HP ProLiant Servers Troubleshooting Guide

October 2003 (Second Edition)
Part Number 338615-002

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Contents

Diagnosing the Problem

In This Section

Introduction

This section covers the steps to take to diagnose a problem quickly.

To effectively troubleshoot a problem, HP recommends that you start with the first flowchart in this section, "Start Diagnosis Flowchart (on page 26)," and follow the appropriate diagnostic path. If the other flowcharts do not provide a troubleshooting solution, follow the diagnostic steps in "General Diagnosis Flowchart (on page 29)." The General Diagnosis flowchart is a generic troubleshooting process to be used when the problem is not server-specific or is not easily categorized into the other flowcharts.

IMPORTANT: This guide provides information for multiple servers. Some information may not apply to the server you are troubleshooting. Refer to the server documentation for information on procedures, hardware options, software tools, and operating systems supported by the server.

WARNING: To avoid potential problems, ALWAYS read the warnings and cautionary information in the server documentation before removing, replacing, reseating, or modifying system components.

This Edition

This edition of the HP ProLiant Servers Troubleshooting Guide only supports servers compatible with SmartStart version 6.0 and higher.

Other servers are supported by a previous version of this guide. Refer to the server product page on the HP website (http://www.hp.com).

Important Safety Information

Familiarize yourself with the safety information in the following sections before troubleshooting the server.

Important Safety Information

Before servicing this product, read the *Important Safety Information* document provided with the server.

Symbols on Equipment

The following symbols may be placed on equipment to indicate the presence of potentially hazardous conditions.

This symbol indicates the presence of hazardous energy circuits or electric shock hazards. Refer all servicing to qualified personnel.

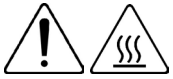
WARNING: To reduce the risk of injury from electric shock hazards, do not open this enclosure. Refer all maintenance, upgrades, and servicing to qualified personnel.

This symbol indicates the presence of electric shock hazards. The area contains no user or field serviceable parts. Do not open for any reason.

WARNING: To reduce the risk of injury from electric shock hazards, do not open this enclosure.

This symbol on an RJ-45 receptacle indicates a network interface connection.

WARNING: To reduce the risk of electric shock, fire, or damage to the equipment, do not plug telephone or telecommunications connectors into this receptacle.



This symbol indicates the presence of a hot surface or hot component. If this surface is contacted, the potential for injury exists.

WARNING: To reduce the risk of injury from a hot component, allow the surface to cool before touching.

These symbols, on power supplies or systems, indicate that the equipment is supplied by multiple sources of power.

WARNING: To reduce the risk of injury from electric shock, remove all power cords to completely disconnect power from the system.

weight in kg

weight in lb

This symbol indicates that the component exceeds the recommended weight for one individual to handle safely.

WARNING: To reduce the risk of personal injury or damage to the equipment, observe local occupational health and safety requirements and guidelines for manual material handling.

Warnings and Cautions

WARNING: Only authorized technicians trained by HP should attempt to repair this equipment. All troubleshooting and repair procedures are detailed to allow only subassembly/module-level repair. Because of the complexity of the individual boards and subassemblies, no one should attempt to make repairs at the component level or to make modifications to any printed wiring board. Improper repairs can create a safety hazard.

WARNING: To reduce the risk of personal injury or damage to the equipment, be sure that:

- **The leveling jacks are extended to the floor.**
- **The full weight of the rack rests on the leveling jacks.**
- **The stabilizing feet are attached to the rack if it is a single-rack installation.**
- **The racks are coupled together in multiple-rack installations.**
- **Only one component is extended at a time. A rack may become unstable if more than one component is extended for any reason.**

WARNING: To reduce the risk of electric shock or damage to the equipment:

- **Do not disable the power cord grounding plug. The grounding plug is an important safety feature.**
- **Plug the power cord into a grounded (earthed) electric outlet that is easily accessible at all times.**
- **Unplug the power cord from the power supply to disconnect power to the equipment.**
- **Do not route the power cord where it can be walked on or pinched by items placed against it. Pay particular attention to the plug, electric outlet, and the point where the cord extends from the server.**

46-109 kg

100-240 lb

WARNING: To reduce the risk of personal injury or damage to the equipment:

- **Observe local occupation health and safety requirements and guidelines for manual material handling.**
- **Obtain adequate assistance to lift and stabilize the chassis during installation or removal.**
- **The server is unstable when not fastened to the rails.**
- **When mounting the server in a rack, remove the power supplies, the media/power supply drawer, the processor/memory drawer, and all System Power Modules to reduce the overall weight of the product.**

CAUTION: To properly ventilate the system, you must provide at least 7.6 cm (3.0 in) of clearance at the front and back of the server.

CAUTION: The server is designed to be electrically grounded (earthed). To ensure proper operation, plug the AC power cord into a properly grounded AC outlet only.

Preparing the Server for Diagnosis

1. Be sure the server is in the proper operating environment with adequate power, air conditioning, and humidity control. Refer to the server documentation (on page 87) for required environmental conditions.
2. Record any error messages displayed by the system.
3. Remove all diskettes and CDs from the media drives.
4. Power down the server and peripheral devices if you will be diagnosing the server offline. Always perform an orderly shutdown if possible. This means you must:

a. Exit any applications.

b. Exit the operating system.

c. Power down the server.

5. Disconnect any peripheral devices not required for testing (any devices not necessary to power up the server). Do not disconnect the printer if you want to use it to print error messages.
6. Collect all tools and utilities, such as a Torx screwdriver, loopback adapters, ESD wrist strap, and software utilities, necessary to troubleshoot the problem.

   – You must have the appropriate Health Drivers and Management Agents installed on the server.

     NOTE: To verify the server configuration, connect to the System Management Homepage (on page 96) and select Version Control Agent (VCA). The VCA gives you a list of names and versions of all installed HP drivers, Management Agents, and utilities, and whether they are up to date.

   – HP recommends you have access to the SmartStart CD for value-added software and drivers required during the troubleshooting process.

   – HP recommends you have access to the server documentation (on page 87) for server-specific information.

Symptom Information

Before troubleshooting a server problem, collect the following information:

- What events preceded the failure? After which steps does the problem occur?
- What has been changed between the time the server was working and now?
- Did you recently add or remove hardware or software? If so, did you remember to change the appropriate settings in the server setup utility, if necessary?
- Has the server exhibited problem symptoms for a period of time?
- If the problem occurs randomly, what is the duration or frequency?

To answer these questions, the following information may be useful:

- Run the Survey Utility ("Management CD" on page 93) and compare what has changed (for servers running Microsoft® Windows NT®, Linux, or Novell NetWare operating systems)
- Refer to your hardware and software records for information

Diagnostic Steps

To effectively troubleshoot a problem, HP recommends that you start with the first flowchart in this section, "Start Diagnosis Flowchart (on page 26)," and follow the appropriate diagnostic path. If the other flowcharts do not provide a troubleshooting solution, follow the diagnostic steps in "General Diagnosis Flowchart (on page 29)." The General Diagnosis flowchart is a generic troubleshooting process to be used when the problem is not server-specific or is not easily categorized into the other flowcharts.

The available flowcharts include:

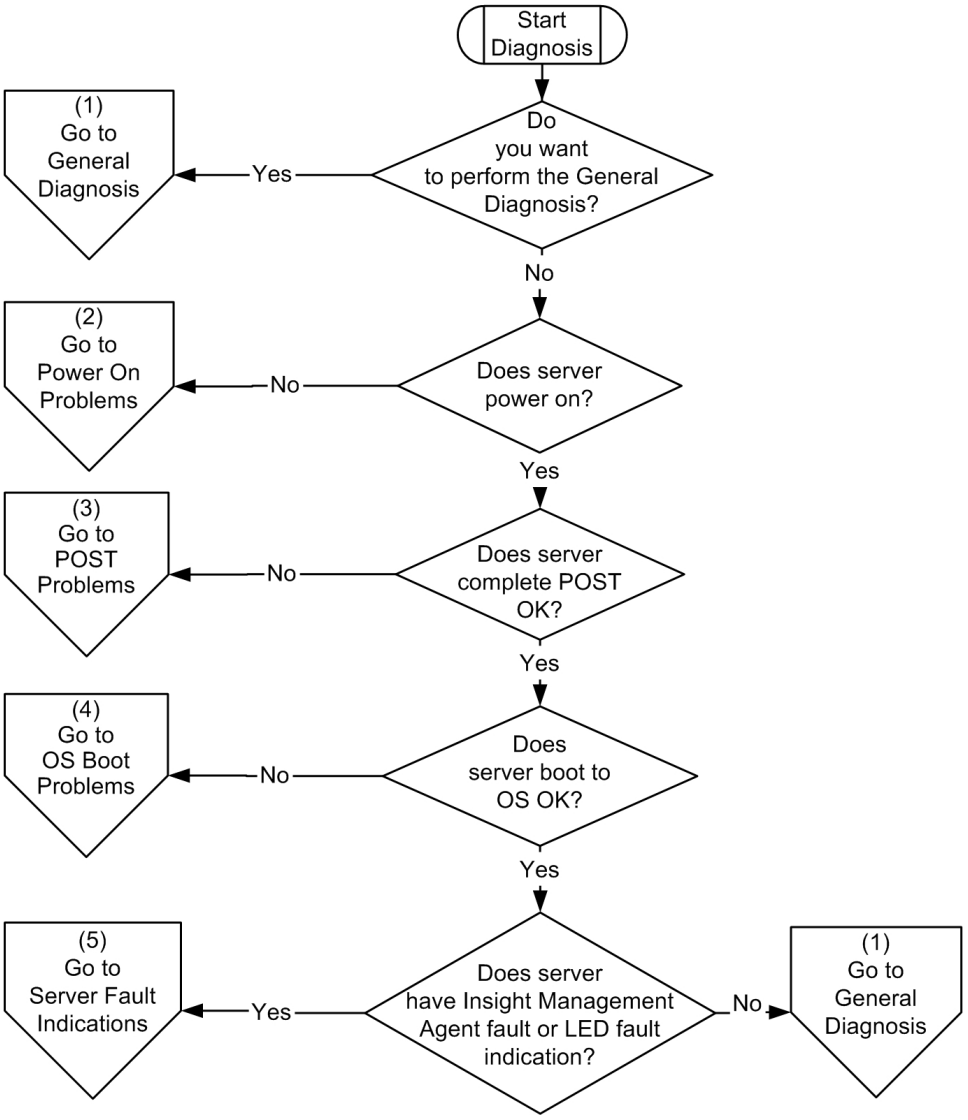
- Start Diagnosis Flowchart (on page 26)
- General Diagnosis Flowchart (on page 29)
- Power-On Problems Flowchart (on page 31)
- POST Problems Flowchart (on page 34)
- OS Boot Problems Flowchart (on page 36)
- Server Fault Indications Flowchart (on page 39)

The number contained in parentheses in the flowchart boxes corresponds to a table with references to other detailed documents or troubleshooting instructions.

Start Diagnosis Flowchart

Use the following flowchart to start the diagnostic process.

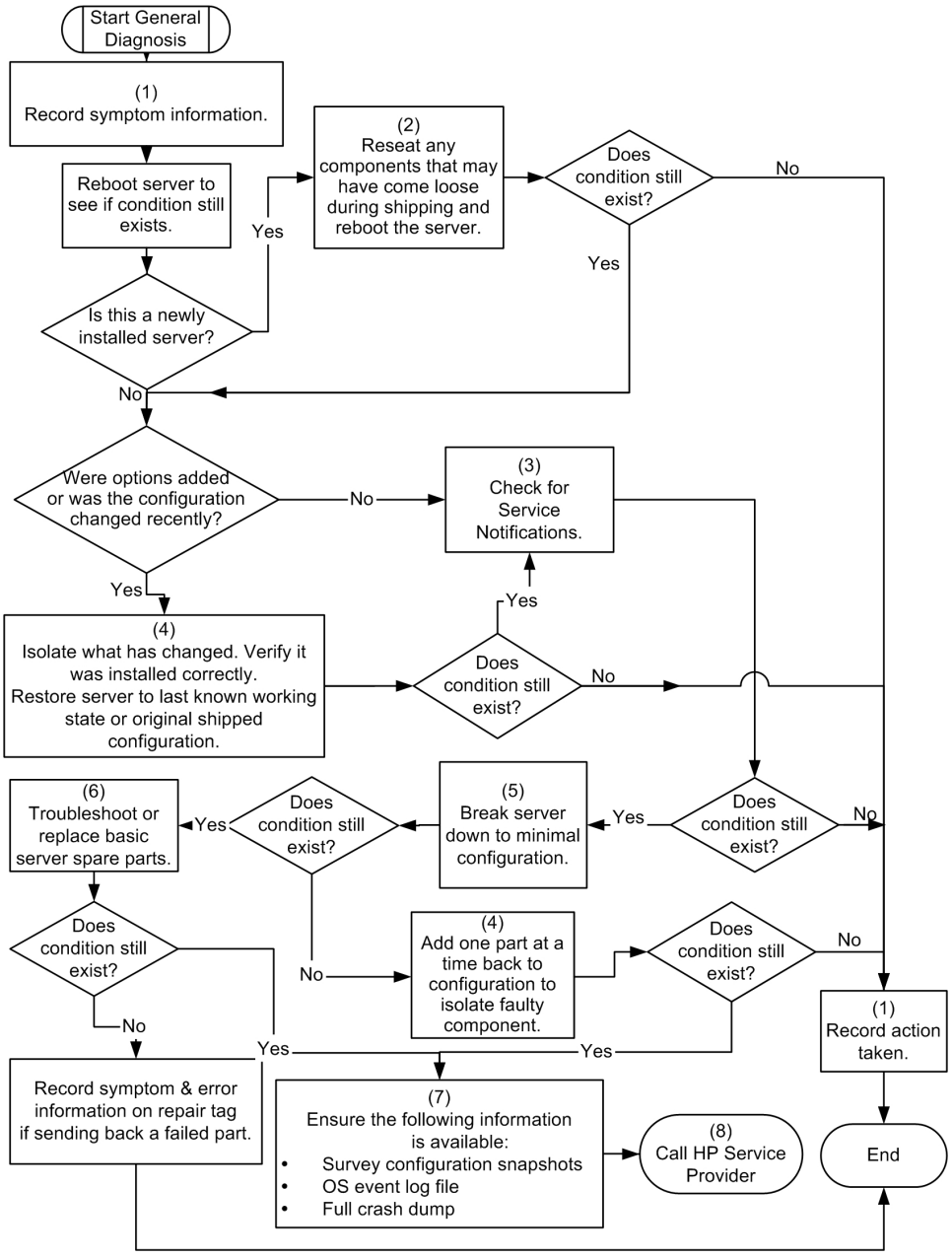
Item	Refer to
1	"General Diagnosis Flowchart (on page 29)"
2	"Power-On Problems Flowchart (on page 31)"
3	"POST Problems Flowchart (on page 34)"
4	"OS Boot Problems Flowchart (on page 36)"
5	"Server Fault Indications Flowchart (on page 39)"


Start Diagnosis
Do you want to perform the General Diagnosis?
Yes
(1) Go to General Diagnosis
No
Does server power on?
No
(2) Go to Power On Problems
Yes
Does server complete POST OK?
No
(3) Go to POST Problems
Yes
Does server boot to OS OK?
No
(4) Go to OS Boot Problems
Yes
Does server have Insight Management Agent fault or LED fault indication?
Yes
(5) Go to Server Fault Indications
No
(1) Go to General Diagnosis

General Diagnosis Flowchart

The General Diagnosis flowchart provides a generic approach to troubleshooting. If you are unsure of the problem, or if the other flowcharts do not fix the problem, use the following flowchart.

Item	Refer to
1	"Symptom Information (on page 25)"
2	"Loose Connections (on page 46)"
3	"Service Notifications (on page 88)"
4	Server maintenance and service guide, located on the Documentation CD or the HP website (http://www.hp.com/products/servers/platforms)
5	Server user guide or setup and installation guide, located on the Documentation CD or the HP website (http://www.hp.com/products/servers/platforms)
6	• Server maintenance and service guide, located on the Documentation CD or the HP website (http://www.hp.com/products/servers/platforms) • "Hardware Problems (on page 43)"
7	• "Server Information You Need (on page 270)" • "Operating System Information You Need (on page 271)"
8	"Contacting HP Technical Support or Authorized Reseller (on page 269)"


Start General Diagnosis
(1) Record symptom information.
Reboot server to see if condition still exists.
Is this a newly installed server?
Yes
(2) Reseat any components that may have come loose during shipping and reboot the server.
Does condition still exist?
No
Yes
No
Were options added or was the configuration changed recently?
No
(3) Check for Service Notifications.
Yes
(4) Isolate what has changed. Verify it was installed correctly. Restore server to last known working state or original shipped configuration.
Does condition still exist?
Yes
No
(5) Break server down to minimal configuration.
Does condition still exist?
Yes
No
Does condition still exist?
Yes
(6) Troubleshoot or replace basic server spare parts.
Does condition still exist?
No
(4) Add one part at a time back to configuration to isolate faulty component.
Does condition still exist?
No
(1) Record action taken.
Yes
Yes
Record symptom & error information on repair tag if sending back a failed part.
(7) Ensure the following information is available:
• Survey configuration snapshots
• OS event log file
• Full crash dump
(8) Call HP Service Provider
End

Power-On Problems Flowchart

Symptoms:

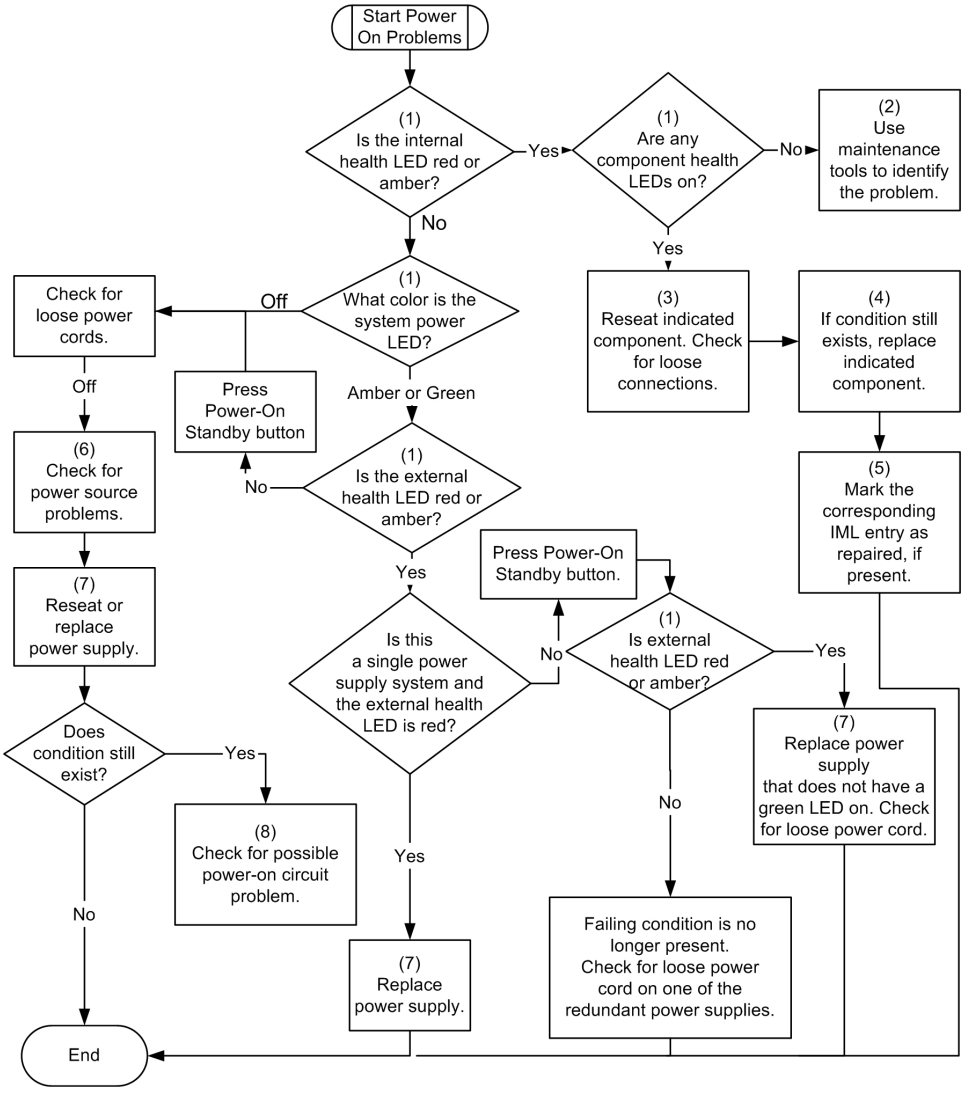
- The server does not power on.
- The system power LED is off or amber.
- The external health LED is red or amber.
- The internal health LED is red or amber.

> **NOTE:** For the location of server LEDs and information on their statuses, refer to the server documentation.

Possible causes:

- Improperly seated or faulty power supply
- Loose or faulty power cord
- Power source problem
- Power on circuit problem
- Improperly seated component or interlock problem
- Faulty internal component

Item	Refer to
1	Server user guide or setup and installation guide, located on the Documentation CD or the HP website (http://www.hp.com/products/servers/platforms).
2	"HP Insight Diagnostics (on page 91)"
3	"Loose Connections (on page 46)"
4	Server maintenance and service guide, located on the Documentation CD or the HP website (http://www.hp.com/products/servers/platforms)
5	"Integrated Management Log (on page 92)"
6	"Power Source Problems (on page 43)"
7	• "Power Supply Problems (on page 44)" • Server maintenance and service guide, located on the Documentation CD or the HP website (http://www.hp.com/products/servers/platforms)
8	"System Open Circuits and Short Circuits (on page 63)"


Start Power On Problems
(1) Is the internal health LED red or amber?
Yes
(1) Are any component health LEDs on?
No
(2) Use maintenance tools to identify the problem.
Yes
(3) Reseat indicated component. Check for loose connections.
(4) If condition still exists, replace indicated component.
(5) Mark the corresponding IML entry as repaired, if present.
No
(1) What color is the system power LED?
Off
Check for loose power cords.
Off
(6) Check for power source problems.
(7) Reseat or replace power supply.
Does condition still exist?
Yes
(8) Check for possible power-on circuit problem.
No
End
Press Power-On Standby button
No
Amber or Green
(1) Is the external health LED red or amber?
Yes
Is this a single power supply system and the external health LED is red?
Yes
(7) Replace power supply.
No
Press Power-On Standby button.
(1) Is external health LED red or amber?
Yes
(7) Replace power supply that does not have a green LED on. Check for loose power cord.
No
Failing condition is no longer present. Check for loose power cord on one of the redundant power supplies.

POST Problems Flowchart

Symptoms:

- Server does not complete POST

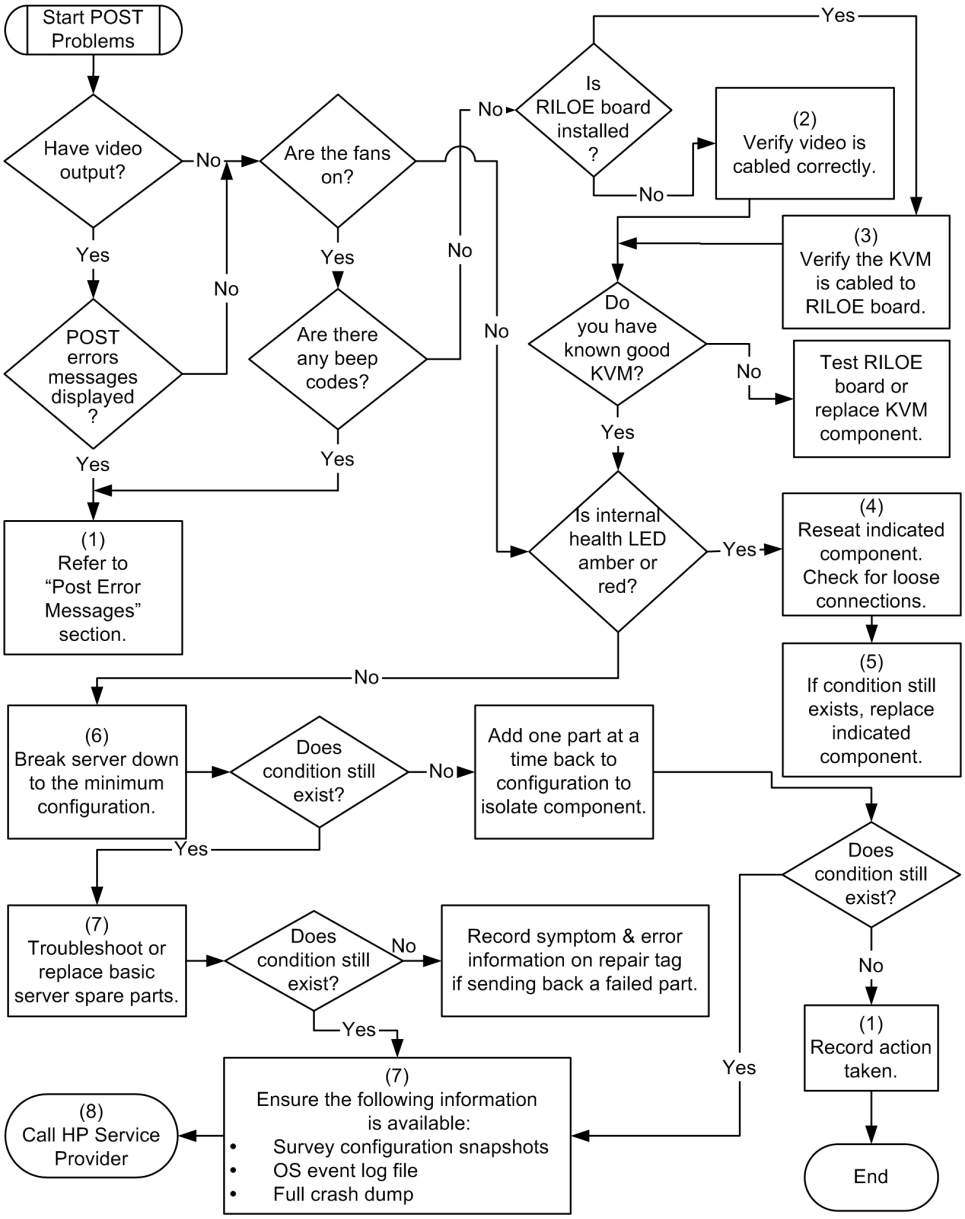
  NOTE: The server has completed POST when the system attempts to access the boot device.

