UEFI System Utilities and Shell
Release Notes for HPE ProLiant
Gen9 and Synergy Servers
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Version

- ProLiant DL20 and ML30 Gen9 servers—v1.70 (June 2016)
- ProLiant DL380 Gen9 servers—v2.22 (June 2016)
- All other ProLiant Gen9 and Synergy servers—v2.20 (June 2016)

Description

ProLiant Gen9 servers and Synergy compute modules include the UEFI (Unified Extensible Firmware Interface) System Utilities, which are embedded in the system ROM. ProLiant Gen9 servers and Synergy compute modules comply with v2.4 of the UEFI specification (available at [http://www.uefi.org/specifications](http://www.uefi.org/specifications)) and UEFI Class 2 System Firmware.

You can use the UEFI System Utilities to perform a wide range of configuration activities including:

- Configuring system devices and installed options
- Enabling and disabling system features
- Displaying system information
- Selecting the primary boot controller or partition
- Configuring memory options
- Launching other preboot environments, such as the Embedded UEFI Shell and Intelligent Provisioning

Update recommendation

Recommended

Product models

This release applies to all ProLiant Gen9 servers and Synergy compute modules.

Operating systems

The following operating systems can run in UEFI Mode on ProLiant Gen9 servers and Synergy compute modules:

- Microsoft Windows Server 2008 R2
- Microsoft Windows Server 2012
- Microsoft Windows Server 2012 R2
- Microsoft Windows 10
- VMware ESXi 5.1 U2 and later
- VMware ESXi 5.5 U2 and later
- VMware ESXi 6.0 (VMware vSphere 2015)
- Red Hat Enterprise Linux 6.x
- Red Hat Enterprise Linux 7.x
- SUSE Linux Enterprise Server 11 SP4
- SUSE Linux Enterprise Server 12.x
- Ubuntu 14.04
Secure Boot is available on systems running Windows Server 2012 R2 and Windows Server 2012, as well as recent versions of Linux (SUSE Linux Enterprise Server 11 SP4 and later, SUSE Linux Enterprise Server 12.x, Ubuntu 4.04, and Red Hat Enterprise Linux 7.x).

Languages
Languages supported for this release are English, Japanese, and Simplified Chinese.

UEFI Boot Mode requirements
ProLiant Gen9 servers and Synergy compute modules support two boot modes: UEFI Mode (the default setting) and Legacy BIOS Mode. To configure the mode, use the Boot Mode setting in the UEFI System Utilities. UEFI Mode operating requirements are as follows:

- When using Microsoft Windows 2008 R2, you must disable UEFI Optimized Boot. The default setting for this option is enabled.
- When booting VMware ESXi, you must leave the UEFI Optimized Boot option set to enabled.
- Install only Smart Array Controllers that are listed as supported for your server and that are running the latest versions of Smart Array Controller firmware. Other Smart Array controllers are not supported and might not function properly in this server. Before installing the operating system, use the latest Service Pack for ProLiant (SPP) in Offline mode to upgrade the firmware to the latest version. Supported controllers not using the proper firmware display as an unknown device in the system configuration.
- Install only networking options that are listed as supported for your server. Unsupported network devices might not function properly in this server. Hewlett Packard Enterprise recommends that you update network devices to the latest version of firmware before installing them in the server. Before installing the operating system, use the latest SPP in Offline mode to upgrade the firmware to the latest version.
- When the server boots in UEFI Mode, it does not boot media with a legacy OS installation, including DOS targets and Windows or Linux systems installed in Legacy BIOS Mode. The reverse is also true for servers that boot in Legacy BIOS Mode.
- Configure PXE servers with a UEFI boot image. For x64 EFI machines, also configure the DHCP server to support x64 EFI DHCP boot requests. For more information, see the UEFI Information Library: [http://www.hpe.com/info/ProLiantUEFI/docs](http://www.hpe.com/info/ProLiantUEFI/docs).
- Dynamic Smart Array B140i support is available only in UEFI Mode. It cannot be enabled in Legacy BIOS Mode.
- When the default boot mode settings are different than the user configured settings, the system might not boot the OS installation when the defaults are restored. To avoid this issue, create and save user-defined default settings in the System Utilities to override the system default settings. For more information, see the UEFI Information Library: [http://www.hpe.com/info/ProLiantUEFI/docs](http://www.hpe.com/info/ProLiantUEFI/docs).
- Secure Boot ensures that only firmware components, UEFI applications, and operating system boot loaders that have appropriate digital signatures and that have been verified authentic can execute during the boot process. Each component launched during the boot process is digitally signed and that signature is validated against a set of trusted certificates embedded in the UEFI BIOS. Secure Boot does not require any special hardware, such as a Trusted Platform Module (TPM), to function. Secure Boot can only be enabled in UEFI Mode. For more information, see the HPE UEFI System Utilities User Guide for HPE ProLiant Gen9 and Synergy Servers: [http://www.hpe.com/support/UEFIGen9_UG_en](http://www.hpe.com/support/UEFIGen9_UG_en).
Enhancements

The following are enhancements in this ROM update.

