

Core switch has no response when fiber optic cable is plugged in

Article Overview

A core switch may fail to respond when a fiber optic cable is plugged in due to SFP incompatibility, dirty or damaged connectors, incorrect fiber type, or configuration mismatches.

Step 1: Verify Physical Installation

Ensure the SFP module is fully seated and locked into the switch port, as improper insertion is a common cause of detection failure. Inspect the fiber connectors for dust, dirt, or damage, and clean them using lint-free wipes and isopropyl alcohol if necessary. Check for sharp bends or kinks in the fiber cable, which can attenuate the signal and prevent link establishment .

Step 2: Check Transceiver Compatibility

Use only vendor-approved SFP/SFP+ modules. Non-compatible or third-party transceivers can cause unpredictable behavior or prevent the port from coming up. Verify compatibility using the switch's Optics-to-Device Compatibility Matrix or CLI commands like `show interface transceiver supported-list` on Cisco devices . If using a third-party module, you may need to disable err-disable detection with `no errdisable detect cause gbic-invalid` on Cisco switches .

Step 3: Inspect Fiber Type and Wavelength

Confirm that both ends of the fiber link use matching fiber types (single-mode vs. multi-mode) and compatible wavelengths. Mismatched fiber or transceivers can prevent the link from establishing .

Step 4: Verify Configuration and Speed Settings

Check the switch port configuration. Some SFP ports require manual speed settings rather than auto-negotiation, especially when connecting different switch models or using SFP+ modules. Ensure the port is enabled and not err-disabled due to previous errors .

Step 5: Use CLI Diagnostics

Run diagnostic commands to check the SFP and port status:

- o `show interface status` - confirms if the port is up or down.
- o `show inventory` - detects installed SFP modules and their part numbers.
- o `show interfaces transceiver detail` - reads Tx/Rx power, temperature, and voltage.

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- o show idprom interface - retrieves EEPROM/vendor information.
- o show logging | include - checks for errors related to unsupported transceivers . A Tx/Rx power reading of -40 dBm or N/A usually indicates no light is being received, suggesting a broken fiber, dirty connector, or dead remote transmitter .

Step 6: Test and Replace Components

If the above steps do not resolve the issue:

- o Swap the SFP module with a known-good unit.
- o Replace the fiber cable if damage or contamination is suspected.
- o Reboot the switch to clear temporary glitches .

Step 7: Advanced Troubleshooting

For persistent issues, consider:

- o Using an OTDR or power meter to measure signal loss and locate breaks.
- o Ensuring firmware is up to date to avoid compatibility bugs.
- o Monitoring the network with tools like Wireshark or PRTG to detect traffic anomalies . Following this structured approach addresses the most common causes of a non-responsive fiber link and helps restore connectivity efficiently.

This document is applicable to fiber optic patch cable products, which are categorized into two types: conventional fiber optic cables

This is a quick video with a few tips I've picked up over the years for working with fiber connections on Cisco

This guide offers practical steps to troubleshoot fiber optic cable issues, covering common problems, key tools, and

Q1: Why does my core switch drop connections every few minutes even with no configuration change? The most

If an SFP device is plugged into an SFP+ port, the speed will be locked at 1 Gbps. Plugging an SFP+ module into an

I've checked the router, there are plenty of DHCP leases available, there are no rouge DHCP servers or

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duplicate IPs.

I thought I'd ask before I open a TAC case. Newly deployed stack of 6 3850 switches as core. The top three are 24xs all

Human error can occur at the time when optic cables are plugged into the patch panel. Depending on the connector

A comprehensive switch troubleshooting from the physical layer to the data link layer to the network layer to find out

Greetings! Other than connecting switches with fiber optic patch cables I'm a bit of a noob with long distance runs. I

Dear All, I have Core Switch 4506 and i have 2 vlan : vlan 2: 192.168.1.2 255.255.255.0 vlan 10 : 192.168.10.2

Coming from the main server rack via Cisco 9300, we have a fiber optic cable going to a building across the parking

Network Switch Troubleshooting: Fix connectivity, speed, and power issues fast with step-by-step solutions for

There is a single mode optical fiber cable in our datacenter going from a Cisco N5K to another N5K across different

Simple configuration is done on the fiber port as "switch mode trunk" nothing else. The problem is that the port does

Fiber optic transceivers are generally used in the actual network environment where

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

