What are the VLAN resources of the aggregation switch in Costa Rica

Overview

This document describes the configuration of Ethernet services, including configuring link aggregation, VLANs, Voice VLAN, VLAN mapping, QinQ, GVRP, MAC table, STP/RSTP/MSTP, SEP, and so on.

Key Takeaways

Aggregation switches in Costa Rica support VLAN aggregation (super-VLANs), allowing multiple sub-VLANs to share a single logical VLAN, optimizing IP address usage and network traffic management.

Overview of VLA

N AggregationVLAN aggregation, also known as super-VLAN, is a method where multiple VLANs (sub-VLANs) are combined into a single logical VLAN. Each sub-VLAN shares the same IP subnet and default gateway, which reduces the number of IP addresses required and simplifies network management. This approach is particularly useful in large enterprise or campus networks where aggregation switches consolidate traffic from multiple access switches.

Key Features and ResourcesSub-VLANs and Super-VLANs: Sub-VLANs are individual VLANs within a super-VLAN. They allow hosts to be grouped logically without requiring separate IP subnets for each VLAN.

I

P Address Efficiency: By sharing a default gateway, super-VLANs minimize wasted IP addresses, which is critical in networks with limited IP resources.

© 2026 CJC FIBRE CONSULTANTS - All rights reserved

Trunking and Tagged VLA

Ns: Aggregation switches use trunk ports to carry multiple VLANs simultaneously.

Tagged VLA

Ns identify traffic for each VLAN, enabling multiple VLANs to traverse a single physical link. Layer 2 and Layer 3 Support: While VLAN aggregation primarily operates at Layer 2, communication between different VLANs requires a Layer 3 interface on the switch, which can be configured per VLAN if needed. Scalability: Aggregation switches can handle multiple VLANs efficiently, supporting high-bandwidth traffic from access switches and providing redundancy through link aggregation protocols like LACP.

Practical Implications for Costa Rica Networks

In Costa Rica, enterprise networks using aggregation switches can leverage VLAN aggregation to: Reduce the number of required IP subnets. Simplify network design by grouping geographically dispersed hosts into logical VLANs. Improve traffic management and reduce broadcast domains.

Ensure high availability and redundancy through link aggregation and trunking. By implementing VLAN aggregation, network administrators in Costa Rica can optimize the use of VLAN resources on aggregation switches, ensuring efficient and scalable network performance.

Article Content

Overview of VLAN Aggregation

The switch assigns IP addresses to hosts in sub-VLANs according to the number of hosts. This ensures that each sub-VLAN acts as an independent broadcast domain, conserves IP addresses, and

Understanding VLAN Aggregation

This document describes the configuration of Ethernet services, including configuring link aggregation, VLANs, Voice VLAN, VLAN mapping, QinQ, GVRP, MAC table, STP/RSTP/MSTP, SEP, and so on.

Wired Aggregation | Validated Solution Guide

The services aggregation switches contain a similar set of VLANs as the aggregation switches, but they do not contain access point management VLANs. Additionally, they include a

Configuring Cisco Switches for Link Aggregation Load Sharing Mode

© 2026 CJC FIBRE CONSULTANTS - All rights reserved

These are sample configuration commands for Cisco switches (for the exact commands, refer to the Cisco documentation for your switch model and the switch operating system version).

VLAN Aggregation

Using VLAN aggregation, a superVLAN is defined with the desired IP address. The subVLANs use the IP address of the superVLAN as the default router address. Groups of clients are then assigned to

Port Aggregation Configurations

To allow port aggregation, the basic configuration on all the ports must be consistent. The following list details the basic configuration parameters that should be consistent on all the ports:

VLAN Configuration Guide

VLANs allow you to separate network devices into distinct groups, even if those devices connect to the same physical switch or to different switches. This segmentation enhances network

What are Link Aggregation Groups (LAGs) and how do

Link aggregation lets a switch treat multiple physical links between two endpoints as a single logical link. All the physical links in a Link Aggregation

Data Center Aggregation Layer Design and Configuration with ...

Introduction This chapter covers the design recommendations for a data center design deployment consisting of a Cisco Nexus® 7000 Series Switch at the aggregation layer and a Cisco Nexus 5000

Overview of VLAN Aggregation

S300, S500, S2700, S5700 and S6700 V200R024C00 Configuration Guide - Ethernet Switching This document describes the configuration of Ethernet services, including configuring MAC address table,

Overview of VLAN Aggregation

VLAN technology is commonly used on packet-switched networks because it facilitates network design. For example, it can split a large broadcast domain into smaller ones, group hosts together regardless

What Is an Aggregation Switch and How to Choose?

An aggregation switch is a network device that consolidates traffic from multiple access switches, wireless access points, or other edge devices and forwards it to core switches or routers.

© 2026 CJC FIBRE CONSULTANTS - All rights reserved

What is a virtual LAN (VLAN) and how does it work with

The following diagram shows a Layer 3 switch with three ports configured to handle the traffic for two VLANs (VLAN 10 and VLAN 20). Ports

VLAN Basic Concepts Explained with Examples

VLAN Basic Concepts Explained with Examples A VLAN is a logical grouping of network resources connected to administratively defined ports on a switch. VLANs break a large broadcast

Aggregation Switch

An aggregation switch refers to a type of switch used to connect multiple ToR switches to a core switch/router in a cloud data center network. It enables high-bandwidth aggregation ports to be

Tutorial

Learn how to configure a Cisco Switch Link Aggregation using the command-line, by following this simple step-by-step tutorial, you will be able to create a new Link aggregation and

Two-Tier Core

Two-Tier Core Configure Two-Tier core switches as a VSX pair for Layer 2 aggregation of the data center access switches, IP data center services, and routing to the main campus. Table of

LAN Switching Configuration Guide

Where an aggregation route performs inter-VLAN routing for multiple VLANs, traffic can be switched autonomously on-card or between cards rather than through the central Route Switch

© 2026 CJC FIBRE CONSULTANTS - All rights reserved

Contact Us

Continue your research online:

Website: https://cjcconsultants.co.za
Technical inquiry: https://cjcconsultants.co.za/contact.html

This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

© 2026 CJC FIBRE CONSULTANTS - All rights reserved