Configuration of Primary and Backup Core Switches

Article Overview

Primary and backup core switches are configured to ensure network redundancy, with the backup automatically taking over if the primary fails.

Understanding Primary and Backup Roles

A primary core switch is the main switch responsible for forwarding traffic and acting as the root bridge in Spanning Tree Protocol (STP) for all VLANs. The backup switch is configured to take over automatically if the primary fails, ensuring minimal network disruption . In modern Cisco networks, technologies like Virtual Switching System (VSS) allow two physical switches to operate as a single logical switch, simplifying redundancy .

Spanning Tree Configuration

To configure primary and backup switches for STP:
o Set the primary root bridge for each VLAN:
spanning-tree vlan root primary This automatically lowers the switch priority to make it the root bridge .
o Set the secondary root bridge for failover:
spanning-tree vlan root secondary This sets a slightly higher priority than the primary, so it becomes root only if the primary fails .
o Verify configuration:
show spanning-tree This command confirms which switch is currently the root bridge for each VLAN.

Link Aggregation and Redundancy

For core switches connected with multiple links:

o Use EtherChannel to bundle multiple physical links into a single logical link, maximizing bandwidth and providing redundancy .
o Protocols:
o PAgP (Cisco proprietary)
o LACP (open standard)

o Without EtherChannel, STP will block redundant links, wasting bandwidth.

Stack-Based Redundancy

Configuration of Primary and Backup Core Switches

For switches that support stacking:

o Designate slot 1 as primary and slot 2 as backup during initial setup or using the easy setup configuration .
o Additional switches can be configured as primary-capable to take over if both primary and backup fail.
o Consider switch capabilities and speed when assigning roles, as the most capable switch should be primary.

Verification and Best Practices

o Always verify the root bridge and backup using show spanning-tree.
o Ensure all VLANs are accounted for when configuring primary and secondary root bridges.
o For non-stacked switches, ensure proper LAG configuration and STP cost adjustments to control traffic flow in case of link failure .
o Regularly test failover scenarios to confirm backup switch takes over seamlessly. By combining STP root bridge configuration, EtherChannel for link redundancy, and stack or VSS-based primary/backup assignment, you can achieve a resilient core network that maintains connectivity even during switch or link failures.

Core Switches also provide intelligent routing, QoS assurance, security, scalability, and manageability. A well

Prepare switches for deployment in Aruba Central for building a Two-Tier Data Center. The L2 Two-Tier Data Center

Get a closer look at core switches: the nerve centers of network infrastructure that enhance performance and facilitate

The objective of this document is to understand unit failures in a stack and the resulting primary backup process on the SG550XG

To support the additional capabilities in a stack that includes multiple switch models, the most capable switch automatically becomes

Based on the diagram above, we need to manually configure the core switch as the root bridge as they have higher bandwidth and

A core switch operates at the italic core layer italic of a hierarchical network design, typically handling a massive

Prerequisites for Configuring Backup Switchs and Failover Priority for Access Points o You can configure primary and secondary

Configuration of Primary and Backup Core Switches

? How to Backup and Restore Cisco Switches & Routers | Step-by-Step Guide! ? In this

You can change the primary role in a Virtual Chassis by switching the global roles of the primary router and backup

Whether you"re a network engineer or an IT administrator, understanding best practices for

Hello, I would like to be able to use a primary link and a backup link on two switches (SW1 and SW3) that are not

Hello Everyone, I am working on one design and need support for connectivity between two core switches and router.

What is a core switch and how it works? This article builds the basics of this kind of switch for the ones who don"t

HA overview For all topologies, configuring high availability improves the reliability of a network by replacing a single SteelConnect

I am currently working with IOL Cisco devices in a virtual lab and have a collapsed core design. I have 2 core/distribution switches.

Web: https://kalutha.co.za