

Role of VRRP in Core Switches



Article Overview

VRRP provides high availability and seamless failover for core switches by allowing multiple routers or L3 switches to share a virtual IP address, ensuring uninterrupted network connectivity.

Core Functionality

VRRP (Virtual Router Redundancy Protocol) is used in core switches to eliminate the single point of failure associated with a static default gateway configuration on hosts. By configuring a group of switches or routers to share a virtual IP address, VRRP ensures that if the primary (master) switch fails, a backup switch automatically takes over, maintaining continuous network access for clients ().

Master and Backup Roles

Within a VRRP group, one switch is elected as the Master, responsible for forwarding all traffic for the virtual IP. Other switches remain in Backup state, ready to assume the Master role if the current Master fails. This election is based on priority values, and preemption can be enabled to allow a higher-priority backup to take over when it becomes available ().

Virtual IP and MAC Address

VRRP uses a virtual IP address as the default gateway for hosts and a virtual MAC address to ensure transparent failover. Hosts are configured with the virtual IP, so they do not need to change their gateway settings during a failover event. The virtu...

Article Content

Mar 04, 2026

VRRP run on Core or Aggregation layer?

hi, well, I'm working in a datacenter, and we have a switch core 6509 on core, and 3750 on aggregation layer, we have

Nov 17, 2025

Virtual Router Redundancy Protocol

In the realm of advanced switching configurations, Virtual Router Redundancy Protocol (VRRP) plays a sophisticated role in

Dec 31, 2025

Chapter: Configuring VRRP

- When VRRP is enabled, you should replicate the VRRP configuration across switches in your network.
- We

Jul 27, 2026

First Hop Redundancy Protocols Configuration Guide, Cisco IOS XE ...

First Hop Redundancy Protocols Configuration Guide, Cisco IOS XE Release 3SE (Catalyst 3850 Switches)

Feb 07, 2026

Tutorial

Learn how to configure VRRP on Cisco Switch. Our tutorial will teach you all the steps required to perform a VRRP

Dec 30, 2025

Chapter: Configuring VRRP

This chapter describes how to configure the Virtual Router Redundancy Protocol (VRRP) on Cisco Nexus 9000 Series

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VRRP for HA or stack core switches

We have a pair of Cisco Cat 9500 - 16x with network essential license, we don't have a budget to upgrade the license

Nov 14, 2025

What is VRRP? Virtual Router Redundancy Protocol Explained

What is VRRP? Learn Standard FHRP, Virtual Router Redundancy Protocol. VRRP Election process, priority, virtual

Aug 06, 2025

Introduction of Virtual Router Redundancy Protocol (VRRP) and its ...

VRRP is an open standard protocol, which is used to provide redundancy in a network. It is a network layer protocol

Aug 29, 2025

Virtual Routing Redundancy Protocol (VRRP)

What is Virtual Routing Redundancy Protocol? In short VRRP is a standards based protocol that provides redundant

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Understanding Virtual Router Redundancy Protocol (VRRP)

Virtual Router Redundancy Protocol (VRRP) is a widely used networking protocol that enhances network reliability

Jan 31, 2026

High Availability Features for EX Series Switches Overview | Junos

When VRRP is configured, the switches act as virtual routing platforms. VRRP enables hosts on a LAN to make use of redundant

Oct 12, 2025

Network Services Configuration Guide, Cisco IOS XE 17.x

VRRP is supported on Ethernet, Fast Ethernet, Bridge Group Virtual Interface (BVI), and Gigabit Ethernet interfaces,

Sep 09, 2025

Understanding VRRP | Junos OS | Juniper Networks

Switch A, Switch B, and Switch C are each composed of multiple interconnected Juniper Networks EX4200 Ethernet Switches. Each

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Sample configuration of C1, Con VRRP on L2 links between core

As the VLAN configurations are symmetric across data centers, you can move the VMs from one data center to another. You must

Aug 21, 2025

Routed or STP/HSRP/VRRP

Hi All, I'm redesigning the core and distribution layer in company network. Currently we only have one

May 25, 2026

VRRP (Virtual Router Redundancy Protocol)

In this lesson, we will cover the key differences between VRRP and Hot Standby Routing Protocol (HSRP) and walk through the

Sep 22, 2025

8 Steps of VRRP Configuration on Cisco | Cisco VRRP Config ★

How to Configure VRRP on Cisco Switches? In this VRRP Cisco Configuration Example, we will work on Cisco IOS and configure

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The Technical Mechanics of VRRP: How It Works and Its

Explore the critical aspects of VRRP, including its operational mechanics, the role of multicast addresses, and

Jun 27, 2026

VRRP (Virtual Router Redundancy Protocol)

VRRP (Virtual Router Redundancy Protocol) is used on routers or L3 switches to create a virtual default

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Understanding the Virtual Router Redundancy Protocol (VRRP)

VRRP or Virtual Router Redundancy Protocol, is a networking protocol that ensures high availability and automatic

Nov 24, 2025

Configuring VRRP Virtual Routers on a SG550XG Switch through ...

This article provides instructions on how to configure VRRP settings on your switches through the Command Line

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Virtual Router Redundancy Protocol

The protocol is defined in the RFC 9568. Within a VRRP group, one router is elected to act as the Active router, while one or more

May 14, 2026

What is Virtual Router Redundancy Protocol & How VRRP Works

Discover what Virtual Router Redundancy Protocol is and how it ensures high availability by assigning virtual IP

Apr 17, 2026

8. VRRP (Virtual Router Redundancy Protocol)

Configuring VRRP On Core switch 1 On int VLAN 1111 create the VRRP routing process using Group 1 Interface vlan

Nov 02, 2025

Switch Engine v33.2.1 User Guide

VRRP is used to eliminate the single point of failure associated with manually configuring a default gateway address on each host in

Contact Us

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