- Server completes POST with errors

Possible Problems:

- Improperly seated or faulty internal component
- Faulty KVM device
- Faulty video device

Item	Refer to
1	"POST Error Messages ("POST Error Messages and Beep Codes" on page 141)"
2	"Video Problems (on page 64)"
3	KVM or RILOE documentation
4	"Loose Connections (on page 46)"
5	Server maintenance and service guide, located on the Documentation CD or the HP website (http://www.hp.com/products/servers/platforms)
6	Server user guide or setup and installation guide, located on the Documentation CD or the HP website (http://www.hp.com/products/servers/platforms)
7	• "Hardware Problems (on page 43)" • Server maintenance and service guide, located on the Documentation CD or the HP website (http://www.hp.com/products/servers/platforms)


Start POST Problems
Have video output?
No
Are the fans on?
No
Is RILOE board installed ?
Yes
No
(2) Verify video is cabled correctly.
(3) Verify the KVM is cabled to RILOE board.
Yes
Yes
No
No
POST errors messages displayed ?
Are there any beep codes?
No
Do you have known good KVM?
No
Test RILOE board or replace KVM component.
Yes
Yes
Yes
Yes
(1) Refer to "Post Error Messages" section.
Is internal health LED amber or red?
Yes
(4) Reseat indicated component. Check for loose connections.
(5) If condition still exists, replace indicated component.
No
(6) Break server down to the minimum configuration.
Does condition still exist?
No
Add one part at a time back to configuration to isolate component.
Yes
Does condition still exist?
(7) Troubleshoot or replace basic server spare parts.
Does condition still exist?
No
Record symptom & error information on repair tag if sending back a failed part.
Yes
No
(1) Record action taken.
Yes
(7) Ensure the following information is available:
• Survey configuration snapshots
• OS event log file
• Full crash dump
(8) Call HP Service Provider
End

OS Boot Problems Flowchart

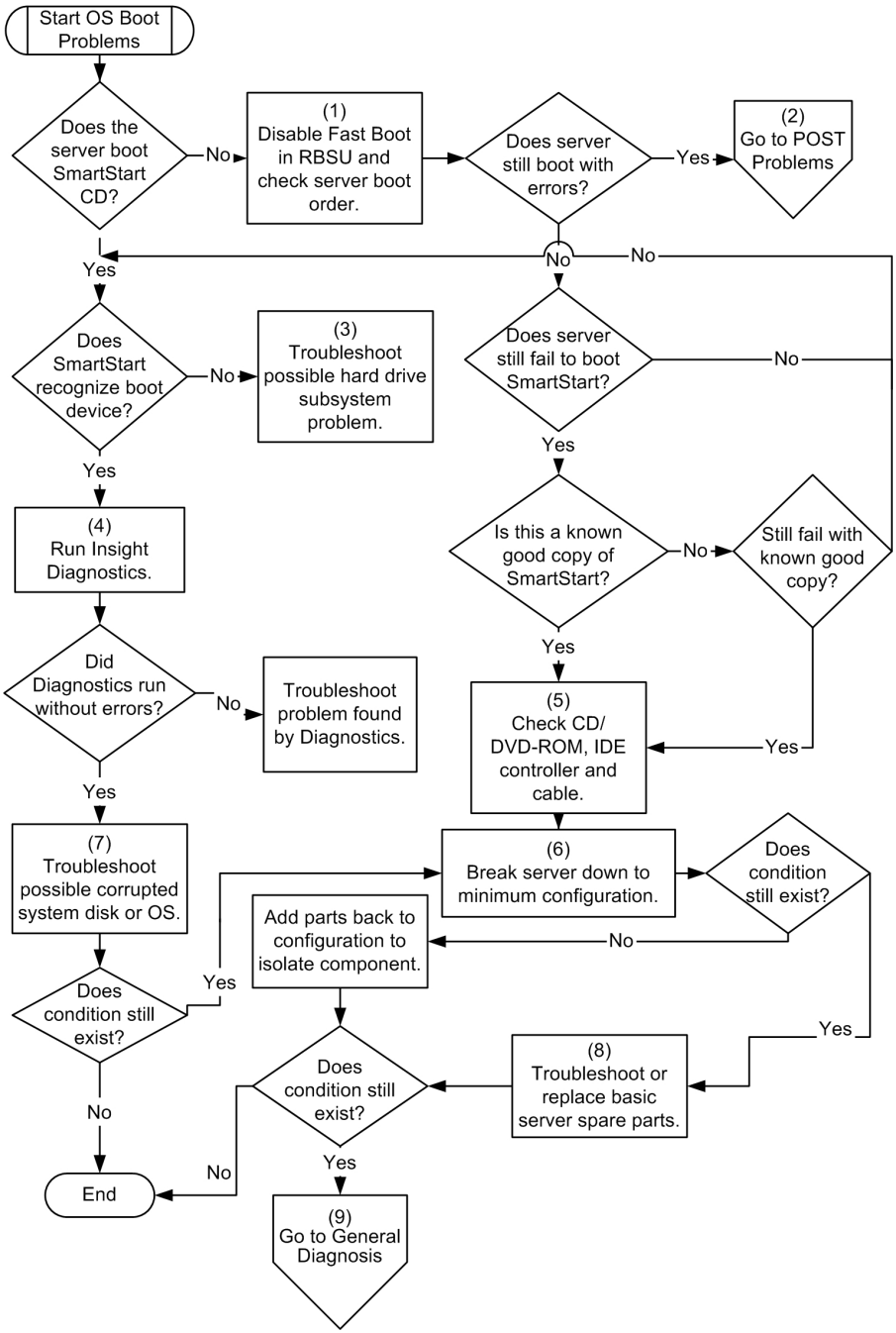
Symptoms:

- Server does not boot a previously installed operating system
- Server does not boot SmartStart

Possible Causes:

- Corrupted operating system
- Hard drive subsystem problem

Item	Refer to
1	*HP ROM-Based Setup Utility User Guide* (http://www.hp.com/servers/smartstart)
2	"POST Problems ("POST Problems Flowchart" on page 34)"
3	• "Hard Drive Problems (on page 57)" • Controller documentation
4	"HP Insight Diagnostics (on page 91)"
5	• "Loose Connections (on page 46)" • "CD-ROM and DVD Drive Problems (on page 50)" • Controller documentation
6	Server user guide or setup and installation guide, located on the Documentation CD or the HP website (http://www.hp.com/products/servers/platforms)
7	• "Operating System Problems (on page 76)" • "Contacting HP Technical Support or Authorized Reseller (on page 269)"
8	• "Hardware Problems (on page 43)" • Server maintenance and service guide, located on the Documentation CD or the HP website (http://www.hp.com/products/servers/platforms)
9	"General Diagnosis Flowchart (on page 29)"


Start OS Boot Problems
Does the server boot SmartStart CD?
No
(1) Disable Fast Boot in RBSU and check server boot order.
Does server still boot with errors?
Yes
(2) Go to POST Problems
No
No
Yes
Does SmartStart recognize boot device?
No
(3) Troubleshoot possible hard drive subsystem problem.
Does server still fail to boot SmartStart?
No
Yes
Yes
(4) Run Insight Diagnostics.
Is this a known good copy of SmartStart?
No
Still fail with known good copy?
Yes
Did Diagnostics run without errors?
No
Troubleshoot problem found by Diagnostics.
(5) Check CD/ DVD-ROM, IDE controller and cable.
Yes
Yes
(7) Troubleshoot possible corrupted system disk or OS.
(6) Break server down to minimum configuration.
Does condition still exist?
Add parts back to configuration to isolate component.
No
Yes
Does condition still exist?
Yes
(8) Troubleshoot or replace basic server spare parts.
Does condition still exist?
No
No
Yes
End
(9) Go to General Diagnosis

Server Fault Indications Flowchart

Symptoms:

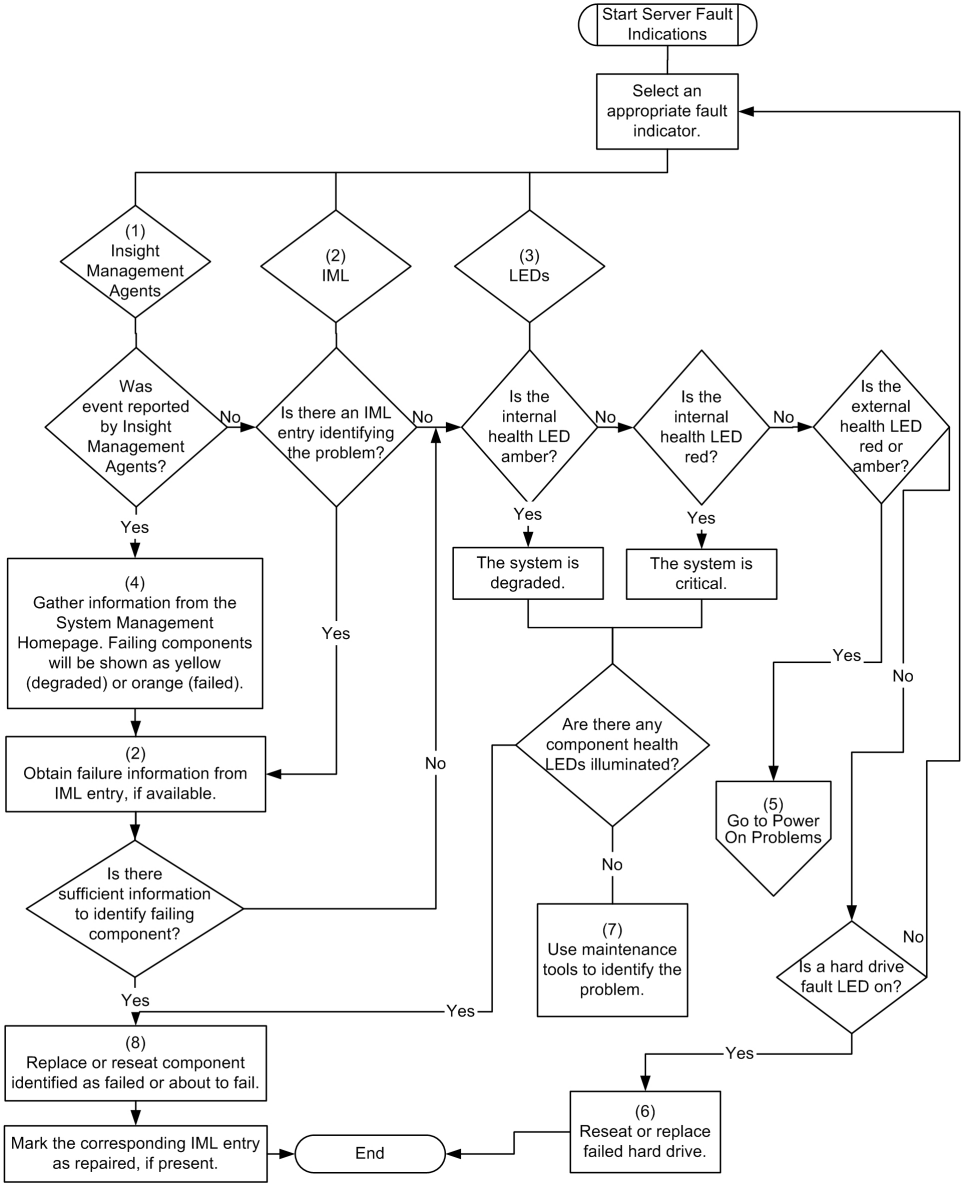
- Server boots, but a fault event is reported by Insight Management Agents (on page 93)
- Server boots, but the internal health LED or external health LED is red or amber

  NOTE: For the location of server LEDs and information on their statuses, refer to the server documentation.

Possible causes:

- Improperly seated or faulty internal or external component
- Unsupported component installed
- Redundancy failure
- System overtemperature condition

Item	Refer to
1	"Management Agents (on page 93)"
2	• "Integrated Management Log (on page 92)" • "Event List Error Messages (on page 263)"
3	Server user guide or setup and installation guide, located on the Documentation CD or the HP website (http://www.hp.com/products/servers/platforms)
4	System Management Homepage at https://localhost:2381 (https://localhost:2381)
5	"Power-On Problems ("Power-On Problems Flowchart" on page 31)"
6	• "Hard Drive Problems (on page 57)" • Server maintenance and service guide, located on the Documentation CD or the HP website (http://www.hp.com/products/servers/platforms)
7	"HP Insight Diagnostics (on page 91)"
8	• "Hardware Problems (on page 43)" • Server maintenance and service guide, located on the Documentation CD or the HP website (http://www.hp.com/products/servers/platforms)


Start Server Fault Indications
Select an appropriate fault indicator.
(1) Insight Management Agents
(2) IML
(3) LEDs
Was event reported by Insight Management Agents?
No
Is there an IML entry identifying the problem?
No
Is the internal health LED amber?
No
Is the internal health LED red?
No
Is the external health LED red or amber?
Yes
Yes
Yes
Yes
Yes
The system is degraded.
The system is critical.
(4) Gather information from the System Management Homepage. Failing components will be shown as yellow (degraded) or orange (failed).
(2) Obtain failure information from IML entry, if available.
Is there sufficient information to identify failing component?
No
Yes
Are there any component health LEDs illuminated?
No
Yes
(5) Go to Power On Problems
(7) Use maintenance tools to identify the problem.
Is a hard drive fault LED on?
No
Yes
(8) Replace or reseat component identified as failed or about to fail.
(6) Reseat or replace failed hard drive.
Mark the corresponding IML entry as repaired, if present.
End

Hardware Problems

In This Section

Power Problems

In This Section

Power Source Problems

Action:

1. Press the Power On/Standby button to be sure it is on. If the server has a Power On/Standby button that returns to its original position after being pressed, be sure you press the switch firmly.
2. Plug another device into the grounded power outlet to be sure the outlet works. Also, be sure the power source meets applicable standards.
3. Replace the power cord with a known functional power cord to be sure it is not faulty.
4. Replace the power strip with a known functional power strip to be sure it is not faulty.
5. Have a qualified electrician check the line voltage to be sure it meets the required specifications.
6. Be sure the proper circuit breaker is in the On position.

Power Supply Problems

Action:

1. Be sure no loose connections (on page 46) exist.
2. If the power supplies have LEDs, be sure they indicate that each power supply is working properly. Refer to the server documentation. If LEDs indicate a problem with a power supply, replace the power supply.
3. Be sure the system has enough power, particularly if you recently added hardware, such as hard drives. Additional power supplies may be required. Check the system information from the IML and use the server documentation for product-specific information.

UPS Problems

In This Section

UPS is not working properly

Action:

1. Be sure the UPS batteries are charged to the proper level for operation. Refer to the UPS documentation for details.
2. Be sure the UPS power switch is in the On position. Refer to the UPS documentation for the location of the switch.
3. Be sure the UPS software is updated to the latest version. Use the Power Management software located on the Power Management CD.
4. Be sure the correct power cord is the correct type for the UPS and the country in which the server is located. Refer to the UPS reference guide for specifications.
5. Be sure the line cord is connected.
6. Be sure each circuit breaker is in the On position, or replace the fuse if needed. If this occurs repeatedly, contact an authorized service provider.

7. Check the UPS LEDs to be sure a battery or site wiring problem has not occurred. Refer to the UPS documentation.
8. If the UPS sleep mode initiated, disable sleep mode for proper operation. The UPS sleep mode can be turned off through the configuration mode on the front panel.
9. Change the battery to be sure damage was not caused by excessive heat, particularly if a recent air conditioning outage has occurred.

   NOTE: The optimal operating temperature for UPS batteries is 25°C (77°F). For approximately every 8°C to 10°C (16°F to 18°F) average increase in ambient temperature above the optimal temperature, battery life is reduced by 50 percent.

Low battery warning is displayed

Action:

1. Plug the UPS into an AC grounded outlet for at least 24 hours to charge the batteries, and then test the batteries. Replace the batteries if necessary.
2. Be sure the alarm is set appropriately by changing the amount of time given before a low battery warning. Refer to the UPS documentation for instructions.

One or more LEDs on the UPS is red

Action: Refer to the UPS documentation for instructions regarding the specific LED to determine the cause of the error.

General Hardware Problems

In This Section

Loose Connections

Action:

- Be sure all power cords are securely connected.
- Be sure all cables are properly aligned and securely connected for all external and internal components.
- Remove and check all data and power cables for damage. Be sure no cables have bent pins or damaged connectors.
- If a fixed cable tray is available for the server, be sure the cords and cables connected to the server are correctly routed through the tray.
- Be sure each device is properly seated.
- If a device has latches, be sure they are completely closed and locked.
- Check any interlock or interconnect LEDs that may indicate a component is not connected properly.
- If problems continue to occur, remove and reinstall each device, checking the connectors and sockets for bent pins or other damage.

Problems with New Hardware

Action:

1. Refer to the server documentation to be sure the hardware being installed is a supported option on the server. Remove unsupported hardware.
2. Refer to the release notes included with the hardware to be sure the problem is not caused by a last minute change to the hardware release. If no documentation is available, refer to the HP support website (http://www.hp.com/support).
3. Be sure the new hardware is installed properly. Refer to the device, server, and operating system documentation to be sure all requirements are met.

   Common problems include:

   – Incomplete population of a memory bank

- Installation of a processor without a corresponding PPM
- Installation of a SCSI device without termination or without proper ID settings
- Setting of an IDE device to Master/Slave when the other device is set to Cable Select
- Connection of the data cable, but not the power cable, of a new device

4. Be sure no memory, I/O, or interrupt conflicts exist.
5. Be sure no loose connections (on page 46) exist.
6. Be sure all cables are connected to the correct locations and are the correct lengths. For more information, refer to the server documentation.
7. Be sure other components were not unseated accidentally during the installation of the new hardware component.
8. Be sure all necessary software updates, such as device drivers, ROM updates, and patches, are installed and current. For example, if you are using a Smart Array controller, you need the latest Smart Array Controller device driver.
9. Be sure all device drivers are the correct ones for the hardware. Uninstall any incorrect drivers before installing the correct drivers.
10. Run RBSU after boards or other options are installed or replaced to be sure all system components recognize the changes. If you do not run the utility, you may receive a POST error message indicating a configuration error. After you check the settings in RBSU, save and exit the utility, and then restart the server. Refer to the *HP ROM-Based Setup Utility User Guide* for more information.
11. Be sure all switch settings are set correctly. For additional information about required switch settings, refer to the labels located on the inside of the server access panel or the server documentation.
12. Be sure all boards are properly installed in the server.
13. Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) to see if it recognizes and tests the device.
14. Uninstall the new hardware.

Unknown Problem

Action:

1. Disconnect power to the server.
2. Following the guidelines and cautionary information in the server documentation, strip the server to its most basic configuration by removing every card or device that is not necessary to start the server. Keep the monitor connected to view the server startup process.
3. Reconnect power, and then power the system on.
   - If the video does not work, refer to "Video Problems (on page 64)."

     CAUTION: Only authorized technicians trained by HP should attempt to remove the system board. If you believe the system board requires replacement, contact HP Technical Support ("Contacting HP Technical Support or Authorized Reseller" on page 269) before proceeding.
   - If the system fails in this minimum configuration, one of the primary components has failed. If you have already verified that the processor, PPM, power supply, and memory are working before getting to this point, replace the system board. If not, be sure each of those components is working.
   - If the system boots and video is working, add each component back to the server one at a time, restarting the server after each component is added to determine if that component is the cause of the problem. When adding each component back to the server, be sure to disconnect power to the server and follow the guidelines and cautionary information in the server documentation.

Third-Party Device Problems

Action:

1. Refer to the server and operating system documentation to be sure the server and operating system support the device.
2. Be sure the latest device drivers ("Maintaining Current Drivers" on page 82) are installed.

3. Refer to the device documentation to be sure the device is properly installed. For example, a third-party PCI board may be required to be installed on the primary PCI bus.

Testing the Device

Action:

1. Uninstall the device.

   If the server works with the device removed and uninstalled, either a problem exists with the device, the server does not support the device, or a conflict exists with another device.

2. If the device is the only device on a bus, be sure the bus works by installing a different device on the bus.

3. Restarting the server each time to determine if the device is working, move the device:

   a. To a different slot on the same bus.

   b. To a PCI slot on a different bus.

   c. To the same slot in another working server of the same or similar design.

   If the board works in any of these slots, either the original slot is bad or the board was not properly seated. Reinsert the board into the original slot to verify.

4. If you are testing a board (or a device that connects to a board):

   a. Test the board with all other boards removed.

   b. Test the server with only that board removed.

   CAUTION: Clearing NVRAM deletes your configuration information. Refer to your server documentation for complete instructions before performing this operation or data loss could occur.

5. Clearing NVRAM can resolve various problems. Clear the NVRAM, but do not use the backup .SCI file if prompted. Have available any .CFG, .OVL, or .PCF files that are required.

Internal System Problems

In This Section

CD-ROM and DVD Drive Problems

In This Section

System does not boot from the drive

Action:

1. Be sure the drive boot order in RBSU is set so that the server boots from the CD-ROM drive first.
2. If the CD-ROM drive jumpers are set to Cable Select (the factory default), be sure the CD-ROM drive is installed as device 0 on the cable so that it is in position for the server to boot from the drive.
3. Be sure no loose connections (on page 46) exist.
4. Be sure the media from which you are attempting to boot is not damaged and is a bootable CD.
5. If attempting to boot from a USB CD-ROM drive:
   - Refer to the operating system and server documentation to be sure both support booting from a USB CD-ROM drive.

– Be sure legacy support for a USB CD-ROM drive is enabled in RBSU.

Data read from the drive is inconsistent, or drive cannot read data

Action:

1. Clean the drive and media.
2. If a paper or plastic label has been applied to the surface of the CD or DVD in use, remove the label and any adhesive residue.
3. Be sure the inserted CD or DVD format is valid for the drive. For example, be sure you are not inserting a DVD into a drive that only supports CDs.

Drive is not detected

Action:

1. Be sure no loose connections (on page 46) exist.
2. Refer to the drive documentation to be sure cables are connected as required.
3. Be sure the cables are working properly. Replace with known functional cables to test whether the original cables were faulty.
4. Be sure the correct, current driver is installed.

DAT Drive Problems

In This Section

Sense error codes are displayed

Action: Refer to the *Troubleshooting DAT Drives* white paper for information on DAT drive sense error codes. Search for it on the HP website (http://www.hp.com).

DAT drive error or failure occurs

Action:

1. Be sure drivers, software, and firmware are upgraded to the latest revisions.
2. Clean the drive at least four times to be sure that the heads are clean and to eliminate dirty heads as the possible cause of the failure.

   DAT drives require cleaning every 8 to 25 hours of use or they may fail intermittently when using marginal or bad media. Be sure you are following the proper cleaning procedures described in the device and server documentation.

   NOTE: New DAT tapes may contain debris that will contaminate the DAT drive read/write head. If using new tapes for backup, clean the DAT drive frequently.

DAT drive is providing poor performance

Action: Be sure the drive is not being used to backup more data than is recommended for the drive. DAT drives are designed with optimum and maximum data backup sizes. Refer to the drive documentation to determine the appropriate data backup size for the drive.

Latest firmware indicates a defective tape, or head clogs occur regularly

Action: Replace the tape.

Other errors are occurring

Action: Replace the drive.

Diskette Drive Problems

In This Section

Diskette drive light stays on

Action:

1. Be sure no loose connections (on page 46) exist.
2. Be sure the diskette is not damaged. Run the diskette utility on the diskette (CHKDSK on some systems).
3. Be sure the diskette is properly inserted. Remove the diskette and reinsert correctly into the drive.
4. Be sure the diskette drive is cabled properly. Refer to the server documentation.

A problem has occurred with a diskette transaction

Action: Be sure the directory structure on the diskette is not bad. Run the diskette utility to check for fragmentation (CHKDSK on some systems).

Diskette drive cannot read a diskette

Action:

1. If the diskette is not formatted, format the diskette.
2. Check the type of drive you are using and be sure you are using the correct diskette type.

Drive is not found

Action: Be sure no loose connections (on page 46) exist with the drive.

Non-system disk message is displayed

Action: Remove the non-system diskette from the drive.

Diskette drive cannot write to a diskette

Action:

1. If the diskette is not formatted, format the diskette.
2. Be sure the diskette is not write protected. If it is, use another diskette or remove the write protection.
3. Be sure you are attempting to write to the proper drive by checking the drive letter in the path statement.
4. Be sure enough space is available on the diskette.

DLT Drive Problems

In This Section

Server cannot write to tape

Action:

- If the drive cleaning light is on, clean the drive.

  NOTE: DLT cleaning cartridges are good for only 20 uses. If the cleaning cartridge is near that limit and the drive cleaning light is still on after running the cleaning cartridge, use a new cleaning tape to clean the drive.

- If the tape is write protected, remove the write protection. If the tape still does not work, insert another tape into the drive to see if the original tape is faulty.
- Refer to the tape drive documentation to be sure the type of tape being used is supported by the drive.
- Check each tape cartridge that has been used in the drive to verify its condition and inspect its tape leader to verify it is not damaged and is in the correct position. After you locate any bad cartridges, dispose of them. A working tape drive may drop its leader when using bad cartridges, indicating that they need replacing. If bad cartridges are found, you will need to inspect the DLT drives leader assembly.

- To examine the cartridge take-up leader, tilt the cartridge receiver door on the front of the drive and look inside to see that the drive leader is connected to the buckling link-hook.
- To examine the drive take-up leader, tilt the cartridge receiver door on the front of the drive and look inside to see that the drive leader is connected to the buckling link-hook, which should be engaged in the leader slot.

DLT drive failure occurs

Action:

- Be sure the power and signal cables are properly connected.
- Be sure the power and signal cable connectors are not damaged.
- If the drive is connected to a nonembedded controller, be sure the controller is properly seated.

DLT drive does not read tape

Action:

- Be sure the drive is seated.
- Be sure the drive is installed properly.
- Check each tape cartridge that has been used in the drive to see if a leader was dropped. After you locate any bad cartridges, dispose of them. A working tape drive will drop the leader of a bad cartridge, indicating that the cartridge needs replacing.
- Refer to the tape drive documentation to be sure the type of tape being used is supported by the drive.

Server cannot find the DLT drive

Action:

- Be sure a device conflict does not exist. Check for duplicate SCSI IDs in use and refer to the documentation of the DLT drive and the array controller to be sure they are compatible.

- Be sure the maximum number of drives per controller has not been exceeded. Refer to the controller documentation to determine the capacity of the controller.

  NOTE: It is recommended that no more than two DLT drives per bus exist.

- If using an external DLT drive that requires a SCSI terminator to be secured to the unused SCSI IN connector on the back of the drive, be sure the SCSI terminator is connected.

  DLT drives can be daisy chained, but do not connect more than three units per SCSI controller. The last DLT drive in the chain requires the SCSI terminator.

- Check cables for damaged or bent connectors.

An error occurs during backup, but the backup is completed

Action: Contact the software vendor for more information about the message. If the error does not disrupt the backup, you may be able to ignore the error.

Fan Problems

In This Section

General fan problems are occurring

Action:

1. Be sure the fans are properly seated and working.
   a. Follow the procedures and warnings in the server documentation for removing the access panels and accessing and replacing fans.
   b. Unseat, and then reseat, each fan according to the proper procedures.
   c. Replace the access panels, and then attempt to restart the server.
2. Be sure the fan configuration meets the functional requirements of the server. Refer to the server documentation.

3. Be sure no ventilation problems exist. If you have been operating the server for an extended period of time with the access panel removed, airflow may have been impeded, causing thermal damage to components. Refer to the server documentation for further requirements.
4. Be sure no POST error messages ("POST Error Messages and Beep Codes" on page 141) are displayed while booting the server that indicate temperature violation or fan failure information. Refer to the server documentation for the temperature requirements for the server.
5. Access the IML to see if any event list error messages (on page 263) are listed relating to fans.
6. Replace any required non-functioning fans and restart the server. Refer to the server documentation for specifications on fan requirements.
7. Be sure all fan slots have fans or blanks installed. Refer to the server documentation for requirements.
8. Verify the fan airflow path is not blocked by cables or other material.

Hot-plug fan problems are occurring

Action:

1. Check the LEDs to be sure the hot-plug fans are working. Refer to the server documentation for LED information.

   NOTE: For servers with redundant fans, backup fans may spin up periodically to test functionality. This is part of normal redundant fan operation.

2. Be sure no POST error messages ("POST Error Messages and Beep Codes" on page 141) are displayed.
3. Be sure hot-plug fan requirements are being met. Refer to the server documentation.

Hard Drive Problems

In This Section

System completes POST but hard drive fails

Action:

1. Be sure no loose connections (on page 46) exist.
2. Be sure no device conflict exists.
3. Be sure the hard drive is properly cabled and terminated if necessary.
4. Be sure the SCSI cable is working by replacing it with a known functional cable.
5. Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

Hard drive is not recognized by the server

Action:

1. Check the LEDs on the hard drive to be sure they indicate normal function. Refer to the server documentation or the HP website for information on hard drive LEDs.
2. Be sure no loose connections (on page 46) exist.
3. Remove the hard drive and be sure the configuration jumpers are set properly.
4. If using an array controller, be sure the hard drive is configured in an array. Run the array configuration utility.
5. Be sure the drive is properly configured. Refer to the drive documentation to determine the proper configuration.
6. If it is a non-hot-plug drive, be sure a conflict does not exist with another hard drive. Check for SCSI ID conflicts.
7. Be sure the correct drive controller drivers are installed.

You are unable to access data

Action:

1. Be sure the files are not corrupt. Run the repair utility for the operating system.
2. Be sure no viruses exist on the server. Run a current version of a virus scan utility.

Server response time is slower than usual

Action: Be sure the hard drive is not full, and increase the amount of free space on the hard drive, if needed. It is recommended that hard drives should have a minimum of 15 percent free space.

No hard drives are recognized

Action: Be sure no power problems (on page 43) exist.

A new hard drive is not recognized

Action:

1. Be sure the drive bay is not defective by installing the hard drive in another bay.
2. If the drive has just been added, be sure the drive is supported. Refer to the server documentation or the HP website to determine drives support.
3. Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

Memory Problems

In This Section

General memory problems are occurring

Action:

- Be sure the memory meets the server requirements and is installed as required by the server. Some servers may require that memory banks be fully populated or that all memory within a memory bank must be the same size, type, and speed. Refer to the server documentation to determine if the memory is installed properly.
- Check any server LEDs that correspond to memory slots.
- If you are unsure which DIMM has failed, test each bank of DIMMs by removing all other DIMMs. Then, isolate the failed DIMM by switching each DIMM in a bank with a known working DIMM.
- Remove any third-party memory.
- Run Insight Diagnostics to test the memory.

