UEFi BiOS TOOLS

For HP business desktops
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Abstract

The Unified Extensible Firmware Interface (UEFI) is a specification that defines a new interface and architecture for system firmware that initializes computer hardware subsystems before starting the OS boot process. This document describes basic changes in BIOS tools as implemented by UEFI BIOS.

Introduction

Legacy BIOS is limited to a 16-bit processor mode and 1 megabyte of addressable space. By comparison, the UEFI processor mode can be either 32-bit or 64-bit. 64-bit UEFI supports long mode, which allows applications in the pre-boot execution environment to have direct access to all memory using 64-bit addressing.

UEFI was designed to bring modularity to system firmware by implementing a driver-based approach to platform initialization. Hardware and device chipsets have a UEFI driver that allows the system firmware to initialize them through a standard application programming interface (API) rather than having to program them directly. UEFI also establishes its own pre-OS environment called the UEFI Shell, with APIs and services that can be used to create applications for a variety of purposes, including configuration.

BIOS Tool Changes

Business Desktops BIOS tools have been updated as a result of the system BIOS transition from legacy to UEFI. The following table describes the changes from the old legacy tools to the new UEFI tools.

Table 1. DOS-based tools

Legacy Tool	UEFI Tool	Description of UEFI tool
Flashbin.exe	DOSFlash.exe v1.14.00	DOS Flash utility designed to update the computer system firmware (BIOS) from a DOS, FreeDOS, or similar environment. The Windows command line is not supported. This tool is not backwards-compatible and will result in an error if run on legacy platform. The DOSFlash utility requires a driver (FlshUefi.cpu) specific to updating the system BIOS. Driver must be present in the same directory. The Setup (BIOS Admin) password is now provided in the command line as a parameter when the DOSFlash utility is executed using the /p option.
Flsh.cpu	FlshUefi.cpu v2.0	Hardware-specific driver required by DOSFlash.exe to update/restore the BIOS. The driver is not backward compatible and will result in an error if run on legacy platform.
Assignpw.exe	N/A	This tool is no longer used in the UEFI BIOS toolset. The Setup (BIOS Admin) password is now provided as a parameter in the command line with new UEFI tools.
Flashi.exe	DOSFlash.exe v1.14.00	DOSFlash tool allows replacing the standard HP logo image with a custom image provided by the user on the UEFI based platforms. Valid image files are JPEG or uncompressed BMP (bitmap) images up to 1024x768 resolution. Maximum file size will be between 22KB and 32KB depending on system.
Repset.exe	RepSetup.exe v3.02	The Replicated Setup (REPSETUP.EXE) Utility is designed to allow settings of systems with UEFI BIOS architecture to be "replicated" throughout an enterprise. Using REPSETUP.EXE to configure a Desktop system requires a text file in UCS-2 format (UTF-16 Unicode with fixed-width 16-bit characters), typically generated by REPSETUP.EXE or similar method, which specifies the BIOS settings and appropriate selection for each feature. REPSETUP.EXE must be run from DOS or FreeDOS, not Windows. This tool is not backward compatible and will result an error if attempted to be used on legacy platform. The Setup (BIOS Admin) password is now provided in the command line as a parameter when the REPSETUP.EXE is executed using the /p option.
FWUpdLcl.exe	FWUpdLcl.exe	Intel DOS-based application to update the ME firmware. Use version from respective ME Firmware update kit. Backward compatibility defined by Intel.

NOTE: UEFI tool version level is at publication time. Later revisions will be available in future timeframes

Table 2. Windows-based tools

Legacy Tool	UEFI Tool	Description of UEFI tool
HPQFlash.exe	HPQFlash.exe v4.30.13.1	No changes required to support UEFI BIOS. Backward-compatible.
HPQPswd.exe	HPQPswd.exe v3.0.1.2	No changes required to support UEFI BIOS. Backward-compatible.
System Software Manager (SSM)	SSM.exe v2.14 Rev. A	No changes required to support UEFI BIOS. Backward-compatible.
BiosConfigUtility.exe	BiosConfigUtility.exe v2.14.0.8	Using BiosConfigUtility.exe to configure a Desktop system requires a text file in UCS-2 format (UTF-16 Unicode with fixed-width 16-bit characters) typically generated by REPSETUP.EXE or similar method, which specifies the BIOS settings and appropriate selection for each feature. UEFI BIOS no longer accepts passwords as a string of scan codes. Password parameter must be provided as a string with <utf-16/> prefix.
FWUpdLcl.exe	FWUpdLcl.exe	Intel Windows-based application to update the ME firmware. Use version from respective ME Firmware update kit. Backward compatibility defined by Intel.
Xerces-c_2_7.dll	Xerces-c_2_7.dll	Library support file required for some versions of the Windows update application. Use version from respective ME Firmware update kit. Backward compatibility defined by Intel.

NOTE: Although some tools are backwards compatible, it is good practice to update to the specified version or later to avoid possible future complications with older revisions. UEFI tool version level is at publication time. Later revisions will be available in future timeframes.

Customer Impact

The transition from legacy BIOS to UEFI BIOS will require some changes to customer toolsets. The following subsections discuss considerations for a strategy to minimize workflow disruption in an enterprise environment.

DOS-based Tools

DOS-based tools need to be updated. UEFI tools supporting UEFI BIOS are required for updating, restoring, and/or configuring desktop systems. In addition, scripts and batch files will need to be updated to reflect account tool name changes and utilize new command line parameter switches.

There is no backwards compatibility for DOS-based tools. Customers with a mixed deployment of legacy and UEFI BIOS platforms will have to maintain a separate toolset for each platform type.

Windows-based Tools

Windows-based tools should be updated to the latest version. HP recommends using the UEFI compatible tools for updating, restoring, and/or configuring desktop systems.

There is backward compatibility for Windows-based tools. Customers do not have to maintain separate toolsets for mixed deployment environments.

Password Changes

UEFI BIOS no longer accepts passwords as a string of scan codes. This is due to the transition of character support from the ASCII to USC-2 format, a UTF-16 Unicode with fixed width 16-bit characters.

All WMI scripts containing password parameters must be updated from scan code to Unicode strings. Unicode strings will not work on legacy BIOS platforms. Customers with a mixed deployment of legacy and UEFI BIOS platforms will have to maintain separate scripts for each platform type.

For more information

For more information about the UEFI BIOS specification, visit the UEFI SIG website at: http://www.uefi.org/home/