises a critical question: Should you deploy Layer 2 switches, Layer 3 switches, or a

Difference between layer-2 and layer-3 switches

Layer 2 switches operate at the data link layer, forwarding data based on MAC addresses, while layer 3 switches route traffic using IP addresses.

TP-Link S7500-24Y4C 24-Port L3 Managed Stackable 25G SFP28

The TP-Link S7500-24Y4C 24-Port L3 Managed Stackable 25G SFP28 Aggregation/Core Switch is a high-performance L3 managed switch tailored for the aggregation and core layer, featuring L3

Contact Us

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