Intel Shares Vision for the Future

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At its developer conference today, Intel Corporation demonstrated how the company is providing a foundation on which to build common hardware, software and ecosystem solutions to make computing experiences and devices work together seamlessly and easier to use. The Intel Developer Forum kicked off with a keynote by David (Dadi) Perlmutter, executive vice president and co-general manager, Intel Architecture Group (IAG), who shared Intel's vision to make it possible for technology users to realize the potential for a common connected computing experience.

"With an additional 1 billion connected computing users by 2015 and with more types of devices there is value in providing a common experience between the devices," said Perlmutter. "Intel architecture delivers the right combination of performance and power that provides the foundation across all computing devices creating a virtual continuum of computing to enable this common user experience."

On the high end of the computing spectrum, Perlmutter noted that Intel culminated the transition to the company's award-winning Intel microarchitecture chip design, codenamed "Nehalem," with the recent launch of the Intel Xeon processor 7500 series. In less than 90 days, Intel has introduced all-new 2010 PC, laptop and server processors that increase energy efficiency and computing speed, and include a multitude of new features that make computers more intelligent, flexible and reliable.

Perlmutter also discussed updates on next generation Intel Core

processors using the Intel microarchitecture codenamed "Sandy Bridge," which are targeted to be in production in late 2010. "Sandy Bridge" is built on Intel's second generation Hi-K 32 nanometer (nm) process technology. These processors will be the first to support Intel Advanced Vector Extension (Intel AVX) instructions. Intel AVX accelerates the trends toward floating point intensive computation in general purpose applications like image, video, and audio processing, as well as engineering applications, including 3D modeling and analysis, scientific simulation, and financial analytics. "Sandy Bridge" will also continue support for the Intel AES New Instructions (Intel AES-NI), seven software instructions that accelerate data encryption and decryption. "Sandy Bridge" will also feature Intel's sixth-generation graphics core and will include acceleration for floating point, video, and processor intensive software most often found in media applications.

Perlmutter also touched on how Intel is enabling a new kind of experience on television he called "Smart TV", where the Internet will be seamlessly integrated with broadcast TV, personalized content, and search capability. At the center of this new innovation is Intel's consumer electronics (CE) system-on chip (SoC), the Intel Atom processor CE4100, which offers raw CPU performance, world-class HD video and audio decode, and advanced graphics. The goal is to bring personal content, favorite websites and social networks to the TV in a new way. The CE4100 is designed for CE devices such as Blu-ray Disc players, set-top boxes and digital TVs, which can deliver the "Smart TV" experience.

The Intel Atom processor uses a versatile low power design giving it broad potential for a range of new market segment opportunities, from handhelds and netbooks to consumer electronic devices and embedded applications. The Intel Atom processor core has similar characteristics around ultra-low power, low cost, and small size, which can then be productized into SoCs for a range of segments based on targeted usages

and I/O requirements.

As the mobile Internet continues to spiral and touch more devices, Perlmutter cited the industry opportunity for a new generation of handhelds including tablets and smartphones. He detailed how Moore's Law, along with a combination of architecture, design and manufacturing process techniques, will help to move Intel architecture to dramatically lower power envelopes. At the same time Intel architecture maintains the high performance for the ever-evolving Internet, media rich applications and multitasking capabilities on-the-go.

Perlmutter discussed Intel's forthcoming "Moorestown" platform, which is on track for introduction during the first half of this year. He stated that Intel has repartitioned its platform architecture and implemented a number of innovative techniques, such as next generation OS power management and distributed power gating, to achieve the improved performance and major reductions in idle and active power envelopes. To reinforce his point, he demonstrated up to 50 times platform idle power reduction, and up to 10 times power reduction in audio playback compared to Intel's first-generation "Menlow" platform.

Also, Perlmutter disclosed that Intel is working with PC manufacturers Tongfang and Hanvon to introduce the new convertible classmate PC design that combines aesthetics with ruggedness, full PC functionality with enhanced e-reading capabilities and improved performance with [energy efficiency](). The flexible design of the new convertible classmate PC works and moves the way students do. The tablet touch screen form factor also adds additional functionality for students. Development of these new features was based on extensive ethnographic research with students and teachers.

James: Unlocking the Future with Intel

In the day's second keynote, Renee James, senior vice president and general manager of the Software and Services Group at Intel, continued to highlight Intel's vision for a seamless cross-device experience for phones, cars and the home, providing consumers with more consistency and accessibility to their information. James emphasized how a unified operating environment running across a common compute architecture can give developers broader reach and easier access to end users, in any market segment.

James also touched upon how cloud computing is the connective tissue between compute platforms, inviting Dr. Jiren Liu, chairman and CEO of Neusoft Corporation onstage. Dr. Liu demonstrated how systems built around Intel Cloud Builder reference architecture can enable new solutions, linking front-end client devices to back-end remote diagnostics in the health care environment to deliver service never before possible.

"Technology has changed the way we interact with our world and Intel is putting the building blocks in place, from the cloud to the smallest of devices, to deliver a truly immersive computing experience to consumers wherever they are," said James. "Together with developers and our partners, as well as a highly-integrated combination of hardware and software, Intel believes we can help bring the best possible products to market with the broadest distribution."

Building on the recent Intel and Nokia news to merge the Moblin and Maemo open source projects into the MeeGo Linux-based software platform, James highlighted the broad endorsement of MeeGo across the industry. MeeGo is hosted by the Linux Foundation as a fully open source project and is available to original equipment manufacturers, operating system vendors, network operators and others, targeting a wide range of devices, including next-generation smartphones, netbooks, tablets, mediaphones, connected TVs and in-vehicle infotainment systems.

In addition, James announced ISVs and developers in China can now take advantage of the Intel Atom Developer Program and submit applications for distribution through the Intel AppUpSM Center beta. James also highlighted the recent expansion of the Intel AppUp center beta for both MeeGo and Microsoft Windows in the United States, Canada and 27 European countries. This growth gives Chinese application developers in the Intel Atom Developer Program the opportunity to reach consumers in one of the top markets for Intel Atom processor-based devices worldwide, as well as now complete sales transactions in USD, Euros or Pounds (GBP).

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