

Monitoring of Layer 3 Switch Access

Article Overview

Effective monitoring of Layer 3 switches combines traffic analysis, ACL enforcement, SNMP data collection, and syslog integration to ensure security and performance.

Key Monitoring Techniques

1. Access Control Lists (ACLs) and VLAN ACLs (VACLs) ACLs are essential for controlling Layer 3 traffic between VLANs or subnets. They filter traffic based on source/destination IP addresses, protocols, and ports, allowing you to block unauthorized access or malicious traffic . VACLs extend this control within a VLAN, enabling monitoring and filtering of intra-VLAN traffic . Applying ACLs to interfaces or VLANs ensures that only authorized devices communicate across the network. 2. SNMP Monitoring Simple Network Management Protocol (SNMP) is widely used to monitor switch performance in real time. SNMP collects data on port status, traffic flow, CPU and memory usage, and error rates . Using SNMP with network performance monitoring (NPM) tools provides actionable insights, helping detect congestion, failures, or abnormal traffic patterns before they impact the network. 3. Syslog Integration Configuring Layer 3 switches to send syslogs allows centralized logging of events such as configuration changes, security violations, or interface errors . This is critical for accountability, auditing, and troubleshooting. Ensure that device clocks are synchronized and that the monitoring system has the necessary permissions to access logs. 4. Real-Time and Periodic Polling Monitoring can be configured in real time or via scheduled polling. Real-time monitoring provides immediate alerts for critical events, while periodic polling collects configuration and performance data at defined intervals . Combining both approaches ensures comprehensive visibility. 5. Security and Access Hardening Monitoring is more effec...

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Understanding Layer 3 Switches: A Comprehensive Guide

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

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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

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Access Layer

Using 3 Tier Networking to design your Access Layer gives you a clean, predictable, and secure way to scale your network from 10

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Switch Center: Network Monitoring Software with Layer 2/3 Mapping

Switch Center can be combined with Network Access Control (NAC) monitoring engine that implements 802.1X capabilities on any

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Network switch

A network switch is a multiport network bridge that uses MAC addresses to forward data at the data link layer (layer 2) of the OSI

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Layer 3 Access

Layer 3 Access This chapter explains configuring Layer 3 wireless controller deployments on Cisco Catalyst 9800 series, covering L3

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Monitoring Traffic on Layer 3 VLANs | Network Director User Guide ...

This topic describes how to monitor Layer 3 VLAN traffic statistics on a device. You can monitor Layer 3 VLAN

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Layer 3 Switch Example

Configuring the Switch Ports Additional Considerations Switch Management IP and Layer 3 Interfaces (SVIs) Related KBs This

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What is Switch Monitoring? Metrics, Tools & Best ...

Learn what switch monitoring is, why it matters, and which metrics prevent outages. Explore port-level visibility, AI

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

Security: Layer 3 Switch supports access control lists (ACL), firewall functions, port security, etc., enhancing network

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Layer 2 vs. Layer 3 Switches: Key Differences and Use Cases

Uncover the essential differences between Layer 2 and Layer 3 switches. Learn their core functions, advantages, and ideal use

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Optimizing Layer 3 Switching for Security: Best Practices

In this article, you will learn how to optimize Layer 3 switching for security by applying some best practices and techniques.

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Hierarchical internetworking model

Access layer End-stations and servers connect to the enterprise at the access layer. Access layer devices are usually commodity

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Traffic Filtering on Cisco Layer3 Switches using ACL and VACL

Configuration example of Cisco VLAN Access Control List (VACL) on Layer3 switch for traffic filtering within the same

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Layer 2, Layer 3/4, and Layer 7 Security Monitoring

When abstracting the most important types of network monitoring concepts and tools, they commonly are bundled into one of the 4

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Optimizing Layer 3 Switching for Security: Best Practices

Learn how to optimize Layer 3 switching for security by applying some best practices and techniques, such as ACLs, IPsec, port

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Monitoring an entire VLAN on a Layer 3 Switch

A recent and relatively quiet IOS release allows the Catalyst 2960 platform to perform limited Layer 3 Switching (See

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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

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Traffic Filtering on Cisco Layer3 Switches using ACL and VACL

In this tutorial we will examine two simple filtering examples: Traffic filtering on a Layer3 switch using classic ACL for

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L2 vs L3 Switch: How to Choose for Your Access Layer

When planning an enterprise access network, one of the most common dilemmas is whether to deploy Layer 2 (L2)

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Example for Configuring Layer 3 Remote Port Mirroring

Configure GE1/0/2 of the Switch as a Layer 3 remote observing port, and specify the IP addresses of the monitoring

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Understanding the Hierarchical Switch Layers: Access ...

A strategic look at how Access, Distribution, and Core switch layers define network performance, security, and scalability

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High Availability Campus Network Design--Routed Access Layer using ...

For campus designs requiring simplified configuration, common end-to-end troubleshooting tools and the fastest

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How can I apply an ACL to interface on a Layer 3 switch?

By default, interfaces on Cisco L3 switches are layer 2, so you would have to apply the ACL to the SVI (VLAN

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Configuring Network Security with ACL On Cisco Layer 3 Switch

ACL access control lists are indispensable for building a security-compliant network, but configuring ACLs on Layer 3

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Understanding Layer 3 Switches: A Comprehensive Guide

Layer 3 switches are advanced networking devices that combine the functions of both traditional switches and routers,

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Network Switch Monitoring with SNMP: How To Guide

Learn how to monitor network switches using SNMP and NPM. Keep network switch performance sharp, spot issues

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Monitoring Cisco L3 Switches

TOS monitors layer-3 switch devices for policy revision changes. For TOS to show full accountability details (who made the policy

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How To Use A Layer 3 Switch In A Small Network

This is where a Layer 3 switch comes in handy. A Layer 3 switch can perform IP routing tasks as well as Layer 2 tasks such as

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Layer 2 vs Layer 3 switches — Understanding the ...

Layer 2 vs. layer 3 switch: Understanding the differences that impact IT Switch ports are essential components of network

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Switch Port Monitoring Guide

Switch port monitoring is essential for maintaining reliable, efficient, and secure networks. Whether managing a small

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layer 3 access switch -hardening

Storm control can mitigate these issues by monitoring and limiting the traffic rate for such packets. Additionally,

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Layer 3 switches explained

Layer 3 switches are explained in this tip, including the difference between a switch, a router and a Layer 3 switch.

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ACL_Guide

1 ACL Configuration Guide This document describes the Access Control Lists (ACL) feature supported in Supermicro

Contact Us

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