

57 Troubleshooting

This chapter provides information that will help you troubleshoot OmniSwitch and Omni Switch/Router hardware and software problems. The sections within this chapter describe problems or errors you may encounter during switch hardware and software installation, configuration, or operation. Subsections within these categories reflect unique problems and provide the recommended corrective action(s).

Common problems installing switch software and possible solutions are described on page 57-4. Common network problems and possible solutions are described on page 57-5. Common hardware problems and possible solutions are described on page 57-8. And User Interface (UI) error messages, which can be used to diagnose problems, are described in page 57-10.

Detecting Problems

The Omni Switch/Router and OmniSwitch provide several mechanisms to detect problems. Hardware problems can be detected through:

- LEDs (OK1)
- PING tests using the **ping** command
- Network Management Software (NMS) error reporting
- Diagnostics software
- Command Line Interface (CLI) commands (e.g., **view atm port**)
- UI error messages

This chapter lists UI error messages. Refer to the appropriate hardware chapters for a complete description of LED states. Refer to NMS online documentation for explanations of NMS error messages. Refer to Chapter 31, “IP Routing,” for procedures to use the **ping** command. Refer to Chapter 58, “Running Hardware Diagnostics,” for documentation on diagnostics software. And refer to the *Text-Based Configuration CLI Reference Guide* for documentation on CLI commands.

Software problems can be detected through:

- LEDs (OK2)
- NMS error reporting
- CLI diagnostic commands (e.g., **dump** and **configuration check**)
- UI error messages

This chapter lists UI error messages. Refer to NMS online documentation for explanations of NMS error messages. And refer to the *Text-Based Configuration CLI Reference Guide* for documentation on CLI commands.

Reporting Problems

In some cases, you will not be able to correct the problem that occurs (for instance, a module failure). In such cases, you should contact Alcatel Technical Support at one of the following locations:

West Coast:

Alcatel Technical Support
26801 West Agoura Road
Calabasas, CA 91301

Telephone: 1-800-995-2696 (Domestic) 818-878-4507 (International)

Fax: 818-878-3505

Web: www.ind.alcatel.com/support

Email: support@ind.alcatel.com

East Coast:

Alcatel Technical Support
100 Nagog Park
Acton, MA 01720

Telephone: 1-800-995-2696 (domestic); 818-878-4507 (international)

Fax: (978) 264-3933

Web: www.ind.alcatel.com/support

Email: support@ind.alcatel.com

When reporting problems, you should note hardware and software details, as described in the subsections that follow.

Report Hardware Details

When reporting problems you should be ready to report the following hardware details to Alcatel Technical Support:

- Type of chassis (Omni Switch/Router or OmniSwitch) and version of chassis (e.g., Omni-3wx, OmniS/R-9)
- Frame- or cell-based backplane
- Serial number of chassis and module(s)
- Type of module that failed
- Hardware revision of module
- Model number of power supply
- UPS or direct connect to power source
- Any dump files on the flash file system

Report Software Details

When reporting problems you should be ready to report the following software details to Alcatel Technical Support:

- Software revision (e.g., 3.4.8, 4.1.2)
- Whether the feature never worked or was intermittent
- Bridging or routing configured
- Multiple groups or VLANs configured
- IP PING access
- Statistics incrementing correctly
- Protocols used
- Any capture file (trace) available
- Any dump files on flash file system

Understanding Problems

The following self-questions can be used to get a better idea on the nature of the problem:

- Has this functionality ever worked?
- What changes have occurred in the network? Was software upgraded? Were device(s) added?
- Are all users affected or are the problems related to a single port, module, or switch?
- Are statistics (as reported by UI commands such **vs**, **ve**, **bps**, and **rmon**) incrementing on the affected port(s)?
- Are all protocols (routed or switched) failing?
- Can the affected device be successfully pinged via IP/IPX?
- Can a trace be captured on the affected segment(s)?
- Is an external analyzer, such as a Sniffer or Alcatel's Port Mirroring/Port Monitoring, available?

This chapter provides documentation on some common problems and potential solutions for problems with your switch in the sections that follow.

Software Installation Problems

If you encounter problems during software installation, most likely you will see error messages that indicate the problem.

