



The UEFI Primer

What is UEFI?

UEFI stands for "Unified Extensible Firmware Interface". The UEFI specification defines a new model for the interface between personal-computer operating systems and platform firmware. The interface consists of data tables that contain platform-related information, plus boot and runtime service calls that are available to the operating system and its boot loader. Together, these provide a standard environment for booting an operating system and running pre-boot applications. Many millions of UEFI-capable systems are in use, and the vast majority of new PCs are UEFI-enabled. UEFI adoption is now moving to additional markets, such as embedded designs and ARM-based systems.

What is the UEFI Forum?

The UEFI Forum is a world-class, nonprofit, industry-standards body where leading high-tech companies and open-source entities work in partnership to enable the evolution of platform technologies. The Forum champions firmware innovation through industry collaboration and the advocacy of a standardized interface that simplifies, accelerates and secures platform initialization and firmware boot strap operations.

Can UEFI Secure Boot be Adopted and Implemented by a Variety of Operating Systems?

Yes, absolutely. UEFI Secure Boot is currently supported by a variety of open-source and private-license OSes. UEFI specifications have benefits for both the business and consumer end-users. In contrast to prior coding structures, UEFI standards allow for extensibility, modularity and easy prototyping during development, as well as widespread code re-use across different systems. The UEFI Forum promotes the implementation of UEFI specifications by BIOS vendors, OEMs, operating system vendors and add-in card vendors.

How do UEFI Specifications Differ From Legacy BIOS?

Legacy BIOS is typically used to refer to an Intel® Architecture firmware implementation rooted in the IBM PC design. Based on older standards and methods, Legacy BIOS was originally written in 16-bit real mode x86 assembly code and its interfaces remained substantially unchanged until its recent decline in use.

By contrast, UEFI standards reflect the past 30 years of PC evolution by describing an abstract interface set for transferring control to an operating system or building modular firmware from one or more silicon and firmware suppliers. The abstractions of UEFI Forum specifications are designed to decouple development of producer and consumer code, allowing each to innovate more independently and with faster time-to-market for both. UEFI also overcame the hardware scaling limitations that the IBM PC design assumed, allowing its broad deployment across high-end enterprise servers, modern PC's, and embedded devices. UEFI is "processor architecture-agnostic," supporting x86, x64, ARM and Intel® Itanium.

What is the Relationship Between EFI and UEFI?

The UEFI specification is based on the EFI 1.10 Specification published by Intel®, with corrections and changes managed by the UEFI Forum. Intel contributed the EFI 1.10 Specification to the UEFI Forum in 2005, which the Forum has evolved into the current specifications. There will not be any future versions of the EFI specification. The license to the UEFI Specification comes from the UEFI Forum; not from Intel.

For More Information

Please visit www.uefi.org for more information about UEFI, including current specifications and membership options.

UEFI Forum

3855 SW 153rd Drive
Beaverton, OR 97003
USA

Tel: +1 503-619-0864
Fax: +1 503-644-6708
admin@uefi.org
www.uefi.org