Server is out of memory

Action:

1. Be sure the memory is configured properly. Refer to the application documentation to determine the memory configuration requirements.
2. Be sure no operating system errors are indicated.
3. Be sure a memory count error ("Memory count error exists" on page 60) did not occur. Refer to the message displaying memory count during POST.

Memory count error exists

Possible Cause: The memory modules are not installed correctly.

Action:

1. Be sure the memory modules are supported by the server. Refer to the server documentation.
2. Be sure the memory modules have been installed correctly in the right configuration. Refer to the server documentation.

3. Be sure the memory modules are properly seated.
4. Be sure no operating system errors are indicated.
5. Restart the server and check to see if the error message is still displayed.
6. Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

Server fails to recognize existing memory

Action:

1. Reseat the memory.
2. Be sure the memory is configured properly. Refer to the server documentation.
3. Be sure a memory count error ("Memory count error exists" on page 60) did not occur. Refer to the message displaying memory count during POST.

Server fails to recognize new memory

Action:

1. Be sure the memory is the correct type for the server and is installed according to the server requirements. Refer to the server documentation or HP website (http://www.hp.com).
2. Be sure you have not exceeded the memory limits of the server or operating system. Refer to the server documentation.
3. Be sure no Event List error messages (on page 263) are displayed in the IML. ("Integrated Management Log" on page 92)
4. Be sure the memory is properly seated.
5. Be sure no conflicts are occurring with existing memory. Run the server setup utility.
6. Test the memory by installing the memory into a known working server. Be sure the memory meets the requirements of the new server on which you are testing the memory.
7. Replace the memory. Refer to the server documentation.

PPM Problems

Action: If the PPMs are not integrated on the system board:

CAUTION: Do not operate the server for long periods without the access panel. Operating the server without the access panel results in improper airflow and improper cooling that can lead to thermal damage.

1. If applicable, check the PPM LEDs to identify if a PPM failure occurred. For information on LEDs, refer to the server documentation.
2. Reseat each PPM, and then restart the server.
3. If reseating the PPMs is not effective, remove all but one PPM, restart the server to see if the PPM is working, and then install each PPM individually, cycling power each time. Follow the warnings and cautionary information in the server documentation.

Processor Problems

Action:

1. If applicable, check the processor LEDs to identify if a PPM failure occurred. For information on LEDs, refer to the server documentation.
2. Be sure each processor is supported by the server and is installed properly. Refer to the server documentation for processor requirements.
3. Be sure the server ROM is up to date.
4. Be sure you are not mixing processor stepping, core speeds, or cache sizes if this is not supported on the server. Refer to the server documentation for more information.

CAUTION: Removal of the processor or heatsink renders the thermal layer between the processor and heatsink useless. A new heatsink must be ordered and installed before reinstalling the processor.

5. If the server has only one processor installed, replace it with a known functional processor. If the problem is resolved after you restart the server, the original processor failed.

6. If the server has multiple processors installed, test each processor:
   a. Remove all but one processor from the server. Replace each with a processor terminator board or blank, if applicable to the server.
   b. If the server includes PPMs that are not integrated on the system board, remove all PPMs from the server except for the PPM associated with the remaining processor.
   c. Replace the remaining processor with a known functional processor. If the problem is resolved after you restart the server, a fault exists with one or more of the original processors. Install each processor and its associated PPM (if applicable) one by one, restarting each time, to find the faulty processor or processors. Be sure the processor configurations at each step are compatible with the server requirements.

System Open Circuits and Short Circuits

Action:

CAUTION: Do not operate the server for long periods without the access panel. Operating the server without the access panel results in improper airflow and improper cooling that can lead to thermal damage.

1. Check the server LEDs to see if any statuses indicate the source of the problem. For LED information, refer to the server documentation.
2. Remove all power sources to the server.
3. Be sure no loose connections (on page 46) exist in the area.
4. Be sure each component in the area is working. Refer to the section for each component in this guide.

If you cannot determine the problem by checking the specific area, perform each of the following actions. Restart the server after each action to see if the problem has been corrected.

- Reseat all I/O expansion boards.
- Be sure no loose connections (on page 46) exist in the rest of the server, particularly with the cables that connect to the system board.

- Be sure no foreign material exists, such as screws, bits, or slot bracket blanks, that may be short circuiting components.

External Device Problems

In This Section

Video Problems

In This Section

Screen is blank for more than 60 seconds after you power up the server

Action:

1. Power up the monitor and be sure the monitor light is on, indicating that the monitor is receiving power.
2. Be sure the monitor power cord is plugged into a working grounded (earthed) AC outlet.
3. Be sure the monitor is cabled to the intended server or KVM connection.
4. Be sure no loose connections (on page 46) exist.
   - For rack-mounted servers, check the cables to the KVM switch and be sure the switch is correctly set for the server. You may need to connect the monitor directly to the server to be sure the KVM switch has not failed.

– For tower-model servers, check the cable connection from the monitor to the server, and then from the server to the power outlet.

5. Press any key, or type the password, and wait a few moments for the screen to activate to be sure the energy saver feature is not in effect.
6. Be sure the video driver is current. Refer to the third-party video adapter documentation for driver requirements.
7. Be sure a video expansion board, such as a Remote Insight Lights-Out Edition board, has not been added to replace onboard video, making it seem like the video is not working. Disconnect the video cable from the onboard video, and then reconnect it to the video jack on the expansion board.

   NOTE: All servers automatically bypass onboard video when a video expansion board is present.

8. Press any key, or type the password, and wait a few moments for the screen to activate to be sure the power-on password feature is not in effect. You can also tell if the power-on password is enabled if a key symbol is displayed on the screen when POST completes.

   If you do not have access to the password, you must disable the power-on password by using the Password Disable switch on the system board. Refer to the server documentation.
9. If the video expansion board is installed in a PCI Hot Plug slot, be sure the slot has power by checking the power LED on the slot. Refer to the server documentation.
10. Be sure the server and the operating system support the video expansion board.

Monitor does not function properly with energy saver features

Action: Be sure the monitor supports energy saver features, and if it does not, disable the features.

Video colors are wrong

Action:

- Be sure the 15-pin VGA cable is securely connected to the correct VGA port on the server and to the monitor.

- Be sure the monitor and any KVM switch are compatible with the VGA output of the server.

Slow-moving horizontal lines are displayed

Action: Be sure magnetic field interference is not occurring. Move the monitor away from other monitors or power transformers.

Audio Problems

Action: Be sure the server speaker is connected. Refer to the server documentation.

Printer Problems

In This Section

Printer does not print

Action:

1. Be sure the printer is powered up and online.
2. Be sure no loose connections (on page 46) exist.
3. Be sure the correct printer drivers are installed.

Printer output is garbled

Action: Be sure the correct printer drivers are installed.

Mouse and Keyboard Problems

Action:

1. Be sure no loose connections (on page 46) exist. If a KVM switching device is in use, be sure the server is properly connected to the switch.

- For rack-mounted servers, check the cables to the switch box and be sure the switch is correctly set for the server.
- For tower-model servers, check the cable connection from the input device to the server.

2. If a KVM switching device is in use, be sure all cables and connectors are the proper length and are supported by the switch. Refer to the switch documentation.
3. Be sure the current drivers for the operating system are installed.
4. Be sure the device driver is not corrupted by replacing the driver.
5. Restart the system and check whether the input device functions correctly after the server restarts.
6. Replace the device with a known working equivalent device (another similar mouse or keyboard).
   - If the problem still occurs with the new mouse or keyboard, the connector port on the system I/O board is defective. Replace the board.
   - If the problem no longer occurs, the original input device is defective. Replace the device.
7. Be sure the keyboard or mouse is connected to the correct port. Determine whether the keyboard lights flash at POST or the NumLock LED illuminates. If not, change port connections.
8. Be sure the keyboard or mouse is clean.

Diagnostic Adapter Problems

NOTE: The Diagnostic Adapter is used only with ProLiant BL servers.

Action: If the Diagnostic Adapter does not have hot-plug functionality, be sure you are not using a PS/2 keyboard or mouse. With a PS/2 keyboard or mouse, the Diagnostic Adapter cannot be connected as a hot-plug device. Connect the Diagnostic Adapter before booting the server, or switch to USB devices (if supported) to use the Diagnostic Adapter hot-plug functionality.

Modem Problems

In This Section

No dial tone exists

Action:

1. Be sure the cables are plugged in as specified in the modem documentation.
2. Connect a working telephone directly to the wall jack, and then test the line for dial tone.
3. If no dial tone is detected, the phone line is not working. Contact the local telephone company and arrange to correct the problem.

Modem does not connect to another modem

Action:

1. Be sure a dial tone exists ("No dial tone exists" on page 68).
2. Be sure the line is not in use at another extension before using it.
3. Be sure you are dialing the correct telephone number.
4. Be sure the modem on the other end is working.

No response occurs when you type AT commands

Action: Reconfigure the COM port address for the modem.

1. Be sure the communications software is set to the COM port to which the modem is connected.
2. Check IRQ settings in the software and on the modem to be sure no conflict exists.
3. Type `AT&F` at the command prompt to reset the modem to factory-default settings.
4. Be sure you are in terminal mode and not MS-DOS mode.
5. Refer to the HP website (http://www.hp.com) for a complete list of AT commands.

AT commands are not visible

Action: Set the echo command to On using the AT command `ATE`.

Data is displayed as garbled characters after the connection is established

Action:

1. Be sure both modems have the same settings, including speed, data, parity, and stop bits.
2. Be sure the software is set for the correct terminal emulation.
   a. Reconfigure the software correctly.
   b. Restart the server.
   c. Run the communications software, checking settings and making corrections where needed.
   d. Restart the server, and then reestablish the modem connection.

Modem does not answer an incoming call

Action:

1. Enable the auto-answer option in the communications software.

2. Be sure an answering machine is not answering the line before the modem is able to answer.
   a. Turn off the answering machine.

      -Or-

      Reconfigure the auto-answer option to respond in fewer rings than the answering machine.
   b. Restart the server, and then reattempt the connection.

Modem disconnects while online

Action:

1. Be sure no loose connections (on page 46) exist.
2. Be sure no line interference exists. Retry the connection by dialing the number several times. If conditions remain poor, contact the telephone company to have the line tested.
3. Be sure an incoming call is not breaking the connection due to call waiting. Disable call waiting, and then reestablish the connection.

AT command initialization string is not working

Action: Use the most basic string possible to perform the task. The default initialization string is `AT&F&C1&D2&K3`.

Connection errors are occurring

Action:

1. Check the maximum baud rate for the modem to which you are connecting, and then change the baud rate to match.
2. If the line you are accessing requires error control to be turned off, do so using the AT command `AT&Q6%C0`.
3. Be sure no line interference exists. Retry the connection by dialing the number several times. If conditions remain poor, contact the telephone company to have the line tested.

4. Be sure the modem is current and compliant with CCITT and Bell standards. Replace with a supported modem if needed.

You are unable to connect to an online subscription service

Action:

1. If the line you are accessing requires error control to be turned off, do so using the AT command `AT&Q6%C0`.
2. If the ISP you are accessing requires access at a decreased baud rate, reconfigure the communications software to correct the connection baud rate to match the ISP.
3. If this does not work, force a slower baud rate (14400 baud) with the AT command `AT&Q6N0S37=11`.

You are unable to connect at 56 Kbps

Action:

1. Find out the maximum baud rate at which the ISP connects, and change the settings to reflect this. Reattempt to connect at a lower baud rate.
2. Be sure no line interference exists. Retry the connection by dialing the number several times. If conditions remain poor, contact the telephone company to have the line tested.

Network Controller Problems

In This Section

Network controller is installed but not working

Action:

1. Check the network controller LEDs to see if any statuses indicate the source of the problem. For LED information, refer to the network controller documentation.
2. Be sure no loose connections (on page 46) exist.
3. Be sure the network cable is working by replacing it with a known functional cable.
4. Be sure a software problem has not caused failure. Refer to the operating system documentation for guidelines on adding or replacing PCI Hot Plug devices.
5. Be sure the server and operating system support the controller. Refer to the server and operating system documentation.
6. Be sure the controller is enabled in RBSU.
7. Check the PCI Hot Plug power LED to be sure the PCI slot is receiving power.
8. Be sure the server ROM is up to date.
9. Be sure the controller drivers are up to date.
10. Be sure a valid IP address is assigned to the controller and that the configuration settings are correct.
11. Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

Network controller has stopped working

Action:

1. Check the network controller LEDs to see if any statuses indicate the source of the problem. For LED information, refer to the network controller documentation.
2. Be sure the correct network driver is installed for the controller and that the driver file is not corrupted. Reinstall the driver.

3. Be sure no loose connections (on page 46) exist.
4. Be sure the network cable is working by replacing it with a known functional cable.
5. Check the PCI Hot Plug power LED to be sure the PCI slot is receiving power.
6. Be sure the network controller is not damaged.
7. Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

Network controller stopped working when an expansion board was added

Action:

1. Be sure no loose connections (on page 46) exist.
2. Be sure the server and operating system support the controller. Refer to the server and operating system documentation.
3. Be sure the new expansion board has not changed the server configuration, requiring reinstallation of the network driver.
   a. Uninstall the network controller driver for the malfunctioning controller in the operating system.
   b. Restart the server, run RBSU, and be sure the server recognizes the controller and resources are available for the controller.
   c. Restart the server, and then reinstall the network driver.
4. Refer to the operating system documentation to be sure the correct drivers are installed.
5. Refer to the operating system documentation to be sure that the driver parameters match the configuration of the network controller.

Problems are occurring with the network interconnect blades

Action: Be sure the network interconnect blades are properly seated and connected.

Software Problems

In This Section

Introduction to Software Problems

The best sources of information for software problems are the operating system and application software documentation, which may also point to fault detection tools that report errors and preserve the system configuration.

Other useful resources include the Survey utility, available for servers running a Microsoft® Windows®, Linux, or Novell NetWare operating system, and Insight Manager 7. Use either utility to gather critical system hardware and software information and to help with problem diagnosis.

> **IMPORTANT:** This guide provides information for multiple servers. Some information may not apply to the server you are troubleshooting. Refer to the server documentation for information on procedures, hardware options, software tools, and operating systems supported by the server.

Refer to "Software and Option Resources ("Software Utilities and Option Resources" on page 89)" for more information.

Operating Systems

In This Section

Operating System Problems

In This Section

Operating system locks up

Action: Scan for viruses with an updated virus scan utility.

Errors are displayed in the error log

Action: Follow the information provided in the error log, and then refer to the operating system documentation.

Problems occur after the installation of a service pack

Action: Follow the instructions for updating the operating system ("Operating System Updates" on page 77).

You are unable to bind NICs during the Protocols Interview with a Factory-Installed Novell NetWare 5 operating system

Action: Be sure the packet receive buffers are set high enough. Toggle over to the console during the Protocols Interview and adjust these values to a higher setting that allows you to bind the NICs. A minimum setting of 50 buffers per port is recommended, and the maximum setting should be 125 more than the minimum. To make the setting changes:

1. Type the following commands at the System Console screen (where *XXX* is the new numeric value):

   Set Minimum Packet Receive Buffers=XXX

   Set Maximum Packet Receive Buffers=XXX

2. Add the commands to the STARTUP.NCF file.

   NOTE: When gigabit NICs are installed, the minimum buffers should be set to at least 500, and the maximum to at least 2000.

NetWare attempts to load MEGA4 XX.HAM or 120PCI.HAM during installation, and a RILOE II board is installed

Action: No action is required. This occurrence does not impact the installation of NetWare.

During installation of Sun Solaris, the system locks up or a panic error occurs

Action: Disable ACPI support in Sun Solaris. Refer to the Sun website (http://www.sun.com) for documentation on how to disable ACPI.

Operating System Updates

Use care when applying operating system updates (Service Packs, hotfixes, and patches). Before updating the operating system, read the release notes for each update. If you do not require specific fixes from the update, it is recommended that you do **not** apply the updates. Some updates overwrite files specific to HP.

If you decide to apply an operating system update:

1. Perform a full system backup.
2. Apply the operating system update, using the instructions provided.
3. Install the current drivers ("Maintaining Current Drivers" on page 82).

If you apply the update and have problems, refer to the Software and Drivers Download website (http://h18007.www1.hp.com/support/files/server) to find files to correct the problems.

Restoring to a Backed-Up Version

If you recently upgraded the operating system or software and cannot resolve the problem, you can try restoring a previously saved version of the system. Before restoring the backup, make a backup of the current system. If restoring the previous system does not correct the problem, you can restore the current set to be sure you do not lose additional functionality.

Refer to the documentation provided with the backup software.

When to Reconfigure or Reload Software

If all other options have not resolved the problem, consider reconfiguring the system. Before you take this step:

1. Weigh the projected downtime of a software reload against the time spent troubleshooting intermittent problems. It may be advantageous to start over by removing and reinstalling the problem software, or in some cases by using the System Erase Utility and reinstalling all system software.

   CAUTION: Perform a backup before running the System Erase Utility. The utility sets the system to its original factory state, deletes the current hardware configuration information, including array setup and disk partitioning, and erases all connected hard drives completely. Refer to the instructions for using this utility.

2. Be sure the server has adequate resources (processor speed, hard drive space, and memory) for the software.
3. Be sure the server ROM is current and the configuration is correct.
4. Be sure you have printed records of all troubleshooting information you have collected to this point.
5. Be sure you have two good backups before you start. Test the backups using a backup utility.
6. Check the operating system and application software resources to be sure you have the latest information.
7. If the last-known functioning configuration does not work, try to recover the system with operating system recovery software:

- Microsoft® operating systems:

  Windows® 2003—Automated System Recovery Diskette. If the operating system was factory-installed, click **Start>All Programs>Accessories>System Tools** to access the backup utility. Refer to the operating system documentation for more information.

  Windows® 2000—Emergency Repair Diskette. If the operating system was factory-installed, click **Start>Programs>System Tools** to access the Emergency Repair Disk Utility. Refer to the operating system documentation for more information.

- Novell NetWare—Repair traditional volumes with VREPAIR. On NetWare 5.X systems, repair NSS volumes with the NSS menu command, and on NetWare 6 systems, repair NSS volumes using the `NSS/PoolVerify` command followed by the `NSS/PoolRebuild` command, if necessary. Refer to the NetWare documentation for more information.
- Caldera UnixWare and SCO OpenServer from Caldera—Emergency boot diskette. Refer to the Caldera UnixWare or SCO OpenServer from Caldera documentation for more information.
- Sun Solaris—Device Configuration Assistant boot diskette. Refer to the Solaris documentation for more information.
- IBM OS/2—Power up the server from the startup diskettes. Refer to the OS/2 documentation for more information.
- Linux—Refer to the operating system documentation for information.

Linux Operating Systems

For troubleshooting information specific to Linux operating systems, refer to the Linux for ProLiant website (http://h18000.www1.hp.com/products/servers/linux).

Application Software Problems

In This Section

Software locks up

Action:

1. Check the application log and operating system log for entries indicating why the software failed.
2. Check for incompatibility with other software on the server.
3. Check the support website of the software vendor for known problems.
4. Review log files for changes made to the server which may have caused the problem.
5. Scan the server for viruses with an updated virus scan utility.

Errors occur after a software setting is changed

Action: Check the system logs to determine what changes were made, and then change settings to the original configuration.

Errors occur after the system software is changed

Action: Change settings to the original configuration. If more than one setting was changed, change the settings one at a time to isolate the cause of the problem.

Errors occur after an application is installed

Action:

- Check the application log and operating system log for entries indicating why the software failed.

- Check system settings to determine if they are the cause of the error. You may need to obtain the settings from the server setup utility and manually set the software switches. Refer to the application documentation, the vendor website, or both.
- Check for overwritten files. Refer to the application documentation to find out which files are added by the application.
- Reinstall the application.
- Be sure you have the most current drivers ("Maintaining Current Drivers" on page 82).

Clustering Software

If the server uses cluster software, such as Microsoft® Cluster Server or Novell Cluster Services, refer to the documentation provided with the application for cluster troubleshooting information. Check the Microsoft or Novell website for software troubleshooting information and frequently asked questions.

Run the Cluster Monitor integrated with Insight Manager 7 to collect information on cluster configurations.

Refer to the High Availability website (http://h18004.www1.hp.com/solutions/enterprise/highavailability) for a number of technical documents relating to clusters.

Maintaining Current Drivers

Depending on the operating system, drivers are available through individual download or in packages. Refer to the Software and Drivers Download website (http://h18007.www1.hp.com/support/files/server) or the SmartStart CD to find these driver files.

IMPORTANT: Always perform a backup before installing or updating device drivers.

NOTE: If you are installing drivers from the SmartStart CD, refer to the SmartStart website (http://www.hp.com/servers/smartstart) to be sure that you are using the latest version of SmartStart. For more information, refer to the documentation provided with your SmartStart CD.

NOTE: To verify the server configuration, connect to the System Management Homepage (on page 96) and select Version Control Agent (VCA). The VCA gives you a list of names and versions of all installed HP drivers, Management Agents, and utilities, and whether they are up to date.

Some driver packages are also available through ActiveUpdate (http://h18000.www1.hp.com/products/servers/management/activeupdate).

NOTE: ActiveUpdate can operate only on a system running a Microsoft® Windows® operating system.

- Microsoft® operating systems—PSPs are available for servers running Microsoft® Windows® 2003, Windows NT® 4.0, and Windows Server 2003. SSDs are also available for other versions of Microsoft® Windows® operating systems.
- Novell NetWare—PSPs are available for servers running the latest versions of Novell NetWare. SSDs are available for previous versions of the Novell NetWare operating system.
- Caldera UnixWare and SCO OpenServer from Caldera—EFSs are available for servers running Caldera and SCO operating systems.
- Sun Solaris—DUs are available for servers running the Sun Solaris operating system.
- IBM OS/2—SSDs are available for systems running the IBM OS/2 operating system.

- Linux—PSPs are available for servers running the latest Linux versions. For versions not supported by PSPs, drivers are available for individual download (http://h18000.www1.hp.com/products/servers/linux/softwaredrivers.html).

Remote ROM Flash Problems

In This Section

General remote ROM flash problems are occurring

Action: Be sure you follow these requirements for using the Remote ROM flash utility:

- A local administrative client system that is running the Microsoft® Windows NT® 4.0, Windows® 2000, or Windows® Server 2003 operating system
- One or more remote servers with system ROMs requiring upgrade
- An administrative user account on each target system. The administrative account must have the same username and password as the local administrative client system.
- All target systems are connected to the same network and use protocols that enable them to be seen from the administrative client.
- Each target system has a system partition that is at least 32 MB in size
- Verification that the ROM version to which you are upgrading can be used for all the servers or array controllers that you are upgrading
- Follow the instructions for the Remote ROM Flash procedure that accompany the software

Command-line syntax error

If the correct command-line syntax is not used, an error message describing the incorrect syntax is displayed and the program exits. Correct the syntax, and then restart the process.

Invalid or incorrect command-line parameters

If incorrect parameters are passed into command-line options, an error message describing the invalid or incorrect parameter is displayed and the program exits (Example: Invalid source path for system configuration or ROMPaq files). Correct the invalid parameter, and then restart the process.

Access denied on target computer

If you specify a networked target computer for which you do not have administrative privileges, an error message is displayed describing the problem, and then the program exits. Obtain administrative privileges for the target computer, and then restart the process. Be sure the remote registry service is running on a Windows®-based system.

Network connection fails on remote communication

Because network connectivity cannot be guaranteed, it is possible for the administrative client to become disconnected from the target server during the ROM flash preparation. If any remote connectivity procedure fails during the ROM flash online preparation, the ROM flash does not occur for the target system. An error message describing the broken connection displays and the program exits. Attempt to ascertain and correct the cause of connection failure, and then restart the process.

Failure occurs during ROM flash

After the online flash preparation has been successfully completed, the system ROM is flashed offline. The flash cannot be interrupted during this process or the ROM image is corrupted and the server does not start. The most likely reason for failure is a loss of power to the system during the flash process. Initiate ROMPaq disaster recovery procedures.

Target system is not supported

If the target system is not listed in the supported servers list, an error message is displayed and the program exits. Only supported systems can be upgraded using the Remote ROM Flash utility. To see if the server is supported, refer to the Software and Drivers Download website (http://h18007.www1.hp.com/support/files/server).

Erasing the System

CAUTION: Perform a backup before running the System Erase Utility. The utility sets the system to its original factory state, deletes the current hardware configuration information, including array setup and disk partitioning, and erases all connected hard drives completely. Refer to the instructions for using this utility.

Run the System Erase Utility if you must erase the system for the following reasons:

- You want to install a new operating system on a server with an existing operating system.
- You want to change the operating system selection.
- You encounter a failure-causing error during the SmartStart installation.
- You encounter an error when completing the steps of a factory-installed operating system installation.

The Erase Utility can be accessed from the Software and Drivers Download website (http://h18007.www1.hp.com/support/files/server) or the Maintenance Utilities menu of the SmartStart CD.

HP Resources for Troubleshooting

In This Section

Online Resources

In This Section

HP website

Troubleshooting tools and information, as well as the latest drivers and flash ROM images, are available on the HP website (http://www.hp.com).

Server documentation

Server documentation is the set of documents that ships with a server. Most server documents are available as a PDF or a link on the Documentation CD. Server documentation can also be accessed from the Reference Library website (http://h18000.www1.hp.com/support/servers).

Service Notifications

To find out the latest service notifications, refer to the HP website (http://www.hp.com/products/servers/platforms). Select the appropriate server model, and then click the **Documentation** link on the product page.

Support on commercial online networks

Refer to online forums to post questions to technical support or other HP users by using the Message Base Feature, which is a standard on support forums found on all three online networks. You can access HP utility files, drivers, software, and other information related to HP.

Contact these Internet providers directly for more information:

- America Online (http://www.aol.com)
- CompuServe (http://www.compuserve.com)
- Prodigy SBC (http://www.prodigy.com)

ActiveAnswers

ActiveAnswers is an online solutions service that provides a set of tools, forums, and information for HP servers. Refer to the ActiveAnswers website (http://h18000.www1.hp.com/ActiveAnswers).

ActiveUpdate

ActiveUpdate is a Web-based application that provides information updates, customer advisories, and proactive notification and delivery of the latest software updates. For more information, refer to the ActiveUpdate website. (http://h18000.www1.hp.com/products/servers/management/activeupdate)

Care Pack

Care Pack provides information on warranties and service and support upgrades. Refer to the Care Pack website (http://www.hp.com/hps/carepack).

Natural Language Search Assistant

The Natural Language Search Assistant (http://askq.compaq.com) is a search engine that finds information on HP products, including ProLiant servers. The search engine responds to queries entered in question form.

PaqFax

PaqFax provides technical, warranty, and support information transmitted by facsimile (fax) machine. For more information, refer to the PaqFax website (http://h18000.www1.hp.com/support/paqfax).

TechNotes

TechNotes are electronic documentation on specific technical topics. Examples of topics include network performance management, server management, and operating system interconnectivity. Refer to the TechNotes website (http://h18000.www1.hp.com/support/techpubs/technotes).

White Papers

White papers are electronic documentation on complex technical topics. Some white papers contain in-depth details and procedures. Topics include HP products, HP technology, operating systems, networking products, and performance. Refer to the Reference Library website (http://h18000.www1.hp.com/support/servers).

Software Utilities and Option Resources

In This Section

Array Configuration Utility

ACU is a Web-based configuration utility available for some servers that makes it easy to configure and expand the disk drive arrays. ACU is available on the SmartStart CD ("SmartStart" on page 95).

Array Diagnostic Utility

ADU is a Windows-based tool that collects information about array controllers and generates a list of detected problems. For a list of error messages, refer to "ADU Error Messages (on page 101)."

ADU can be accessed from the SmartStart CD ("SmartStart" on page 95).

BIOS Serial Console

Provided for some servers, this utility allows you to modify server configuration settings, facilitating such functions as viewing system information, selecting the operating system, and configuring system devices and installed options.

If BIOS Serial Console is supported by the server, access the utility by pressing the **F10** key when prompted during the boot process. Refer to the server documentation and the *HP BIOS Serial Console User Guide*.

HP Insight Diagnostics

The HP Insight Diagnostics utility displays information about the server hardware and tests the system to be sure it is operating properly. You can access the utility from the SmartStart CD or from the HP website (http://www.hp.com/servers/manage).

For more information, refer to the Management CD in the *HP ProLiant Essentials Foundation Pack*.

