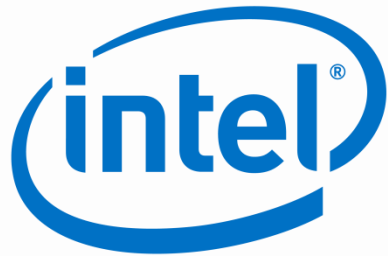


*presented by*



**Sponsors of Tomorrow.™**



# UEFI Development Update

UEFI Summer Summit – July 16-20, 2012  
Presented by Mark Doran (Intel Corporation)

# Agenda



- State of the Industry
- What's New?
  - UEFI 2.3.1c
  - UDK2010.SR1.UP1
- Useful Development Tools
  - Intel UEFI Community
  - Driver Writer's Guide
  - UEFI Driver Wizard
- Summary / Q&A

# State of the Industry



- UEFI is at a tipping point ...
  - Logo requirement for Microsoft Windows 8
  - Supported by major Linux distributions
- Still room for improvement in UEFI
  - Developer education, improving the number of peripherals with UEFI Drivers
  - User education, based on common mistakes in coverage on topics like UEFI Secure Boot

# Agenda



- State of the Industry
- **What's New?**
  - UEFI 2.3.1c
  - UDK2010.SR1.UP1
- Useful Development Tools
  - Intel UEFI Community
  - Driver Writer's Guide
  - UEFI Driver Wizard
- Summary / Q&A

# What's New?



- UEFI 2.3.1c
  - Update to the UEFI 2.3.1 Specification
  - Adds important firmware considerations
  - Addresses numerous ECRs
- UEFI Self Certification Test (SCT)
  - Updates for the UEFI 2.3.1c Specification
- UDK2010.SR1.UP1
  - Incorporates items deferred from UDK2010.SR1
  - Posted to tianocore.org on June 25<sup>th</sup>

# What's New in UEFI 2.3.1c?



- Add: OS Indications Variable
  - OS/FW feature & capability communication
  - End-users can request to enter BIOS setup menu after next reboot from the OS
- Add: Retain factory default keys in Setup Mode
  - Related to UEFI Secure Boot for Open Source OS or “OS agnostic” end-user configurations
- Remove: Runtime driver requirement for UNDI
  - Allows Network UNDI drivers in EFI Byte Code (EBC)

# What's New in UEFI 2.3.1c?



- Address Engineering Change Requests (ECR) in MANTIS
  - 831 PXE Boot CSA Type definition cleanup
  - 874 Provide a mechanism for providing keys in setup mode
  - 882 Indications Variable - OS/FW feature & capability communication
  - 907 iSCSI Device Path error
  - 909 Update to return codes for AllocatePool / AllocatePages
  - 912 UEFI 2.3.1 Type
  - 913 Enum definition does not match what our current compilers implement
  - 914 Error Descriptor Reset Flag clarification
  - 915 For x64, Change Floating Point Default Configuration to Double-Extended Precision
  - 917 UNDI drive does not need to be initialized as runtime driver
  - 921 Length of IPv6 Device Path is incorrect

*See the spec for details!*

# What's New?



- UEFI Self Certification Test (SCT)
  - Updated on July 9<sup>th</sup> for UEFI 2.3.1c
  - Available for use at this UEFI Summit
- UDK2010.SR1.UP1 released June 25<sup>th</sup>
  - Updates to EDK II specs (v1.22 Errata B)



# Agenda



- State of the Industry
- What's New?
  - UEFI 2.3.1c
  - UDK2010.SR1.UP1
- **Useful Development Tools**
  - Intel UEFI Community
  - Driver Writer's Guide
  - UEFI Driver Wizard
- Summary / Q&A

# Useful Development Tools



## Intel UEFI Community Resource Center

Consolidates  
resources found  
across multiple  
sites

## Driver Writer's Guide for UEFI 2.3.1

Updated in 2012 for  
UEFI 2.3.1  
development

## UEFI Driver Wizard

Generate templates  
based on the *Driver  
Writer's Guide for  
UEFI 2.3.1*

# Intel UEFI Community



Intel UEFI Community Resource Center

Support Feedback Contact Us

Home Learn Communicate Share Develop Find Solutions

## Welcome to Intel UEFI Community Resource Center

Your gateway for developing UEFI firmware, drivers, and applications for use on Intel® architecture platforms.

