

HP ProLiant DL560 Server - Troubleshooting

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Minimum Hardware Configuration [Top of Page](#)

Be sure that the server meets the requirements for a minimum hardware configuration. During the troubleshooting process, it may be necessary to reduce the system to its minimum configuration, reinstalling options one at a time to determine the cause of failure.

Component	Minimum Requirements
Processor	A processor must be installed in processor 1 socket with a Processor Power Module (PPM) installed in PPM 1 slot.
Fans	The following fans must be installed: <ul style="list-style-type: none"> l Fan 1 (processor zone) l Fan 3 (processor zone) l Fan 5 (processor zone) l Fan 7 (processor zone) l Fan 9 (power supply zone)
Memory	Slots 1A and 2A must be populated with Error Correction Code (ECC) Registered DDR SDRAM DIMMs.
Hard Drives	One hard drive must be installed.

Server Error Messages [Top of Page](#)

The following POST error messages are new to some ProLiant servers. For a complete listing of error messages, refer to the Servers Troubleshooting Guide on the Documentation CD.

Error Code	Audible Beeps	Possible Problem	Possible Action
207-Memory Configuration Warning - DIMM In DIMM Socket X does not have Primary Width of 4 and only supports standard ECC.	None	Installed DIMMs have a primary width of x8.	Install DIMMs that have a primary width of x4.
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.	One long and one short	Installed DIMMs for online spare bank are of a different primary width than the DIMMs in other banks.	Install or reinstall DIMMs to support online spare configuration.

When the Server Does Not Boot [Top of Page](#)

This section provides systematic instructions on what to try and where to go for help for the most common problems encountered during initial POST. The server must first complete this test each time it is powered up, before it can load the operating system and start running software applications.

1. Be sure that the server and monitor are plugged into a working outlet.
2. Be sure that the power source is working properly:
 - i Check the status using the system power LED on the front panel
 - i Be sure that the Power On/Standby button was pressed firmly.
 - i Refer to the Servers Troubleshooting Guide for details on checking proper power source operation.
3. Be sure that the power supplies are working properly:
 - i Check the status using the power supply LEDs on the rear panel.
 - i Refer to the Servers Troubleshooting Guide for details on checking power supply operation.
4. If the system does not complete POST or start loading an operating system, refer to the Servers Troubleshooting Guide for information on general loose connections.
5. If the server is rebooting repeatedly, the system may be experiencing a problem that initiates an ASR-2 reboot.

Refer to the Servers Troubleshooting Guide for information on ASR-2 and system short circuiting.
6. Restart the server.
7. Check the server for the following normal power-up sequence to be sure that the system meets the minimal hardware requirements and is powered up during normal operations:
 - i The front panel system power LED turns from standby (amber) to on (solid green).

- i The fans start up.
8. Check the monitor, if the monitor is installed, for the following messages that indicate the system meets the minimal hardware requirements and is powered up during normal operations:
- i ProLiant logo
 - i Memory test
 - i ROM information
 - i Copyright information
 - i Processor initialization
 - i Array controller initialization
 - i SCSI devices
 - i PXE initialization

The operating system loads to complete the boot process. If the server completes POST and attempts to load the operating system, refer to [Problems After Initial Boot](#)

Diagnostic Steps [Top of Page](#)

If the server does not power up, or powers up but does not complete POST, answer the questions in the following table to determine appropriate actions based on the symptoms observed.

According to the answers provided, the appropriate table will be confronted. That table outlines possible reasons for the problem, options available to assist in diagnosis, possible solutions, and references to other sources of information.

Question	Action
Question 1: Is the system power LED amber?	<ul style="list-style-type: none"> i If yes, press the Power On/Standby button and then continue to question 2. i If no, refer to Is the System Power LED Amber?
Question 2: Is the system power LED green?	<ul style="list-style-type: none"> i If yes, continue to question 3. i If no, refer to Is the System Power LED Green?
Question 3: Is the external health LED green?	<ul style="list-style-type: none"> i If yes, continue to question 4. i If no, refer to Is the External Health LED Green?
Question 4: Is the internal health LED green?	<ul style="list-style-type: none"> i If yes, continue to question 5. i If no, refer to Is the Internal Health LED Green?

Question 5: Is the monitor displaying information?

- | If yes, use the POST messages for further diagnosis.
- | If no, refer to [Is the Monitor Displaying Information?](#)

Is the System Power LED Amber?

