Debugging a 100G Standalone Switch

Overview

GDB for Switch Modding Cheatsheet/Tutorial · GitHubThe goal will be to walk you through some of the basic workflows needed to use a debugger on the Switch.

Key Takeaways

Effective debugging of a 100G standalone switch involves systematic physical checks, CLI diagnostics, port and VLAN verification, and monitoring real-time logs to isolate and resolve issues.

Initial Physical and Connectivity Checks

Start by inspecting the physical layer: ensure all cables are properly seated, SFP/SFP+ modules are compatible, and there is no visible damage to ports or connectors. Verify that link LEDs indicate proper connectivity and speed. For 100G ports, confirm that the transceivers support the required speed and that fiber or DAC cables meet specifications.

CLI Diagnostics and System Status

Use the switch's CLI to gather system information: System health: Check CPU, memory, fan status, temperature, and power supply using commands like get system status or equivalent for your switch model. Port status: Inspect all ports with commands such as get switch physical-port all to view link speed, duplex, admin status, and error counters.

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VLA

N and configuration: Verify VLAN assignments, allowed VLANs, and STP state to ensure proper traffic segmentation.

Firmware and NT

P: Confirm firmware versions and NTP synchronization to avoid timing-related issues.

Real-

Time Debugging

Enable debug output for deeper analysis: Use diagnose debug enable and diagnose debug application to monitor specific daemons or protocols, such as DHCP or routing. Capture logs with timestamps to correlate events and identify intermittent issues.

For Forti

Switch or similar devices, monitor FortiLink or management interface communication if applicable.

Isolate and Test

Single port testing: Connect a test device directly to each port to verify throughput and link stability. Node-by-node verification: In complex topologies, test each switch or segment individually to locate bottlenecks or faulty hardware. Document findings: Maintain a spreadsheet of port assignments, IPs, and test results to track issues systematically.

Advanced Considerations

For high-performance 100G switches like NVIDIA SB77X0/SB78X0, check fabric congestion, adaptive routing, and subnet manager status to ensure optimal throughput.

Verify MA

Csec or encryption settings if using secure links, as misconfigurations can block traffic. Review recent configuration changes, firmware updates, or policy modifications that may have introduced the issue.

Summary

Debugging a 100G standalone switch requires a structured approach: start with physical inspection, gather system and port diagnostics via CLI, enable real-time debugging, isolate the problem to specific ports or VLANs, and document all findings. For complex or persistent issues, consult the switch vendor's administration guide and knowledge base for model-specific commands and troubleshooting procedures.

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Article Content

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The goal will be to walk you through some of the basic workflows needed to use a debugger on the Switch, while being brief enough for skimming for when you forget things.

Troubleshooting Cisco Catalyst 9000 Series Switches

Debugs on IOSd might not be aware of full picture. Not all processes run on all switches. Pattern of Interval and length of CPU spikes can point to trigger. CPU spikes often occur when not actively

Fortinet FortiSwitch Troubleshooting Commands · GitHub

These commands are essential for network administrators to quickly identify and resolve problems related to system status, port connectivity, VLANs, stacking, and more. 1. System

Ethernet Specific Checks

This section details the debugging process. It is assumed that the 100G Ethernet subsystem has already passed all simulation testing which is being implemented in hardware.

Troubleshoot with Wireless Debug Analyzer

Wireless Debug Analyzer parses debug log files for AireOS and Cat9800 Wireless LAN Controllers. It makes it easier to troubleshoot issues with wireless client association, authentication,

FortiSwitchOS Administration Guide Standalone Mode

A FortiSwitch unit must be in standalone mode to be manged by FortiLAN Cloud. For more details about using FortiLAN Cloud, refer to the FortiLAN Cloud User Guide.

debugging sysmodules on the switch :: periwinkle blog

get your switch''s ip address, run gdb, then run target extended-remote :22225 in gdb. you now have a few options from the debug monitor, or you can directly attach to a process. (in all of these, monitor

EOS 4.36.1F

The following example applies to a switch that supports a breakout of a 100GbE physical port into 4 25GbE DLPs. The following command displays the status of Et45/1-4 when a 100GbE physical port

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FortiSwitchOS Administration Guide Standalone Mode

You can now generate a detailed debugging report from the System > Debug Report page and then download it so that you can send it to technical support. The report is identical to the output of the

fmadio | Debuging Ethernet CRC Errors

Errors can take the form of Ethernet Frame Check Sequence (FCS) which is a 32bit CRC calculated across the entire packets payload. This post discuss how we capture and some of the

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The FortiSwitchOS 7.2.1 Administration Guide provides detailed instructions for configuring and managing FortiSwitch units in standalone mode. It includes information on supported models, new

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How To Use Win Dbg

How To Use Win Dbg In some rare cases, programs running under the supervision of Sandboxie might not work correctly, without providing any hint to the cause of the malfunction. In these cases,

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Datasheet

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The STUSB4500L detects a connection to a debug and test system (DTS) as defined in the USB Type-C standard specification. The debug accessory detection is advertised through the GPIO pin when

Python debugging in VS Code

Local computer: switch to the Run and Debug view (⇧⌘D (Windows, Linux Ctrl+Shift+D)) in VS Code, select the Python Debugger: Attach configuration Local computer: set a breakpoint in the code where

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

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