If you cannot install the software, you can use the Boot Line prompt to download files via ZMODEM or a computer attached to a SLIP line. You can also temporarily set boot parameters and load from Boot Line in an attempt to load under different settings (refer to Appendix A, "The Boot Line Prompt"). For more information about loading software via ZMODEM, refer to Chapter 9, "Installing Switch Software."

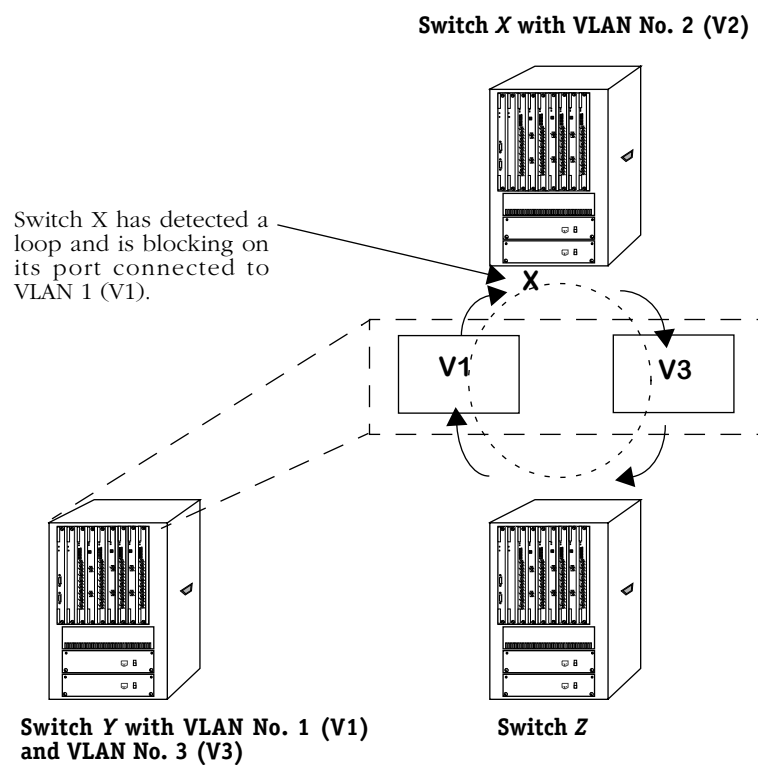
Operational Problems

The following paragraphs describe operational problems you may encounter.

Deadlocked VLAN

Occasionally, a VLAN may deadlock. This may be a result of the configuration process you used when you set up the VLANs.

If, for example, you have a setup with three switches, as shown in the following figure, the VLAN can enter a deadlock. In this example, there are two switches, one configured with one VLAN (Switch X), another configured with two VLANs (Switch Y), and another switching device that connects to the VLANs (Switch Z).



Deadlocked VLANs Due to Loop

In this situation, VLAN 2 (V2) in the Switch X is in a loop because it has not learned that it has connected to Switch Y with two virtual bridges (V1 and V3), which are inside one switch. Since V2 detects a loop, it invokes blocking at the port connected to V1, which results in a deadlock. V1 and V3, inside Switch Y, can still communicate, and traffic still exits V2 in Switch X, going to V3; however, traffic will not exit V3.

To determine if this problem has occurred in your setup, you can use the **vi** command to display information about a specific port. (See Chapter 25, “Managing Groups and Ports,” for more information on the **vi** command.) The syntax for this command is as follows:

```
vi <slot>/<interface>
```

The system will show the port in Blocking mode and not in Forwarding mode.

Probable Cause

You did not configure the network from the point furthest away from the point of connection.

Solution

To rectify the problem, you should always start configuration from the switch that is the furthest away from the point of connection. In the figure on page 57-5, for example, you would start the change from V2 in Switch X. By configuring this switch first, you would set it up to see the two VLANs in Switch Y, and use two Spanning Trees to looping.

Problems with IP Applications

You may have enabled routing on a VLAN, but have problems with PING and other IP applications.

Probable Cause

When routing is enabled on a VLAN, packets will not be forwarded unless the Spanning Tree Status for the port being forwarded to has progressed from Listening to Learning to Forwarding.

You can determine if Spanning Tree Protocol has entered the Forwarding state for a port by viewing port status with the **sts** command. Refer to Chapter 23, “Configuring Bridging Parameters,” for information on Spanning Tree Status and the **sts** command.

