

# Troubleshooting Cisco 7301 Series Internet Routers

Some sites require user registration for access. The registered sites are noted beside the link. To become a registered user, refer to <http://www.cisco.com/register/>.

## General Troubleshooting

- Troubleshooting Buffer Leaks
- Troubleshooting High CPU Utilization on Cisco Routers
- Troubleshooting Memory Problems - SYS-2-MALLOCFAIL
- Troubleshooting Router Crashes
  - Bus Error Crashes
  - Parity Errors
  - Restarted by Power-On
  - Restarted By "Abort" or "Trace Trap"
  - Software Forced Crashes
  - Watchdog Timeouts
  - Other Crashes
- Troubleshooting Router Hangs

## Router Architecture

- Buffer Tuning
- Maximum Number of Interfaces and Subinterfaces for Cisco IOS Platforms:IDB Limits
- PCMCIA Filesystem Compatibility Matrix
- Performance Tuning Basics
- Software Advisor (available to registered CCO users)

## Router Maintenance

- Boot Failure Recovery Procedures
- Dealing with mallocfail and High CPU Utilization Resulting From the "Code Red" Worm
- Password Recovery Procedures
- Standard Break Key Sequence Combinations During Password Recovery

## Understanding Cisco IOS Command Outputs

- The show processes Command
- Troubleshooting Ethernet Collisions
- Troubleshooting Input Queue and Output Queue Drops

- Understanding the Ping and Traceroute Commands

## Understanding Error Messages

- Cisco Error Message Decoder Tool (available to registered CCO users)
- Spurious Accesses and Alignment Errors
- Troubleshooting CEF-Related Error Messages
- What Causes %SYS-3-CPUHOG Messages?

## Additional Tools

- Bug Toolkit (available to registered CCO users)
- Cisco IOS Command Lookup Tool
- Field Notices
- Output Interpreter (available to registered CCO users)
- Software Advisor (available to registered CCO users)