Integrated Lights-Out Technology

Integrated Lights-Out is a standard component of selected ProLiant servers that provides server health and remote server manageability. The iLO subsystem includes an intelligent microprocessor, secure memory, and a dedicated network interface. This design makes iLO independent of the host server and its operating system. The iLO subsystem provides remote access to any authorized network client, sends alerts, and provides other server management functions.

Using iLO, you can:

- Remotely power up, power down, or reboot the host server.
- Send alerts from iLO regardless of the state of the host server.
- Access advanced troubleshooting features through the iLO interface.
- Diagnose iLO using Insight Manager 7 through a Web browser and SNMP alerting.

For more information about iLO features, refer to the *Integrated Lights-Out User Guide* on the Documentation CD or on the HP website (http://www.hp.com/servers/lights-out).

Integrated Management Display

The IMD is an informational LCD panel on the server that assists in diagnosing and servicing the server without using a keyboard and monitor. The IML can be viewed on the IMD.

Refer to the server documentation.

Integrated Management Log

The IML records hundreds of events and stores them in an easy-to-view form. The IML timestamps each event with 1-minute granularity.

You can view recorded events in the IML in several ways, including the following:

- From within Insight Manager 7
- From within Survey Utility
- From within operating system-specific IML viewers
  - For NetWare: IML Viewer
  - For Windows®: Event Viewer or IML Viewer
  - For Linux: IML Viewer Application
- From within HP Insight Diagnostics

For more information, refer to the Management CD in the *HP ProLiant Essentials Foundation Pack*.

Management CD

The Management CD contains the latest tools available for easily managing the server, such as Insight Manager 7, Management Agents, and Survey Utility.

Run the Management CD shipped with the server. Refer to the Management CD user documentation as well as the ProLiant Server Management website (http://www.hp.com/servers/manage).

Management Agents

The server is equipped with the latest Management Agents, allowing easy manageability of the server through Insight Manager 7 software, and third-party SNMP management platforms. Management agents monitor key subsystems that are instrumental in making health, configuration, and performance data available to the agent software. The agents act upon that data by initiating alarms in the event of faults. The agents also provide updated management information, such as network interface or subsystem performance statistics, to the management systems.

For additional information, refer to the Management CD in the *HP ProLiant Essentials Foundation Pack* or the HP website (http://www.hp.com/servers/manage).

Option ROM Configuration for Arrays Utility

The ORCA utility is a hardware-level configuration program, embedded in the option ROM of the controller, that creates logical drives based on the RAID configuration that you specify.

If the ORCA utility is supported by the server, press the **F8** key when prompted during the boot process. Refer to the server documentation.

ProLiant Essentials Rapid Deployment Pack

The Rapid Deployment Pack is an integrated HP and Altiris solution that automates the process of deploying and provisioning server software. Refer to the Rapid Deployment Pack website (http://www.hp.com/servers/rdp).

ProLiant Support Packs

PSPs represent operating system specific bundles of ProLiant optimized drivers, utilities, and management agents. Refer to the ProLiant Support Pack website (http://h18000.www1.hp.com/products/servers/management/psp.html).

Remote Insight Lights-Out Edition II

RILOE II allows browser access to servers through a hardware-based, operating system-independent graphical remote console. Some of the features include virtual diskette drive and power button, server management through any standard browser, dedicated LAN connectivity, automatic network configuration, external power backup, group administration, and functions available with the Remote Insight Board.

Refer to the *Remote Insight Lights-Out Edition User Guide*.

Resource Paqs

Resource Paqs are operating system-specific packages of tools, utilities, and information for HP servers running certain Microsoft® or Novell operating systems. The Resource Paqs include utilities to monitor performance, software drivers, customer support information, and whitepapers on the latest server integration information. Refer to the Enterprise Partnerships website (http://h18000.www1.hp.com/partners), select **Microsoft** or **Novell**, depending on the operating system, and follow the link to the appropriate Resource Paq.

ROM-Based Setup Utility

RBSU is a ROM-based configuration utility that allows you to modify server configuration settings. RBSU is machine-specific and customized for each type of server. RBSU facilitates a wide range of configuration functions, including displaying system information, selecting the operating system, and configuring system devices and options.

If RBSU is supported by the server, access the utility by pressing the **F9** key when prompted during the boot process. Refer to the *HP ROM-Based Setup Utility User Guide* or to the server documentation.

SmartStart

SmartStart is a software package that provides a streamlined process for the installation of operating systems, and provides key system software, such as drivers, utilities, diagnostic tools, and ROM updates. SmartStart also provides automated methods for configuring server settings.

If SmartStart is supported by the server, access SmartStart by booting the server with the SmartStart CD in the CD-ROM drive. Refer to the SmartStart user documentation as well as the SmartStart website (http://www.hp.com/servers/smartstart).

SoftPaqs

SoftPaqs are software utilities (such as diagnostics and configuration utilities), software upgrades, ROMPaqs (firmware upgrades), and fixes that resolve software problems or provide workarounds. Refer to the Software and Drivers Download website (http://h18007.www1.hp.com/support/files/server).

StorageWorks Library and Tape Tools

HP StorageWorks L&TT provides functionality for firmware downloads, verification of device operation, maintenance procedures, failure analysis, corrective service actions, and some utility functions. It also provides seamless integration with HP hardware support by generating and emailing support tickets that deliver a snapshot of the storage system.

For more information, and to download the utility, refer to the StorageWorks L&TT website (http://h18006.www1.hp.com/products/storageworks/ltt).

System Management Homepage

To access the System Management Homepage of a server, go to https://localhost:2381 (https://localhost:2381).

General Server Resources

In This Section

Additional product information

Refer to product information on the HP Servers website (http://www.hp.com/country/us/eng/prodserv/servers.html).

Device driver information

Refer to driver information on the Software and Drivers website (http://h18004.www1.hp.com/support/files).

External cabling information

Refer to cabling information on the HP Storage website (http://h18000.www1.hp.com/support/storage).

Fault tolerance, security, care and maintenance, configuration, and setup

Refer to the server documentation and the server online reference guide on the Documentation CD or on the Reference Library website (http://h18000.www1.hp.com/support/servers).

Installation and configuration information for the server management system

Refer to the *HP Insight Manager User Guide* on the Management CD.

Installation and configuration information for the server setup software

Refer to the server user guide on the Documentation CD, the server installation poster shipped with the server, and the SmartStart installation poster (if the server supports SmartStart) in the *HP ProLiant Essentials Foundation Pac*k.

iLO information

Refer to the *HP Integrated Lights-Out User Guide* on the Documentation CD or the Remote Management website (http://www.hp.com/servers/lights-out).

Key features, option part numbers

Refer to the QuickSpecs on the HP website (http://www.hp.com).

Management of the server

Refer to the *HP Insight Manager User Guide* on the Management CD.

Operating system installation and configuration information (for factory-installed operating systems)

Refer to the factory-installed operating system installation documentation that ships with the server.

Operating system integration with the server platform

Refer to the TechNotes on the TechNotes website (http://h18000.www1.hp.com/support/techpubs/technotes).

Operating system version support

Refer to the operating system support matrix (ftp://ftp.compaq.com/pub/products/servers/os-support-matrix-310.pdf).

Overview of server features and installation instructions

Refer to the server user guide on the Documentation CD or on the Reference Library website (http://h18000.www1.hp.com/support/servers).

Power capacity

Refer to the power calculator on the HP Enterprise Configurator website (http://h30099.www3.hp.com/configurator/).

Registering the server

To register a server, refer to the registration card in the *HP ProLiant Essentials Foundation Pack* or the HP Registration website (http://register.hp.com).

Server configuration information

Refer to the server user guide on the Documentation CD, the server installation poster shipped with the server, and the SmartStart installation poster (if the server supports SmartStart) in the *HP ProLiant Essentials Foundation Pack*.

Software installation and configuration of the server

If the server supports SmartStart, refer to the SmartStart installation poster in the *HP ProLiant Essentials Foundation Pack*.

Switch settings, LED functions, drive, memory, expansion board and processor installation instructions, and board layouts

Refer to the hood labels and the server user guide. The hood labels are inside the access panels of the server, and the server user guide is on the Documentation CD and the Reference Library website (http://h18000.www1.hp.com/support/servers).

Server and option specifications, symbols, installation warnings, and notices

Refer to the server documentation and printed notices. Printed notices are available in the Reference Information pack. Server documentation is on the Documentation CD and the Reference Library website (http://h18000.www1.hp.com/support/servers).

Teardown procedures, part numbers, specifications

Refer to the maintenance and service guide on the Reference Library website (http://h18000.www1.hp.com/support/servers).

Technical topics

Refer to the white papers on the Reference Library website (http://h18000.www1.hp.com/support/servers).

ADU Error Messages

In This Section

Introduction to ADU Error Messages

This section contains a complete alphabetical list of all ADU ("Array Diagnostic Utility" on page 90) error messages.

IMPORTANT: This guide provides information for multiple servers. Some information may not apply to the server you are troubleshooting. Refer to the server documentation for information on procedures, hardware options, software tools, and operating systems supported by the server.

WARNING: To avoid potential problems, ALWAYS read the warnings and cautionary information in the server documentation before removing, replacing, reseating, or modifying system components.

Accelerator Board not Detected

Description: Array controller did not detect a configured array accelerator board.

Action: Install an array accelerator board on an array controller. If an array accelerator board is installed, check for proper seating on the array controller board.

Accelerator Error Log

Description: List of the last 32 parity errors on transfers to or from the memory on the array accelerator board. Displays starting memory address, transfer count, and operation (read and write).

Action: If many parity errors are listed, you may need to replace the array accelerator board.

Accelerator Parity Read Errors: X

Description: Number of times that read memory parity errors were detected during transfers from memory on array accelerator board.

Action: If many parity errors occurred, you may need to replace the array accelerator board.

Accelerator Parity Write Errors: X

Description: Number of times that write memory parity errors were detected during transfers to memory on the array accelerator board.

Action: If many parity errors occurred, you may need to replace the array accelerator board.

Accelerator Status: Cache was Automatically Configured During Last Controller Reset

Description: Cache board was replaced with one of a different size.

Action: No action is required.

Accelerator Status: Data in the Cache was Lost...

...due to some reason other than the battery being discharged.

Description: Data in cache was lost, but not because of the battery being discharged.

Action: Be sure the array accelerator is properly seated. If the error persists, you may need to replace the array accelerator.

Accelerator Status: Dirty Data Detected has Reached Limit...

...Cache still enabled, but writes no longer being posted.

Description: Number of cache lines containing dirty data that cannot be flushed (written) to the drives has reached a preset limit. The cache is still enabled, but writes are no longer being posted. This problem usually occurs when a problem with the drive or drives occurs.

Action: Resolve the problem with the drive or drives. The controller can then write the dirty data to the drives. Posted-writes operations are restored.

Accelerator Status: Dirty Data Detected...

...Unable to write dirty data to drives

Description: At least one cache line contains dirty data that the controller has been unable to flush (write) to the drives. This problem usually occurs when a problem with the drive or drives occurs.

Action: Resolve the problem with the drive or drives. The controller can then write the dirty data to the drives.

Accelerator Status: Excessive ECC Errors Detected in at Least One Cache Line...

...As a result, at least one cache line is no longer in use.

Description: At least one line in the cache is no longer in use due to excessive ECC errors detected during use of the memory associated with that cache line.

Action: Consider replacing the cache. If cache replacement is not done, the remaining cache lines generally continue to operate properly.

Accelerator Status: Excessive ECC Errors Detected in Multiple Cache Lines...

...As a result, the cache is no longer in use.

Description: The number of cache lines experiencing excessive ECC errors has reached a preset limit. Therefore, the cache has been shut down.

Action:

1. Reseat the cache to the controller.
2. If the problem persists, replace the cache.

Accelerator Status: Obsolete Data Detected

Description: During reset initialization, obsolete data was found in the cache due to the drives being moved and written to by another controller.

Action: No action is required. The controller either writes the data to the drives or discards the data completely.

Accelerator Status: Obsolete Data was Discarded

Description: During reset initialization, obsolete data was found in the cache, and was discarded (not written to the drives).

Action: No action is required.

Accelerator Status: Obsolete Data was Flushed (Written) to Drives

Description: During reset initialization, obsolete data was found in the cache. The obsolete data was written to the drives, but newer data may have been overwritten.

Action: If newer data was overwritten, you may need to restore newer data; otherwise, normal operation should continue.

Accelerator Status: Permanently Disabled

Description: Array accelerator board has been permanently disabled. It will remain disabled until it is reinitialized using ACU.

Action: Check the **Disable Code** field. Run ACU to reinitialize the array accelerator board.

Accelerator Status: Possible Data Loss in Cache

Description: Possible data loss was detected during power-up due to all batteries being below sufficient voltage level and no presence of the identification signatures on the array accelerator board.

Action: No way exists to determine if dirty or bad data was in the cache and is now lost.

Accelerator Status: Temporarily Disabled

Description: Array accelerator board has been temporarily disabled.

Action: Check the **Disable Code** field.

Accelerator Status: Unrecognized Status

Description: A status was returned from the array accelerator board that ADU does not recognize.

Action: Obtain the latest version of ADU.

Accelerator Status: Valid Data Found at Reset

Description: Valid data was found in posted-write memory at reinitialization. Data will be flushed to disk.

Action: No error or data loss condition exists. No action is required.

Accelerator Status: Warranty Alert

Description: Catastrophic problem exists with array accelerator board. Refer to other messages on Diagnostics screen for exact meaning of this message.

Action: Replace the array accelerator board.

Adapter/NVRAM ID Mismatch

Description: EISA NVRAM has an ID for a different controller from the one physically present in the slot.

Action: Run the server setup utility.

Array Accelerator Battery Pack X not Fully Charged

Description: Battery is not fully charged.

Action: If 75% of the batteries present are fully charged, the array accelerator is fully operational. If more than 75% of the batteries are **not** fully charged, allow 36 hours to recharge them.

Array Accelerator Battery Pack X Below Reference Voltage (Recharging)

Description: Battery pack on the array accelerator is below the required voltage levels.

Action: Replace the array accelerator board if the batteries do not recharge within 36 powered-on hours.

Board in Use by Expand Operation

Description: Array accelerator memory is in use by an expand operation.

Action: Operate the system without the array accelerator board until the expand operation completes.

Board not Attached

Description: An array controller is configured for use with array accelerator board, but one is not connected.

Action: Connect array accelerator board to array controller.

Cache Has Been Disabled Because ADG Enabler Dongle is Broken or Missing

Description: The cache has been disabled because RAID ADG volume is configured but the ADG Enabler Dongle is broken or missing.

Action: Check the ADG Enabler Dongle. Replace if needed.

Cache Has Been Disabled; Likely Caused By a Loose Pin on One of the RAM Chips

Description: Cache has been disabled due to a large number of ECC errors detected while testing the cache during POST. Likely caused by a loose pin on one of the RAM chips.

Action: Try reseating the cache to the controller. If that does not work, replace the cache.

Configuration Signature is Zero

Description: ADU detected that NVRAM contains a configuration signature of zero. Old versions of the server setup utility could cause this.

Action: Run the latest version of server setup utility to configure the controller and NVRAM.

Configuration Signature Mismatch

Description: Array accelerator board is configured for a different array controller board. Configuration signature on array accelerator board does not match the one stored on the array controller board.

Action: To recognize the array accelerator board, run ACU ("Array Configuration Utility" on page 90).

Controller Communication Failure Occurred

Description: Controller communication failure occurred. ADU was unable to successfully issue commands to the controller in this slot.

Action:

1. Be sure all cables are properly connected and working.
2. Be sure the controller is working, and replace if needed.

Controller Detected. NVRAM Configuration not Present

Description: EISA NVRAM does not contain a configuration for this controller.

Action: Run the server setup utility to configure the NVRAM.

Controller Firmware Needs Upgrading

Description: Controller firmware is below the latest recommended version.

Action: Run Options ROMPaq to upgrade the controller to the latest firmware revision.

Controller is Located in Special "Video" Slot

Description: Controller is installed in the slot for special video control signals. If the controller is used in this slot, LED indicators on front panel may not function properly.

Action: Install the controller into a different slot, and run the server setup utility to configure NVRAM. Then, run ACU to configure the controller.

Controller Is Not Configured

Description: Controller is not configured. If the controller was previously configured and you change drive locations, there may be a problem with placement of the drives. ADU examines each physical drive and looks for drives that have been moved to a different drive bay.

Action: Look for messages indicating which drives have been moved. If none are displayed and drive swapping did not occur, run ACU ("Array Configuration Utility" on page 90) to configure the controller and server setup utility to configure NVRAM. **Do not** run either utility if you believe drive swapping has occurred.

Controller Reported POST Error. Error Code: X

Description: The controller returned an error from its internal POST.

Action: Replace the controller.

Controller Restarted with a Signature of Zero

Description: ADU did not find a valid configuration signature to use to get the data. NVRAM may not be present (unconfigured) or the signature present in NVRAM may not match the signature on the controller.

Action: Run the server setup utility to configure the controller and NVRAM.

Disable Command Issued

Description: The issuing of the Accelerator Disable command has disabled posted-writes. This occurred because of an operating system device driver.

Action: Restart the system. Run ACU ("Array Configuration Utility" on page 90) to reinitialize the array accelerator board.

Drive (Bay) X Firmware Needs Upgrading

Description: Firmware on this physical drive is below the latest recommended version.

Action: Run Options ROMPaq ("SoftPaqs" on page 95) to upgrade the drive firmware to the latest revision.

Drive (Bay) X has Insufficient Capacity for its Configuration

Description: Drive has insufficient capacity to be used in this logical drive configuration.

Action: Replace this drive with a larger capacity drive.

Drive (Bay) X has Invalid M&P Stamp

Description: Physical drive has invalid monitor and performance data.

Action: Run the server setup utility to properly initialize this drive.

Drive (Bay) X Has Loose Cable

Description: The array controller could not communicate with this drive at power-up. This drive has not previously failed.

Action:

1. Be sure all cables are properly connected and working.
2. Power up the system and attempt to reconnect data/power cable to the drive.
3. If the problem persists, replace the cable.
4. If the problem persists, replace the drive.

Drive (Bay) X is a Replacement Drive

Description: This drive has been replaced. This message is displayed if a drive is replaced in a fault-tolerant logical volume.

Action: If the replacement was intentional, allow the drive to rebuild.

Drive (Bay) X is a Replacement Drive Marked OK

Description: This drive has been replaced and marked OK by the firmware, which may occur if a drive has an intermittent failure. For example, a drive has previously failed, then starts working again when ADU is run.

Action: Replace the drive.

Drive (Bay) X is Failed

Description: The indicated physical drive has failed.

Action: Replace this drive.

Drive (Bay) X is Undergoing Drive Recovery

Description: This drive is being rebuilt from the corresponding mirror or parity data.

Action: No action is required.

Drive (Bay) X Needs Replacing

Description: The 210-MB hard drive has firmware version 2.30 or 2.31.

Action: Replace the drive.

Drive (Bay) X Upload Code Not Readable

Description: An error occurred while ADU was trying to read the upload code information from this drive.

Action: If multiple errors occur, the drive may need to be replaced.

Drive (Bay) X Was Inadvertently Replaced

Description: The physical drive was incorrectly replaced after another drive failed.

Action:

CAUTION: Do not run the server setup utility and try to reconfigure, or data will be lost.

1. Replace the drive that was incorrectly replaced.
2. Replace the original drive that failed.

Drive Monitoring Features Are Unobtainable

Description: ADU is unable to get monitor and performance data due to fatal command problem (such as drive time-out), or is unable to get data due to these features not being supported on the controller.

Action: Check for other errors such as time-outs. If no other errors occur, upgrade the firmware to a version that supports monitor and performance, if desired.

Drive Monitoring is NOT Enabled for SCSI Port X Drive ID Y

Description: The monitor and performance features have not been enabled on this drive.

Action: Run the server setup utility to initialize the monitor and performance features.

Drive Time-Out Occurred on Physical Drive Bay X

Description: ADU issued a command to a physical drive and the command was never acknowledged.

Action: The drive or cable may be bad. Check the other error messages on the **Diagnostics** screen to determine resolution.

Drive X Indicates Position Y

Description: Message indicates a designated physical drive, which seems to be scrambled or in a drive bay other than the one for which it was originally configured.

Action: Examine the graphical drive representation on ADU to determine proper drive locations. Remove drive *X* and place it in drive position *Y*. Rearrange the drives according to the ADU instructions.

Duplicate Write Memory Error

Description: Data cannot be written to the array accelerator board in duplicate due to the detection of parity errors. This is not a data-loss situation.

Action: Replace the array accelerator board.

Error Occurred Reading RIS Copy from SCSI Port X Drive ID

Description: An error occurred while ADU was trying to read the RIS from this drive.

Action: HP stores the hard drive configuration information in the RIS. If multiple errors occur, the drive may need to be replaced.

FYI: Drive (Bay) X is Third-Party Supplied

Description: Third-party supplied the installed drive.

Action: If problems exist with this drive, replace it with a supported drive.

Identify Controller Data did not Match with NVRAM

Description: The controller identification data from the array controller does not match with the information stored in NVRAM. This can occur if new, previously configured drives are placed in a system that has also been previously configured. It can also occur if the firmware on the controller has been upgraded and the server setup utility was not.

Action: Run the Survey Utility to check the controller identification data. If the firmware version field is the only difference between the controller and NVRAM data, this is not a problem. Otherwise, run the server setup utility.

Identify Logical Drive Data did not Match with NVRAM

Description: The identify unit data from the array controller does not match with the information stored in NVRAM. This can occur if new, previously configured drives have been placed in a system that has also been previously configured.

Action: Run the server setup utility to configure the controller and NVRAM.

Insufficient Adapter Resources

Description: The adapter does not have sufficient resources to perform posted-write operations to the array accelerator board. Drive rebuild may be occurring.

Action: Operate the system without the array accelerator board until the drive rebuild completes.

Inter-Controller Link Connection Could Not Be Established

Description: Unable to communicate over the link connecting the redundant controllers.

Action: Be sure both controllers are using the same hardware and firmware revisions. If one controller failed, replace it.

Less Than 75% Batteries at Sufficient Voltage

Description: The operation of the array accelerator board has been disabled due to less than 75% of the battery packs being at the sufficient voltage level.

Action: Replace the array accelerator board if the batteries do not recharge within 36 powered-on hours.

Less Than 75% of Batteries at Sufficient Voltage Battery Pack X Below Reference Voltage

Description: Battery pack on the array accelerator is below the required voltage levels.

Action: Replace the array accelerator board if the batteries do not recharge within 36 powered-on hours.

Logical Drive X Failed Due to Cache Error

Description: This logical drive failed due to a catastrophic cache error.

Action: Replace the array accelerator board and reconfigure using ACU.

Logical Drive X Status = Failed

Description: This status could be issued for several reasons:

- Logical drive is configured for No Fault Tolerance, and one or more drives failed.
- Mirroring is enabled, and any two mirrored drives failed.
- Data Guarding is enabled, and two or more drives failed.
- Another configured logical drive is in the WRONG DRIVE REPLACED or LOOSE CABLE DETECTED state.

Action: Check for drive failures, wrong drive replaced, or loose cable messages. If a drive failure occurred, replace the failed drive or drives, and then restore the data for this logical drive from the tape backup. Otherwise, follow the procedures for correcting problems when an incorrect drive is replaced or a loose cable is detected.

Logical Drive X Status = Interim Recovery (Volume Functional, but not Fault Tolerant)

Description: A physical drive in this logical drive has failed. The logical drive is operational, but the loss of an additional drive causes permanent data loss.

Action: Replace the failed drive as soon as possible.

Logical Drive X Status = Loose Cable Detected...

...SOLUTION: Turn the system off and attempt to reattach any loose connections. If this does not work, replace the cable(s) and connection(s).

Description: A physical drive or an external storage unit may have a cabling or connection problem.

Action: Power the system down and attempt to reconnect any loose connections. If this does not work, replace the cable(s) and connection(s).

Logical Drive X Status = Overheated

Description: The temperature of the Intelligent Array Expansion System drives is beyond safe operating levels and has shut down to avoid damage.

Action: Check the fans and the operating environment.

Logical Drive X Status = Overheating

Description: The temperature of the Intelligent Array Expansion System drives is beyond safe operating levels.

Action: Check the fans and the operating environment.

Logical Drive X Status = Recovering (rebuilding data on a replaced drive)

Description: A physical drive in this logical drive has failed and has now been replaced. The replaced drive is rebuilding from the mirror drive or the parity data.

Action: No action is required. Normal operations can occur; however, performance will be less than optimal until after the rebuild process completes.

Logical Drive X Status = Wrong Drive Replaced

Description: A physical drive in this logical drive has failed. The incorrect drive was replaced.

Action: Replace the drive that was incorrectly replaced. Then, replace the original drive that failed with a new drive.

CAUTION: Do not run the server setup utility and try to reconfigure, or data will be lost.

Loose Cable Detected - Logical Drives May Be Marked FAILED Until Corrected

Description: ADU found a loose cable. The Smart Array Controller is unable to communicate with one or more physical drives. One or more logical drives may be marked FAILED, and are unusable until problem is corrected.

Action: Power down the system. Check the cables for a tight connection to the logical drives. Restart the system. If the error persists, the cables may be defective.

Mirror Data Miscompare

Description: Data was found at reset initialization in the posted-write memory; however, the mirror data compare test failed resulting in that data being marked as invalid. Data loss is possible.

Action: Replace the array accelerator board.

No Configuration for Array Accelerator Board

Description: The array accelerator board has not been configured.

Action: If the array accelerator board is present, run ACU to configure the board.

NVRAM Configuration Present, Controller not Detected

Description: EISA NVRAM has a configuration for an array controller, but no board exists in this slot. Either a board has been removed from the system or a board has been placed in the wrong slot.

Action: Place the array controller in the proper slot, or run the server setup utility to reconfigure NVRAM to reflect the removal or new position.

One or More Drives is Unable to Support Redundant Controller Operation

Description: At least one drive in use does not support redundant controller operation.

Action: Replace the drive that does not support redundant controller operation.

Other Controller Indicates Different Hardware Model

Description: The other controller in the redundant controller configuration is a different hardware model.

Action: Be sure both controllers are using the same hardware model. If they are, make sure the controllers are fully seated in their slots.

Other Controller Indicates Different Firmware Version

Description: The other controller in the redundant controller configuration is using a different firmware version.

Action: Be sure both controllers are using the same firmware revision.

Other Controller Indicates Different Cache Size

Description: The other controller in the redundant controller configuration has a different size array accelerator.

Action: Be sure both controllers are using the same capacity array accelerator.

RIS Copies Between Drives Do Not Match

Description: The drives on this controller contain copies of the RIS that do not match. The hard drives in the array do not have matching configuration information.

Action:

1. Resolve all other errors encountered.
2. Obtain the latest version of ADU, and then rerun ADU.
3. If unconfigured drives were added, configure these drives using ACU.

4. If drives or arrays were moved, be sure the movement follows the guidelines listed in the documentation for the array controller.
5. If the error persists after completing steps 1 through 4, contact an authorized service provider.

SCSI Port X Drive ID Y failed - REPLACE (failure message)

Description: ADU detected a drive failure.

Action: Correct the condition that caused the error, if possible, or replace the drive.

SCSI Port X, Drive ID Y Firmware Needs Upgrading

Description: Drive firmware may cause problems and should be upgraded.

Action: Run Options ROMPaq to upgrade the drive firmware to a later revision.

SCSI Port X, Drive ID Y Has Exceeded the Following Threshold(s)

Description: The monitor and performance threshold for this drive has been violated.

Action: Check and resolve the threshold that has been violated.

SCSI Port X, Drive ID Y is not Stamped for Monitoring

Description: The drive has not been stamped with monitor and performance features.

Action: To stamp without destroying the current configuration:

1. Run ACU.
2. Change the array accelerator size and save the configuration.
3. Change the array accelerator back to the original size and save again.

This should cause ACU to stamp the drive with monitoring and performance features.

SCSI Port X, Drive ID Y May Have a Loose Conncetion...

...SOLUTION: Turn the system off and attempt to reattach any loose connections. If this does not work, replace the cable(s) and connection(s).

Description: SMART is unable to communicate with the drive, because the cable is not securely connected, or the drive cage connection has failed.

Action:

1. Power down the system.
2. Reconnect the cable securely.
3. Restart the system.
4. If the problem persists, replace the cables and connectors as needed.

SCSI Port X, Drive ID Y RIS Copies Within This Drive Do Not Match

Description: The copies of RIS on the drive do not match.

Action: Check for other errors. The drive may need to be replaced.