Solution

Spanning Tree algorithms put the ports into the correct state. There may be propagation delays when the Spanning Tree passes protocol information throughout a bridged network. This is normal as bridge ports wait for new topology information and for the lifetime of frames being forwarded using the old topology to expire. Immediate transitions from port state to port state should not be expected.

If the port is in the blocking mode, then the Spanning Tree has detected a loop. Blocking is a desired, preventive measure invoked by the Spanning Tree algorithm.

You should not attempt to alter the port state or remove the Spanning Tree. If you attempt to move a port from non-participation to the forwarding state, you take the risk of introducing data loops.

Once in the Forwarding state, PINGs and other IP applications should function properly.

Protocol Problems

You may notice an abnormal number of errors in a particular protocol. You can view protocol errors by using the networking commands. Refer to Chapter 31, “IP Routing,” for more information on the networking commands.

Probable Cause

Incompatible versions of the protocol are running on stations in the network.

Solution

Check the version of the protocol and verify that you are using the same version on all stations in the network. For example, you may be required to run Spanning Tree, Revision C on all stations.

Also, check the parameter values that you set for the protocol.

Hardware Problems

The following sections describe problems you may encounter with switch hardware.

LEDS Do Not Light on All Modules

You have turned on the power supply to the switch, but the LEDs on the modules do not light.

Probable Cause

The power supply has blown a fuse.

Solution

Call Alcatel Technical Support unless you have an Omni-5 or Omni-9. The power supplies on these chassis are shipped with a spare, 250-Volt, 3.15 amp fuse. See Chapter 5, “OmniSwitch Power Supplies,” for information on locating the spare and replacing the fuse.

If replacing the fuse does not cause the LEDs to light, call Alcatel Technical Support.

Amber Color in LEDs

During power-up, the switch goes through a Power-On Self Test (POST). Results of the test are reflected in the OK1 and OK2 LEDs on the MPM/MPX and switching modules; specifically, OK1 indicates hardware failures, while OK2 indicates software failures.

The first time you start the switch, the OK1 LED will blink in amber once to indicate start mode. The OK2 LED will blink in green rapidly to indicate image loading. Thereafter, OK2 should blink slower in green to indicate operational mode.

Probable Cause

Hardware failure or software failure.

Solution

If the amber LED displays on a switching module, replace the module with a known, good module.

If the amber LED displays on the MPM/MPX, or after replacing the switching module the problem persists, shut down the switch and call Alcatel Technical Support.

Non-Blinking OK2 LED

When the switch is operating properly, the OK2 LED blinks in green. When the OK2 LED displays a steady green light, this is an indication of problems.

Probable Cause

The MPM/MPX or the software is malfunctioning. Typically the problem cannot be resolved by rebooting.

Solution

Shut down the switch and call Alcatel Technical Support.

TEMP LED is Amber

If the TEMP LED is amber, the internal temperature of the switch has exceeded the operational limit.

Solution

Perform the following steps:

1. Turn off the switch and wait until it has completely cooled down.
2. Check the immediate environment and ensure that the switch is not located in an area where it can be overheated by other heat-producing devices.
3. Ensure that the switch is located in an area where there is ample room for air flow around the chassis.

If the environment is satisfactory, check the internal cooling fans. The switch is shipped with redundant fans that start automatically when you power up the unit. Try powering up and listen for the fan motors. Also, you should feel a slight air flow near the chassis. If the fans are not working, power down and contact Alcatel Technical Support.

STA LED Is Off

There is one status LED per port on Ethernet switching modules. When lit, it indicates that a good cable connection exists to an Ethernet device.

Probable Cause

The LAN cable is not connected properly or is faulty.

Solution

Check all port connections and inspect the cable. If you find a faulty cable, replace the cable.

Cannot Use SLIP Line on an MPM

You may have connected a SLIP line or terminal to either of the two serial ports, and configured SLIP, using the **slipc** command, in the UI, but you still cannot connect.

Probable Cause

Jumper settings on the MPM are not set up for SLIP.

Solution

Move shunts on jumper block 452-457 for SLIP. Chapter 6, "The Management Processor Module (MPM)," describes the jumper block location and jumper settings for SLIP.

◆ Note ◆

The MPX and MPM-C do not have jumpers that affect SLIP.

Error Messages

This section provides error messages that you may encounter in the UI.

Understanding Error Messages

Error messages reflect hardware or software problems that the switch encountered during initialization, configuration, or operation.