[Learn more about UEFI >](#)

<b>Learn.</b> Training courses and Intel® Developer Forum presentation library » 	<b>Communicate.</b> Forum for discussions with Intel engineers and other developers » 	<b>Share.</b> Upload and download files for sharing with the community » 	<b>Develop.</b> Intel UEFI technology, software and tools, specs, and docs » 	<b>Find solutions.</b> Get conforming devices, BIOS, and drivers from participating vendors » 
--	---	--	--	---

**Launched June 2012**

# Intel UEFI Community

A screenshot of the Intel UEFI Community Resource Center website. The page title is "Intel UEFI Community Resource Center". The navigation bar includes "Home", "Learn", "Communicate", "Share", "Develop", and "Find Solutions". The "Develop" page is active, showing a list of resources under the "UEFI driver development" category. The resources listed are:

- [Compiling a UEFI Driver Using the Intel® UEFI Development Kit 2010](#)
- [Driver Writer's Guide for UEFI 2.3.1 \[tianocore.org\]](#)
- [Signing UEFI Applications and Drivers for UEFI Secure Boot \[tianocore.org\]](#)
- [UEFI Driver Developer Resources \[tianocore.org\]](#)
- [UEFI Driver Development Guide for All Hardware Device Classes](#)
- [UEFI Driver Development Guide for Graphics Controller Device Classes](#)
- [UEFI Driver Development Guide for Network Boot Devices](#)
- [UEFI Driver Development Guide for USB Devices](#)
- [UEFI Driver Development Guide for USB Host Controllers](#)

Other categories visible include "UEFI Development Kits", "Intel UEFI tools and utilities", "Industry specifications", "Open source UEFI development", and "OS support".

<http://intel.com/udk>

Example content from the 'Develop' page ...

Pointers to content from Intel, TianoCore.org, uefi.org, OS vendor websites and more.

# Driver Writer's Guide for UEFI 2.3.1



- Expanded to cover UEFI 2.3.1 topics
- Designed as a developer reference
  - Organized & indexed by driver function
  - Not a “cover to cover read”
- See [‘Enabling Resources for UEFI Driver Developers Using EDK II’](#) at [tianocore.org](http://tianocore.org)

