

Configure OSPF on two core switches



AI Overview

Configure each core switch with a unique router ID, assign IPs to routed interfaces, define OSPF areas, and ensure consistent OSPF settings across both switches for redundancy and load balancing.

Key Considerations

- Router IDs and IP Addressing** Each core switch must have a unique OSPF router ID. Assign IP addresses to all routed interfaces or VLAN interfaces that will participate in OSPF. If using MLAG or stacked switches, each physical switch still requires its own router ID, even if VLAN interfaces share a virtual IP.
- OSPF Areas**
 - Backbone Area (Area 0):** All core switch interfaces connecting to other areas or distribution switches should be in Area 0.
 - Optional Non-Backbone Areas:** If you have distribution or access layers, define additional areas and summarize routes into Area 0 to reduce LSDB size.
- Interface Configuration** Configure OSPF on each interface that connects to other OSPF neighbors. Avoid running OSPF over inter-chassis links (ICL) in MLAG setups; use front-panel ports for OSPF adjacencies to prevent unnecessary traffic on the ICL. For routed VLANs, assign the VLAN interface to the appropriate OSPF area and enable OSPF on that interface.
- Redundancy and Load Balancing** Each core switch runs its own OSPF instance, providing redundancy if one switch fails. Use Equal-Cost Multi-Path (ECMP) if supported to balance traffic across multiple links between core and distribution switches. Ensure consistent OSPF configuration across both switches to prevent routing loops or suboptimal paths.
- Default Routes and Redistribution** Configure default route origination if the core switches connect to an upstream router or firewall. Redistribute connected subnets or static routes as needed to advertise them into OSPF.

Example Configuration Steps (Cisco/Generic)

```
CodeCopyrouter ospf 1 router-id 1.1.1.1 ! Unique ID for Core-1 network 10.0.0.0 0.0.0.255 area 0 network 10.0.1.0 0.0.0.255 area 0exitinterface vlan 10 ip address 10.0.0.1 255.255.255.0 ip ospf 1 area 0exitinterface vlan 20 ip address 10.0.1.1 255.255.255.0 ip ospf 1 area 0exit R...
```

Article Content

OSPF Configuration Guide

OSPF for Routed Access refers to a network design in which OSPF is implemented at the access layer of a network using Layer 3 switches. In a routed access design, the Layer 2

Configuring OSPF on Two Cisco Routers | Two Layer 3 Core Switches ...

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Full OSPF within platform scale: Network Advantage removes the OSPF for Routed Access route-scale restriction and allows the switch to participate in normal transit OSPF designs, subject to

Configuring Basic MPLS Using OSPF

This document shows how to configure a basic Multiprotocol Label Switching (MPLS) network. Refer to the Configuration Examples and TechNotes on the MPLS Support Page for more

OSPF Multi-Area Configuration

This lesson explains how to configure OSPF multi-area with four routers and three areas using Cisco IOS routers.

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CCNP Study Guide Your strategic roadmap to earning CCNP Enterprise certification. Covers core exam (ENCOR) plus concentration exams, hands-on

Configuring OSPF

OSPF typically requires coordination among many internal routers, area border routers (ABRs) connected to multiple areas, and autonomous system boundary routers (ASBRs). The minimum

Design and Application of OSPF Protocol Training Program Under

The training environment is built through eNSP simulation software, covering core knowledge points such as OSPF configuration, area division, route summarization, and fault handling. Keywords:

OSPF implementation on Core Switch

I don't see much benefit of using OSPFv3 if dynamic routing is done between only 2 switches right next to each other. What if I added more devices to join to OSPF in future, such as

How to Configure OSPF on Cisco Routers (With Example Commands)

Open Shortest Path First (OSPF) is a routing protocol developed by Internet Engineering Task Force (IETF). OSPF is standards-based which means it is available on routers by Cisco as well as other

Routing & Switching Design | Validated Solution Guide

When configuring access switches, best practice is to configure an IP address in the management VLAN and to enable OSPF on that VLAN IP interface. Adding /32 loopback interfaces

VeloCloud SD-WAN 6.4

Configuring Dynamic Routing with OSPF or BGP This section discusses configuring dynamic routing with OSPF or BGP. The Edge learns routes from adjacent

MS Layer 3 Switching and Routing

Layer 3 routing capabilities are available on most Cisco Meraki switches. This allows the switches to route traffic between VLANs in a campus

Step-by-Step OSPF Configuration on Cisco Routers

In this post, we walked through the complete process of configuring OSPF on Cisco routers. By first configuring the interfaces, we ensured that our network topology was properly

MS OSPF Overview

This article outlines the OSPF implementation and configuration options available on the Cisco Meraki MS platform, and walks through an example packet capture for reference purposes.

OSPF implementation on Core Switch

If you are connecting 2 switches there might be some consideration of whether to implement a dynamic routing protocol or whether to just use static routes for the remote subnets.

How to Configure the Netgear M4300 Switch — Complete Step-by

Netgear M4300 | Switch Configuration | Enterprise Networking | Step-by-Step How to Configure the Netgear M4300 Switch — Complete Step-by-Step Guide A comprehensive

Omada Pro L3 Switch BGP Configuration Guide

Configuration Currently, only Omada Pro L3 switches support BGP, and only CLI configuration is supported. Taking the following topology as an example: AS100, AS200, and AS300 are three

Multi-Area OSPF Network with Redundancy Complete

The build covered: ☐ OSPF configuration across multiple areas (with Area 0 as the backbone) ☐ Redundant links and failover paths to keep the network resilient ☐ Route summarization and ...

OSPF Configuration Guide

Perform this task to enable OSPF, specify the range of IP addresses to associate with the routing process, and assign area IDs to be associated with that range.

Configuring OSPF between two routers and two switches

In the switching/LAN environment the first option is common because you can add multiple devices to the same vlan vs the second method is point-to-point, meaning you can only have

Configuring OSPF

When an active switch change occurs in an OSPF NSF-capable stack, the new active switch must do two things to resynchronize its link-state database with its OSPF neighbors:

LAB: Configuring OSPF & Features

Configure the OSPF on Vlan 100 between two core switches use any AS number in area 0 Configure Following Loopback address on N7k1 Loopback0 : 192.168.128.1/24 & Loopback1: 192.168.143.1/24,

Enterprise-Multi-Branch-Network-OSPF/COMMANDS at main

Designed and implemented a multi-branch enterprise network using Cisco Packet Tracer with VLANs, Router-on-a-Stick, DHCP, OSPF, Layer 3 Core Switching, and Wireless Access Points. -

Contact Us

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