

# Access Layer Switch Architecture Pattern



## Overview

A scalable enterprise switching architecture, or enterprise switching architecture, consists of three functional layers: 1. Access Layer - Endpoint connectivity and PoE power engineering (IEEE 802. Aggregation Layer - Inter-VLAN routing, policy. This chapter provides details of Cisco tested access layer solutions in the enterprise data center. A Layer 2 access topology provides the following unique capabilities required in the. In enterprise networking, the hierarchical three-tier model is divided into three distinct roles: access switches (which connect end-user devices to the network via Layer 2), distribution switches (which route inter-VLAN traffic and enforce security policies at Layer 3), and core switches (which. The term campus LAN refers to a LAN network that spans a single geographic location, such as a building or university campus. Introduction: The Hierarchical Network Model In today's complex IT environments, network design follows a structured approach to ensure. Because networks can be extremely complicated, with multiple protocols and diverse technologies, Cisco has developed a layered hierarchical model for designing a reliable network infrastructure. This three-layer model helps you design, implement, and maintain a scalable, reliable, and.



## Article Content

Oct 12, 2025

Cisco Service Ready Architecture for Schools Design

The Layer-2 OOB solution relies upon their being a Layer-2 network connection available between the the client devices and the Cisco CAS, in figure

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What is network architecture?

What is network architecture? Network architecture refers to the way network devices and services are structured to serve the connectivity needs of client

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Understanding the Hierarchical Switch Layers: Access

Modern enterprise networks face two conflicting pressures: the need for agility and the demand for stability. The three-tier switch hierarchy — Access,

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Access vs. Distribution vs. Core Switch Comparison Guide

Each layer is served by specialized switches, with the access switch connecting end-user devices, the distribution switch aggregating traffic and enforcing policies, and the core switch acting as the high

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Core vs Distribution vs Access Switch: Architecture Guide

Failing to properly categorize and deploy switches according to their designated tier leads to broadcast storms, routing loops, and severe physical bottlenecks that can cripple enterprise

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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

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Cisco three-layer hierarchical model

This article describes the Cisco three-layer hierarchical model which includes the Access, Distribution, and Core layers.

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### Data Center Access Layer Design

Some access layer designs permit a larger number of access layer switches per aggregation module than others. • Inter-switch link bandwidth

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### Microsoft Word

Layer-3 switching allows users to access these resources with minimal latency. The 20/80 design encourages a local VLAN approach. VLANs should stay localized to a single switch or switch block:

Dec 30, 2025

### Access layer | FortiSwitch 7.6.0 | Fortinet Document Library

Using this design, you can go up to eight switches and never need more than 4x10-GbE ports per switch to interconnect other access-layer switches or the

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### 3-Layer Enterprise Switching Architecture: Core vs Access

Explore enterprise switching architecture and see how core, aggregation, and access layers integrate with PoE, oversubscription, and design

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### Two-tier and three-tier switch architectures

The aggregation or distribution switches are the intermediary layer between the core and access layers. The lowest tier is the access layer, which is used to connect all of the various end devices, such as

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### What Is an Access Layer Switch? Guide complet

What Is the Access Layer Switch? In a typical enterprise network architecture, the access layer switch is the first point of contact between end-user devices and the rest of the network.

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### LANCOM Tech Paper Two-Tier and Three-Tier Switch Architectures

Two-tier and three-tier switch architectures When structuring the logical architecture of an enterprise network, decisive factors include the efficient and secure transport of data, high scalability, and high

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### Core vs Distribution vs Access Switch: Architecture Guide

Compare core, distribution, and access switches. Master the 3-tier network architecture, Spine-Leaf designs, and Cisco Catalyst deployments.

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### Access Layer

The access layer is the last layer of three-tier architecture of a datacenter. The actual servers are connected to this layer. The access layer communicates with its upper layer using several switches

Sep 23, 2025

### Access layer | FortiSwitch 7.6.0 | Fortinet Document Library

Access-layer deployment recommendations Depicting what the access layer should look like is difficult because it depends on several physical and logical factors that

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### Data Center Multi-Tier Model Design

The multi-tier model relies on a multi-layer network architecture consisting of core, aggregation, and access layers, as shown in Figure 2-1. This chapter describes the hardware and design

Sep 13, 2025

### SBA for Enterprise Organizations -

Technology Overview The Cisco SBA LAN access layer provides network connections for end-user PCs, laptops, phones, printers, and other devices in the work environment. The primary access

May 20, 2026

### What Are Network Topology Architectures? Examples

Between Distribution Layer and Access Layer, Layer 2 is used. In other words the key technology between first and second layers of 3 Tier Architecture is switching.

May 04, 2026

### Three-Layer Model

This article explains the three-layer model, which it can help you design, implement, and maintain a scalable, reliable, and cost-effective.

Jun 27, 2025

## Access, Distribution, and Core Layers Explained

This tutorial provides an overview of the access, distribution, and core layers and explains two-tier and three-tier campus LAN designs.

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Foundation models to explain access layer designs

Foundation models unlock new dimensions in access layer design by providing automated insights, predictive analytics, and intelligent security. By leveraging these models, network architects and

## Contact Us

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