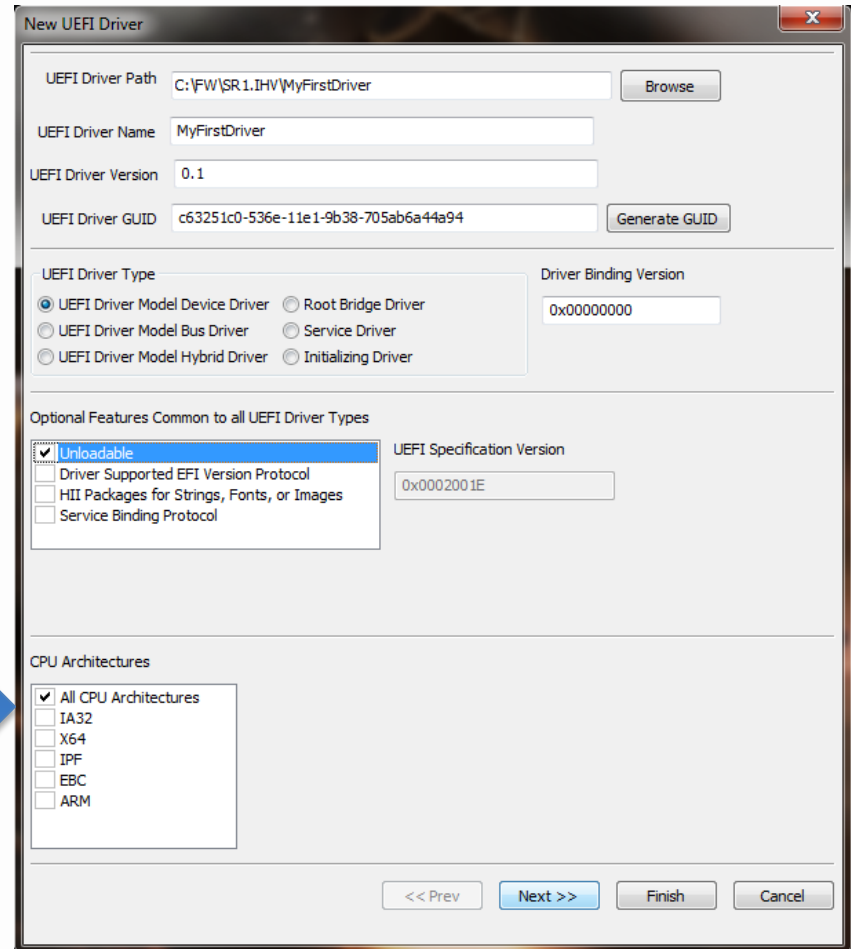
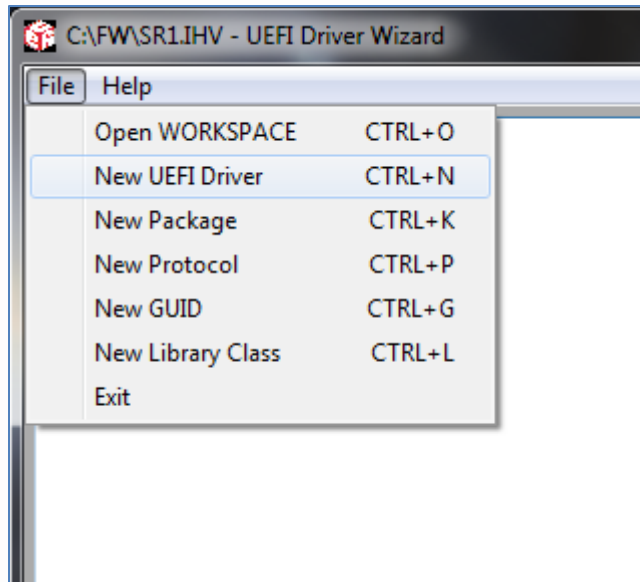
A comprehensive resource for UEFI Driver Developers ...

# UEFI Driver Wizard



- Menu-based GUI designed to simplify UEFI Driver Development
  - Uses EDK II or “IHV” subset of UDK2010
  - Wizard-based template generation
- Open source project contributed to [tianocore.org](http://tianocore.org) by Intel SSG
  - Python interface, designed for extensibility
  - Intel encourages contribution by developers

# UEFI Driver Wizard



# Agenda



- State of the Industry
- What's New?
  - UEFI 2.3.1c
  - UDK2010.SR1.UP1
- Useful Development Tools
  - Intel UEFI Community
  - Driver Writer's Guide
  - UEFI Driver Wizard
- Summary / Q&A



# Get More Information



- UEFI Forum Learning Center
  - [http://www.uefi.org/learning\\_center/](http://www.uefi.org/learning_center/)
- Intel UEFI Community
  - <http://intel.com/udk>
- Use the TianoCore [\*edk2-devel\*](#) mailing list for support from other UEFI developers

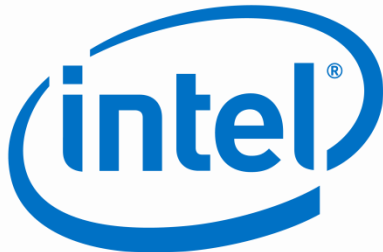
Thanks for attending the  
UEFI Summer Summit 2012



For more information on  
the Unified EFI Forum and  
UEFI Specifications, visit  
<http://www.uefi.org>



*presented by*



**Sponsors of Tomorrow.™**