ZITHA TECH SPECIALTY CABLES (Pty) Ltd

Does the core switch need a gateway



Overview

The switch should be configured with a default gateway if the switch will be managed remotely from networks not directly connected.

Key Takeaways

A core switch can have a default gateway, but whether it functions as a gateway depends on its Layer 3 capabilities and network design.Core Switch as a Gateway

A core switch is typically the backbone of a network, connecting distribution and access switches and handling high volumes of traffic with low latency . In Layer 3 core switches, the device can perform routing between VLANs and subnets, effectively acting as a gateway for devices within those VLANs . In this case, the core switch itself may have Switched Virtual Interfaces (SVIs) for each VLAN, and these SVIs serve as the default gateway for devices in their respective subnets .

Default Gateway Configuration

Even if a core switch performs Layer 3 routing, it may still require a default gateway to reach external networks, such as the internet or a firewall . The default gateway is usually the IP address of the firewall or upstream router that connects the internal network to external networks. For Layer 2 switches connected to the core, the default gateway is typically the SVI on the core switch corresponding to the management VLAN .

© 2026 ZITHA TECH SPECIALTY CABLES (Pty) Ltd - All rights reserved

Layer 2 vs Layer 3 Core Switches
• Layer 2 core switch: Primarily performs switching and does not route traffic. It may still have a management IP and a default gateway to allow remote administration .

• Layer 3 core switch: Performs routing between VLANs and can act as the gateway for all internal subnets. It may also have a default gateway pointing to a firewall or upstream router for external traffic .
Practical Considerations
• For inter-VLAN routing, assign SVIs on the core switch and use these as default gateways for devices in each VLAN .

• For internet access, configure the core switch with a default gateway pointing to the firewall or router that connects to the WAN .

• In complex networks, it is common to create a dedicated VLAN for management and firewall traffic to isolate routing and improve security . In summary, a core switch can have a default gateway, and in Layer 3 deployments, it often functions as the gateway for internal VLANs, while the default gateway points to an external device for internet or WAN access.

Article Content

Must Gateways Be Configured at the Core? A Complete ...

If you''ve ever wondered: Can aggregation switches handle VLANIF interfaces? Will using the core as a gateway

What Is a Core Switch? Network Backbone Architecture Guide

These protocols create a virtual IP gateway, ensuring that if the primary core switch suffers a hardware failure, the

Solved: core switch and sub switch gateway

Yes, use 172.20.10.1 as the gateway for all layer-2 switches. As I said before, you also need to create a an SVI on the

Gateways on Core Switch vs Firewall : r/networking

I''d like to make these my redundant core switches. My internal debate is this: Keep my gateways on the firewall/router and continue

Switching and Default-Gateway statement

If the PC has its own default gateway configured and pointing to either the distribution or core switches then it will

Core Switch Default Gateway

© 2026 ZITHA TECH SPECIALTY CABLES (Pty) Ltd - All rights reserved

If your core switch is a layer 3 device then clients on a given subnet would have a default gateway of the respective

Network Segmentation

You will only need a transit VLAN/subnet between the firewall and the core. If you can do that with a 10 Gbps interconnect between

Difference between Switch and Gateway

The roles of switches and gateways in networking are different. In a single network, the switch will be responsible for

Why is ip default-gateway command necessary on switches?

The switch should be configured with a default gateway if the switch will be managed remotely from networks not directly connected.

Core Switch vs. Distribution Switch vs. Access Switch

These data switches are responsible for routing and data switching at the core layer of the network. The data routed and switched by

Understanding the Core Switch: Key Differences and Uses

Explore the core switch''s role as the backbone of your network. Discover key differences, uses, and insights into layer

Core Switch Explained: Key Functions and Benefits

Discover what a Core Switch is, its pivotal role in network architecture, and how it boosts performance and reliability in

Core Switch vs Access Switch | Definitions and Key Differences

This article focuses on the hierarchical internetworking and core switch vs access switch differences. We also

Accessing other switches from core switch

But I cannot access to second switch via management ip. I set ip routing, ip default gateway, trunk is fine etc. done

Huawei Technical Support

Huawei Technical Support

Best Practice for default gateway for vlans and layer 3 switch

Is it better to have the default gateway locally at each branch (the 2920 at each office) with a route to the core, or to

© 2026 ZITHA TECH SPECIALTY CABLES (Pty) Ltd - All rights reserved

Core Switch

The core layer of a datacenter is the first layer of three-tier architecture. It exchanges the information between the Internet campus

routing at the distributionCore switch

With the new vlan you need to create the vlan in the vlan database on each switch and then each switch needs an

Difference between a Core Switch and Router

A core switch can also be a routerthat is a layer 3 swith that has a router engiene in it. in essence it is a router/switch

Core Switch Vs Distribution Switch Vs Access Switch

What Is Core Switch? Core switch is not a certain kind of network switch. It refers to the data switch that is positioned

What Is a Core Switch?

