NEWS RELEASE

UEFI Forum's New ACPI 5.1 Specification Adapts Configuration and Power Interface to 64-bit Focused Features of the ARMv8-A Architectures

5.1 specification released alongside ACPI 5.0, Errata B, which strengthens firmware functionality on previously supported platforms

Beaverton, Ore. – Aug. 12, 2014 – The Unified Extensible Firmware Interface (UEFI) Forum, a nonprofit industry standards body that promotes firmware innovations, today announced the publication of the Advanced Configuration and Power Interface (ACPI) Specification Version 5.1. This specification provides the interfaces needed to support the ARMv8-architecture in ACPI. It also maps out new features that are common to all supported platforms. These latest expansions further the UEFI Forum's mission to ensure that the ACPI remains applicable to all systems and devices.

Also announced today is the availability of the ACPI Specification Version 5.0, Errata B. This document fixes minor errors and information gaps identified in the ACPI v5.0. Systems that have already been developed to comply with this version of the ACPI specification will benefit from these errata.

New Features, New Architectures: The ACPI 5.1 Specification
The ACPI is a robust interface between firmware, operating systems (OSes) and devices that provides management of hardware functions at runtime. The core ACPI-configurable functions include device discovery, thermal management, general UEFI boot capability, OS configuration and power management (OPSM) and reliability, availability and supportability (RAS) features. Use of the ACPI improves system power distribution and conservation.

The ACPI 5.1 specification is the first major document released by the UEFI Forum's ACPI Specification Working Group (ASWG)—the committee responsible for the open standard since its October 2013 move under the Forum's umbrella. In addition to extending the above-mentioned core ACPI functions to ARMv8-A architectures, the 5.1 specification introduces the following ARM 64-bit-focused features:

- **Expanded Generic Interrupt Controller (GIC) Support:** Extends ACPI support to include GICv2 virtualization, GIC v2m and parts of GICv3.
- **Power State Coordination Interface (PSCI) Support:** Allows PSCI discoverability via ARM Boot Flags filed in the Fixed ACPI Description Table (FADT).
- **Always-On Timers and Watchdog:** Ensures system memory mapped timers are compliant with ARMv7 and ARMv8 generic timer architecture.

"UEFI and ACPI are the prevalent open standards enabling flexible device configuration and power-state management in server class systems," said Lakshmi Mandyam, director of server systems and ecosystems, ARM. "The ARMv8 server ecosystem is aligning around open industry standards with UEFI emerging as the boot model and ACPI as the runtime interfaces."

New or enhanced features included in the 5.1 specification that benefit all ACPI-supported architectures include:

- **Device-Specific Data (_DSD) Control:** Reports device registry address location, generic clock controls and other critical properties to Linux OS-level drivers, allowing them to operate within the reported parameters.
- **Collaborative Processor Performance Control (CPPC) extension:** support platform-based, fully autonomous selection of performance states with OSPM providing information that guides the selection.

Additionally, the UEFI Forum is now responsible for assigning the Plug-and-Play (PNP) Identifiers and the ACPI Identifiers to avoid namespace collision.

"We kicked off ASWG in January. It is now the biggest Working Group in the UEFI Forum, with active participation from both x64 and ARM ecosystems, as well as the Windows and Linux communities," said Dong Wei, UEFI Forum vice president and ASWG co-chair. "We worked together to update the ACPI Spec in record time—just over six months. With the latest ACPI v5.1 and UEFI v2.4, the industry has the opportunity to bring to market products based on converged platform infrastructure for interoperability while gaining more flexibility for innovations. Having this capability for both x64 and ARM architectures is a milestone achievement."

To view all published ACPI specification versions and errata, visit www.uefi.org/acpi/specs.

ACPI at LinuxCon and CloudOpen North America 2014
Learn more about the ACPI 5.1 specification support for ARM by joining the UEFI Mini-Summit at LinuxCon and CloudOpen North America. All conference registrants are welcome to attend the session on "Building ARM Servers with UEFI and ACPI" at 3:30 p.m. on Friday, August 22. Click here to register.

About The UEFI Forum
The Unified Extensible Firmware Interface (UEFI) Forum is a world-class non-profit industry standards body that works in partnership to enable the evolution of platform technologies. The UEFI Forum champions firmware innovation through industry collaboration and the advocacy of a standardized interface that simplifies and secures platform initialization and firmware bootstrap operations. Both developed and supported by representatives from industry-leading technology companies, UEFI specifications promote business and technological efficiency, improve performance and security, facilitate interoperability between devices, platforms and systems, and comply with next-generation technologies. To learn more about the UEFI Forum, visit www.uefi.org.

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