

Layer 3 Switch Access



Overview

“Layer 3 access” or “routed access” is not a specific vendor feature — it's a design pattern: Each access switch (or stack) becomes a Layer 3 device, not just a Layer 2 island. End devices are still in VLANs, but the default gateway SVI lives on the access switch, not. When planning an enterprise access network, one of the most common dilemmas is whether to deploy Layer 2 (L2) or Layer 3 (L3) switches. The access layer plays a critical role in connecting end devices—such as computers, printers, IP phones, and wireless access points—to the rest of the enterprise. This chapter explains configuring Layer 3 wireless controller deployments on Cisco Catalyst 9800 series, covering L3 access setup, OSPF and PIM multicast integration, DHCP/NAT with VRF, and verification commands. enables client subnet segmentation, overlapping IP support, and a scalable network. The goal is not to declare “Layer 2 bad, Layer 3 good,” but to give you a practical mental model: When should I stop stretching VLANs and start routing closer to the edge?

1. These networks are designed with three tiers that facilitate strategic installation, management, and maintenance, and so on. The strategic design of a hierarchy network may comprise more than three layers. In this lesson, we examine the network devices that operate at Layer 3 of the OSI model. It plays a critical role in modern networks by performing high-speed packet forwarding while also making routing decisions at Layer 3.

Article Content

Cisco Industrial Ethernet 3000 Layer 2/Layer 3 Series

This data sheet describes the benefits, specifications, and ordering information for the Cisco Industrial Ethernet 3000 Series Switches.

Routers and L3 Switches | NetworkAcademy.IO

Learn how routers and Layer 3 switches connect networks, route IP packets, and enable fast inter-VLAN communication in modern network designs.

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LAN Switches

LAN Switches Featuring user-friendly efficient IP management, IPv4 and IPv6 hardware Layer 3 routing, PLANET LAN switches are designed for SMBs, system integrators and large enterprises when

Layer 3 Access

This chapter explains configuring Layer 3 wireless controller deployments on Cisco Catalyst 9800 series, covering L3 access setup, OSPF and PIM multicast integration, DHCP/NAT with VRF, and

How to Understand Layer 3 Switch? What Are Its Main Functions and ...

It can not only efficiently process layer 2 packets like a layer 2 switch but also process layer 3 packets like a router. This makes Layer 3 Switches widely used in data centers, large enterprise

Meraki Switches

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

QFX5100 Series 10/25/40/100GbE Switches

The QFX5100 Series are access & top-of-rack 10/25/40/100GbE switches, optimized for application delivery & virtualized data centers.

Fixed Port L3 Managed Ethernet Switches

These powerful Layer 3 access switches are easy to deploy and manage with advanced security and network management tools like HPE Aruba Networking

Layer 3 Switches Explained: Architecture, Routing Logic, Use Cases,

Layer 3 Switches Explained: Architecture, Routing Logic, Use Cases, and Network Design Guide Technical guide to Layer 3 switches, covering L2 switching, IP routing, ASIC

Data Link Layer in OSI Model

Media Access Control (MAC): MAC sublayer manages the device's interaction, responsible for addressing frames, and also controls physical media

Core Switch vs. Distribution Switch vs. Access Switch

The access layer consists of layer 3 switches, which take routed and switched data packets from the distribution switches and then route them to the access devices

CX 6300 Switches

HPE Aruba Networking CX 6300 Switches deliver high-performance Layer 3 access and aggregation for enterprise networks. Explore CX 6300 Switches price and

Fortinet FortiSwitch FS-424E Layer 2/3 FortiGate Network switch

Fortinet FortiSwitch FS-424E Layer 2/3 FortiGate Network switch 24xGE ports SFP+ FortiSwitch Secure Access Series FortiSwitch Secure Access switches deliver a Secure, Simple, Scalable Ethernet

Grandstream - 16-Port Gigabit PoE+ Layer 3 Managed Switch

The Grandstream GWN7812P 16-Port Gigabit PoE+ Layer 3 Managed Switch is a high-performance networking solution built for enterprise-grade connectivity, advanced traffic management, and reliable

What Is a Switch? What Is It Used for?

What Is a Switch? A switch enables network communication for connected IT devices. Switches fall into different categories from different perspectives, including Ethernet switches, Layer

Grandstream Enterprise Layer 2+ Managed Network Switch GWN7802P

The Grandstream GWN7802P Enterprise Layer 2+ Managed Network Switch is a reliable and high-performance networking solution designed for secure business connectivity and advanced network

CloudEngine S5755-H Series | Huawei Enterprise

Huawei CloudEngine S5755-H series switches are high-quality gigabit access switches that can be widely used in many industries. Learn more.

Configuring ACLs

Access Control Lists (ACLs) are an ordered set of rules that you can use to filter traffic. Each rule specifies a set of conditions that a packet must satisfy to match the rule. When the switch determines

What Is a Layer 3 Switch? Definition, How It Works,

A Layer 3 switch (multilayer switch) combines Layer 2 Ethernet switching with Layer 3 IP routing. It switches traffic within the same VLAN/subnet

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.

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Understanding Layer 3 Switches: A Comprehensive Guide

Layer 3 switches operate by combining the functionality of Layer 2 switching and Layer 3 routing. They can perform both MAC address-based switching within the same subnet and IP

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Layer 2 vs Layer 3 in Access Networks: When It's Time

Each access switch (or stack) becomes a Layer 3 device, not just a Layer 2 island. End devices are still in VLANs, but the default gateway SVI lives

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