

Configuration of Layer 3 Switches and Aggregation Layers



Article Overview

To configure a Layer 3 aggregation layer switch, create a Layer 3 link aggregation group, assign member interfaces, configure IP addresses, and set up routing for VLANs.

Step 1: Access Global Configuration

Enter the global configuration mode on your switch:

```
switch> enable  
switch# configure terminal  
switch(config)#
```

This allows you to create aggregation interfaces and configure VLANs and IP addresses .

Step 2: Create a Layer 3 Aggregation Interface

Create a Layer 3 aggregate interface (LAG or EtherChannel):

```
interface port-channel 1  
no switchport  
ip address 10.10.10.1 255.255.255.0  
no shutdown
```

- no switchport ensures the interface operates at Layer 3.
- Assign an IP address to the aggregated interface for routing purposes .
- The port-channel number can range depending on your switch model (e.g., 1-256 on Aruba switches), .

Step 3: Add Member Interfaces

Add physical interfaces to the aggregation group:

Article Content

Understanding the Different Layers of Routing and Switching

The aggregation layer connects to the uplinks of the edge switches and is uplinked to the distribution layer toward the network core.

Link Aggregation and Load Balancing

Link Aggregation and Load Balancing Last updated Jun 16, 2026 Save as PDF Table of contents Link bonding Load

Two-tier and three-tier switch architectures

Core-layer switches make up the top layer or core of the network. The aggregation or distribution switches are the intermediary layer

Designing and Configuring the Aggregation Layer

Designing and Configuring the Aggregation Layer The network switches in the aggregation layer provide additional resiliency

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

Layer 2 vs Layer 3 Switch: What's the Difference? | Auvik

Layer 2 vs Layer 3 switches The OSI networking model defines a number of network "layers." (Getting into each layer

3-Layer Enterprise Switching Architecture: Core vs Access

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

Layer 3 Switching

This document describes the configuration of Ethernet services, including configuring link aggregation, VLANs, Voice VLAN, VLAN

Data Center Aggregation Layer Design and Configuration with ...

This chapter covers the design recommendations for a data center design deployment consisting of a Cisco Nexus® 7000 Series

Deployment Differences Between Two-Layer and Three-Layer

The aggregation layer is between the core and access layers and connects to both layers. Aggregation switches aggregate traffic

LAN Topologies

Layer 3 services for wired network hosts are moved from the core to VSX pairs of aggregation switches. A pair of core

Configuring Layer 3 Interfaces

All Ethernet ports are switched interfaces by default. You can change this default behavior with the CLI setup script or through the

Tutorial on Network Layers 2 and 3

Why this whole layer 2/3 thing? Myth: bridges/switches simpler devices, designed before routers OSI Layers 1: physical

Layer 3 Link Aggregation

This chapter contains a complete sample Link Aggregation Control Protocol (LACP) configuration (L3 LAG). Link Aggregation is the

Datacenter Core and Aggregation Design

Virtual device contexts (VDCs) of the Nexus 7000 switches are utilized in the design to create a pair of aggregation

Two-tier and three-tier switch architectures

A hierarchical switch network topology, with layers that each perform different functions and tasks, is therefore ideal for implementing

Deployment Differences Between Two-Layer and Three-Layer

Figure 2-2 shows a three-layer network architecture that consists of a core layer, an aggregation layer, and an access layer.

What is an Aggregation Switch?

The aggregation switch is located in the middle of the network architecture, which is

Configuring a Layer 3 link aggregation group (LAG)

Aggregated link can be used as normal L2 interface (access or trunk) or layer 3 interface. Solution Link aggregation

What is Switch Aggregation, Its Role and Selection Advice

4. Functional management: Unlike core switches, aggregation switches can be either Layer 2 or Layer 3 switches.

How to configure a Cisco Layer 3 Switch-InterVLAN Routing Without

The above feature means that you can implement Layer 3 functionality in your network without using a regular router. If you don't

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

In enterprise networks, Layer 3 switches are commonly deployed at the core layer or aggregation layer. They connect

Understanding Layer 3 Switches: A Comprehensive Guide

Conclusion Layer 3 switches are powerful networking devices that provide the advanced routing capabilities of routers

Link Aggregation and Ethernet Bonding Feature Overview and ...

Introduction and overview This guide includes two sample configurations for Link Aggregation Control Protocol (LACP), or dynamic

Access vs. Distribution vs. Core Switch Comparison Guide

Distribution Layer Switches: Positioned between the access and core layers, distribution switches aggregate traffic from multiple

Cisco three-layer hierarchical model

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

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

Technical guide to Layer 3 switches, covering L2 switching, IP routing, ASIC forwarding, VLAN segmentation, routing

Chapter 2

Designing the Core and Aggregation Layers The data center architecture is based on a three-layer approach. The core layer

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://jrsekwele.co.za>

Email: info@jrsekwele.co.za

Phone: +31-20-794-2536

Address: Herengracht 47, 1015 BB Amsterdam, Netherlands

This document is for informational purposes only. Specifications subject to change without notice.