A core switch is the backbone of a large-scale network, designed to handle massive volumes of traffic with ultra-low latency and

Differences Between the Core Switch and Normal Switch | FiberMall

A core switch is not a type of switch, but a switch placed at the core layer (the backbone of the network). Generally,

What is a Core Switch | Functions and Difference over Normal Switch

It may be used to increase network bandwidth and connection dependability. Difference between a Normal Switch

Must Gateways Be Configured at the Core? A Complete ...

Can aggregation switches handle VLANIF interfaces? Will using the core as a gateway overburden it? Is it secure to

What Is a Core Switch?

A core switch is the backbone of a large-scale network, designed to handle massive volumes of traffic with ultra-low latency and

Differences Between the Core Switch and Normal Switch | FiberMall

A core switch is not a type of switch, but a switch placed at the core layer (the backbone of the network). Generally,

What is a Core Switch | Functions and Difference over Normal Switch

© 2026 ZITHA TECH SPECIALTY CABLES (Pty) Ltd - All rights reserved

It may be used to increase network bandwidth and connection dependability. Difference between a Normal Switch

Must Gateways Be Configured at the Core? A Complete

Can aggregation switches handle VLANIF interfaces? Will using the core as a gateway

Solved: core switch and sub switch gateway

Solved: I have a Layer 3 core switch (backbone) 10.18.16.0/24, and the core switch needs to connect to multiple Layer

What Is a Core Switch? Network Backbone Architecture Guide

Discover what a core switch does in a 3-tier network model. Learn about ASIC routing, collapsed core vs dedicated

Do I need a core switch?

The core switch. You must be stuck on why you should consider the core switch in your list, right? No worries. I will

Core Switch Vs Distribution Switch Vs Access Switch□What

A core switch is not a certain kind of network switch. It refers to the data switch that is positioned at the backbone or physical core of

How to configure a port on our core switch for a server

Option B creates a VLAN port, which allows multiple hosts to use and be on the same L2 broadcast domain. (Again,

Understanding Core Switch: What It Is and How to Choose the Right

A core switch is pivotal in maintaining the integrity of the entire network; a catastrophic failure could lead to extensive

Router vs Gateway vs Switch : r/AskNetsec

So, why do we need a router? Can''t we just send packets directly to gateway and then the switch with redirect to it''s destination in

FS Community

We would like to show you a description here but the site won''t allow us.

Difference between core switch and ordinary switch and the

In modern computer networks, core switches and ordinary switches are two key network devices, which have

© 2026 ZITHA TECH SPECIALTY CABLES (Pty) Ltd - All rights reserved

Routing on firewall or core switches? : r/networking

On Fortigate or core switches. In my research I''m getting mixed suggestions - Some say that core switches are for routing, when

Understanding the Core Switch: Key Differences and Uses

Explore the core switch''s role as the backbone of your network. Discover key differences, uses, and insights into layer

Core Switch Explained: Key Functions and Benefits

Discover what a Core Switch is, its pivotal role in network architecture, and how it boosts performance and reliability in

Core Switch vs Access Switch | Definitions and Key Differences

This article focuses on the hierarchical internetworking and core switch vs access switch differences. We also

Accessing other switches from core switch

But I cannot access to second switch via management ip. I set ip routing, ip default gateway, trunk is fine etc. done

Huawei Technical Support

Huawei Technical Support

Best Practice for default gateway for vlans and layer 3 switch

Is it better to have the default gateway locally at each branch (the 2920 at each office) with a route to the core, or to

Core Switch

The core layer of a datacenter is the first layer of three-tier architecture. It exchanges the information between the Internet campus

routing at the distributionCore switch

With the new vlan you need to create the vlan in the vlan database on each switch and then each switch needs an

Difference between a Core Switch and Router

A core switch can also be a routerthat is a layer 3 swith that has a router engiene in it. in essence it is a router/switch

Core Switch Vs Distribution Switch Vs Access Switch

© 2026 ZITHA TECH SPECIALTY CABLES (Pty) Ltd - All rights reserved

What Is Core Switch? Core switch is not a certain kind of network switch. It refers to the data switch that is positioned

What Is a Core Switch?

