

Enterprise Router Hardware Diagnostics Guide

Overview

This guide provides step-by-step procedures for diagnosing and troubleshooting hardware issues in enterprise-grade routers.

Prerequisites

- Access to the router's physical console.
- Basic networking and hardware knowledge.
- Electrostatic discharge (ESD) precautions.
- Required diagnostic tools (multimeter, serial console cable, etc.).

Safety Notice

- Disconnect power before performing hardware diagnostics.
- Follow ESD handling practices to avoid equipment damage.
- Consult the device manual for manufacturer warnings and procedures.

Diagnostic Steps

1. Power Verification

- Check power cable connections.
- Ensure power supply LEDs are lit.
- If no power, test outlet and power adapter.

2. Physical Inspection

- Inspect the chassis for visible damage.
- Check for loose components and port connections.

3. Indicator LEDs

- Review status LEDs on each hardware module.
- Refer to the indicator chart below.

4. Console Access

- Connect via serial/console port.
- Review boot messages for hardware errors.

5. Module Testing

- Remove and reseat suspect interface cards.
- Replace with a known good module if available.

LED Indicator Reference

LED Color/State	Description
Green (Solid)	Normal operation, component healthy.
Amber	Warning; possible hardware issue detected.
Red	Critical failure; immediate attention required.
Off	No power or component not present.

Common Hardware Issues & Actions

Issue	Possible Cause	Action
No Power	Failed power supply or cable	Replace cable or power supply
Port Not Responding	Faulty module or port	Reseat or replace module
Intermittent Reboot	Overheating or hardware fault	Check ventilation, replace fan/module

Contact & Support

- Refer to the vendor's official support site for firmware and documentation.
- Contact technical support with diagnostic results and error codes.