In some instances, the messages that display on the UI show the C program function name. For example:

cmSetTTY(): Illegal port requested

where **cmSetTTY** represents the function, and **()** indicates that parameters are passed. This information is for internal debugging purposes.

In this section, the phrase **xxx** in error messages represents a value that is specific to that message. For example, in the message **board type xxx**, the specific board type displays in the error message.

Correcting Errors

In most cases, you will not be able to correct error conditions that result because of internal hardware or software malfunctions. You should contact Alcatel Technical Support when you receive these messages. Refer to *Reporting Problems* on page 57-2.

You can correct error conditions that result because incorrect parameter values were entered during configuration. The tables that follow list error messages to which you can respond.

Module Startup/Shutdown Error Messages	
Message	Corrective Action
False Shutdown: restarting to handle queued msgs	This message does not reflect an error condition. No action required.
P3 diags failed...	Message results when the module fails diagnostic tests. Try replacing the module.
Download failed	Try replacing the module.
No reply from VSE driver board-up request	Try replacing the module.
No reply from MBox	Try replacing the module.

Serial Port Configuration Errors	
Message	Corrective Action
Problem deleting SLP port xxx, errno=xx	Reboot the system, then use the Boot Line configuration to force SLIP down at the boot line (refer to Appendix A “The Boot Line Prompt”).
Can't modify SLIP if it's not up! current mode=xxx	Reconnect the SLIP line; reconfigure using the slipc command; on MPMs, verify that jumpers on are set for SLIP (refer to Chapter 6 “The Management Processor Module (MPM)”).
Problem changing SLIP remote IP addr to xxx	Check the remote IP address by using the slipc command at the UI. Refer to Chapter 6, “The Management Processor Module (MPM).”
Couldn't setup SLIP port slxxx on xxx	Reboot the switch.

Module Connection Errors	
Message	Corrective Action
interrupt: Link Error Monitor ALERT on xxx/xxx PHY-xxx	If this message shows up once or twice, it probably means that someone is plugging a new cable in slot/port xxx/xxx, physical connector xxx. If it displays more frequently, then there is probably a bad CDDI or FFDI connection on slot/port xxx/xxx, physical connector xxx, caused by either dirty connectors or bad cabling. Try cleaning the connections or replacing the cabling.

Chassis Error Messages

The slots in the messages within the following table are all zero based. That is, Slot 1 will be displayed as “Slot 0,” Slot 2 will be displayed as “Slot 1,” etc.

Chassis Error Messages Table	
Message	Corrective Action
Problem deleting SLP port xxx, errno=xx	Reboot the system, then use the Boot Line configuration to force SLIP down at the boot line (refer to Appendix A “The Boot Line Prompt”).
Unknown mod type xxx in slot xxx	Remove the module from the slot.
Board xxx needed to be restarted at xxx	The module appears dead. Remove the module from the slot and replace with a known good module.
Chassis mgr discovered xxx has a problem!	The software has discovered a dead task. The system will reboot automatically.
System seems to have (perhaps) recovered. A reboot may not be unwise, however.	The system encountered an unexpected condition. Reboot the switch.
cm_Mod_Event(): the slot wasn't empty	The system is confused. Clear the system by rebooting it.
ERROR: can't read ID info from MPM in slot xxx...shutting down chassis manager	This may indicate a bad MPM/MPX. Try power cycling.
Please run cmConfigEPROMxxx and reboot	This may indicate a bad MPM/MPX. Try power cycling.
Can't read ID info from slot.xxx fail...	This may indicate a bad MPM/MPX. Try power cycling.
cm_Mod_Event(): slot was already empty!	Reboot the system.
Problem reading ID PROM on module xxx	Try power cycling. If the problem remains, remove the module and try another slot.
ID PROM on module xxx has unknown format number xxx	Try power cycling. If the problem remains, remove the module and try another slot.
Real-Time Clock not set yet! Starting at zero.	Reset the clock by using the uic command.
Unknown modem stop bits=xxx	Change stop bits by configuring boot line (refer to Appendix A “The Boot Line Prompt”).
Couldn't read reset count, returning 0	This message appears only once if the configuration file is removed.

continued on next page...

Chassis Error Messages Table (Cont.)	
Message	Corrective Action
Couldn't read chassis description, setting default	Enter a new chassis description with the syscfg command.
cmSavePortInfo() successful	This message does not indicate an error.

