

Article Overview

Core switch IP allocation involves assigning IPs to Layer 3 interfaces for routing, management, and inter-switch links, often using point-to-point subnets and loopback addresses for OSPF.

IP Assignment for Core Switch Interfaces

1. **Interconnection Links:** Each link between the core switch and distribution switches should be treated as a Layer 3 point-to-point subnet. Assign a unique /30 subnet for each connection to simplify routing and reduce broadcast domains. For example, if you have two core switches and multiple distribution pairs, you might allocate subnets like 10.10.10.0/30 for Core1-Dist1, 10.10.10.4/30 for Core2-Dist1, and so on .

2. **VLAN Interfaces (SVIs):** For VLANs that require routing at the core, create Switched Virtual Interfaces (SVIs) on the core switch. Assign an IP address from the VLAN subnet to the SVI. This allows the core switch to route traffic between VLANs and participate in dynamic routing protocols like OSPF .

3. **Loopback Interfaces:** Configure a loopback interface on each core switch. This IP is used as the OSPF router ID and for management purposes (Telnet, SSH). Loopbacks should be /32 addresses and can be taken from a dedicated management block .

4. **Management IP:** Assign a static IP to the core switch for remote management. While DHCP is possible, static IPs are recommended to prevent address changes during stack failovers or OSPF operations .

Best Practices

- o Use static IPs for all core switch interfaces involved in routing to ensure stability.
- o Document all subnets and VLANs to avoid conflicts and simplify troubleshooting .
- o Separate management and routing IPs to isolate administrative access from production traffic.
- o Ensure OSPF or other routing protocols are configured on the correct interfaces, including loopbacks and inter-switch links .
- o Verify interface type: Layer 2 ports must be converted to Layer 3 if you want to assign IPs directly to physical interfaces .

Example Configuration (Cisco CLI)

```
! Configure a VLAN interface
interface Vlan10
 ip address 192.168.10.1 255.255.255.0
 no shutdown

! Configure a point-to-point link
interface GigabitEthernet1/0/1
 no switchport
 ip address 10.10.10.1 255.255.255.252
 no shutdown

! Configure a loopback for OSPF
interface Loopback0
 ip address 10.255.255.1 255.255.255.255
```

By following these guidelines, core switch IP allocation ensures efficient routing, reliable OSPF operation, and secure management access across the network.

Core Switch Port IP Allocation

Explore the essentials of switch ports, learn how to configure VLAN assignments, and discover the functions of

I have a cat 3850 as core switch. And 1 cat3850 and 1 cat 9300 as access switches. Any client that gets plugged into an

CISCO 2960 allows you to configure so-called Port-Based address allocation. It makes the switch to associate IP address it is giving

This post provides the detailed explanation about the Network switch port allocation details and why it's important.

If you issue no switch on the interface, the interface will be configured as Layer3 interface and one IP address is

From the article ----- Starting in R80.40 Security Gateway / Cluster members are able to allocate NAT ports

Featuring a configurable number of ports, the Layer-2 switch operates in cut-through mode at wire speed and can provide sub

Core Switch vs. Distribution Switch vs. Access Switch: Understand Their Roles in Ethernet Networks
Ethernet networks are growing

This document outlines the configuration steps for a core switch in a server room, including connecting via serial cable, assigning

Introduction: Why Switch Port Configuration Matters In modern enterprise networks, switches form the backbone of

Hello All, I am planning for a core switch requirement is it should connect 2000 access ports in the distribution /

Optimize enterprise switch deployments by mastering port configuration. Learn to prevent speed mismatches, VLAN

In this example, Internet access traffic of users passes through the BRAS, and then reaches the egress network of the firewall

Core Switch Port IP Allocation

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

While the core switch may only be connected with a few distribution switches, the majority of access switches are

Configuring the Core Switch Context In this scenario, IP addresses of the interfaces connecting the core switch to the

Web: <https://morwarreconst.co.za>