SCSI Port X, Drive ID Y...S.M.A.R.T. Predictive Failure Errors Have Been Detected in the Factory Monitor and Performance Data...

...SOLUTION: Please replace this drive when conditions permit.

Description: A predictive failure warning for this hard drive has been generated, indicating that a drive failure is imminent.

Action: Replace this drive at the earliest opportunity. Refer to the server documentation for drive replacement information before performing this operation.

SCSI Port X, Drive ID Y...S.M.A.R.T. Predictive Failure Errors Have Been Detected in the Power Monitor and Performance Data...

...SOLUTION: Please replace this drive when conditions permit.

Description: A predictive failure warning for this hard drive has been generated, indicating a drive failure is imminent.

Action: Replace this drive at the earliest opportunity. Refer to the server documentation for drive replacement information before performing this operation.

SCSI Port X, Drive ID Y Was Replaced On a Good Volume: (failure message)

Description: ADU found this drive was replaced, even though no problem occurred with the volume.

Action: No action is required.

Set Configuration Command Issued

Description: The configuration of the array controller has been updated. The array accelerator board may remain disabled until it is reinitialized.

Action: Run the server setup utility to reinitialize the array accelerator board.

Soft Firmware Upgrade Required

Description: ADU has determined that the controller is running firmware that has been soft upgraded by the Upgrade Utility. However, the firmware running is not present on all drives. This could be caused by the addition of new drives in the system.

Action: Run the Upgrade Utility to place the latest firmware on all drives.

Storage Enclosure on SCSI Bus X has a Cabling Error (Bus Disabled)...

...SOLUTION: The SCSI controller has an internal and external cable attached to the same bus. Please disconnect the internal or external cable from the controller. If this controller supports multiple buses, the cable disconnected can be reattached to an available bus.

Description: The current cabling configuration is not supported.

Action: Refer to the server documentation for cabling guidelines, and reconfigure as indicated.

Storage Enclosure on SCSI Bus X Indicated a Door Alert...

...SOLUTION: Be sure that the storage enclosure door is closed or the side panel is properly installed.

Description: The side panel of the external storage unit is open.

Action: Be sure the side panel of the storage unit is securely closed.

Storage Enclosure on SCSI Bus X Indicated a Power Supply Failure...

...SOLUTION: Replace the power supply.

Description: A power supply in the external storage unit has failed.

Action: Replace the power supply.

Storage Enclosure on SCSI Bus X Indicated an Overheated Condition...

...SOLUTION: Make sure all cooling fans are operating properly. Also be sure the operating environment of storage enclosure is within temperature specifications.

Description: The external storage unit is generating a temperature alert.

Action:

1. Be sure all fans are connected and operating properly.
2. Be sure the operating environment of the storage unit is within specifications.
3. For better airflow, remove any dust buildup from fans or other areas.
4. Check the server documentation for allowable temperature specifications and additional tips.
5. If the problem persists, replace the fan.

Storage Enclosure on SCSI Bus X is Unsupported with its Current Firmware Version...

...SOLUTION: Upgrade the firmware version on the storage enclosure.

Description: The firmware version of the external storage unit is not supported.

Action: Upgrade the firmware.

Storage Enclosure on SCSI Bus X Indicated that the Fan Failed...

...SOLUTION: Replace the fan.

Description: The cooling fan located in the external storage unit has failed.

Action: Replace the fan.

Storage Enclosure on SCSI Bus X Indicated that the Fan is Degraded...

...SOLUTION: this condition usually occurs on enclosures with multiple fans and one of those fans has failed. Replace any fans not operating properly.

Description: One or more fans in the external storage unit have failed.

Action: Replace the failed fans.

Storage Enclosure on SCSI Bus X Indicated that the Fan Module is Unplugged...

...SOLUTION: Make sure the fan module is properly connected.

Description: A fan in the external storage unit is not connected properly.

Action: Check and reseat all fan connections securely.

Storage Enclosure on SCSI Bus X - Wide SCSI Transfer Failed...

...SOLUTION: This may indicate a bad SCSI cable on bus X. Try replacing the cable.

Description: A cable on bus X has failed.

Action:

1. Replace the failed cable.
2. If the problem persists, contact an authorized service provider.

Swapped Cables or Configuration Error Detected. A Configured Array of Drives...

...was moved from another controller that supported more drives than this controller supports.

SOLUTION: Upgrade the firmware on this controller. If this doesn't solve the problem, then power down system and move the drives back to the original controller.

Description: You have exceeded the maximum number of drives supported for this controller, and the connected controller was not part of the original array configuration.

Action:

1. Upgrade the firmware on this controller.
2. If the problem persists:

   Replace this controller with the original controller.

   -Or-

Replace this controller with a new controller that supports the number of drives in the array.

Swapped Cables or Configuration Error Detected. A Drive Rearrangement...

...was attempted while an expand operation was running. This is an unsupported operation.

SOLUTION: Power down system then move drives back to their original location. Power on system and wait for the expand operation to complete before attempting a drive rearrangement.

Description: One or more drive locations were changed while an expand operation was in progress.

Action:

1. Power down the server.
2. Place the drives in their original locations.
3. Restart the server, and then complete the expand operation.
4. Move the drives to their new locations after the expand operation is completed.

Swapped Cables or Configuration Error Detected. An Unsupported Drive Arrangement Was Attempted...

...SOLUTION: Power down system then move drives back to their original location.

Description: One or more physical drives were moved, causing a configuration that is not supported.

Action: Move all drives to their original locations, and then refer to the server documentation for supported configurations.

Swapped Cables or Configuration Error Detected. The Cables Appear To Be Interchanged...

...SOLUTION: Power down system then move the drives or cables back to their original location.

Description: ADU has detected a change in the cable configuration. One or more cables may be connected to the incorrect bus or one or more drives have been moved to new locations.

Action:

1. Refer to the server documentation for supported configurations and cabling guidelines.
2. Restore to the original configuration.

Swapped Cables or Configuration Error Detected. The Configuration Information on the Attached Drives...

...is not backward compatible with this controller's firmware.

SOLUTION: Upgrade the firmware on this controller. If this doesn't solve the problem then power down system then move drives back to the original controller.

Description: The current firmware version on the controller cannot interpret the configuration information on the connected drives.

Action: Upgrade the firmware.

-Or-

If the problem persists, move the drives to the original controller.

Swapped Cables or Configuration Error Detected. The Maximum Logical Volume Count X...

...was exceeded during logical volume addition. All logical volumes beyond X have been lost and cannot be recovered.

SOLUTION: Identify the drives that contain the lost logical volumes. Move those drives to another controller where the logical volumes can be recreated. NOTE! If a drive contains a valid logical volume and a lost logical volume, then do not move that drive to another controller.

Description: More logical drives were created than are supported on this controller, causing lost logical drive volumes.

Action: Identify the drives containing lost volumes, and then move them to another controller so the lost volumes can be recreated.

CAUTION: Removing a drive that contains valid volume data causes all valid data to be lost.

System Board is Unable to Identify which Slots the Controllers are in

Description: Slot indicator on system board is not working correctly. Firmware recognizes both controllers as being installed in the same slot.

Action:

1. Be sure both controllers are fully seated in their slots.

   If the problem persists, this might indicate a controller problem or a system board problem.

CAUTION: Only authorized technicians trained by HP should attempt to remove the system board. If you believe the system board requires replacement, contact HP Technical Support ("Contacting HP Technical Support or Authorized Reseller" on page 269) before proceeding.

2. Remove one of the controllers in the configuration and see if the remaining controller generates a POST message.
3. Move the remaining controller to the other slot to see if it still generates a POST message.
4. Repeat these steps with the other controller.

If both controllers give POST messages in one slot but not the other, it is a system board problem. If one of the controllers gives POST messages and the other controller does not, replace the controller that is giving the POST messages. Contact an authorized service provider for any warranty replacements.

This Controller Can See the Drives but the Other Controller Can't

Description: The other controller in the redundant controller configuration cannot recognize the drives, but this controller can.

Action: Resolve any other errors and then rerun ADU.

The Redundant Controllers Installed are not the Same Model...

...SOLUTION: Power down the system and verify that the redundant controllers are different models. If they are different models, replace the other controller with the same model as this one.

Description: ADU detected two different controller models installed in a redundant controller configuration. This is not supported and one or both controllers may not be operating properly.

Action: Use the same controller models for redundant controller configurations.

This Controller Can't See the Drives but the Other Controller Can

Description: The other controller in the redundant controller configuration can recognize the drives, but this controller cannot.

Action: Resolve any other errors and then rerun ADU.

Unable to Communicate with Drive on SCSI Port X, Drive ID Y

Description: The array controller cannot communicate with the drive.

Action: If the hard drive amber LED is on, replace the drive.

Unable to Retrieve Identify Controller Data. Controller May be Disabled or Failed

...SOLUTION: Power down the system. Verify that the controller is fully seated. Then power the system on and look for helpful error messages displayed by the controller. If this doesn't help, contact your service provider.

Description: ADU requested the identify controller data from the controller but was unable to obtain it. This usually indicates that the controller is not seated properly or has failed.

Action:

1. Power down the server.

2. Be sure the controller is fully seated.
3. Restart the server.
4. Resolve any error messages displayed by the controller.

If this does not solve the problem, contact an authorized service provider.

Unknown Disable Code

Description: A code was returned from the array accelerator board that ADU does not recognize.

Action: Obtain the latest version of ADU.

Unrecoverable Read Error

Description: Read parity errors were detected when an attempt to read the same data from both sides of the mirrored memory was made. Data loss will occur.

Action: Replace the array accelerator board.

Warning Bit Detected

Description: A monitor and performance threshold violation may have occurred. The status of a logical drive may not be OK.

Action: Check the other error messages for an indication of the problem.

WARNING - Drive Write Cache is Enabled on X

Description: Drive has its internal write cache enabled. The drive may be a third-party drive, or the operating parameters of the drive may have been altered. Condition can cause data corruption if power to the drive is interrupted.

Action: Replace the drive with a supported drive or restore the operating parameter of the drive.

WARNING: Storage Enclosure on SCSI Bus X Indicated it is Operating in Single Ended Mode...

...SOLUTION: This usually occurs when a single-ended drive type is inserted into an enclosure with other drive types; and that makes the entire enclosure operate in single ended mode. To maximize performance replace the single-ended drive with a type that matches the other drives.

Description: One or more single-ended mode SCSI drives are installed in an external storage unit that operates in LVD mode.

Action: The array continues to operate, but installing all LVD drives maximizes performance.

Write Memory Error

Description: Data cannot be written to the cache memory. This typically means that a parity error was detected while writing data to the cache. This can be caused by an incomplete connection between the cache and the controller. This is not a data loss circumstance.

Action: Power down the system and be sure that the cache board is fully connected to the controller.

Wrong Accelerator

Description: This may mean that the board was replaced in the wrong slot or was placed in a system previously configured with another board type. Included with this message is a message indicating (1) the type of adapter sensed by ADU, and (2) the type of adapter last configured in EISA NVRAM.

Action: Check the diagnosis screen for other error messages. Run the server setup utility to update the system configuration.

POST Error Messages and Beep Codes

In This Section

Introduction to POST Error Message

The error messages and codes in this section include all messages generated by ProLiant servers. A server generates only the codes that are applicable to its configuration and options.

HP ProLiant BL servers do not have speakers and thus do not support audio output. Disregard the audible beeps information if the server falls into this category.

IMPORTANT: This guide provides information for multiple servers. Some information may not apply to the server you are troubleshooting. Refer to the server documentation for information on procedures, hardware options, software tools, and operating systems supported by the server.

WARNING: To avoid potential problems, ALWAYS read the warnings and cautionary information in the server documentation before removing, replacing, reseating, or modifying system components.

Non-Numeric Messages or Beeps Only

In This Section

A Correctable Memory Error Occurred Prior to this Power-Up

Audible Beeps: None

Possible Cause: A memory module has experienced an error which, while recoverable, has generated a predictive failure warning.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

A Critical Error Occurred Prior to this Power-Up

Audible Beeps: None

Possible Cause: A catastrophic system error, which caused the server to crash, has been logged.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

A Processor Thermal Event Occurred Prior to this Power Up, Processor X

Audible Beeps: None

Possible Cause: Processor *X* (1 or 2) has reached an excessive temperature and has stopped operation.

Action: Be sure the processor and heatsink assembly is properly installed and the ambient temperature is within an acceptable range.

Beeps Only, 2 Long, 2 Short

Audible Beeps: 2 long, 2 short

Possible Cause: The power has cycled because the temperature is too hot. The processor fan is not installed, or is not spinning.

Action: Be sure the fans are working, and replace any failed fans.

Beeps Only, 2 Long

Audible Beeps: 2 long

Possible Cause: No valid memory is present in the system.

Action:

- If no memory modules are present, install at least one memory module to conform to minimum hardware configuration specifications.
- Reseat all installed memory modules.
- If the server contains more than one memory module, remove one module, and restart the server. Repeat as needed to isolate the bad memory module. Replace any failed modules.

Critical Error Occurred Prior to this Power-Up

Audible Beeps: None

Possible Cause: A catastrophic system error, which caused the server to crash, has been logged.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

Critical Failure Detected - System Shutting Down in...

Audible Beeps: None

Possible Cause: Blower assembly has failed.

Action: Replace blower assembly.

Critical Fan Failure Detected - System Shutting Down System Halted

Audible Beeps: None

Possible Cause: A critical fan is not spinning.

Action: Be sure the fans are working and the fan cables are properly connected.

Critical Fan Failure Detected - System Shutting Down in 5 Seconds System Halted

Audible Beeps: None

Possible Cause: A critical fan is not spinning.

Action: Be sure the fans are working and the fan cables are properly connected.

ECC Multiple Bit Error Detected in DIMM X

Audible Beeps: None

Possible Cause: A memory module failure generated a multiple-bit error that could not be corrected.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

ECC Multiple Bit Error Detected in DIMM/SIMM pair: DIMM X

Audible Beeps: None

Possible Cause: A memory module failure generated a multiple-bit error that could not be corrected.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

FATAL ROM ERROR: The System ROM is not Properly Programmed.

Audible Beeps: 1 long, 1 short

Possible Cause: The System ROM is not properly programmed.

Action: Replace the physical ROM part.

Fixed Disk Parameter Table or BIOS Error. System Halted

Audible Beeps: None

Possible Cause: An error occurred while attempting to communicate with the CD-ROM drive or diskette drive assembly. This assembly may not be seated properly.

Action:

1. Be sure you have the correct media in the drive.
2. Reseat the CD-ROM drive or diskette drive assembly.

Initialization Failure. Re-seat the Processor and Processor Power Module Before Attempting Replacement

Audible Beeps: None

Possible Cause: Processor was not fully seated, or a processor internal failure occurred.

Action: Reseat the processor. If the failure reoccurs, replace the processor.

Invalid Electronic Serial Number

Audible Beeps: None

Possible Cause: Serial number in BIOS is incorrect.

Action: Run the server setup utility to enter a valid serial number.

Loss of Nonvolatile Configuration Memory

Audible Beeps: None

Possible Cause: NVRAM has been corrupted or cleared.

Action: No action is required. The server automatically loads a default nonvolatile configuration.

Network Server Mode Active and No Keyboard Attached

Audible Beeps: None

Possible Cause: A keyboard is not connected. An error has not occurred, but a message is displayed to indicate the keyboard status.

Action: No action is required.

No Keyboard Present

Audible Beeps: None

Possible Cause: A keyboard failure has occurred or a keyboard is not connected to the server.

Action:

1. Power down the server, and then reconnect the keyboard.
2. Be sure no keys are depressed or stuck.
3. If the failure reoccurs, replace the keyboard.

No SCSI Devices Detected

Audible Beeps: None

Possible Cause: No SCSI devices are connected to the boot controller.

Action:

1. Be sure the server and SCSI IDs are properly configured
2. Be sure the SCSI cables are properly connected and working.
3. Be sure the connected drives are all working.

Non-System Disk or Disk Error

Audible Beeps: None

Possible Cause: No bootable disk partition was found on the boot drive.

Action:

1. Remove the diskette from the diskette drive.
2. Be sure the controller order and boot order are properly set in the server setup utility.
3. Reinstall the operating system.

Parity Check 2

Audible Beeps: None

Possible Cause: A PCI device generated a parity error 2.

Action:

1. Remove any recently installed PCI adapters.
2. Reinstall the adapters one at a time to determine which one is generating errors.
3. Replace the failed device.

PCI User Definable Features Detected and Configured with Default Settings...

...Run System Configuration Utility to View/Modify Settings

Audible Beeps: None

Possible Cause: PCI card is not properly configured.

Action: Run the server setup utility to make desired changes.

Power Fault Detected in Hot-Plug PCI Slot X

Audible Beeps: 2 short

Possible Cause: PCI-X Hot Plug expansion slot was not powered up properly.

Action: Reboot the server.

Processor in Incorrect Socket. - System Halted!

Audible Beeps: None

Possible Cause: Processor is installed in socket 2 only.

Action: Install processor in socket 1.

Processor Packages do not Match...

...Please make sure that all processor packages are the same.

- System Halted!

Audible Beeps: 1 long, 1 short

Possible Cause: Installed processors are different types.

Action: Install processors of the same type.

REDUNDANT ROM ERROR: Backup ROM Invalid. - ...

...run ROMPAQ to correct error condition.

Audible Beeps: None

Possible Cause: System ROM and redundant ROM are both corrupt.

Action: Run ROMPaq Utility ("SoftPaqs" on page 95).

REDUNDANT ROM ERROR: Bootblock Invalid. - ...

...contact COMPAQ Representative.

Audible Beeps: None

Possible Cause: ROM bootblock is corrupt.

Action: Contact an authorized service provider.

RESUME - F1 key

Audible Beeps: None

Possible Cause: System is waiting for user input before resuming activity.

Action: Press the **F1** key.

(Run System Configuration Utility - F10 key)

Audible Beeps: None

Possible Cause: A configuration error occurred during POST.

Action: Press the **F10** key to run the server setup utility.

Unsupported Processor Detected System Halted.

Audible Beeps: 1 long, 1 short

Possible Cause: Processor not supported by current system ROM.

Action: Refer to the server documentation for supported processors. If the processor is supported, remove the processor, update the system to latest ROM, and then reinstall the processor.

WARNING: A Type 2 Header PCI Device Has Been Detected...

The BIOS will not configure this card.

It must be configured properly by the OS or driver.

Audible Beeps: 2 short

Possible Cause: Only Type 0 and Type 1 Header PCI Devices are configured by the system ROM. The device will not work unless the OS or device driver properly configure the card.

Action: Refer to the operating system documentation or the device driver information that ships with the Type 3 PCI device.

100 Series

In This Section

101-ROM Error

Audible Beeps: 1 long, 1 short

Possible Cause: System ROM checksum.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

101-I/O ROM Error

Audible Beeps: None

Possible Cause: Options ROM checksum.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

101-Option ROM Checksum Error...

...An add-in card in your system is not working correctly. If you have recently added new hardware, remove it and see if the problem remains. If this message goes away after you remove your new hardware, there may be a problem with the add-in card.

Audible Beeps: 1 long, 1 short

Possible Cause: An expansion board in the system is not working correctly.

Action: If you have recently added new hardware, remove it and see if the problem persists. If this message goes away after you remove the new hardware, there may be a problem with the expansion board. Review the expansion board documentation, and then try reinstalling the board.

102-System Board Error

Audible Beeps: None

Possible Cause: 8237 DMA controllers, 8254 timers, and so on.

CAUTION: Only authorized technicians trained by HP should attempt to remove the system board. If you believe the system board requires replacement, contact HP Technical Support ("Contacting HP Technical Support or Authorized Reseller" on page 269) before proceeding.

Action: Replace the system board. Run the server setup utility.

102-System Board Failure

Audible Beeps: None

Possible Cause: 8237 DMA controllers, 8254 timers, and so on.

CAUTION: Only authorized technicians trained by HP should attempt to remove the system board. If you believe the system board requires replacement, contact HP Technical Support ("Contacting HP Technical Support or Authorized Reseller" on page 269) before proceeding.

Action: Replace the system board. Run the server setup utility.

102-System Board Failure, CMOS Test Failed.

Audible Beeps: None

Possible Cause: 8237 DMA controllers, 8254 timers, and so on.

CAUTION: Only authorized technicians trained by HP should attempt to remove the system board. If you believe the system board requires replacement, contact HP Technical Support ("Contacting HP Technical Support or Authorized Reseller" on page 269) before proceeding.

Action: Replace the system board. Run the server setup utility.

102-System Board Failure, DMA Test Failed

Audible Beeps: None

Possible Cause: 8237 DMA controllers, 8254 timers, and so on.

CAUTION: Only authorized technicians trained by HP should attempt to remove the system board. If you believe the system board requires replacement, contact HP Technical Support ("Contacting HP Technical Support or Authorized Reseller" on page 269) before proceeding.

Action: Replace the system board. Run the server setup utility.

102-System Board Failure, Timer Test Failed

Audible Beeps: None

Possible Cause: 8237 DMA controllers, 8254 timers, and so on.

CAUTION: Only authorized technicians trained by HP should attempt to remove the system board. If you believe the system board requires replacement, contact HP Technical Support ("Contacting HP Technical Support or Authorized Reseller" on page 269) before proceeding.

Action: Replace the system board. Run the server setup utility.

102-System Board Failure. This is an Unrecoverable Error. Your Computer Needs Servicing

Audible Beeps: None

Possible Cause: 8237 DMA controllers, 8254 timers, and so on.

CAUTION: Only authorized technicians trained by HP should attempt to remove the system board. If you believe the system board requires replacement, contact HP Technical Support ("Contacting HP Technical Support or Authorized Reseller" on page 269) before proceeding.

Action: Replace the system board. Run the server setup utility.

104-ASR Timer Failure

Audible Beeps: None

Possible Cause: System board failure.

CAUTION: Only authorized technicians trained by HP should attempt to remove the system board. If you believe the system board requires replacement, contact HP Technical Support ("Contacting HP Technical Support or Authorized Reseller" on page 269) before proceeding.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

105-Current System ROM is Corrupt - Now Booting Redundant System ROM

Audible Beeps: 2 long

Possible Cause: Nonbooted ROM image is corrupted.

Action: Flash the ROM by using the ROMPaq utility ("SoftPaqs" on page 95).

162-System Options Not Set

Audible Beeps: 2 long

Possible Cause: Configuration is incorrect. The system configuration has changed since the last boot (addition of a hard drive, for example) or a loss of power to the real-time clock has occurred. The real-time clock loses power if the onboard battery is not functioning correctly.

Action: Press the **F1** key to record the new configuration. Run the server setup utility to change the configuration. If this message persists, you may need to replace the onboard battery.

163-Time & Date Not Set

Audible Beeps: 2 long

Possible Cause: Invalid time or date in configuration memory.

Action: Run the server setup utility and correct the time or date.

163-Time & Date Not Set. The System Time is Invalid...

...This may be a result of a loss in battery power. Set the correct time and date using your operating system. If this message persists, you may need to replace the onboard battery.

Audible Beeps: 2 long

Possible Cause: Invalid time or date in configuration memory.

Action: Run the server setup utility and correct the time or date. If the message persists, replace the onboard battery.

164-Memory Size Error

Audible Beeps: 2 long

Possible Cause: Memory configuration incorrect.

Action: Run the server setup utility and correct the configuration.

164-Memory Size Error. The System Memory Size is Different from the Last Startup...

...The most common reason is the addition or removal of memory to the system board. Pressing F1 will record the configuration. If this message persists verify that the memory modules are installed correctly.

Audible Beeps: 2 long

Possible Cause: Memory configuration incorrect.

Action: Run the server setup utility and correct the configuration.

170-EISA Expansion Device Not Responding

Audible Beeps: None

Possible Cause: Device not detected.

Action: Run the server setup utility and correct the configuration.

171-2-IRC Configuration Invalid

Audible Beeps: None

Possible Cause: One or more of the following messages may also be displayed:

- `Comport Invalid`
- `PCI Comport Invalid`
- `Incorrect IRQ`
- `Video Controller Must be on Primary PCI Bus`

Action: Run the server setup utility and correct the configuration.

172-Configuration Non-volatile Memory Invalid

Audible Beeps: None

Possible Cause: Nonvolatile configuration corrupted.

Action: Run the server setup utility and correct the configuration.

172-Default System Configuration Installed! Run System Configuration Utility to View/Modify Settings

Audible Beeps: None

Possible Cause: Nonvolatile configuration corrupted. The default system configuration has been installed.

Action: Run the server setup utility to make any changes to the default configuration.

172-System Configuration Nonvolatile Memory Invalid. Initialization Aborted.

Audible Beeps: None

Possible Cause: Battery is low or not working.

Action: Turn off the server, replace the battery located on the sideplane board, and then reboot the system. The default nonvolatile configuration will be loaded.

172-1-Configuration NVRAM Invalid

Audible Beeps: None

Possible Cause: Nonvolatile configuration corrupted or jumper installed.

Action: Run the server setup utility and correct the configuration.

172-1-Configuration Non-volatile Memory Invalid

Audible Beeps: None

Possible Cause: Nonvolatile configuration corrupted.

Action: Run the server setup utility and correct the configuration.

173-PCI Config Slot Mismatch

Audible Beeps: None

Possible Cause: Board replaced, configuration not updated.

Action: Run the server setup utility and correct the configuration.

173-Slot ID Mismatch

Audible Beeps: None

Possible Cause: Board replaced, configuration not updated.

Action: Run the server setup utility and correct the configuration.

174-Configuration/ Slot Mismatch Device Not Found

Audible Beeps: None

Possible Cause: EISA or PCI board not found.

Action: Run the server setup utility and correct the configuration.

174-EISA Configuration Mismatch - Device not Found

Audible Beeps: None

Possible Cause: EISA or PCI board not found.

Action: Run the server setup utility and correct the configuration.

174-PCI Config Slot Mismatch - Not Found

Audible Beeps: None

Possible Cause: PCI board not found.

Action: Run the server setup utility and correct the configuration.

175-Configuration/ Slot Mismatch Device Found

Audible Beeps: None

Possible Cause: EISA or PCI board added, configuration not updated.

Action: Run the server setup utility and correct the configuration.

175-PCI Configuration/Slot Mismatch Device Found

Audible Beeps: None

Possible Cause: A PCI device conflict exists on the PCI bus.

Action: Move any recently added PCI boards to a slot on a different PCI bus.

175-PCI User-Definable Features Detected and Configured with Default Settings

Audible Beeps: None

Possible Cause: Incomplete system configuration detected.

Action: Run the server setup utility and correct the configuration.

176-EISA Slot Yields Valid ID

Audible Beeps: None

Possible Cause: Incomplete system configuration detected.

Action: Run the server setup utility and correct the configuration.

177-Configuration Not Complete

Audible Beeps: None

Possible Cause: Incomplete system configuration detected.

Action: Run the server setup utility and correct the configuration.

177-Controller Order Not Set Up

Audible Beeps: None

Possible Cause: Incomplete system configuration detected.

Action: Run the server setup utility and correct the configuration.

177-EISA Configuration Not Complete

Audible Beeps: None

Possible Cause: Incomplete system configuration detected.

Action: Run the server setup utility and correct the configuration.

178-Processor Configuration Invalid

Audible Beeps: None

Possible Cause: Processor type or step does not match configuration memory.

Action: Run the server setup utility and correct the configuration.

179-System Revision Mismatch

Audible Beeps: None

Possible Cause: Incomplete system configuration detected.

Action: Run the server setup utility and correct the configuration.

180-Log Reinitialized

Audible Beeps: None

Possible Cause: The IML ("Integrated Management Log" on page 92) has been reinitialized due to corruption of the log.

Action: Event message, no action is required.

180-Log Reinitialized Because Length Check Out of Bounds

Audible Beeps: None

Possible Cause: The IML ("Integrated Management Log" on page 92) has been reinitialized due to corruption of the log.

Action: Event message, no action is required.

200 Series

In This Section

201-Memory Error

Audible Beeps: None

Possible Cause: RAM failure detected.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

201-Memory Error. The Memory Test Performed During Startup Failed...

Removing and replacing memory modules can isolate the faulty memory. Also verify that the memory modules are installed correctly.

Audible Beeps: None

Possible Cause: RAM failure detected.

Action:

1. Be sure the memory modules are installed correctly.
2. Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

202-Memory Type Mismatch

Audible Beeps: 2 short

Possible Cause: An incompatible memory module is installed in the system.

Action: Compare part numbers from installed memory modules with those listed in the server documentation.

If the part numbers not listed, the memory modules are incompatible and should be replaced or removed.

