Aptio™ ...beyond BIOS

American Megatrends

Aptio™ Compatibility Support Module (CSM)

AMI CSM Solution

A key component of migrating from BIOS to Unified EFI (UEFI)

- Creates a compatibility environment for "legacy" operating systems
- Designed to require minimal platform porting
- Integrates with Aptio and Tiano-based UEFI solutions
- OEM features can be added in a separate binary

Aptio: A Single Core For Any Application

Validated solutions in multiple PC market segments

- Desktop, Mobile, Server, Embedded & UMPC

Supports Multiple Silicon Vendors

Broad CPU & chipset support

- Posted to Intel, AMD, NVIDIA, SiS & VIA
- Available on Intel MPG, ECPD & UMG platforms

Standards Based

Uses UEFI & the Intel Platform Innovation Framework for EFI

- UEFI IA32 & x64 bindings
- Integration with Intel EDK

A Complete Solution

Product Ready UEFI Solution

- Aptio 4.x Core
- Optimized codebase
- Template-based porting
- Full Suite of Development, Debug & Deployment Tools
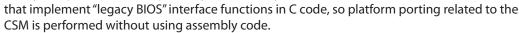
Using CSM for Seamless Backward Compatibility with Legacy BIOS

The Compatibility Support Module (CSM) is designed to extend BIOS compatibility into UEFI solutions ... supporting legacy Option ROM binaries and operating systems requiring a legacy BIOS runtime interface. AMI CSM is based on AMIBIOS®8, with validation on multiple platforms and chipsets. AMI CSM meet the goals established in the Framework: common compatibility, platform neutrality and common components across all market segments. This simple design allows the CSM to be easily integrated into AMI Aptio™ and Intel Tiano projects.

Leveraging the CSM Design in Aptio

CSM emerged from the Intel Platform Innovation Framework for EFI ("the Framework"), predating the UEFI specification. The Framework architecture breaks CSM functionality into two distinct sections: EFI Compatibility and CSM16. AMI CSM implements CSM16 as a drop-in binary component. EFI Compatibility is defined by drivers that implement "legacy BIOS" interface functions in C code, so platform porting related to the CSM is performed without using assembly code.

Moving Beyond BIOS

Aptio incorporates over 20 years of experience delivering AMIBIOS solutions while moving beyond legacy BIOS limitations. Aptio is highly modular solution, portable across a variety of platforms. The Aptio driver model, based on UEFI & the Framework, delivers higher flexibility than BIOS and provides new opportunities for applications in the pre-boot environment.

Leveraging Unified EFI & the Framework

Aptio takes advantage of several specifications that have grown from the original Extensible Firmware Interface (EFI). The PC industry extended EFI through the Unified EFI (UEFI) specifications, adding improvements such as USB 2.0 protocols and x86-64/EM64T (x64) processor bindings. The Intel® Platform Innovation Framework for EFI describes the architectural interfaces for a product-strength EFI/UEFI implementation.

Building on AMI Expertise

Aptio leverages UEFI & the Framework to create a next-generation BIOS solution while adopting concepts that have lead to the success of AMIBIOS8 in the PC market.

> Aptio uses Visual eBIOS (VeB), a development environment created for BIOS porting:

> AMI Remote Source Control (RSC): component updates on-demand ... 24/7/365

> Template-based porting model separates board-level changes from core features

> eModule structure allows source components to migrate across multiple platforms

> Extensive source library for the latest silicon & technology support

For more information, visit www.ami.com/aptio

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