- On ProLiant Gen9 DL580 servers, added a new System Utilities BIOS/Platform Configuration (RBSU) PCIe I/O Allocation option that enables you to select how PCIe resources are assigned. This option addresses an issue where a server configured with a large number of PCIe option cards that request legacy I/O space, such as graphics adapters, displayed and logged to the Integrated Management Log (IML) an 276-IMPORTANT: Option Card Configuration Error indicating that one or more PCIe devices might not be assigned its requested I/O resources and attempted to boot.

- On ProLiant Gen9 DL560 and BL660c servers, enhanced PCIe resource allocation so that systems configured with multiple PCIe expansion devices no longer report a 276 Option Card Configuration Error during system boot due to not having enough I/O resources to support what the installed devices request. This BIOS revision enables a wider range of PCIe configurations that request large amounts of I/O to be properly configured.

- Updated the UEFI Secure Boot Key Database revocations list (DBX) with the latest version from Microsoft. The update includes the latest list of revoked certificates.

- Updated to the latest support modules for Intel Trusted eXecution Technology (TXT), including the Intel Authenticated Code Module (ACM), and Intel Secure Initialization (SINIT) module.

- Updated the RESTful API HPE BIOS Attribute Registry resources to match the latest System Utilities BIOS/Platform Configuration options.

- Updated the language translations (non-English modes) in the System Utilities.

- Increased the default timeout value of the iSCSI UEFI Software Initiator boot to 20 seconds. This enhancement might help resolve issues causing intermittent connection drops during an iSCSI boot.

Fixes

The following issues that existed in previous ROM versions are fixed.

- A system that experiences an HPE Smart Storage Battery failure might become unresponsive when configured with iLO 2.40 firmware.

- The System Utilities BIOS/Platform Configuration (RBSU) USB Boot Options setting might not properly enable the server to boot from the internal SD card before a USB key when the SD is higher in the boot order priority list. This issue only affected servers configured in Legacy BIOS Mode.

- The ambient temperature reported by the system during server boot might be incorrectly displayed.

- The UEFI or Legacy Option ROM for a PCIe adapter might not be properly executed when installed in certain server slots. This issue could cause such issues as an inability to boot using the PCIe adapter. This issue was seen with a Brocade network adapter, but could possibly occur with other adapters.

- The server health LED might remain set in a degraded or failed state after an error event was resolved during server operation. Previously, a server reset might have been required to clear the health LED event.

- The System Utilities BIOS/Platform Configuration (RBSU) option for Embedded UEFI Shell Auto Startup Script Network Location did not accept an nsh file name containing upper case characters.

- The server might become unresponsive during boot when configured with an HPE Dual microSD device and one of the microSD devices failed or was missing.
On servers configured with two or more processors and with memory only attached to a single processor socket, the server might assign incorrect ACPI NUMA proximity allocations, potentially leading to non-optimal performance. This issue did not affect servers with memory configured on multiple processors.

The Automatic Server Recovery (ASR) setting might not be configured properly through the RESTful API.

The internal SD card would remain active after the SD slot was disabled using the System Utilities BIOS/Platform Configuration (RBSU) option. This issue only affected systems configured in Legacy BIOS Mode.

The server might become unresponsive the `ping` command was executed from the Embedded UEFI Shell.

The UEFI iSCSI Software Initiator boot options might become invalid when the DHCP server provided a new IP address to a previously configured iSCSI boot option.

The system might fail to boot from UEFI iSCSI Software Initiator boot options when the iSCSI target IP address was changed.

The system might fail to boot from existing UEFI iSCSI Software Initiator boot options that had an iSCSI initiator or target configured using static IPv6 addresses.

The UEFI iSCSI Software Initiator boot option IPv6 address could not be configured using the RESTful API.

Existing UEFI iSCSI Software Initiator boot options might be lost when any of the connection parameters (LUN, remote port, IP address, login credentials) changed.

Incorrect PCIe slot numbers might be reported in the error messages of failed iSCSI boot attempts.

iSCSI boot configuration options might not be available from the RESTful API when there were no network adapters in the system.

The server might become unresponsive due to a Non-Maskable Interrupt (NMI) when performing a shutdown or startup from an operating system.

Related information

The latest documentation for the UEFI System Utilities and Embedded Shell is available at: [http://www.hpe.com/info/ProLiantUEFI/docs](http://www.hpe.com/info/ProLiantUEFI/docs). Available documents include:

- **UEFI System Utilities User Guide for HPE ProLiant Gen9 and Synergy Servers**
- **UEFI Shell User Guide for HPE ProLiant Gen9 and Synergy Servers**
- **UEFI Shell Quick Reference Guide for HPE ProLiant Gen9 Servers**
- **UEFI Deployment Guide for HPE ProLiant Gen9 and Synergy Servers**

**UEFI System Utilities and Shell Command Mobile Help for HPE ProLiant Gen9 and Synergy Servers** is available by scanning the QR code at the bottom of the System Utilities screen, or at [http://www.hpe.com/qref/ProLiantUEFI/Help](http://www.hpe.com/qref/ProLiantUEFI/Help).

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