203-Memory Address Error

Audible Beeps: None

Possible Cause: RAM failure detected.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

205-Cache Memory error

Audible Beeps: 2 short

Possible Cause: A memory module is malfunctioning.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

206-Cache Controller Error

Audible Beeps: 2 short

Possible Cause: A memory module is malfunctioning.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

207-ECC Corrected Single Bit Errors in DIMM in Memory Module Socket

Audible Beeps: 2 short

Possible Cause: A memory module is malfunctioning.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

207-ECC Corrected Single Bit Errors in DIMM/SIMM PAIR(s) in Memory Module Socket(s) in Memory Module DIMM

Audible Beeps: 2 short

Possible Cause: A memory module is malfunctioning.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

207-Invalid Memory Configuration - Check DIMM Installation

Audible Beeps: None

Possible Cause: Memory module is installed incorrectly.

Action: Check placement of memory modules.

207-Invalid Memory Configuration - Insufficient Timings on DIMMs

Audible Beeps: 1 long, 1 short

Possible Cause: Memory module is installed incorrectly.

Action: Check placement of memory modules.

207-Invalid Memory Configuration - Unsupported DIMM in Board X, DIMM X...

...Insufficient Timings on DIMM.

Audible Beeps: 1 long, 1 short

Possible Cause: Insufficient DIMM timings exist.

Action: Install registered PC 1600 ECC DDR SDRAM DIMMs.

207-Invalid Memory Configuration - Memory within 2-DIMM Group(s) Not Utilized

Audible Beeps: 1 long, 1 short

Possible Cause: A DIMM is installed incorrectly.

Action: All the DIMMs within a DIMM group must be alike. Install correctly matched DIMMs within a group.

207-Invalid Memory Configuration - Mismatched DIMMs within DIMM Group

Audible Beeps: 1 long, 1 short

Possible Cause: Memory within the 2-DIMM group(s) is not used.

Action: All the DIMMs within a DIMM group must be alike. Install correctly matched DIMMs within a group.

207-Invalid Memory Configuration - Mismatched DIMMs within DIMM Group X

Audible Beeps: 1 long, 1 short

Possible Cause: Memory within the 2-DIMM Group *X* is not used.

Action: Install correctly matched DIMMs in Group *X*.

207-Invalid Memory Configuration - Mismatched DIMMs within DIMM Bank...

...Memory in Bank X Not Utilized.

Audible Beeps: 1 long, 1 short

Possible Cause: Installed DIMMs in the same bank are of different sizes.

Action: Install correctly matched DIMMs.

207-Invalid Memory Configuration - Mismatched DIMMs within DIMM Bank...

...Memory in Board X, Bank X Not Utilized.

Audible Beeps: 1 long, 1 short

Possible Cause: DIMMs within a bank are mismatched or missing, or memory board 1 is missing.

Action: Install correctly matched DIMMs.

207-Invalid Memory Configuration - Only Registered SDRAM DIMMs Are Supported.

Audible Beeps: 1 long, 1 short

Possible Cause: Memory module is installed incorrectly.

Action: Be sure the memory modules are installed properly.

207-Invalid Memory Configuration - Unsupported DIMM in Socket X

Audible Beeps: 1 long, 1 short

Possible Cause: Unregistered DIMMs or insufficient DIMM timings.

Action: Install registered ECC DIMMs.

207-Invalid Memory Configuration - Unsupported DIMM in DIMM Socket X...

...Only Registered DDR DIMMs Are Supported.

Audible Beeps: 1 long, 1 short

Possible Cause: DIMM type is unsupported.

Action: Replace DIMMs in indicated slots with supported type.

207-Invalid Memory Configuration - Unsupported DIMM in DIMM Socket X...

...Insufficient Timings on DIMM.

Audible Beeps: 1 long, 1 short

Possible Cause: Installed DIMMs are too slow.

Action: Replace DIMMs in indicated slots with supported type.

207-Invalid Memory Configuration - Unsupported DIMM in DIMM Socket X...

...Only ECC DIMMs Are Supported.

Audible Beeps: 1 long, 1 short

Possible Cause: Installed DIMMs do not have ECC capability.

Action: Replace DIMMs in indicated slots with supported type.

207-Invalid Memory Configuration - Unsupported DIMM in DIMM Socket X...

...DIMM Size Parameters Not Supported.

Audible Beeps: 1 long, 1 short

Possible Cause: Installed DIMMs in the same bank are of different sizes.

Action: Replace DIMMs in indicated slots with supported type.

207-Invalid Memory Configuration - DIMMs Must be Installed Sequentially

Audible Beeps: 1 long, 1 short

Possible Cause: Installed DIMMs are not sequentially ordered.

Action: Reinstall DIMMs in proper order.

207-Invalid Memory Configuration - Incomplete Bank Detected in Bank X

Audible Beeps: 1 long, 1 short

Possible Cause: Bank is missing a DIMM.

Action: Install a DIMM to fill the bank.

207-Invalid Memory Configuration - Unsupported DIMM in Board X, DIMM X...

...Only Registered DDR DIMMs are Supported.

Audible Beeps: 1 long, 1 short

Possible Cause: Unregistered DIMMs

Action: Install registered PC 1600 ECC DDR SDRAM DIMMs.

207-Invalid Memory Configuration, Bank X

Audible Beeps: None

Possible Cause: A memory bank has been incorrectly populated.

Action: Check the location of the bank specified. This bank number will correspond to the bank number shown on the memory expansion board identification label located on the top air baffle of the processor/memory drawer. Be sure a bank is populated with four DIMMs of the same type, size, and speed.

207-Memory Installation Error

Audible Beeps: None

Possible Cause: Memory module installed incorrectly or unsupported DIMM.

Action: Check placement of memory modules.

207-Memory Configuration Warning - DIMM in DIMM Socket X does not have Primary Width of 4 and Only Supports Standard ECC

Audible Beeps: 1 long, 1 short, or none

Possible Cause: Installed DIMMs have a primary width of x8.

Action: Install DIMMs that have a primary width of x4.

208-Invalid Memory Speed - Check DIMM Installation

Audible Beeps: 1 long, 1 short

Possible Cause: The speed of the memory is not compatible.

Action: Be sure the speed of the memory modules installed is compatible. Refer to the server documentation.

209-Memory Detection Failure. Check Memory Installation.

Audible Beeps: 1 long, 1 short

Possible Cause: Unable to size memory.

Action: Be sure memory modules are properly installed. Refer to the server documentation.

209-Online Spare Memory Configuration - Bank A Does Not Match Bank C

Audible Beeps: 1 long, 1 short

Possible Cause: DIMM group mismatch between Bank A and Bank C.

Action: Be sure the size and speed of the memory modules installed are compatible. Refer to the server documentation.

209-Online Spare Memory Configuration - Bank B Does Not Match Bank C

Audible Beeps: 1 long, 1 short

Possible Cause: DIMM group mismatch between Bank B and Bank C.

Action: Be sure the size and speed of the memory modules installed are compatible. Refer to the server documentation.

209-Online Spare Memory Configuration - Bank C Insufficient for Bank A.

Audible Beeps: 1 long, 1 short

Possible Cause: DIMM group mismatch between Bank A and Bank C.

Action: Be sure the size and speed of the memory modules installed are compatible. Refer to the server documentation.

209-Online Spare Memory Configuration - Bank C Insufficient for Bank B.

Audible Beeps: 1 long, 1 short

Possible Cause: DIMM group mismatch between Bank B and Bank C.

Action: Be sure the size and speed of the memory modules installed are compatible. Refer to the server documentation.

209-Online Spare Memory Configuration - Bank C is Invalid or by Itself

Audible Beeps: 1 long, 1 short

Possible Cause: DIMM sizes are not the same, speeds are not the same, or one slot is not populated.

Action: Be sure the size and speed of the memory modules installed are compatible. Refer to the server documentation.

209-Online Spare Memory Configuration - Board 1, Bank D is Invalid.

Audible Beeps: 1 long, 1 short

Possible Cause: Online spare bank is configured incorrectly.

Action: Be sure the DIMMs in the online spare bank are populated correctly.

209-Online Spare Memory Configuration - No Valid Banks for Online Spare

Audible Beeps: 1 long, 1 short

Possible Cause: Two valid banks are not available to support an online spare memory configuration.

Action: Install or reinstall DIMMs to support online spare configuration.

209-Online Spare Memory Configuration - Spare Bank is Invalid

Audible Beeps: 1 long, 1 short

Possible Cause: Installed DIMMs for online spare bank are of a size smaller than another bank.

Action: Install or reinstall DIMMs to support online spare configuration.

209-Online Spare Memory Configuration - Spare Bank is Invalid...

...Mixing of DIMMs with Primary Width of x4 and x8 is not allowed in this mode.

Audible Beeps: 1 long, 1 short

Possible Cause: Installed DIMMs for online spare bank are of a different primary width than the DIMMs in other banks.

Action: Install or reinstall DIMMs to support online spare configuration.

209-Mirror Memory Configuration - DIMMs on Both Boards do not Match

Audible Beeps: 1 long, 1 short

Possible Cause: Memory boards are not populated identically, or a memory board is missing.

Action: Be sure two memory boards are installed and DIMMs are populated correctly.

209-Mirror Memory Configuration - Single-Board Mirror DIMMs do not Match

Audible Beeps: 1 long, 1 short

Possible Cause: Mirrored banks are not populated identically, or memory board 1 is missing.

Action: Be sure mirrored banks are populated identically and that only memory board 1 is installed.

209-Mirror Memory Configuration - Board 2 Present in Single-Board Mirror

Audible Beeps: 1 long, 1 short

Possible Cause: A second memory board is installed in the single-board mirrored memory configuration.

Action: Remove memory board 2.

211-Invalid Processor Board PPM installed, Module X

Audible Beeps: None

Possible Cause: The wrong PPM is installed.

Action: Replace the PPM.

211-Invalid Processor PPM installed, Module X

Audible Beeps: None

Possible Cause: The wrong PPM is installed.

Action: Replace the PPM.

211-Invalid Voltage Regulator Module Installed for Processor X

Audible Beeps: None

Possible Cause: A nonredundant PPM is installed in indicated processor slot.

Action: Replace with a PPM that supports redundancy.

212-Processor Failed, Processor X

Audible Beeps: 1 short

Possible Cause: Processor in slot *X* failed.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

212-System Processor Failed/Mapped out

Audible Beeps: 1 short

Possible Cause: Processor in slot *X* failed.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

213-Processor Disabled, Processor X

Audible Beeps: None

Possible Cause: The PPM and VRM for processor *X* are not properly installed.

Action: Be sure the PPM and VRM are properly installed and seated.

214-DC-DC Converter Failed

Audible Beeps: None

Possible Cause: A PPM failed.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

214-Memory Device Failure. Error Code:X Memory Module DIMM:Y

Audible Beeps: 2 short

Possible Cause: A memory module failed.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

214-Processor Board PPM Failed

Audible Beeps: None

Possible Cause: PPM is missing or failed.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

214-Processor PPM Failed, Module X

Audible Beeps: None

Possible Cause: Indicated PPM failed.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

214-Processor PPM Failed, Processor Bus X

Audible Beeps: None

Possible Cause: A processor PPM failed or is missing. The failed PPM is located on a disabled processor bus.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

215-Non-Functioning Voltage Regulator Module for Processor X

Audible Beeps: None

Possible Cause: PPM (DC-DC converter) failed or lost redundancy.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

215-Processor PPM not Installed, Module

Audible Beeps: None

Possible Cause: A processor has been installed without its corresponding PPM.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

216-Processor Board PPM Has Lost Redundancy

Audible Beeps: None

Possible Cause: Indicated PPM has lost redundancy.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

216-Processor PPM Has Lost Redundancy, Module X

Audible Beeps: None

Possible Cause: Indicated PPM has lost redundancy.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

216-Voltage Regulator Module for Processor X No Longer Redundant

Audible Beeps: None

Possible Cause: Indicated PPM has lost redundancy.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

217-Unsupported Processor Detected

Audible Beeps: None

Possible Cause: System does not recognize processor as supported.

Action:

1. Be sure the processor bus speed and processor bus-to-core ratio jumper settings are supported by the server. Refer to the server documentation for more information.
2. Be sure all processors in the system have the same core speeds and cache sizes.
3. Be sure all processors are no more than one stepping apart. ROM should be able to detect this and provide the stepping information.
4. Replace specified processor if the failure reoccurs.

218-Cache Accelerators Not Installed. System Halted

Audible Beeps: None

Possible Cause: Cache accelerators are not installed or are improperly installed.

Action: Be sure the cache accelerator is properly installed.

219-Tag Update Rules SRAM Failure. System Halted

Audible Beeps: None

Possible Cause: Catastrophic chipset failure occurred.

Action: Replace the failed assembly as indicated.

219-Snoop Rules SRAM Failure. System Halted

Audible Beeps: None

Possible Cause: Catastrophic chipset failure occurred.

Action: Replace failed assembly as indicated.

220-Cache Accelerator Slot X Initialization Failed. System Halted

Audible Beeps: None

Possible Cause: Cache accelerator in slot *X* is improperly installed or failed.

Action: Be sure the cache accelerator is properly installed. Replace the cache accelerator, if needed.

221-Power Fault On Processor Bus X

Audible Beeps: None

Possible Cause: A PPM on the indicated bus is in a failed state.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

222-Processor Bus Disabled, Processor Bus X

Audible Beeps: None

Possible Cause: Hardware or BIOS have disabled a processor bus.

Action: Refer to actions for accompanying error messages.

252-Invalid Memory SPD Reading

Audible Beeps: None

Possible Cause: Failed or incompatible DIMM.

Action: Be sure the specified DIMM meets the requirements for supported DIMMs. Replace the DIMM.

253-Invalid Memory Cycle Time Reading

Audible Beeps: None

Possible Cause: Failed or incompatible DIMM.

Action: Be sure the specified DIMM meets the requirements for supported DIMMs. Replace the DIMM.

254-Invalid Memory Revision Code

Audible Beeps: None

Possible Cause: Failed or incompatible DIMM.

Action: Be sure the specified DIMM meets the requirements for supported DIMMs. Replace the DIMM.

255-Invalid Memory CL2 Support

Audible Beeps: None

Possible Cause: Failed or incompatible DIMM.

Action: Be sure the specified DIMM meets the requirements for supported DIMMs. Replace the DIMM.

256-Invalid Memory TRP Reading

Audible Beeps: None

Possible Cause: Failed or incompatible DIMM.

Action: Be sure the specified DIMM meets the requirements for supported DIMMs. Replace the DIMM.

257-Invalid Memory TRRD Reading

Audible Beeps: None

Possible Cause: Failed or incompatible DIMM.

Action: Be sure the specified DIMM meets the requirements for supported DIMMs. Replace the DIMM.

258-Invalid Memory TRCD Reading

Audible Beeps: None

Possible Cause: Failed or incompatible DIMM.

Action: Be sure the specified DIMM meets the requirements for supported DIMMs. Replace the DIMM.

259-Invalid Memory TRAS Reading

Audible Beeps: None

Possible Cause: Failed or incompatible DIMM.

Action: Be sure the specified DIMM meets the requirements for supported DIMMs. Replace the DIMM.

260-Invalid Memory Burst Length

Audible Beeps: None

Possible Cause: Failed or incompatible DIMM.

Action: Be sure the specified DIMM meets the requirements for supported DIMMs. Replace the DIMM.

261-Invalid Memory DIMM Configuration Type

Audible Beeps: None

Possible Cause: Failed or incompatible DIMM.

Action: Be sure the specified DIMM meets the requirements for supported DIMMs. Replace the DIMM.

262-Invalid Memory Refresh Rate Setting

Audible Beeps: None

Possible Cause: Failed or incompatible DIMM.

Action: Be sure the specified DIMM meets the requirements for supported DIMMs. Replace the DIMM.

263-DIMM is Not Valid or Compatible

Audible Beeps: None

Possible Cause: Failed or incompatible DIMM.

Action: Be sure the specified DIMM meets the requirements for supported DIMMs. Replace the DIMM.

300 Series

In This Section

301-Keyboard Error

Audible Beeps: None

Possible Cause: Keyboard failure occurred.

Action:

1. Power down the server, and then reconnect the keyboard.

2. Be sure no keys are depressed or stuck.
3. If the failure reoccurs, replace the keyboard.

301-Keyboard Error or Test Fixture Installed

Audible Beeps: None

Possible Cause: Keyboard failure occurred.

Action:

1. Power down the server, and then reconnect the keyboard.
2. Be sure no keys are depressed or stuck.
3. If the failure reoccurs, replace the keyboard.

ZZ-301-Keyboard Error

Audible Beeps: None

Possible Cause: Keyboard failure occurred. (*ZZ* represents the Keyboard Scan Code.)

Action:

1. Power down the server, and then reconnect the keyboard.
2. Be sure no keys are depressed or stuck.
3. If the failure reoccurs, replace the keyboard.

303-Keyboard Controller Error

Audible Beeps: None

Possible Cause: System board, keyboard, or mouse controller failure occurred.

CAUTION: Only authorized technicians trained by HP should attempt to remove the system board. If you believe the system board requires replacement, contact HP Technical Support ("Contacting HP Technical Support or Authorized Reseller" on page 269) before proceeding.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

303-Keyboard Controller Error

Audible Beeps: None

Possible Cause: System board, keyboard, or mouse controller failure occurred.

Action:

1. Be sure the keyboard and mouse are connected.

CAUTION: Only authorized technicians trained by HP should attempt to remove the system board. If you believe the system board requires replacement, contact HP Technical Support ("Contacting HP Technical Support or Authorized Reseller" on page 269) before proceeding.

2. Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

304-Keyboard or System Unit Error

Audible Beeps: None

Possible Cause: Keyboard, keyboard cable, mouse controller, or system board failure.

Action:

1. Be sure the keyboard and mouse are connected.

   CAUTION: Only authorized technicians trained by HP should attempt to remove the system board. If you believe the system board requires replacement, contact HP Technical Support ("Contacting HP Technical Support or Authorized Reseller" on page 269) before proceeding.

2. Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

400 Series

In This Section

40X-Parallel Port X Address Assignment Conflict

Audible Beeps: 2 short

Possible Cause: Both external and internal ports are assigned to parallel port *X*.

Action: Run the server setup utility and correct the configuration.

404-Parallel Port Address Conflict Detected...

...A hardware conflict in your system is keeping some system components from working correctly. If you have recently added new hardware remove it to see if it is the cause of the conflict. Alternatively, use Computer Setup or your operating system to insure that no conflicts exist.

Audible Beeps: 2 short

Possible Cause: A hardware conflict in the system is preventing the parallel port from working correctly.

Action:

1. If you have recently added new hardware, remove it to see if the hardware is the cause of the conflict.
2. Run the server setup utility to reassign resources for the parallel port and manually resolve the resource conflict.
3. Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

500 Series

In This Section

501-Display Adapter Failure

Audible Beeps: 1 long, 2 short

Possible Cause: Integrated video controller on system board has failed.

CAUTION: Only authorized technicians trained by HP should attempt to remove the system board. If you believe the system board requires replacement, contact HP Technical Support ("Contacting HP Technical Support or Authorized Reseller" on page 269) before proceeding.

Action: Replace the system board.

600 Series

In This Section

601-Diskette Controller Failed

Audible Beeps: None

Possible Cause: Diskette controller circuitry failure occurred.

Action:

1. Be sure the diskette drive cables are connected.
2. Replace the diskette drive, the cable, or both.

3. Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

601-Diskette Controller Error

Audible Beeps: None

Possible Cause: Diskette controller circuitry failure occurred.

Action:

1. Be sure the diskette drive cables are connected.
2. Replace the diskette drive, the cable, or both.
3. Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

601-Diskette Controller Error. The Drive is not Installed Correctly or Has Failed...

...Make sure that power and drive cables are connected, both to the drive and the system board. Also verify that the cables are the correct cables for your computer model. If this message persists, you may need service for your PC.

Audible Beeps: None

Possible Cause: CD-ROM or diskette drive assembly is not seated correctly, or a controller circuitry failure occurred.

Action:

1. Be sure the CD-ROM or diskette drive assembly is properly installed.
2. Be sure the cables are connected to the backplane.
3. Replace the CD-ROM or diskette drive assembly, the cable, the backplane, or all three.
4. Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

602-Diskette Boot Record Error

Audible Beeps: None

Possible Cause: The boot sector on the boot disk is corrupt.

Action:

1. Remove the diskette from the diskette drive.
2. Replace the diskette in the drive.
3. Reformat the diskette.

605-Diskette Drive Type Error.

Audible Beeps: 2 short

Possible Cause: Mismatch in drive type occurred.

Action: Run the server setup utility to set the diskette drive type correctly.

611-Primary Floppy Port Address Assignment Conflict

Audible Beeps: 2 short

Possible Cause: A hardware conflict in the system is preventing the diskette drive from operating properly.

Action:

1. Run the server setup utility to configure the diskette drive port address and manually resolve the conflict.
2. Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

611-Primary Floppy Port Address Conflict

Audible Beeps: 2 short

Possible Cause: A hardware conflict in the system is preventing the diskette drive from operating properly.

Action:

1. Run the server setup utility to configure the diskette drive port address and manually resolve the conflict.
2. Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

800 Series

In This Section

800-Server Feature Board Must be Installed in Slot 1 for Proper Operation

Audible Beeps: None

Possible Cause: The Server Feature Board is either not installed, not installed in the proper slot, or does not match the system.

Action:

1. Install the Server Feature Board in PCI slot 1.
2. Reseat the Server Feature Board.
3. Be sure the Server Feature Board is supported by this server.

801-Server Feature Board is not Properly Cabled to the System...

...Verify that the server management information cable from the system board to the Server Feature Board in slot 1 is intact and fully secured at both ends

Audible Beeps: None

Possible Cause: The server-management information cable is not properly installed.

Action:

1. Be sure the server-management information cable is properly installed.
2. Inspect the server-management information cable for signs of damage.
3. Reseat the server-management information cable on the system board and on the Server Feature Board.

802-Processor X is Missing or Terminator Board is not Present. System Halted

Audible Beeps: None

Possible Cause: The indicated processor slot is empty.

Action:

1. Be sure a processor or processor terminator board is installed in each processor slot.
2. Reseat the processor or processor terminator board in each processor slot.
3. Be sure each processor has a corresponding PPM installed.
4. Replace each processor with a processor terminator board to identify a failed processor or PPM.

803-Processor Speeds Must Match for System Operation. System Halted

Audible Beeps: None

Possible Cause: Two processors with different speed ratings are installed in the system. All installed processors must have the same speed rating for safe operation.

Action:

1. Replace one of the processors with a processor terminator board.
2. Replace one of the processors with an alternate processor rated for the same operating speed as the installed processor.

804-100MHz Memory is Incompatible. System Halted

Audible Beeps: None

Possible Cause: A memory module other than 133-MHz ECC Registered SDRAM DIMM is installed.

Action:

1. Reseat all memory modules in the system.
2. Remove the incompatible memory modules. Install each memory module one at a time in DIMM slot 1 to identify the incompatible memory module, if necessary.

805-Unsupported Processor Detected System will ONLY Boot ROMPAQ Utility

Audible Beeps: None

Possible Cause: One or both processors are unsupported.

Action: Install supported processors.

805-The Bootstrap Processor is not the Lowest Stepping Processor in the System...

...This is unsupported configuration. Swap the position of the processors on the system board to correct this issue.

Audible Beeps: None

Possible Cause: The processors in the system are not the same stepping and the processor in processor slot 1 has a lower stepping than the processor in processor slot 2. The processor in processor slot 2 must have the same or lower stepping than the processor in processor slot 1. (Processor stepping is a designation that reflects the processor generation.)

Action:

1. Remove the processor from processor slot 1.
2. Remove the processor from processor slot 2.
3. Install the processor from processor slot 1 into processor slot 2.
4. Install the remaining processor into the available processor slot.

806-CMOS Has Been Reset. Please Power Off and Restore the Clear CMOS Switch (SW2.2)

Audible Beeps: None

Possible Cause: The system switch SW2.2 has been turned on and the system configuration data has been cleared from CMOS. This switch must be returned to the default off position for normal operation and to save configuration setup data.

The system must be reconfigured.

Action:

1. Power down the server.
2. Return system switch SW2.2 to the off position. Refer to the server documentation for the location of this switch.
3. Restart the server.
4. Press the **F9** key to run the server setup utility and configure the system.
5. Select the primary operating system.
6. Set the date and time.

7. Complete additional configuration as needed.

806-NVRAM Has Been Reset...

...Please power off the system and restore SW1.2 to the default position. Run BIOS Setup to set default values. System Halted.

Audible Beeps: None

Possible Cause: The system configuration switch (SW1), position 2 has been turned on and the system configuration data has been cleared from CMOS. This switch must be returned to the default off position for normal operation and to save configuration setup data.

The system must be reconfigured.

Action:

1. Remove power from the system.
2. Return position 2 of the system configuration switch (SW1) to the off position. Refer to the server documentation for the location of this switch.
3. Restart the server.
4. Press the **F10** key to run the server setup utility and configure the system.
5. Select the primary operating system.
6. Set the date and time.
7. Complete additional configuration as needed.

807-The Password Has Been Cleared. Please Power Off and Restore the Clear Password Switch (SW2.1)

Audible Beeps: None

Possible Cause: The system switch SW2.1 has been turned on and the system configuration password has been cleared. System switch SW2.1 must be returned to the default off position for normal operation and to set a password with the server setup utility.

Action:

1. Remove power from the system.
2. Return system switch SW2.1 to the off position. Refer to the server documentation for the location of this switch.
3. Restart the server.
4. Press the **F9** key and use the server setup utility to set a new password, if desired.

807-The Setup Password is Cleared. Please Power Off and Restore the Clear Password Switch (SW1.1)

Audible Beeps: None

Possible Cause: The system board configuration switch SW1.1 has been turned on and the system configuration password has been cleared. SW1.1 must be returned to the default off position for normal operation and the ability to set a password with the server setup utility.

Action:

1. Remove power from the system.
2. Return SW1.1 to the off position. Refer to the server documentation for the location of this switch.
3. Restart the server.
4. Press the **F10** key and use the server setup utility to set a new password.

900 Series

In This Section

912-The Computer Cover Has Been Removed Since Last System Startup...

...The machine cover has been removed. Please ensure that any system access was authorized

Audible Beeps: None

Possible Cause: The server cover has been removed since the last system startup.

Action: Be sure any system access was authorized.

1100 Series

In This Section

1151-Com Port 1 Address Assignment Conflict

Audible Beeps: 2 short

Possible Cause: Both external and internal serial ports are assigned to COM1.

Action: Run the server setup utility and correct the configuration.

1151-COM Port 1 Address Conflict

Audible Beeps: 2 short

Possible Cause: Both external and internal serial ports are assigned to COM1.

Action: Run the server setup utility and correct the configuration.

1151-Serial Port A Address Conflict Detected

Audible Beeps: 2 short

Possible Cause: A hardware conflict is preventing the normal operation of a serial port.

Action: Run the server setup utility to reassign serial port address and manually resolve the conflict.

1152-COM Port 2 Address Conflict

Audible Beeps: 2 short

Possible Cause: Both external and internal serial ports are assigned to COM2.

Action: Run the server setup utility and correct the configuration.

1152-COM Port 2, 3, or 4 Address Assignment Conflict

Audible Beeps: 2 short

Possible Cause: Both external and internal serial ports are assigned to COM2, COM3, or COM4.

Action: Run the server setup utility and correct the configuration.

1152-Serial Port B Address Conflict Detected

Audible Beeps: 2 short

Possible Cause: A hardware conflict is preventing the normal operation of a serial port.

Action: Run the server setup utility to reassign serial port address and manually resolve the conflict.

1153-COM Port 3 Address Conflict

Audible Beeps: 2 short

Possible Cause: Both external and internal serial ports are assigned to COM3.

Action: Run the server setup utility and correct the configuration.

1154-COM Port 4 Address Conflict

Audible Beeps: 2 short

Possible Cause: Both external and internal serial ports are assigned to COM4.

Action: Run the server setup utility and correct the configuration.

1155-Serial Port Address Conflict Detected

Audible Beeps: 2 short

Possible Cause: A hardware conflict is preventing the normal operation of a serial port.

Action: Run the server setup utility to reassign serial port address and manually resolve conflict.

1600 Series

In This Section

1610-Temperature Violation Detected. - Waiting 5 Minutes for System to Cool

Audible Beeps: None

Possible Cause: The ambient system temperature exceeded acceptable levels.

Action: Lower the room temperature.

1610-Temperature Violation Detected. Waiting for System to Cool

Audible Beeps: 2 short

Possible Cause: The ambient system temperature exceeded acceptable levels.

