

Firewall and Core Switch Connections



AI Overview

Connect firewalls to core switches using 802.1Q trunks with VLANs for routing and management, leveraging VRFs for logical separation and HA for redundancy.

Core Concepts When connecting a firewall to a core switch, the design should balance performance, security, and manageability. Core switches typically handle Layer 3 routing for internal VLANs, while firewalls enforce security policies and inspection. Routing decisions depend on whether inter-VLAN traffic should be handled by the core switch or the firewall.

VLAN and VRF Configuration Trunk Links: Use 802.1Q trunk ports between the core switch and firewall to carry multiple VLANs, including transit VLANs for VRFs and any VLANs routed on the firewall.

VRF Lite: Implement VRFs to logically separate traffic without additional physical hardware. Each VRF on the core switch should have a transit VLAN to the firewall, which acts as the next-hop for default routes.

Layer 2 Extension: VLANs routed on the firewall need to be extended at Layer 2 from the core switch to the firewall to maintain connectivity.

Redundancy and High Availability HA Firewalls: If firewalls are deployed in HA mode, connect each firewall independently using separate trunk links or port-channels to the core switch.

Port-Channels: Aggregating multiple physical links into port-channels improves bandwidth and provides failover protection. Ensure each firewall has its own port-channel for redundancy.

Core Switch Redundancy: Core switches should be fully redundant to prevent single points of failure, especially if they handle inter-VLAN routing.

Routing Considerations Core Routing: For high-throughput east-west traffic, perform inter-VLAN routing on the core switch to reduce firewall load.

Firewall Routing: Use the firewall for security enforcement and inspection, particularly for traffic crossing security zones or leaving the network.

Default Routes: Configure default routes from the core switch to the firewall for traffic leaving the internal network, and vice versa for firewall-originated traffic.

Management Access In-Band...

Article Content

Best Practices

You could also use a modular switch for your core with two power supplies, two controllers, and redundant cooling and pretty much head off the

Single firewall with 2 core switches

Hi All Following is my requirement. Two different WAN links get connected to the firewall via two routers.(Different ip subnets).I need to get this

Allow routing via Internal firewall for Core switch

Hi, we have below architecture in which routing between different firewall take place via Internal firewalls only. We have used the core switch only

Gateways on Core Switch vs Firewall : r/networking

Gateways on Core Switch vs Firewall I'm struggling with some design options for a network redesign I'm planning at my company. The background: Today I'm running a relatively simple network topology.

Creating VLANs on Fortigate and Cisco Core L3 switch

In this lab, I will show you how to create VLANs on Fortigate firewall instead of creating VLANs on Cisco L3 switch. You can also find the Cisco to

Ultimate OPNsense 26.1.6 Guide: Hardware, VLANs,

Stop relying on ISP junk. Build a digital fortress with OPNsense 26.1. This expert 2026 guide covers Kea DHCP migration, ZFS installation, and the

Internet Connection Termination: Core Switch vs Firewall

In cases where there's a HA firewall setup, I believed that, instead of introducing another switch between the ISP and the firewall cluster, it makes sense to connect the ISP directly to the core switch and

Network Setup for core and firewall

The best way from a security standpoint is to have a physically separate switch connecting the ISP handoff to the firewall, if a switch is needed at all. A switch would only be needed if there

Fix Remote Desktop (RDP) Not Working on Windows

AI Summary: The thread focuses on troubleshooting Windows 10/11 Remote Desktop (RDP) when clients can't connect, timing out, or receive generic

Recommendation for a connection between Core Switch and Firewall

Hello, I am asking myself what others recommend for the connection between core switch and Firewall. The setup is the following: Two Catalyst 9300 Core switches in stack. The stack

Configuring the Core Switch

Configure interfaces for interconnecting the core switch with firewalls. # Create interconnection VLANs on the core switch and add interfaces to the interconnection VLANs.

Microsoft Options to Migrate SQL Server Databases

In both cases, ensure the Distributor can reach the Publisher and can make outbound connections to the PaaS subscriber for push subscriptions. Online/offline: Online data movement

Single firewall connect to 2 core switches

Yes, firewall will create an aggregation port and assign an ip address, and connect to 2x layer 2 switches (Cisco 2960), which is access port, then the

Changes with Storage on Cloud and Storage Classification in VMM

First published on TECHNET on May 19, 2014 Storage Classification was introduced in System Center 2012 Virtual Machine Manager (VMM 2012) to provide the...

10 Best Hardware Firewalls for Home and Small

On this website I have written tens of articles about enterprise level firewalls (especially Cisco ASA) but many people are interested to learn about

Network Setup for core and firewall

Internet modem-----core switch-----firewall Scenario: Internet modem - send to core switch the internet core switch - NAT configuration, vlan configuration and DHCP connection ASA

Solved: Connectivity from Core to Firewall

You want to simply extend L2 all the way from the access switch to the firewall so all ports need to be L2 until they get to the L3 interface on the firewall. One thing to check is your access

What Is a Firewall? Definition and Types of Firewall

Learn what a firewall is, why it is important, how it works, and firewall best practices. Learn how a firewall can ensure the data is harmless and prevent data from

switching

I have been assigned for my first project ever as network engineer, things seems to be going smoothly, but there's something which is not clear to me. After configuring VLANs on the Core,

Microsoft Options to Migrate SQL Server Databases

Supported targets: SQL Server only - including SQL Server on Azure VM. (Not applicable to Azure SQL Database or Azure SQL Managed Instance.) Online/offline: Online log restore cycles

L3 Core to Firewall question

My issue is in deciding whether to use the "core" switches OR the Fortigate firewall as the default gateway/L3 switch in the network. As far as my research has revealed, using the "core" for this

Routing on firewall or core switches? : r/networking

In my research I'm getting mixed suggestions - Some say that core switches are for routing, when others say that core switches have to be as fast as possible and have minimal tasks dedicated to them.

Core Switch vs. Distribution Switch vs. Access Switch

Comprehensive guide to Core, Distribution, and Access Switches. Roles in the network and important parameters explained.

Connecting Core switch to firewall

Hi guys, I have a 3750X four-switch stack acting as the core of a fairly simple LAN. All I need to achieve (and this seems inordinately hard, but it is entirely likely that I'm just being dense) is

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Core layer | FortiSwitch 7.6.0 | Fortinet Document Library

With 8x100-GbE QSFP28 slots per FortiGate unit, it provides enough capacity to directly connect with 2x100-GbE ports to each of the two core FortiSwitch units at a nonstop forwarding capacity of up to

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

Website: <https://www.sphplantsales.co.za>

Email: info@sphplantsales.co.za

Phone: +27 64 827 3915

Address: Unit 9, Highveld Technopark, 43 Atlas Road, Johannesburg, 2196,
South Africa

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