

# 10 broadband lines configured with a VLAN aggregation switch



## AI Overview

You can configure 10 broadband lines using VLAN aggregation by creating a super-VLAN with multiple sub-VLANs, assigning the broadband interfaces to sub-VLANs, and optionally using link aggregation to increase bandwidth.

**Overview of VLAN Aggregation**

VLAN aggregation, also called super-VLAN, allows multiple sub-VLANs to share the same IP subnet while maintaining separate broadcast domains. This approach reduces IP address waste and simplifies network management. Each sub-VLAN can be assigned a group of broadband lines or client devices, while the super-VLAN provides a common default gateway for all sub-VLANs.

**Steps to Configure 10 Broadband Lines**

- Define the Super-VLAN**  
Create a super-VLAN (e.g., VLAN 100) and assign it a subnet (e.g., 192.168.1.0/24). Configure the VLAN interface (VLANIF) with the default gateway IP (e.g., 192.168.1.1).
- Create Sub-VLANs**  
Divide the 10 broadband lines into sub-VLANs (e.g., VLAN 101, VLAN 102, VLAN 103). Each sub-VLAN can contain 3–4 broadband lines depending on grouping. Assign the physical interfaces connected to broadband lines to the corresponding sub-VLANs.
- Assign IP Addresses**  
Hosts or devices in each sub-VLAN use IP addresses from the super-VLAN subnet. The super-VLAN IP acts as the default router for all sub-VLANs. Optionally, configure proxy ARP to allow Layer 3 communication between sub-VLANs if needed.
- Configure Link Aggregation (Optional)**  
If multiple broadband lines are connected to the same switch, you can aggregate links to increase bandwidth and provide redundancy. Create a trunk combining two or more interfaces and assign it as a tagged interface to the relevant VLANs. Enable LACP (Link Aggregation Control Protocol) to manage failover and load balancing.
- Isolation and Security**  
Sub-VLANs can be isolated at Layer 2 to prevent direct communication if required. Communication b...

## Article Content

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

### 01-05 VLAN AGGREGATION CONFIGURATION

VLAN aggregation allows the switch to assign IP addresses to hosts in sub-VLANs according to the actual number of hosts. For example, if sub-VLAN 2 contains only 10 hosts, the switch allocates IP

#### Configuring VLAN Aggregation

To implement VLAN aggregation on the network shown in Figure 5-39 and meet the requirements listed in Table 5-22, create VLAN 10, configure it as a super-VLAN, and assign the

#### What Is WAN Aggregation & How Does It Work? Key

Our broadband aggregation service leverages the power of WAN aggregation to consolidate your internet connections from various providers into

#### Overview of VLAN Aggregation

Although VLAN 2 requires only 10 IP addresses, the remaining 3 IP addresses cannot be used by other VLANs and are wasted. If more VLANs are added, the problem is exacerbated.

#### LAN Switching Configuration Guide

It describes the encapsulation protocols used for routing between VLANs and provides some basic information about designing VLANs. This

#### Layer 2 VLAN Configuration on a Cisco Switch (with

This post will deal with creating Layer 2 VLANs on Cisco switches and performing all relevant configurations. Up to 4094 VLANs can be configured on Cisco catalyst

#### 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,

#### Aggregated Ethernet Interfaces Overview | Junos OS | Juniper Networks

The topology used in this example consists of one switch with a LAG configured between two of its 10-Gigabit Ethernet interfaces. The switch is connected to an aggregation switch.

## 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

## Virtual Local Area Networks (VLANs)

VLANs serve two major functions: splitting up one switch into smaller virtual-switches, and extending those virtual-switches to other physical switches.

## LAN Switching Configuration Guide

The VLAN Mapping to Gigabit EtherChannel (GEC) Member Links feature allows you to configure static assignment of user traffic, as identified by a VLAN ID, to a given member link of a

## Understanding VLAN Aggregation

To implement VLAN aggregation on the network shown in Figure 4-23 and meet the requirements listed in Table 4-7, create VLAN 10, configure it as a super-VLAN, and assign the subnet 1.1.1.0/24 to it.

## 01-04 VLAN AGGREGATION CONFIGURATION

Configure VLAN 10 as the super-VLAN, assign the subnet address 10.1.1.0/24 to VLAN 10, and configure VLAN 2, VLAN 3, and VLAN 4 as sub-VLANs of super-VLAN 10, as shown in Figure 4-2.

## Link aggregation

Link aggregation Link aggregation between a switch and a server In computer networking, link aggregation is the combining (aggregating) of multiple network

## Broadband Access Aggregation and DSL Configuration Guide, Cisco

Prerequisites for Preparing for Broadband Access Aggregation Before configuring broadband access aggregation, you will need to know the information that is presented in the

## 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

## How To Set Up Switch Link Aggregation

Managed switches provide many advantages for a growing network, including support for VLANs, QoS, and Trunking. I touched on simple VLAN configuration

## Link Aggregation Explained for Robust Networks

This setup keeps multimedia streaming and file transfers steady. A link aggregation modem plays a key role by binding lines into one robust data

Link Aggregation: Static vs Dynamic, LACP, and MLAG

Understand how link aggregation (LACP, MLAG, static vs dynamic) improves bandwidth and redundancy. Learn configuration steps on Cisco and

Steps to Configure and Verify VLANs (Normal Range

VLANs also can enhance the network's overall performance due to the fact VLANs make organizations of devices that communicate very frequently.

News and Advice on the World's Latest Innovations

ZDNET news and advice keep professionals prepared to embrace innovation and ready to build a better future.

Example for Configuring VLAN Aggregation

Configure VLAN aggregation on Switch B to add VLANs of different departments to a super-VLAN so that PCs in different departments can access the Internet using the super-VLAN.

Interface Configurations – N10-008 CompTIA Network+ : 2.3

A switch configuration requires more than just setting the speed and duplex. In this video, you'll learn about VLAN configurations, link aggregation,

Configuring Link Aggregation, VLAN Trunking & Assigning Multiple VLANs

In this video, I walk you through configuring link aggregation (LAG), setting up a LAG group, and assigning it to a VLAN. We'll explore VLAN modes, particularly trunk ports, and how to assign ...

Understanding VLAN Aggregation

VLAN aggregation allows the switch to assign IP addresses to hosts in sub-VLANs according to the actual number of hosts. For example, if sub-VLAN 2 contains only 10 hosts, the switch allocates IP

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