Action: Check fan in system environment.

1610-I/O Board Temperature Violation Detected

Audible Beeps: None

Possible Cause: An overheating condition has occurred on the I/O board.

Action: Power down the server and let it cool down. Be sure the system fans are functional and the rack allows adequate ventilation.

Also, be sure the ambient temperature is within the operating parameters of the system. Refer to the server documentation for the temperature requirements of the server.

1611-Fan X Not Present

Audible Beeps: 2 short

Possible Cause: Fan is not installed or is not seated.

Action: Reseat or install a fan in position *X*.

1611-CPU Fan Failure Detected

Audible Beeps: None

Possible Cause: Required fan not spinning.

Action:

1. Check the fans to be sure they are working.
2. Be sure each fan cable is properly connected and each fan is properly seated.
3. If the problem persists, replace the failed fans.

1611-CPU Fan Not Present

Audible Beeps: None

Possible Cause: Required fan not installed.

Action:

1. Check the fans to be sure they are working.
2. Be sure each fan cable is properly connected and each fan is properly seated.
3. If the problem persists, replace the failed fans.

1611-CPU Fan (Fan X) Failure Detected

Audible Beeps: 2 short

Possible Cause: Processor fan has failed.

Action:

1. Check the fans to be sure they are working.
2. Be sure each fan cable is properly connected and each fan is properly seated.
3. If the problem persists, replace the failed fans.

1611-Critical Fan Failure Detected, System Fan X

Audible Beeps: None

Possible Cause: Required fan not properly functioning.

Action:

1. Check the fans to be sure they are working.
2. Be sure each fan cable is properly connected and each fan is properly seated.
3. If the problem persists, replace the failed fans.

1611-Critical Fan Not Present, System Fan X

Audible Beeps: None

Possible Cause: Required fan not installed or not properly connected.

Action:

1. Check the fans to be sure they are working.
2. Be sure each fan cable is properly connected and each fan is properly seated.
3. If the problem persists, replace the failed fans.

1611-Fan Failure Detected

Audible Beeps: 2 short

Possible Cause: Required fan not installed or spinning.

Action:

1. Check the fans to be sure they are working.
2. Be sure each fan cable is properly connected and each fan is properly seated.
3. If the problem persists, replace the failed fans.

1611-Fan X Failure Detected

Audible Beeps: 2 short

Possible Cause: Required fan not installed or not spinning.

Action:

1. Check the fans to be sure they are working.
2. Be sure each fan cable is properly connected and each fan is properly seated.
3. If the problem persists, replace the failed fans.

1611-Front CPU Fan X Failure Detected

Audible Beeps: None

Possible Cause: Required fan not spinning.

Action:

1. Check the fans to be sure they are working.
2. Be sure each fan cable is properly connected and each fan is properly seated.
3. If the problem persists, replace the failed fans.

1611-Front CPU Fan X Not Present

Audible Beeps: None

Possible Cause: Required fan not spinning.

Action:

1. Check the fans to be sure they are working.
2. Be sure each fan cable is properly connected and each fan is properly seated.
3. If the problem persists, replace the failed fans.

1611-I/O Fan Failure Detected

Audible Beeps: None

Possible Cause: Required fan not spinning.

Action:

1. Check the fans to be sure they are working.
2. Be sure each fan cable is properly connected and each fan is properly seated.
3. If the problem persists, replace the failed fans.

1611-I/O Fan Not Present

Audible Beeps: None

Possible Cause: Required fan not spinning.

Action:

1. Check the fans to be sure they are working.
2. Be sure each fan cable is properly connected and each fan is properly seated.
3. If the problem persists, replace the failed fans.

1611-I/O Fan (Fan X) Failure Detected

Audible Beeps: 2 short

Possible Cause: I/O fan has failed.

Action:

1. Check the fans to be sure they are working.
2. Be sure each fan cable is properly connected and each fan is properly seated.
3. If the problem persists, replace the failed fans.

1611-I/O Slot Fan X Not Present

Audible Beeps: None

Possible Cause: Required fan not installed.

Action:

1. Check the fans to be sure they are working.
2. Be sure each fan cable is properly connected and each fan is properly seated.
3. If the problem persists, replace the failed fans.

1611-I/O Slot CPU Fan X Failure Detected

Audible Beeps: None

Possible Cause: Required fan not spinning.

Action:

1. Check the fans to be sure they are working.
2. Be sure each fan cable is properly connected and each fan is properly seated.
3. If the problem persists, replace the failed fans.

1611-Power Supply Fan X Failure Detected

Audible Beeps: None

Possible Cause: Required fan not spinning.

Action:

1. Check the fans to be sure they are working.
2. Be sure each fan cable is properly connected and each fan is properly seated.
3. If the problem persists, replace the failed fans.

1611-Power Supply Fan X Not Present

Audible Beeps: None

Possible Cause: Required fan not installed.

Action:

1. Check the fans to be sure they are working.
2. Be sure each fan cable is properly connected and each fan is properly seated.
3. If the problem persists, replace the failed fans.

1611-Rear CPU Fan X Failure Detected

Audible Beeps: None

Possible Cause: Required fan not spinning.

Action:

1. Check the fans to be sure they are working.
2. Be sure each fan cable is properly connected and each fan is properly seated.
3. If the problem persists, replace the failed fans.

1611-Rear CPU Fan X Not Present

Audible Beeps: None

Possible Cause: Required fan not installed.

Action:

1. Check the fans to be sure they are working.
2. Be sure each fan cable is properly connected and each fan is properly seated.
3. If the problem persists, replace the failed fans.

1611-Redundant CPU Fan Failure Detected

Audible Beeps: None

Possible Cause: Fan not spinning.

Action:

1. Check the fans to be sure they are working.
2. Be sure each fan cable is properly connected and each fan is properly seated.
3. If the problem persists, replace the failed fans.

1611-Redundant CPU Fan (Fan X) Failure Detected

Audible Beeps: 2 short

Possible Cause: Redundant processor fan has failed.

Action: Replace the failed redundant fan.

1611-Redundant I/O Fan (Fan X) Failure Detected

Audible Beeps: 2 short

Possible Cause: Redundant I/O fan has failed.

Action: Replace the failed redundant I/O fan.

1611-Redundant System Fan Failure (Fan X) Detected

Audible Beeps: None

Possible Cause: Fan has failed.

Action:

1. Check the fans to be sure they are working.

2. Be sure each fan cable is properly connected and each fan is properly seated.
3. If the problem persists, replace the failed fans.

1611-Slot Fan Failure Detected

Audible Beeps: None

Possible Cause: Required fan not spinning.

Action:

1. Check the fans to be sure they are working.
2. Be sure each fan cable is properly connected and each fan is properly seated.
3. If the problem persists, replace the failed fans.

1611-System Fan Failure Detected

Audible Beeps: None

Possible Cause: Required fan not spinning.

Action:

1. Check the fans to be sure they are working.
2. Be sure each fan cable is properly connected and each fan is properly seated.
3. If the problem persists, replace the failed fans.

1611-System Fan Not Present

Audible Beeps: None

Possible Cause: Required fan not installed.

Action:

1. Check the fans to be sure they are working.

2. Be sure each fan cable is properly connected and each fan is properly seated.
3. If the problem persists, replace the failed fans.

1612-Primary Power Supply Failure

Audible Beeps: 2 short

Possible Cause: Primary power supply has failed.

Action: Replace power supply.

1613-Low System Battery

Audible Beeps: None

Possible Cause: Real-time clock system battery is running low on power.

Action: Replace battery (or add external battery).

1614-Redundant Fan Failure

Audible Beeps: None

Possible Cause: Fan is not spinning.

Action:

1. Check the fans to be sure they are working.
2. Be sure each fan cable is properly connected and each fan is properly seated.
3. If the problem persists, replace the failed fans.

1615-Power Supply Configuration Error

Audible Beeps: None

Possible Cause: The server configuration requires an additional power supply. A moving bar is displayed, indicating that the system is waiting for another power supply to be installed.

Action: Install the additional power supply.

1615-Power Supply Failure

Audible Beeps: None

Possible Cause: Power supply has failed.

Action: Reseat power supply firmly or replace power supply.

1615-Power Supply Failure, Power Supply Unplugged, or Power Supply Fan Failure in Bay X

Audible Beeps: None

Possible Cause: Power supply has failed.

Action: Reseat power supply firmly or replace power supply.

1616-Power Supply Configuration Failure

Audible Beeps: None

Possible Cause: Power supply is improperly configured.

Action: Run the server setup utility and correct the configuration.

1617-Fan Controller Not Responding

Audible Beeps: 2 short

Possible Cause: Fan controller failure detected.

Action: Check the fan controller to determine if it is working and replace the controller assembly if needed.

1617-Fan Controller Not Responding. System Halted

Audible Beeps: 2 short

Possible Cause: Fan controller failure detected.

Action: Check the fan controller to determine if it is working and replace the controller assembly if needed.

1617-I/O Fan Controller Not Responding. System Halted

Audible Beeps: 2 short

Possible Cause: I/O fan controller failure detected.

Action: Check the fan controller to determine if it is working and replace the controller assembly if needed.

1617-CPU Fan Controller Not Responding. System Halted

Audible Beeps: 2 short

Possible Cause: Processor fan controller failure detected.

Action: Check the fan controller to determine if it is working and replace the controller assembly if needed.

1618-PCI Slots Powered Down. Check PCI Hot-Plug Enabler Connectors

Audible Beeps: None

Possible Cause: PCI Hot Plug enabler is missing or failed.

Action: Check the enabler to determine if it is installed and working and replace the assembly if needed.

1618-PCI Slots Powered Down

Audible Beeps: None

Possible Cause: PCI Hot Plug enabler is missing or failed.

Action: Check the enabler to determine if it is installed and working and replace the assembly if needed.

1618-AC Line Is Not Cord Redundant

Audible Beeps: None

Possible Cause: AC line cord redundancy is not achieved.

Action: AC line cord redundancy is not necessary for the server to operate. If AC line cord redundancy is wanted, plug server into two separate AC sources. Each AC source should be on a different power grid/circuit.

1619-Maximum Power Usage Was Exceeded

Audible Beeps: None

Possible Cause: System has reached the maximum power draw for the current power configuration of the server.

Action:

1. If running on a 110-volt AC source, switch to a 220-volt AC source.
2. Add an extra power supply/SPM pair.
3. Decrease the options in the system. Refer to the power calculator (http://h30099.www3.hp.com/configurator/) for power considerations.

1619-Server Management Board Is In the Wrong Slot

Audible Beeps: None

Possible Cause: The server management board is not in the proper location.

Action: Install the server management board in the correct slot.

1620-Locked SCSI Bus Detected. Verify SCSI Bus Cabling. System Halted

Audible Beeps: None

Possible Cause: SCSI bus failure detected.

Action: Be sure the integrated SCSI controller has SCSI termination connected.

1620-Fan Not Present

Audible Beeps: None

Possible Cause: Fans are missing or not cabled correctly.

Action: Be sure the fans are present, supported, and installed correctly. Refer to the server documentation.

1621-Error - Power Supply Required with System Power Module

Audible Beeps: None

Possible Cause: There are more SPMs than power supplies.

Action: Power supplies and SPMs must be installed in pairs and in line with each other. Be sure an SPM is installed for each power supply.

1621-Current SCSI Bus Cable Configuration Is Not Recommended

Audible Beeps: None

Possible Cause: Improper SCSI bus cabling detected.

Action: Refer to the server documentation for proper SCSI bus cabling.

1622-Internal SCSI Jumper Board Not Installed

Audible Beeps: None

Possible Cause: SCSI jumper board missing or not functional. The array enabler board is not installed.

Action:

1. Install the array enabler board.

2. If a separate controller is used, install the Integrated Array Bypass Kit. Refer to the server documentation or the HP website (http://www.hp.com) for more information.

1623-System Battery Is Missing

Audible Beeps: None

Possible Cause: The battery is not properly installed.

Action: Be sure the battery is installed on the sideplane board. Refer to the server documentation.

1624-System Power Module Failed

Audible Beeps: None

Possible Cause: An SPM has failed.

Action: Replace the specified SPM.

1625-Power Supply Failed

Audible Beeps: None

Possible Cause: A power supply has failed.

Action: Replace the specified power supply.

1626-Power Supply Reported Error Status

Audible Beeps: None

Possible Cause: The power supply has returned an error status.

Action:

1. Note the details of the error status and act accordingly. For example, if an over-temperature condition has occurred, check the system fans and ventilation.
2. If the problem persists, replace the power supply.

1627-System Power Module Reported Error Status

Audible Beeps: None

Possible Cause: The SPM has returned an error status.

Action:

1. Note the details of the error status and act accordingly. For example, if an over-temperature condition has occurred, check the system fans and ventilation.
2. If the problem persists, replace the SPM.

1700 Series

In This Section

1701-SCSI Controller Failure

Audible Beeps: None

Possible Cause: Embedded SCSI controller has failed or a connected device is preventing normal operation.

Action:

1. Be sure the SCSI cables are connected securely.
2. Remove the SCSI cables from the controller and observe if the failure persists. If necessary, replace the cables.
3. Be sure the SCSI IDs are assigned correctly at each SCSI device.
4. Remove individual SCSI devices from the cable to identify a suspect device.
5. Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

1702-SCSI Cable Error Detected

Audible Beeps: None

Possible Cause: SCSI cable failed.

Action:

1. Check all SCSI cable connectors for bent pins.
2. Reseat the SCSI cable on the controller and all connected devices.
3. If the problem persists, replace the SCSI cable.

1704-Unsupported Virtual Mode Disk Operation DOS Driver Required

Audible Beeps: None

Possible Cause: The operating system currently running does not support virtual DMA service.

Action: Load or update the SCSI device driver appropriate for the operating system.

1705-Locked SCSI Bus Detected

Audible Beeps: None

Possible Cause: A SCSI controller cannot communicate with devices connected to a SCSI bus.

Action:

1. Be sure the SCSI cable is properly installed.
2. Be sure the SCSI cable has proper termination.

1711-Slot Z Drive Array - RAID ADG Logical Drive(s) Configured but Array Accelerator Size <= 32 MB...

...This configuration is not recommended. Consider migrating logical drive(s) to RAID 5 or upgrading the Array Accelerator module.

Audible Beeps: None

Possible Cause: This configuration is not recommended.

Action: Migrate logical drives to RAID 5 or upgrade to a larger array accelerator module.

1712-Slot Z Drive Array - RAID 5 Logical Drive(s) Configured with 56 Drives, but Array Accelerator Size <= 32 MB...

...This configuration is not recommended. Consider migrating logical drive(s) to RAID 0 or 1, reducing the number of drives in the array, or upgrading the Array Accelerator module.

Audible Beeps: None

Possible Cause: This configuration is not recommended.

Action: Migrate logical drives to RAID 0 or 1, reduce the number of drives in the array, or upgrade to a larger-size array accelerator module.

1713-Slot z Drive Array Controller - Redundant ROM Reprogramming Failure...

...Replace the controller if this error persists after restarting system.

Audible Beeps: None

Possible Cause: Flash ROM is failing. The controller detected a checksum failure but is unable to reprogram the backup ROM.

Action:

1. Upgrade the firmware using Options ROMPaq ("SoftPaqs" on page 95).
2. If the problem persists, replace the controller.

1714-Slot z Drive Array Controller - Redundant ROM Checksum Error...

...Backup ROM has automatically been activated. Check firmware version.

Audible Beeps: None

Possible Cause: The controller flash operation interrupted by power-cycle, or flash ROM is failing. The controller has detected a ROM checksum error and automatically switched to the backup ROM image.

Action: If this backup ROM image is a lower version than the originally running image, upgrade controller firmware using Options ROMPaq ("SoftPaqs" on page 95).

1720-Slot X Drive Array - S.M.A.R.T. Hard Drive(s) Detect Imminent Failure SCSI: Port Y: SCSI ID Z.

Audible Beeps: None

Possible Cause: A hard drive SMART predictive failure condition is detected. It may fail at some time in the future.

Action:

- If this drive is part of a non-fault-tolerant configuration, back up all data before replacing the drive and restore all data afterward.
- If this drive is part of a fault-tolerant configuration, do not replace this drive unless all other drives in the array are online.

1720-S.M.A.R.T. Hard Drive Detects Imminent Failure

Audible Beeps: None

Possible Cause: A hard drive SMART predictive failure condition is detected. It may fail at some time in the future.

Action:

- If configured as a non-RAID 0 array, replace the failing or failed drive. Refer to the server documentation.
- If configured as a RAID 0 array or non-RAID setup, back up the drive or drives, replace the drive, and restore the system.

1721-Slot X Drive Array - Drive Parameter Tracking Predicts Imminent Failure...

...The following devices should be replaced when conditions permit. Do not replace drive unless all other drives in the array are on-line! Back up data before replacing drive(s) if using RAID 0.

Audible Beeps: None

Possible Cause: Drive parameter tracking reports a predictive-failure condition on the indicated drive. It may fail at some time in the future.

Action:

- If the drive is part of a non-fault-tolerant configuration, back up all data before replacing the drive and restore all data afterward.
- If the drive is part of a fault-tolerant configuration, do not replace the drive unless all other drives in the array are online.

1722-Slot X Drive Array - Redundant Controller Pair Not Operating Redundantly...

...(followed by one of the following):

Incompatible controller models.

Inter-controller communication failed; check other controller.

Incompatible firmware versions; upgrade firmware.

Array accelerator RAM sizes are different.

Audible Beeps: None

Possible Cause: The Smart Array 3100ES or 4250ES Controllers are not operating properly or redundantly.

Action:

CAUTION: Only authorized technicians trained by HP should attempt to remove the system board. If you believe the system board requires replacement, contact HP Technical Support ("Contacting HP Technical Support or Authorized Reseller" on page 269) before proceeding.

- Be sure both controllers are the same Smart Array model. If they are, one of the controllers or the system board may be defective.
- Be sure both Smart Array 3100ES or 4250ES Controllers have the 64-MB array accelerator board connected in order to operate in redundant mode.
- Be sure the adjacent Smart Array 3100ES or 4250ES Controller has not failed.
- Run Options ROMPaq ("SoftPaqs" on page 95) to upgrade both controllers to the same firmware version.

1723-Slot x Drive Array - To improve signal integrity...

...internal SCSI connector should be removed if external drives are attached to the same SCSI port (followed by detailed instructions).

Audible Beeps: None

Possible Cause: A cabling problem exists.

Action: With system power off, remove or replace connector daughterboard and external cables connected to the Smart Array Controller board as instructed.

1724-Slot X Drive Array - Physical Drive Position Change(s) Detected - ...

...Logical drive configuration has automatically been updated.

Audible Beeps: None

Possible Cause: The logical drive configuration has been updated automatically following physical drive position changes.

Action: No action is required.

1725-Slot X Drive Array-Optional SIMM Failure Detected

Audible Beeps: None

Possible Cause: SIMM has been automatically disabled due to memory errors or unsupported SIMM type installed.

Action: Replace the SIMM memory module on the indicated controller.

1726-Slot X Drive Array - Array Accelerator Memory Size Change Detected. - ...

...Array Accelerator configuration has automatically been updated.

Audible Beeps: None

Possible Cause: The array accelerator configuration has been updated automatically due to replacement of the array accelerator (or controller) with one having different cache memory size.

Action: Run the array configuration utility to change the default cache read/write allocation ratio.

1727-Slot X Drive Array - New Logical Drive(s) Attachment Detected...

...If more than 32 logical drives, this message will be followed by: "Auto-configuration failed: Too many logical drives."

Audible Beeps: None

Possible Cause: The controller has detected an additional array of drives that was connected when the power was off. The logical drive configuration information has been updated to add the new logical drives. The maximum number of logical drives supported is 32. Additional logical drives will not be added to the configuration.

Action: No action is required.

1728-Drive Array-Abnormal Shut-Down Detected With Write-Cache

Audible Beeps: None

Possible Cause: No array accelerator battery backup exists on the array controller, but caching was enabled. Any data that may have been in array accelerator memory has been lost due to the controller power loss.

Action: Restore data from backup.

1729-Slot 1 Drive Array - Performance Optimization Scan In Progress...

...RAID 4/5/ADG performance may be higher after completion.

Audible Beeps: None

Possible Cause: RAID 4/5/ADG parity drive(s) are being initialized. Performance of the controller improves after the parity data has been initialized by ARM (an automatic process that runs in the background on the controller).

Action: No action is required.

1730-Fixed Disk 0 Does Not Support DMA Mode

Audible Beeps: None

Possible Cause: Fixed drive error detected.

Action: Run the server setup utility and correct the configuration.

1731-Fixed Disk 1 Does Not Support DMA Mode

Audible Beeps: None

Possible Cause: Fixed drive error detected.

Action: Run the server setup utility and correct the configuration.

1740-Fixed Disk 0 Failed Set Block Mode Command

Audible Beeps: None

Possible Cause: Fixed drive error detected.

Action: Run the server setup utility and correct the configuration.

1741-Fixed Disk 1 Failed Set Block Mode Command

Audible Beeps: None

Possible Cause: Fixed drive error detected.

Action: Run the server setup utility and correct the configuration.

1750-Fixed Disk X Failed ID Command

Audible Beeps: None

Possible Cause: Fixed drive error detected.

Action: Run the server setup utility and correct the configuration.

1750-Fixed Disk X Failed Identify Command

Audible Beeps: None

Possible Cause: Fixed drive error detected.

Action: Run the server setup utility and correct the configuration.

1753-Slot z Drive Array - Array Controller Maximum Operating Temperature Exceeded During Previous Power Up

Audible Beeps: None

Possible Cause: Controller is overheating.

Action: Be sure adequate system cooling and sufficient airflow across controller are available.

1754-Slot Z Drive Array - RAID ADG Drive(s) Configured but ADG Enabler Module is Detached or Defective...

...Please check for detached ADG Enabler Module. Array Accelerator is temporarily disabled.

Audible Beeps: None

Possible Cause: One or more RAID ADG drives are configured, but ADG enabler module is not properly seated or is defective.

Action:

1. Reseat the ADG enabler module.
2. If the problem persists, replace the module.

1755-Slot Z Drive Array - ADG Enabler Module Appears to be Defective. Please Replace ADG Enabler Module.

Audible Beeps: None

Possible Cause: ADG enabler module is not properly seated or is defective.

Action:

1. Reseat the ADG enabler module.
2. If the problem persists, replace the module.

1756-Redundant Controllers Are Not the Same Model

Audible Beeps: None

Possible Causes:

- A Smart Array 3100ES Controller is paired with a 4250ES controller. In a redundant controller configuration, both controllers must be the same model.
- A defective system board or a controller is not fully seated in the PCI slot.

Action:

- If the controllers are different models, replace one of the controllers so they are both the same model.
- Reseat the controllers.

CAUTION: Only authorized technicians trained by HP should attempt to remove the system board. If you believe the system board requires replacement, contact HP Technical Support ("Contacting HP Technical Support or Authorized Reseller" on page 269) before proceeding.

- If the problem persists, replace the system board.

1757-Array Accelerator Daughterboard Incompatible with this Model Controller

Audible Beeps: None

Possible Cause: 4-MB array accelerator board installed on Smart Array 42XX Controller.

Action: Replace the 4-MB array accelerator board with a 16-MB or 64-MB board.

1758-Drive Array - Accelerator Size Mismatch Between Controllers...

...64MB Array Accelerator should be attached to both controllers. Array Accelerator is temporarily disabled.

Audible Beeps: None

Possible Cause: Incorrect array accelerator is attached to redundant Smart Array 4250ES Controllers.

Action: Install 64-MB array accelerator module on both Smart Array 4250ES Controllers.

1759-Slot z Drive Array - Redundant Controller Error

Audible Beeps: None

Possible Cause: A redundant controller problem or defective system board exists.

Action:

1. Reseat the controllers.
2. If the problem persists:
   a. Replace the controllers.

      CAUTION: Only authorized technicians trained by HP should attempt to remove the system board. If you believe the system board requires replacement, contact HP Technical Support ("Contacting HP Technical Support or Authorized Reseller" on page 269) before proceeding.

   b. Replace the system board.

1760-Fixed Disk X Does Not Support Block Mode

Audible Beeps: None

Possible Cause: Fixed drive error detected.

Action: Run the server setup utility and correct the configuration.

1761-Fixed Disk 1 Does Not Support Block Mode

Audible Beeps: None

Possible Cause: Fixed drive error detected.

Action: Run the server setup utility and correct the configuration.

1762-Redundant Controller Operation is not Supported in this Firmware Version

Audible Beeps: None

Possible Cause: The controller has old firmware that does not support redundant-controller operation.

Action: Upgrade the controller firmware using Options ROMPaq ("SoftPaqs" on page 95).

1763-Array Accelerator Daughtercard is Detached; Please Reattach

Audible Beeps: None

Possible Cause: Array accelerator module is loose, missing, or defective.

Action:

1. Reseat array accelerator module.
2. If the problem persists, replace the array accelerator module.

1764-Slot X Drive Array - Capacity Expansion Process is Temporarily Disabled...

(followed by one of the following)

...Expansion will resume when Array Accelerator has been reattached.

Expansion will resume when Array Accelerator has been replaced.

Expansion will resume when Array Accelerator RAM allocation is successful.

Expansion will resume when Array Accelerator battery reaches full charge.

Expansion will resume when automatic data recovery has been completed.

Audible Beeps: None

Possible Cause: The capacity expansion process has been temporarily disabled.

Action: Follow the action that is displayed onscreen to resume the capacity expansion process.

1766-Slot X Drive Array Requires System ROM Upgrade. Run Systems ROMPaq Utility...

Audible Beeps: None

Possible Cause: System ROM upgrade is required.

Action: Run the latest system ROMPaq utility ("SoftPaqs" on page 95) to upgrade the system ROM as indicated.

1767-Slot X Drive Array Option ROM Is Not Programmed Correctly

Audible Beeps: None

Possible Cause: Controller Option ROM problem.

Action: Upgrade firmware on all Smart Array Controllers using Options ROMPaq ("SoftPaqs" on page 95).

1768-Slot X Drive Array - Resuming Logical Drive Expansion Process

Audible Beeps: None

Possible Cause: Power was lost while a logical expansion operation was performed. A controller reset or power cycle occurs while array expansion is in progress.

Action: No action is required.

1769-Slot X Drive Array - Drive(s) Disabled Due to Failure During Capacity Expansion

...Select F1 to continue with logical drives disabled. Select F2 to accept data loss and to re-enable logical drives.

Audible Beeps: None

Possible Cause: Data was lost while the array was expanded; therefore, the drives have been temporarily disabled. Capacity expansion failed due to:

- Array accelerator or hard drive failed or was removed; expansion progress data lost
- Expansion progress data could not be read from array accelerator
- Expansion aborted due to unrecoverable drive errors
- Expansion aborted due to array accelerator errors

Action:

- Press the **F2** key to accept the data loss and re-enable the logical drives.
- Restore data from backup.
- Replace drive or array accelerator, as appropriate.

1770-Slot X Drive Array - SCSI Drive Firmware Update Recommended - ...

...Please upgrade firmware on the following drive(s) using Options ROMPaq (available from www.compaq.com): SCSI Port Y SCSI ID Z

Audible Beeps: None

Possible Cause: Drive firmware update needed.

Action: The indicated drives are running firmware that is known to cause intermittent problems. Use Options ROMPaq ("SoftPaqs" on page 95) to upgrade firmware on all drives to the latest revision.

1771-Primary Disk Port Address Assignment Conflict

Audible Beeps: None

Possible Cause: Internal and external hard drive controllers are both assigned to the primary address.

Action: Run the server setup utility and correct the configuration.

1772-Secondary Disk Port Address Assignment Conflict

Audible Beeps: None

Possible Cause: Address assignment conflict. Internal and external hard drive controllers are both assigned to the secondary address.

Action: Run the server setup utility and correct the configuration.

1773-Primary Fixed Disk Port Assignment Conflict

Audible Beeps: None

Possible Cause: Fixed drive error detected.

Action: Run the server setup utility and correct the configuration.

1774-Slot X Drive Array - Obsolete Data Found in Array Accelerator

Audible Beeps: None

Possible Cause: Drives were used on another controller and reconnected to the original controller while data was in the original controller cache. Data found in the array accelerator is older than data found on the drives and has been automatically discarded.

Action: Check the file system to determine whether any data has been lost.

1775-Slot X Drive Array - ProLiant Storage System Not Responding SCSI Port Y:

...Check storage system power switch and cables. Turn the system power off while checking the ProLiant power and cable connections, then turn the system power back on to retry.