Answer	Possible Reasons	Possible Solutions
No	<p>The server is not connected to AC power or no AC power is available.</p> <p>The power supply may not be inserted properly, it may have a damaged connector, or it may have failed.</p> <p>A broken connection exists between the following:</p> <ul style="list-style-type: none"> Power converter module and system board Power converter module and SCSI backplane Power button/LED board and system board <p>The power converter module, system board, SCSI backplane, and/or power button/LED board may need to be replaced.</p>	<p>Be sure that the power cord is connected to the power supply.</p> <p>Be sure that the power supply is undamaged and is fully seated.</p> <p>Be sure that the system power and power supply signal cables are connected to the system board.</p> <p>Be sure that the CD-ROM drive cables are connected to the system board.</p> <p>Be sure that the power button/LED cable is connected to the system board and power button/LED board.</p> <p>Be sure that all pins on connectors and components are straight.</p> <p>Refer to the Servers Troubleshooting Guide for further options regarding power and general hardware problems.</p> <p>Contact the authorized service provider for assistance.</p>
Yes	<p>If the system power LED is amber:</p> <ol style="list-style-type: none"> 1. Press the Power On/Standby button. 2. Refer to Is the System Power LED Green? 	

Is the System Power LED Green?

Answer	Possible Reasons	Possible Solutions
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No	<p>Power On/Standby button has not been pressed firmly.</p> <p>The power supply may not be inserted properly, it may have a damaged connector, or it may have failed.</p> <p>The system may have experienced a short.</p> <p>The power converter module, system board, SCSI backplane, and/or power button/LED board may need to be replaced.</p> <p>The PCI riser cage is not fully seated.</p>	<p>Firmly press the PowerOn/Standby button.</p> <p>Be sure that the power supply is undamaged and is fully seated.</p> <p>Be sure that all pins on connectors and components are straight.</p> <p>Reseat expansion boards.</p> <p>Reseat the PCI riser cage.</p> <p>Contact the authorized service provider for assistance.</p>
Yes	<p>If the system power LED is green, refer to Is the External Health LED Green?</p>	

Is the External Health LED Green?

Answer	Possible Reasons	Possible Solutions
No, it is amber	<p>Power supply redundancy is lost due to a power supply failure.</p>	<p>Be sure that the power supply is undamaged and fully seated, or identify and replace the failed power supply.</p> <p>Contact the authorized service provider for replacement parts and service.</p>
No, it is red	<p>All installed power supplies have failed.</p> <p>The system may have experienced a short.</p>	<p>Contact the authorized service provider for replacement parts and service.</p>
Yes	<p>If the external health LED is green, refer to Is the Internal Health LED Green?</p>	

Is the Internal Health LED Green?

Answer	Possible Reasons	Possible Solutions
No, it is amber	<p>A processor or DIMM is in pre-failure condition.</p> <p>One memory bank is valid, but another bank is missing a DIMM or has a mismatched or unsupported DIMM installed.</p>	<p>Use amber failure LEDs to identify:</p> <ul style="list-style-type: none"> Missing components Degraded components

	A memory bank has failed and the online spare memory feature has copied information to the redundant bank.	<ul style="list-style-type: none"> Failed components Improperly installed components
	A redundant fan has failed.	Contact the authorized service provider for replacement parts and service.
No, it is red	A processor, PPM, or power converter module has failed.	Use amber failure LEDs to identify:
	The server has experienced a critical fan failure	<ul style="list-style-type: none"> Use amber failure LEDs to identify:
	Processor 1 or PPM 1 is not installed.	<ul style="list-style-type: none"> Failed components
	A processor is an unsupported type.	<ul style="list-style-type: none"> Improperly installed components
	Processors are mismatched (speed and/or type).	<ul style="list-style-type: none"> Overtemperature event
	A DIMM has experienced a multibit error.	Contact the authorized service provider for replacement parts and service.
	No valid memory is in the system. Populated banks have unsupported, mismatched, or missing DIMMs.	
	The SCSI cabling is not connected to the SCSI backplane and/or system board.	
	The PCI riser cage is unseated.	
	An overtemperature condition has occurred.	
Yes	If the internal health LED is green, refer to Is the Monitor Displaying Information?	

Is the Monitor Displaying Information?

Answer	Possible Reasons	Possible Solutions
No	The monitor may not have power.	Be sure that the monitor power cord is plugged in and that the monitor power switch has been pressed.
	Video may not be connected properly.	If a video board is installed, be sure that the video cable is properly connected.