A core switch is the backbone of a large-scale network, designed to handle massive volumes of traffic with ultra-low latency and

Differences Between the Core Switch and Normal Switch | FiberMall

A core switch is not a type of switch, but a switch placed at the core layer (the backbone of the network). Generally,

What is a Core Switch | Functions and Difference over Normal Switch

It may be used to increase network bandwidth and connection dependability. Difference between a Normal Switch

Must Gateways Be Configured at the Core? A Complete ...

Can aggregation switches handle VLANIF interfaces? Will using the core as a gateway overburden it? Is it secure to

Must Gateways Be Configured at the Core? A Complete ...

If you''ve ever wondered: Can aggregation switches handle VLANIF interfaces? Will using the core as a gateway

What Is a Core Switch? Network Backbone Architecture Guide

These protocols create a virtual IP gateway, ensuring that if the primary core switch suffers a hardware failure, the

Solved: core switch and sub switch gateway

Yes, use 172.20.10.1 as the gateway for all layer-2 switches. As I said before, you also need to create a an SVI on the

Gateways on Core Switch vs Firewall : r/networking

I''d like to make these my redundant core switches. My internal debate is this: Keep my gateways on the firewall/router and continue

Switching and Default-Gateway statement

If the PC has its own default gateway configured and pointing to either the distribution or core switches then it will

Core Switch Default Gateway

© 2026 ZITHA TECH SPECIALTY CABLES (Pty) Ltd - All rights reserved

If your core switch is a layer 3 device then clients on a given subnet would have a default gateway of the respective

Network Segmentation

You will only need a transit VLAN/subnet between the firewall and the core. If you can do that with a 10 Gbps interconnect between

Difference between Switch and Gateway

The roles of switches and gateways in networking are different. In a single network, the switch will be responsible for

Why is ip default-gateway command necessary on switches?

The switch should be configured with a default gateway if the switch will be managed remotely from networks not directly connected.

Core Switch vs. Distribution Switch vs. Access Switch

These data switches are responsible for routing and data switching at the core layer of the network. The data routed and switched by

Must Gateways Be Configured at the Core? A Complete ...

If you''ve ever wondered: Can aggregation switches handle VLANIF interfaces? Will using the core as a gateway

What Is a Core Switch? Network Backbone Architecture Guide

These protocols create a virtual IP gateway, ensuring that if the primary core switch suffers a hardware failure, the

Solved: core switch and sub switch gateway

Yes, use 172.20.10.1 as the gateway for all layer-2 switches. As I said before, you also need to create a an SVI on the

Gateways on Core Switch vs Firewall : r/networking

I''d like to make these my redundant core switches. My internal debate is this: Keep my gateways on the firewall/router and continue

Switching and Default-Gateway statement

If the PC has its own default gateway configured and pointing to either the distribution or core switches then it will

Core Switch Default Gateway

© 2026 ZITHA TECH SPECIALTY CABLES (Pty) Ltd - All rights reserved

If your core switch is a layer 3 device then clients on a given subnet would have a default gateway of the respective

Network Segmentation

You will only need a transit VLAN/subnet between the firewall and the core. If you can do that with a 10 Gbps interconnect between

Difference between Switch and Gateway

The roles of switches and gateways in networking are different. In a single network, the switch will be responsible for

Why is ip default-gateway command necessary on switches?

The switch should be configured with a default gateway if the switch will be managed remotely from networks not directly connected.

Core Switch vs. Distribution Switch vs. Access Switch

These data switches are responsible for routing and data switching at the core layer of the network. The data routed and switched by

Related Video Reference

This video was associated with the source search result. Verify technical details against current product documentation and project requirements.

Contact Us

Continue your research online:

Website: https://zithatech.co.za
Technical inquiry: https://zithatech.co.za/contact.html

This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

© 2026 ZITHA TECH SPECIALTY CABLES (Pty) Ltd - All rights reserved