Understanding Platform Requirements for UEFI HII

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Agenda

• HII: Key Concepts
• How the OEM Uses HII
• Changing OpROM Models
• Changes for the IHV
• Best Practices
• Get More Information
HII: Key Concepts

• Solve problems from legacy BIOS ...
  – Different menus for BIOS setup & OpROM
  – User has problems finding the right menu
  – OEMs need a consistent user interface

• UEFI Human Interface Infrastructure (HII)
  – System firmware has a common setup browser
    • Drivers don’t carry their own UI
    • Single point for pre-OS setup interface
  – Firmware & Drivers publish to a “database”
HII: Key Concepts

- forms & strings
- input sources
- setup browser
- localization
How the OEM Uses HII

- Platform Branding
- Single setup menu
- Change input based on form factor (Keyboard, Mouse, Touch)
- Microsoft Windows 8 logo requirements for BIOS setup keys
Changing OpROM Models

• The basic model for the Option ROM stays the same, except user interface (UI)
  – UI is a function of the platform, not OpROM
  – Allows IHV to focus on driver functionality
  – OEM can customize look & feel without the need for major changes by the IHV
• Built from UEFI Specifications
  – Focus on UEFI 2.1 & UEFI 2.3.1 specs
Changes for the IHV

User setup is a function of the platform, not the add-in card.

Lighter payload for the OpROM. Single interface for the user.
Changes for the IHV

OEM can change the look and feel without altering OpROM.

The same HII data is displayed differently based on OEM setup.
Changes for the IHV

Input handling is based on the platform, not the OpROM.

Platform input may use keyboard, mouse, touch screen or remote methods.
Best Practices

• Understand the difference between UEFI specification requirements and OEM/IBV setup browser requirements.
• Test against multiple UEFI implementations.
• Make sure drivers are written to HII from UEFI 2.1 specification or later.
• Focus testing on UEFI Class 3 (no CSM) to eliminate any legacy dependencies.
Get More Information

• UEFI Forum Learning Center [link]
• UEFI IHV Resources @ intel.com [link]
• Review the UEFI Specification ...
  – Sections 28 & 29 (HII Overview & Protocols)
  – Section 30 (HII Configuration Processing and Browser Protocol)
• Use the TianoCore edk2-devel mailing list for support from other UEFI developers
Thanks for attending the UEFI Fall Plugfest 2011

For more information on the Unified EFI Forum and UEFI Specifications, visit http://www.uefi.org
But wait, there’s more ...

Welcoming Remarks — Aven Chuang, Insyde Software
UEFI Forum Updates — Dong Wei, VP of the UEFI Forum

Best Practices for UEFI Driver Compatibility — Stefano Righi, American Megatrends, Inc.
Understanding Platform Requirements for UEFI HII — Brian Richardson, Intel Corporation

UEFI Security Enhancements — Kevin Davis, Insyde Software
How to Protect the Pre-OS Environment with UEFI — Tony Mangefeste, Microsoft

Pre-OS Display Switching using GOP — James Huang, AMD
Debug Methodology Under UEFI — Jack Wang, Phoenix Technologies

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