Nonvolatile RAM (NVRAM) may be corrupted.	If a RILOE II board is installed, be sure that the video cable is connected to the video connector on the RILOE II board.
The system ROM and redundant ROM may be corrupted.	Check the video connections. Refer to the Servers Troubleshooting Guide for information on video problems. Clear NVRAM in RBSU.
The system board and/or PCI riser cage may need to be replaced.	Are there any audible indicators, such as a series of beeps? A series of beeps is the audible signal indicating the presence of a POST error message. Refer to the Servers Troubleshooting Guide for a complete description of each beep sequence and the corresponding error messages. Contact the authorized service provider for assistance.
Yes	Video is available for diagnosis. Determine the next action by observing POST progress and error messages. Refer to the Servers Troubleshooting Guide for a complete description of each POST error message.

Problems After Initial Boot [Top of Page](#)

- | [System Cannot Load SmartStart](#)
- | [SmartStart Fails During Installation](#)
- | [SmartStart Cannot Load Operating System](#)

System Cannot Load SmartStart

Possible Cause	Possible Solution
A SmartStart requirement is not met.	Check the SmartStart Release Notes provided in the SmartStart Online Reference Information on the SmartStart CD.
A CD-ROM drive cable is not connected to CD-ROM drive.	Be sure the CD-ROM drive cables are properly connected.
Existing software is causing conflict.	Clear NVRAM and boot drives in RBSU and reinstall the operating system.

NOTE: Clearing NVRAM removes user data from the boot drives. To clear NVRAM and erase the boot drives, select the Advanced Options menu in RBSU, and then select Erase NVRAM/Boot Space Disk.

SmartStart Fails During Installation

Possible Cause	Possible Solution
An error occurs during installation.	Follow the error information provided. If necessary, clear NVRAM in RBSU and reinstall the operating system.
The CMOS is not cleared.	Clear NVRAM in RBSU and reinstall the operating system.

NOTE: Clearing NVRAM removes user data from the boot drives. To clear NVRAM and erase the boot drives, select the Advanced Options menu in RBSU, and then select Erase NVRAM/Boot Space Disk.

SmartStart Cannot Load Operating System

Possible Cause	Possible Solution
Required operating system step was missed.	<p>Follow these steps:</p> <ul style="list-style-type: none"> Note at which phase the operating system failed. Remove any loaded operating system. Refer to the operating system documentation. Install the operating system again.
Installation problem occurred.	<p>Refer to the operating system documentation and to the SmartStart Release Notes on the SmartStart CD.</p> <p>Run RBSU and check the OS Selection menu.</p>
Problem was encountered with the hardware that has been added to the system.	Refer to the documentation provided with the hardware.
Problem was encountered with hardware added to a new configure-to-order system (where available).	<p>Complete the factory-installed operating system software installation before adding new hardware to the system.</p> <p>Be sure to follow the instructions provided in the HP Factory-Installed Operating System Software Installation Guide.</p> <p>Remove the new hardware and complete the software installation. Then, reinstall the new hardware.</p>

ROMPaq Disaster Recovery [Top of Page](#)

If both the current and backup versions of the ROM are corrupt, perform ROMPaq disaster recovery procedures:

1. Create a ROMPaq diskette using the Autorun Menu on the SmartStart CD.
2. Power down the server
3. Insert the ROMPaq diskette.
4. Power up the server
 - i The server generates one long beep and two short beeps to indicate that it is in the disaster recovery mode. If the diskette is not in place, the system continues to beep until a valid ROMPaq diskette is inserted.
 - i The ROMPaq diskette flashes both system ROM images. If successful, a sequence of ascending audible beeps is generated. If unsuccessful, a sequence of descending audible beeps is generated and the disaster recovery process need to be repeated.
5. Power down the server
6. Remove the ROMPaq diskette.
7. Power up the server

To manually set the server for ROMPaq disaster recovery:

1. Power down the server.
2. Remove the access panel.
3. Set positions 1, 4, 5, and 6 of the system maintenance switch to On.
4. Insert a ROMPaq diskette with the latest system ROM from the SmartStart CD or the HP website <http://www.hp.com/servers/manage>.
5. Install the access panel.
6. Power up the server.
7. Allow the system to boot completely.
8. Repeat steps 1 and 2.
9. Set positions 1, 4, 5, and 6 of the system maintenance switch to Off.
10. Repeat steps 5 and 6.

Other Information Resources [Top of Page](#)

For additional troubleshooting information, refer to the Servers Troubleshooting Guide on the Documentation CD.

For information on warranties and service and support upgrades (CarePaq services), refer to the HP website <http://www.hp.com/support>.

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