Audible Beeps: None

Possible Cause: Storage system problem detected. A SCSI enclosure seems to be connected to the specified SCSI bus, but no drives or SCSI backplane processor were detected on this bus.

Action:

1. Power down the server.
2. Check the external ProLiant power switch. External drives must all be powered up before the main system is.

3. Be sure cables are connected properly and securely.
4. Update the firmware ("SoftPaqs" on page 95).
5. If the problem persists, replace the cable, backplane, or Smart Array Controller.

1776-Slot X Drive Array - SCSI Bus Termination Error_GenericTSG_POST Error Message

...Internal and external drives cannot both be attached to the same SCSI port. SCSI port Y: Check cables

Audible Beeps: None

Possible Cause: External and internal connectors of the specified SCSI ports are connected to drives. The indicated SCSI bus is disabled until this problem is resolved.

Action: The SCSI bus is not properly terminated when internal and external drives are connected concurrently to the same SCSI bus.

1. Power down the server.
2. Be sure the cables to the specified port are connected properly and securely.
3. Reconfigure the drives to different SCSI ports.

1776-Drive Array Reports Improper SCSI Port 1 Cabling

Audible Beeps: None

Possible Cause:

- The integrated array enabler board failed.
- The integrated Smart Array option ROM is corrupted.
- The I/O board, media backplane fan board, or media backplane failed.

Action:

- Replace the integrated array enabler board.

- Replace the integrated Smart Array option ROM.

CAUTION: Only authorized technicians trained by HP should attempt to remove the I/O board. If you believe the I/O board requires replacement, contact HP Technical Support ("Contacting HP Technical Support or Authorized Reseller" on page 269) before proceeding.

- Rebooting after installing each item, replace in the following order: media backplane fan board, media backplane, and I/O board.

1777-Slot X Drive Array - ProLiant Drive Storage Enclosure Problem Detected...

(followed by one or more of the following):

...SCSI Port Y: Cooling Fan Malfunction Detected

SCSI Port Y: Overheated Condition Detected

SCSI Port Y: Side-Panel must be Closed to Prevent Overheating

SCSI Port Y: Redundant Power Supply Malfunction Detected

SCSI Port Y: Wide SCSI Transfer Failed

SCSI Port Y: Interrupt Signal Inoperative

SCSI Port y: Unsupported ProLiant Storage System Detected

Audible Beeps: None

Possible Cause: Environment threshold was violated on the drive enclosure.

Action:

- Check cooling fan operation by placing hand over fan.
- Be sure the internal plenum cooling fan in tower servers or storage systems is operational. If fan is not operating, check for obstructions and check all internal connections.
- Replace unit side panel if removed.
- Check the LEDs. If the ProLiant Storage System power LED is amber instead of green, this indicates a redundant power supply failure.

- If the message indicates to check SCSI cables:
  a. Compare the cabling against the diagrams in the *HP Smart Array Controller User Guide*.
  b. If the routing is correct, replace cables on the specified port until the POST error message is eliminated.

1778-Drive Array Resuming Automatic Data Recovery Process

Audible Beeps: None

Possible Cause: A controller reset or power cycle occurred while Automatic Data Recovery was in progress.

Action: No action is required.

1779-Slot X Drive Array - Replacement drive(s) detected OR previously failed drive(s) now operational:...

...Port Y: SCSI ID Z:

Restore data from backup if replacement drive X has been installed.

Audible Beeps: None

Possible Cause: More drives failed (or were replaced) than the fault-tolerance level allows. Unable to rebuild array. If drives have not been replaced, this message indicates an intermittent drive failure.

Action: Be sure the system is always powered up and down correctly:

- When powering up the system, all external storage systems must be powered up before (or at the same time as) the server.
- When powering down the system, the server must be powered down before powering down any external storage systems.

1780-Disk 0 Failure

Audible Beeps: None

Possible Cause: Hard drive or format error detected. The drive is not installed correctly or has failed.

Action:

1. Be sure any jumpers are set correctly.
2. Be sure power and drive cables are connected securely, both to the drive and the system board.
3. Be sure the cables are the correct cables for the server model.
4. Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

1781-Disk 1 Failure

Audible Beeps: None

Possible Cause: Hard drive or format error detected.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

1782-Disk Controller Failure

Audible Beeps: None

Possible Cause: Hard drive circuitry error detected.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

1783-Slot X Drive Array Controller Failure

Audible Beeps: None

Possible Cause: Controller failed. If this message is displayed after Options ROMPaq is run, problems may have occurred while attempting to flash the ROM.

Action:

1. Reseat the array accelerator module.
2. Reseat the controller in the PCI slot.
3. If the problem persists, replace the array controller.

1783-Intelligent Drive Array Controller Failure

Audible Beeps: None

Possible Cause: Integrated array controller firmware is corrupt or the controller failed.

Action:

1. Be sure the integrated array controller ROM firmware ("SoftPaqs" on page 95) is up to date.
2. If the problem persists, replace the controller.

1784-Slot X Drive Array Drive Failure. The Following SCSI Drive(s) Should Be Replaced: SCSI Port Y: SCSI ID Z

Audible Beeps: None

Possible Cause: Defective drive or SCSI cables detected.

Action:

1. Be sure all cables are connected properly and securely.

2. Be sure all drives are fully seated.
3. Replace defective cables, drive *X*, or both.

1785-Slot X Drive Array Not Configured...

(followed by one of the following):

...(1) Run Compaq Array Configuration Utility

(2) No drives detected

(3) Drive positions appear to have changed – Run Drive Array Advanced Diagnostics if previous positions are unknown. Then turn system power OFF and move drives to their original positions.

(4) Configuration information indicates drive positions beyond the capability of this controller. This may be due to drive movement from a controller that supports more drives than the current controller.

(5) Configuration information indicates drives were configured on a controller with a newer firmware version.

Audible Beeps: None

Possible Cause: Drive array configuration not detected.

Action:

- Run ACU ("Array Configuration Utility" on page 90).
- Power down the system and check SCSI cable connections to be sure the drives are connected properly.
- Run ADU ("Array Diagnostic Utility" on page 90) if previous positions are unknown. Then, turn the system power off and move the drives to their original positions.
- To avoid data loss, reconnect the drives to the original controller or upgrade the controller firmware to the version on the original controller (or higher) using Options ROMPaq ("SoftPaqs" on page 95).

1786-Slot 1 Drive Array Recovery Needed...

...The following SCSI drive(s) need Automatic Data Recovery: SCSI Port Y: SCSI ID Z

Select F1 to continue with recovery of data to drive. Select F2 to continue without recovery of data to drive.

Audible Beeps: None

Possible Cause: A failed or replacement drive has not yet been rebuilt.

Action:

- Perform one of the following actions:
  - Press the **F1** key to continue with recovery of data to the drive. Data will be automatically restored to drive *X* when a failed drive has been replaced, or to the original drive if it is working again without errors.
  - Press the **F2** key to continue without recovery of data to the drive. The failed drive will not be rebuilt and the system will continue to operate in a failed state of Interim Data Recovery Mode.
- Replace the failed drive and press the F1 key to rebuild the array. If the drive rebuild is not successful or is aborted because the system rebooted before the rebuild of the drive completed, another version of the 1786 POST error message will be displayed. Refer to the following message.

1786-Slot 1 Drive Array Recovery Needed. Automatic Data Recovery Previously Aborted!...

...The following SCSI drive(s) need Automatic Data Recovery: SCSI Port Y: SCSI ID Z

Select F1 to retry Automatic Data Recovery to drive. Select F2 to continue without starting Automatic Data Recovery.

Audible Beeps: None

Possible Cause: System is in Interim Data Recovery Mode and a failed or replacement drive has not yet been rebuilt. This message is displayed if the **F2** key was pressed during a previous boot or if the **F1** key was pressed during a previous boot and the system rebooted before the rebuild of the drive completed.

Action:

- Perform one of the suggested actions:
  - Press the **F1** key to retry Automatic Data Recovery to the drive. Data will be automatically restored to drive *X* when a failed drive has been replaced, or to the original drive if it is working again without errors.
  - Press the **F2** key to continue without recovery of data to the drive. The failed drive will not be rebuilt and the system will continue to operate in a failed state of Interim Data Recovery Mode.
- If drive recovery is not successful, run ADU ("Array Diagnostic Utility" on page 90) for more information.
  - If the replacement drive failed, replace with another drive.
  - If the rebuild was aborted due to a read error from another physical drive in the array, back up all readable data on the array, run ADU, and then restore the data.

1787-Drive Array Operating in Interim Recovery Mode...

...Physical drive replacement needed: Drive X

Audible Beeps: None

Possible Cause: Hard drive *X* failed or cable is loose or defective. Following a system restart, this message notes that drive *X* is defective and fault tolerance is being used.

Action:

1. Be sure all cables are connected properly and securely.
2. Test and replace defective cables.

3. Replace drive *X*. (depending on the fault-tolerance level, all data may be lost if another drive fails).

1788-Slot X Drive Array Reports Incorrect Drive Replacement...

...The following SCSI drive(s) should have been replaced: SCSI Port Y: SCSI ID Z.

The following SCSI drive(s) were incorrectly replaced: SCSI Port y: SCSI ID z.

Select F1 to continue – drive array will remain disabled.

Select F2 to reset configuration – all data will be lost.

Audible Beeps: None

Possible Cause:

- Replacement drives may have been installed in the wrong drive bays.
- A bad power cable connection to the drive, noise on the data cable, or defective SCSI cable exists.

Action:

- If replacement drives are installed in the wrong bays, properly reinstall the drives as indicated and:
  - Press the **F1** key to restart the server with the drive array disabled.
  - Press the **F2** key to use the drives as configured and lose all the data on them.
- If a bad power cable connection exists:
  a. Repair the connection and press the **F2** key.
  b. If the problem persists, run ADU ("Array Diagnostic Utility" on page 90) to resolve.
- Be sure the cable is routed properly.

1789-Slot X Drive Array SCSI Drive(s) Not Responding...

...Check cables or replace the following SCSI drives: SCSI Port Y: SCSI ID Z

Select F1 to continue – drive array will remain disabled.

Select F2 to failed drives that are not responding – Interim Recovery Mode will be enabled if configured for fault tolerance.

Audible Beeps: None

Possible Cause: Drives that were working when the system was last used are now missing or are not starting up. Possible drive problem or loose SCSI cable.

Action:

1. Power down the system.
2. Be sure all cables are properly connected.
3. Be sure all drives are fully seated.
4. Power cycle any external SCSI enclosures while the system is off.
5. Power up the server to see if the problem still exists.
6. If configured for fault-tolerant operation and the RAID level can sustain failure of all indicated drives:
   a. Press the **F2** key to fail the drives that are not responding
   b. Replace the failed drives.
7. Press the **F1** key to start the system with all logical drives on the controller disabled.

Be sure the system is always powered up and down correctly.

- When powering up the system, all external storage systems must be powered up before the server.
- When powering down the system, the server must be powered down before external storage systems.

1790-Disk X Configuration Error

Audible Beeps: None

Possible Cause: Hard drive error or wrong drive type detected.

Action:

1. Run the server setup utility and correct the configuration.
2. If the problem persists, run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace the failed assembly as indicated.

1791-Disk 1 Error

Audible Beeps: None

Possible Cause: Hard drive error or wrong drive type detected.

Action:

1. Run the server setup utility and correct the configuration.
2. If the problem persists, run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace the failed assembly as indicated.

1792-Drive Array Reports Valid Data Found in Array Accelerator...

...Data will automatically be written to drive array.

Audible Beeps: None

Possible Cause: Power was interrupted while data was in the array accelerator memory. Power was then restored within several days, and the data in the array accelerator was flushed to the drive array.

Action: No action is required. No data has been lost. Perform orderly system shutdowns to avoid leaving data in the array accelerator.

1792-Secondary Disk Controller Failure

Audible Beeps: None

Possible Cause: Part of the IDE drive electronics has failed.

Action: Run Insight Diagnostics ("HP Insight Diagnostics" on page 91) and replace failed components as indicated.

1793-Drive Array - Array Accelerator Battery Depleted - Data Lost. (Error message 1794 also displays.)

Audible Beeps: None

Possible Cause: Power was interrupted while data was in the array accelerator memory, or the array accelerator batteries failed. Data in array accelerator has been lost.

Action: No action is required. Power was not restored within enough time to save the data. Perform orderly system shutdowns to avoid leaving data in the array accelerator.

1794-Drive Array - Array Accelerator Battery Charge Low...

...Array Accelerator is temporarily disabled.

Array Accelerator will be re-enabled when battery reaches full charge.

Audible Beeps: None

Possible Cause: The battery charge is below 75 percent. Posted writes are disabled.

Action: Replace the array accelerator board if the batteries do not recharge within 36 powered-on hours.

1795-Drive Array - Array Accelerator Configuration Error...

...Data does not correspond to this drive array. Array Accelerator is temporarily disabled.

Audible Beeps: None

Possible Cause: Power was interrupted while data was in the array accelerator memory, or the data stored in the array accelerator does not correspond to this drive array.

Action: Match the array accelerator to the correct drive array, or run ACU ("Array Configuration Utility" on page 90) to clear the data in the array accelerator.

1796-Drive Array - Array Accelerator Not Responding...

...Array Accelerator is temporarily disabled.

Audible Beeps: None

Possible Cause: Array accelerator is defective or is missing. Depending on the array controller model, the cache may be disabled or the controller might not be usable until this problem is corrected.

Action:

1. Reseat the array accelerator daughter board if the connector is loose.
2. If the problem persists, replace the board.

1797-Drive Array - Array Accelerator Read Error Occurred...

...Data in Array Accelerator has been lost.

Array Accelerator is disabled.

Audible Beeps: None

Possible Cause: Hard parity error detected while reading data from posted-writes memory.

Action: Replace the array accelerator daughter board.

1798-Drive Array - Array Accelerator Write Error or Self-Test Error Occurred...

...Array Accelerator is disabled.

Audible Beeps: None

Possible Cause: Array accelerator failed self-test. Depending on the array controller model, the cache may be disabled or the controller might not be usable until this problem is corrected.

Action: Replace the array accelerator daughter board.

1799-Drive Array - Drive(s) Disabled Due to Array Accelerator Data Loss...

...Select "F1" to continue with logical drives disabled.

Select "F2" to accept data loss and to re-enable logical drives.

Audible Beeps: None

Possible Cause: One or more logical drives failed due to loss of data in posted-writes memory.

Action:

- Press the **F1** key to continue with the logical drives disabled
- Press the **F2** key to accept data loss and re-enable logical drives. After pressing the **F2** key, check integrity of the file system and restore lost data from backup.

1800 Series

In This Section

1800-Temperature Alert

Audible Beeps: None

Possible Cause: Server has exceeded allowable temperature thresholds.

Action:

1. Power down the system and allow it to cool.
2. Check fans for proper airflow and obstructions.
3. Check fans for proper operation.
4. Analyze ambient temperature in which the server is currently operating, and compare to the server documentation recommendations.
5. Adjust the temperature as needed before restarting the server.

1801-Microcode Patch Error...

...Missing or Invalid Processor Microcode Patch. Please contact Compaq Computer Corporation for a new ROM BIOS to support the new processor stepping

Audible Beeps: None

Possible Cause: The newly installed processor is not supported by the current system ROM.

Action: Upgrade the system ROM ("SoftPaqs" on page 95) or reinstall the original processor.

Event List Error Messages

In This Section

Introduction to Event List Error Messages

This section contains event list error messages recorded in the IML ("Integrated Management Log" on page 92), which can be viewed through different tools.

The format of the list is different when viewed through different tools. An example of the format of an event as displayed on the IMD ("Integrated Management Display" on page 92) follows:

```
**001 of 010**
---caution---
03/19/2002
12:54 PM
FAN INSERTED
Main System
Location:
System Board
Fan ID: 03
**END OF EVENT**
```

WARNING: To avoid potential problems, ALWAYS read the warnings and cautionary information in the server documentation before removing, replacing, reseating, or modifying system components.

IMPORTANT: This guide provides information for multiple servers. Some information may not apply to the server you are troubleshooting. Refer to the server documentation for information on procedures, hardware options, software tools, and operating systems supported by the server.

NOTE: The error messages in this section may be worded slightly different than as displayed by the server.

A CPU Power Module (System Board, Socket X)...

...A CPU Power Module (Slot X, Socket Y) Failed

Event Type: Power module failure

Action: Replace the power module.

ASR Lockup Detected: Cause

Event Type: System lockup

Action: Examine the IML ("Integrated Management Log" on page 92) to determine the cause of the lockup, and then refer to the *HP ROM-Based Setup Utility User Guide,* on the server Documentation CD or at the SmartStart website (http://h18013.www1.hp.com/products/servers/management/smartstart), for more information.

Automatic Operating System Shutdown Initiated Due to Fan Failure

Event Type: Fan failure

Action: Replace the fan.

Automatic Operating System Shutdown Initiated Due to Overheat Condition...

...Fatal Exception (Number X, Cause)

Event Type: Overheating condition

Action: Check fans. Also, be sure the server is properly ventilated and the room temperature is set within the required range.

Blue Screen Trap: Cause [NT]...

...Kernel Panic: Cause [UNIX]

Abnormal Program Termination: Cause [NetWare]

Event Type: System lockup

Action: Refer to the operating system documentation.

Corrected Memory Error Threshold Passed (Slot X, Memory Module Y)...

...Corrected Memory Error Threshold Passed (System Memory)

Corrected Memory Error Threshold Passed (Memory Module Unknown)

Event Type: Correctable error threshold exceeded

Action: Continue normal operation, and then replace the memory module during the next scheduled maintenance to ensure reliable operation.

EISA Expansion Bus Master Timeout (Slot X)...

...EISA Expansion Bus Slave Timeout

EISA Expansion Board Error (Slot X)

EISA Expansion Bus Arbitration Error

Event Type: Expansion bus error

Action: Power down the server, and then replace the EISA board.

PCI Bus Error (Slot X, Bus Y, Device Z, Function X)

Event Type: Expansion bus error

Action: Replace the PCI board.

Processor Correctable Error Threshold Passed (Slot X, Socket Y)

Event Type: Correctable error threshold exceeded

Action: Replace the processor.

Processor Uncorrectable Internal Error (Slot X, Socket Y)

Event Type: Uncorrectable error

Action: Replace the processor.

Real-Time Clock Battery Failing

Event Type: System configuration battery low

Action: Replace the system configuration battery.

System AC Power Overload (Power Supply X)

Event Type: Power supply overload

Action:

1. Switch the voltage from 110 V to 220 V or add an additional power supply (if applicable to the system).
2. If the problem persists, remove some of the installed options.

System AC Power Problem (Power Supply X)

Event Type: AC voltage problem

Action: Check for any power source problems.

System Fan Failure (Fan X, Location)

Event Type: Fan failure

Action: Replace the fan.

System Fans Not Redundant

Event Type: Fans not redundant

Action: Add a fan or replace the failed fan.

System Overheating (Zone X, Location)

Event Type: Overheating condition

Action: Check fans.

System Power Supplies Not Redundant

Event Type: Power supply not redundant

Action: Add a power supply or replace the failed power supply.

System Power Supply Failure (Power Supply X)

Event Type: Power supply failure

Action: Replace the power supply.

Unrecoverable Host Bus Data Parity Error...

...Unrecoverable Host Bus Address Parity Error

Event Type: Host bus error

CAUTION: Only authorized technicians trained by HP should attempt to remove the system board. If you believe the system board requires replacement, contact HP Technical Support ("Contacting HP Technical Support or Authorized Reseller" on page 269) before proceeding.

Action: Replace the board on which the processor is installed.

Uncorrectable Memory Error (Slot X, Memory Module Y)...

...Uncorrectable Memory Error (System Memory)

Uncorrectable Memory Error (Memory Module Unknown)

Event Type: Uncorrectable error

Action: Replace the memory module. If the problem persists, replace the memory board.

Contacting HP

In This Section

Contacting HP Technical Support or Authorized Reseller

Contact HP only if, after completing the procedures described in this guide, the problem with the server remains.

IMPORTANT: Collect the appropriate server information ("Server Information You Need" on page 270) and operating system information ("Operating System Information You Need" on page 271) before contacting HP for support.

For the name of the nearest HP authorized reseller:

- In the United States, call 1-800-345-1518.
- In Canada, call 1-800-263-5868.
- In other locations, refer to the HP website (http://www.hp.com).

For HP technical support:

- In North America, call the HP Technical Support Phone Center at 1-800-652-6672. This service is available 24 hours a day, 7 days a week. For continuous quality improvement, calls may be recorded or monitored.
- Outside North America, call the nearest HP Technical Support Phone Center. For telephone numbers for worldwide Technical Support Centers, refer to the HP website (http://www.hp.com).

Server Information You Need

Before contacting HP, collect the following:

- All information from any troubleshooting efforts to this point.
- A printed copy of the system and operating environment information and a copy of any historical data that might be relevant. If possible, obtain an electronic copy of this information to send by e-mail to a support specialist. To collect this information, run the Survey Utility ("Management CD" on page 93) (if available) and refer to the server documentation.
- A list of the system components:
  - Product, model, and serial number
  - Hardware configuration
  - Add-on boards
  - Monitor

  - Connected peripherals such as tape drives
- A list of all third-party hardware and software:
  - Complete product name and model
  - Complete company name
  - Product version
  - Driver version
- Any notes describing the details of the problem, including recent changes to the system, the events that triggered or are associated with the problem, and the steps needed to reproduce the problem.
- Notes on anything nonstandard about the server setup.
- Operating system information ("Operating System Information You Need" on page 271)

Operating System Information You Need

Depending on the problem, you may be asked for certain pieces of information. Be prepared to access the information listed in the following sections, based on operating system used.

Microsoft® Operating Systems

Collect the following information:

- Whether the operating system was factory installed
- Operating system version number
- A current copy of the following files:
  - WinMSD (Msinfo32.exe on Microsoft® Windows® 2000 systems)
  - Boot.ini
  - Memory.dmp
  - Event logs

  - Dr. Watson log (drwtsn32.log) if a user mode application, such as the Insight Agents, is having a problem
  - IRQ and I/O address information in text format
- An updated Emergency Repair Diskette
- If HP drivers are installed:
  - Version of the PSP used
  - List of drivers from the PSP
- The drive subsystem and file system information:
  - Number and size of partitions and logical drives
  - File system on each logical drive
- Current level of Microsoft Windows Service Packs and Hotfixes installed
- A list of each third-party hardware component installed, with the firmware revision
- A list of each third-party software component installed, with the version
- A detailed description of the problem and any associated error messages

Linux Operating Systems

Collect the following information:

- Operating system distribution and version

  Look for a file named /etc/*distribution*-release (for example, /etc/redhat-release)
- Kernel version in use
- Output from the following commands (performed by root):
  - lspci -v
  - uname -a
  - cat /proc/meminfo
  - cat /proc/cpuinfo

  - rpm -ga
  - dmesg
  - lsmod
  - ps -ef
  - ifconfig -a
  - chkconfig -list
  - mount
- Contents of the following files:
  - /var/log/messages
  - /etc/modules.conf or etc/conf.modules
  - /etc/lilo.conf or /etc/grub.conf
  - /etc/fstab
- If HP drivers are installed:
  - Version of the PSP used
  - List of drivers from the PSP (/var/log/hppldu.log)
- A list of each third-party hardware component installed, with the firmware revisions
- A list of each third-party software component installed, with the versions
- A detailed description of the problem and any associated error messages

Novell NetWare Operating Systems

Collect the following information:

- Whether the operating system was factory installed
- Operating system version number
- Printouts or electronic copies (to e-mail to a support technician) of AUTOEXEC.NCF, STARTUP.NCF, and the system directory

- A list of the modules. Use CONLOG.NLM to identify the modules and to check whether errors occur when the modules attempt to load.
- A list of any SET parameters that are different from the NetWare default settings
- A list of the drivers and NLM files used on the server, including the names, versions, dates, and sizes (can be taken directly from the CONFIG.TXT or SURVEY.TXT files)
- If HP drivers are installed:
  - Version of the PSP used
  - List of drivers from the PSP
- Printouts or electronic copies (to e-mail to a support technician) of:
  - SYS:SYSTEM\SYS$LOG.ERR
  - SYS:SYSTEM\ABEND.LOG
  - SYS:ETC\CPQLOG.LOG
  - SYS:SYSTEM\CONFIG.TXT
  - SYS:SYSTEM\SURVEY.TXT
- Current patch level
- A list of each third-party hardware component installed, with the firmware revisions
- A list of each third-party software component installed, with the versions
- A detailed description of the problem and any associated error messages

Caldera and SCO Operating Systems

Collect the following information:

- Installed system software versions (TCP/IP, VP/Ix)
- Process status at time of failure, if possible
- Printouts or electronic copies (to e-mail to a support technician) of:
  - Output of `/etc/hwconfig` command

  - Output of `/usr/bin/swconfig` command
  - Output of `/etc/ifconfig` command
  - /etc/conf/cf.d/sdevice
  - /etc/inittab
  - /etc/conf/cf.d/stune
  - /etc/conf/cf.d/config.h
  - /etc/conf/cf.d/sdevice
  - /var/adm/messages (if PANIC messages are displayed)
- If HP drivers are installed:
  - Version of the EFS used
  - List of drivers from the EFS
- If management agents are installed, version number of the agents
- System dumps, if they can be obtained (in case of panics)
- A list of each third-party hardware component installed, with the firmware revisions
- A list of each third-party software component installed, with the versions
- A detailed description of the problem and any associated error messages

IBM OS/2 Operating Systems

Collect the following information:

- Operating system version number and printouts or electronic copies (to e-mail to a support technician) of:
  - IBMLAN.INI
  - PROTOCOL.INI
  - CONFIG.SYS
  - STARTUP.CMD
  - SYSLEVEL information in detail

  - TRAPDUMP information (if a TRAP error occurs)
- A directory listing of:
  - C:\
  - C:\OS2
  - C:\OS2\BOOT
  - HPFS386.INI (for Advanced or Advanced with SMP)
- If HP drivers are installed:
  - Version of the SSD used
  - List of drivers from the SSD
  - Versions of the OS/2 Management Insight Agents, CPQB32.SYS, and OS/2 Health Driver use
- The drive subsystem and file system information:
  - Number and size of partitions and logical drives
  - File system on each logical drive
- Warp Server version used and:
  - Whether Entry, Advanced, Advanced with SMP, or e-Business
  - All services running at the time the problem occurred
- A list of each third-party hardware component installed, with the firmware revisions
- A list of each third-party software component installed, with the versions
- A detailed description of the problem and any associated error messages

Sun Solaris Operating Systems

Collect the following information:

- Operating system version number
- Type of installation selected: Interactive, WebStart, or Customer JumpStart

- Which software group selected for installation: End User Support, Entire Distribution, Developer System Support, or Core System Support
- If HP drivers are installed with a DU:
  - DU number
  - List of drivers in the DU diskette
- The drive subsystem and file system information:
  - Number and size of partitions and logical drives
  - File system on each logical drive
- A list of all third-party hardware and software installed, with versions
- A detailed description of the problem and any associated error messages
- Printouts or electronic copies (to e-mail to a support technician) of:
  - /usr/sbin/crash (accesses the crash dump image at /var/crash/$hostname)
  - /var/adm/messages
  - /etc/vfstab
  - /usr/sbin/prtconf

Acronyms and Abbreviations

ACPI

Advanced Configuration and Power Interface

ACU

Array Configuration Utility

ADG

Advanced Data Guarding

ADU

Array Diagnostics Utility

ASR

Automatic Server Recovery

CCITT

International Telegraph and Telephone Consultative Committee

DIMM

dual inline memory module

DMA

direct memory access

DU

Driver Update

ECC

error checking and correcting

EFS

Extended Feature Supplement

EISA

Extended Industry Standard Architecture

ESD

electrostatic discharge

iLO

Integrated Lights-Out

IMD

Integrated Management Display

IML

Integrated Management Log

IRQ

interrupt request

ISP

Internet service provider

KVM

keyboard, video, and mouse

LED

light-emitting diode

LVD

low-voltage differential

NIC

network interface controller

NVRAM

non-volatile memory

ORCA

Option ROM Configuration for Arrays

POST

Power-On Self-Test

PPM

Processor Power Module

PSP

ProLiant Support Pack

RBSU

ROM-Based Setup Utility

RILOE

Remote Insight Lights-Out Edition

RIS

reserve information sector

SDRAM

synchronous dynamic RAM

SIMM

single inline memory module

SPM

system power module

SSD

Support Software Diskette

UPS

uninterruptible power system

USB

universal serial bus

VCA

Version Control Agent

VRM

voltage regulator module

Index

S

T

U

V

W