

Developers using Aptio® for embedded BIOS start their projects with the industry's leading firmware solution.

Aptio uses UEFI standards as base for today's BIOS offering, delivering higher flexibility than boot loaders or legacy BIOS products, providing new opportunities for applications in the pre-boot environment. With Aptio, embedded developers use purpose-built development tools in a modular environment, using C-based code and modern firmware standards.

SOLUTIONS FOR INTEL REFERENCE DESIGNS

AMI uses Aptio for Intel embedded customer reference boards (CRB) validation, testing and feedback prior to product launch. Historically, this development relationship allows Intel to go to market with stable firmware developed by AMI, an industry leader in core computing products. Customer platforms based on Intel silicon start from the same source code used to enable the Intel CRB. Aptio enables the entire range of embedded solutions supported by the Intel Atom Processors. Features are easily added or removed using tools developed by AMI engineers, built specifically for the unique challenges of BIOS and UEFI.

A COMPLETE FIRMWARE SOLUTION FROM AMI

Aptio provides the total firmware solution for Intel Atom Processor products, going beyond BIOS to support the entire product life cycle.

- Aptio solution based on UEFI standards and AMI's legendary BIOS compatibility
- eModule expansion model for maximum flexibility, fast boot, headless operation, SD card boot & more
- Complete set of development tools
- Customers maintain BIOS using source code or ROM modification utilities
- Engineer-to-engineer support, including live access to AMI source control databases
- Simple BIOS debug via USB 2.0 for "port 80" checkpoints, boot timing and source level debug

GOING BEYOND BIOS WITH APTIO AND UEFI

Aptio uses UEFI to provide services beyond the traditional 16-bit BIOS model, including pre-boot management.

AMIDiag for UEFI builds on over 20 years of experience in hardware diagnostics, moving manufacturing and burn-in testing from DOS to UEFI. AMIDiag can be run from storage devices or embedded in BIOS, enabling diagnostics that do not rely on the OS.

AMI Provisioning brings users the benefits of IPv4/IPv6 networking, extensive hardware diagnostics and enhanced graphics libraries without relying on the operating system with full system maintenance even when the OS is not available.

GET YOUR PROJECT STARTED NOW USING APTIO

Aptio is ready for all Intel reference platforms. For more information, contact an AMI representative.



MOVING BEYOND THE BOOT LOADER

Embedded platforms often rely on boot loaders for low-level initialization. The boot loader design is limited, reducing platform flexibility, breaking legacy PC compatibility and eliminating “out of the box” OS installations.

Aptio’s standards-based approach provides full OS compatibility and extended pre-boot functionality. Aptio fast boot technology allows boot speed optimizations without additional BIOS porting.

STABILITY AND COMPATIBILITY WITH APTIO

Aptio is developed with a central philosophy: one core for any application. Aptio architecture allows the same stable core to be deployed for Desktop, Mobile, Server and Embedded projects. Aptio offers validated UEFI solutions in all PC market segments, with fast boot capabilities and an extensible feature set using eModules.

COMPLETE SOLUTION FOR SOURCE DEVELOPMENT

The Aptio UEFI solution offers easy expansion using eModules, source-level drop-in components for maximum flexibility and OEM customization. AMI also provides purpose-built tools for UEFI. This includes the Visual eBIOS development environment, AMIDebug for source level debugging and a host of tools for BIOS ROM modifications and product deployment.

ADVANCED DEBUGGING CAPABILITIES

AMI takes a three tier approach to providing debug solutions to developers, to cover the entire scope of BIOS and UEFI development. From basic checkpoints to source-level debugging and remote assistance from AMI, a solution exists in the unified suite of Aptio debug products to match your needs perfectly.

AMI debug tools work over USB 2.0, eliminating the need for expensive JTAG-style debuggers. The innovative AMIDebug Rx debug system enables “port 80” style checkpoints, boot time measure, UEFI debug messages and symbolic source-level debugging without any need to open the case, perfect for embedded platforms.

BIOS DEPLOYMENT AND MAINTENANCE TOOLS

Aptio offers a rich set of utilities for customizing the BIOS ROM image without rebuilding the firmware: an advantage in terms of time and cost. Developers can easily change setup default values using AMIBCP, replace boot logos with ChangeLogo and use MMTool to update embedded Video BIOS and Option ROMs.

AMI tools also manage manufacturing line configuration: AMISCE for setup scripting, DMIEdit for SMBIOS tables and serial numbers, and AMISLP to manage Microsoft OEM pre-installation keys. Combine these tools with AMIDiag for UEFI for burn-in and diagnostics to get complete coverage in deployment.

COMPREHENSIVE FIRMWARE SIGNING SOLUTIONS THROUGH AMI SIGNING SERVER

With this solution, the signing process is separate from the BIOS build process, with the actual signing process occurring on a dedicated server. A signing client is available that handles the secure communication to the signing server using message security, making the signing process as simple as calling a command line tool. This allows for images to be signed outside of the build process. The private keys are maintained only on the dedicated signing server, so that there is no risk of them being compromised.

ENGINEER-TO-ENGINEER SUPPORT FROM AMI

Embedded platform developers work directly with AMI engineers for firmware support. The AMI direct support model ensures the highest quality for development, debugging and training programs.

Customers working with Aptio source code and VeB receive instant access to source via AMI Subversion (SVN) and receive e-mail notifications when eModules are updated. Customers also have live access to NDA documents using the AMI Customer Portal, and can track project issues worldwide using the AMI Enterprise Information Portal (EIP).



American Megatrends Inc. | ami.com
5555 Oakbrook Parkway, Bldg. 200
Norcross, GA 30093 | 770.246.8600

For more information: <http://ami.com/products/bios-uefi-firmware/aptio-v/the-aptio-advantage/>