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News Fact Sheet

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Intel Technology Innovation Summit

July 29, 2009 – At a technology summit today in San Francisco, Intel Corporation discussed the importance of continuing innovation, despite current economic conditions. Executives from across the company discussed plans to create and invigorate new computing and communications markets. Topics included Intel’s activities in mobility, embedded platforms, health, capital investments and System-on-Chip (SoC) manufacturing.



Innovation & Growth

Sean Maloney

Executive Vice President, Chief Sales and Marketing Officer

Maloney provided updates in two major areas: IT-related stimulus spending and investment worldwide and Intel’s growth progress in adjacent, PC-like markets behind the Intel® Atom™ processor family. He also outlined Intel’s strength in manufacturing and technology innovation as the company nears deployment of its 32-nanometer technology with second-generation high-k metal gate transistors. These advantages have helped Intel target new growth markets and adopt a “smart” System-on-Chip design plan.

- Maloney announced a partnership with China’s Ministry Railway’s IT Center as the country embarks on an aggressive build out of high-speed train network, the largest of its kind. Ultimately, China will deploy hundreds of thousands of Intel-based laptop and desktop PCs, and tens of thousands of servers to make this project happen by 2012.
- Maloney also touched on recent customers and alliances including Cisco, EMC, GE, LG, Nokia, TSMC, Wind River and others.

Enabling IA System-on-Chip with Intel's Technology and Manufacturing Innovation
Sunit Rikhi

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Vice President Technology and Manufacturing Group

Intel Architecture-based System-on-Chip products have their own unique optimization envelope for power, performance, cost, flexibility and design efficiency and complexity. Sunit Rikhi described how Intel is extending its leadership design and manufacturing technologies to win in SoC growth markets adjacent to its microprocessor core business. This is made possible by leadership capabilities in the technology layers at the foundation of Intel's SoC strategy. Rikhi said that Intel's strategy is in execution and on track with a number of SoC products having been announced and several in-flight on Intel's 32nm technology. He delved into five key ways Intel is extending its leadership design and manufacturing technologies to enable smart SoCs:

- **Application of second generation high-k metal gate process technology to low-power SoC space:** At the center of Intel's leadership silicon technology, is the high-k metal gate process technology that is a key enabler for high performance at the very low power envelopes of SoC market segments. Intel has been shipping 45nm high-k metal gate products since 2007 and is preparing to ramp its second generation, a 2-year lead on the rest of the industry. High-k metal gate process technology is at the core of what enables three orders of magnitude improvement in leakage power for a variety of product options that optimize cost, performance and power.
- **Common Manufacturing Technology Platform for CPUs and SoCs:** Intel's SoC and microprocessor (CPU) process technologies now share a common platform. CPUs lead the initial learning curve, allowing SoC process technology to benefit from the core capability, investment and learning of the CPU process.
- **A full-featured process menu for silicon integration of diverse system components:** Intel's 32nm high-k metal gate SoC technology offers a range of features to optimize designs for the diverse system components of a SoC. These include I/O subsystems, embedded memory, and advanced analog/mixed-signal and communication circuits. Intel also offers a wide range of packaging options for package integration and form factor optimization.
- **Co-optimization of leading-edge manufacturing technology and services for SoC specific requirements:** Co-optimization, or the interaction between product design and manufacturing technologies is becoming increasingly critical on advanced technology nodes. How well this interaction is comprehended in both design and manufacturing technology determines the value that can be passed on from manufacturing technologies into the products. Intel has had decades of experience co-optimizing for CPUs and is now extending that experience to cover SoC unique requirements. Shared silicon learning on advanced shuttles is one example of how Intel ensures leadership product features can be delivered on a predictable schedule. Intel is also applying its methodologies to co-optimize design, tools, masks, silicon, packaging and manufacturing systems to SoC products to ensure that the quality of execution in CPUs is also reflected in SoCs.
- **Common framework architecture, modularity and re-usable building blocks:** Intel's SoC design technology layer is composed of several elements including the leadership Intel Atom core, a common architecture framework, converged methodologies and shared, reusable IP blocks. The common framework of modular connectivity allows rapid design integration and validation of all products as well as a high degree of customization for particular product lines using both Intel and external IP blocks. These capabilities together are critical for driving fast time-to-market, flexibility, optimization and low costs.

Transforming the Future of Embedded
Doug Davis

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Vice President Digital Enterprise Group, General Manager Embedded and Communications Group

Identified as a key driver of growth for the company, embedding Intel® architecture inside a variety of devices and systems that are adding Internet and PC-like features will be a common thread in the 15 billion Internet-connected devices predicted by 2015. Davis highlighted the four cornerstones of innovation offered by Intel technology: Internet connectivity, management and security, performance, and energy efficiency. He showcased applications of these innovations in embedded market segments such as digital signage, retail and in-vehicle infotainment and disclosed a number of design wins and end-user applications, including:

- **Beijing International Airport:** Earlier this week, Intel disclosed an agreement with DT Research and AirMedia to deploy Intel-based digital signage solutions at the Beijing International Airport. Intel processors will power 600 signage appliances on 82” and 108” displays to the more than 150,000 travelers who pass through the airport every day.
- **Movado:** The Concorde unit is an all-in-one interactive digital shelf-level unit that attracts, engages and interacts with shoppers. The signage is programmable and monitored remotely, and includes groundbreaking facial detection software that enables the client to measure how many people look at the display and for how long.
- **VW:** Volkswagen's Electronics Research Laboratory is developing next generation in-vehicle infotainment systems in their research facility. The system is an Intel architecture-based prototype developed to design, test and validate new electrical components and architectures in vehicles.
- **Wendy's:** WAND Corporation integrates its quick service restaurant digital display with point of sale (POS) registers, enabling the tracking of transaction data. Using Intel® Active Management Technology, WAND can quickly and easily modify and customize the displays and POS systems in restaurants.

Innovation through Healthcare

Louis Burns

Vice President, General Manager Digital Health Group

Burns described the undeniable market need given the age wave, rise in chronic conditions, escalating health care costs and clinician shortage. He talked about momentum for the Intel® Health Guide and demonstrated “Arlington,” a new concept and service designed to allow seniors to live independently in their homes as they age.

- The Intel Health Guide is now also able to connect patients and their health care teams via 3G wireless and phone lines in addition to the standard cable/DSL broadband connection already available. Recently announced new customers include: Providence Life Services, Spectrum Medical and Proactive Healthcare.
- Intel outlined the need to work with the industry on solutions and to enable true health care reform, focusing on personal health – shifting focus from the institution to the individual, from the hospital to the home and from population-based care to personalized care.
- “The nation’s debate about health care reform doesn’t seem all that healthy or reformatory,” Paul Otellini writes in an op-ed featured in the July 27 issue of *Politico* (<http://www.politico.com/news/stories/0709/25395.html>). Intel’s CEO goes on to discuss why we need a “personal health reformation,” which means leaving behind today’s outdated model of healthcare and shifting the focus to the individual and the home.

Investing to Accelerate Global Innovation

Steve Eichenlaub

Managing Director, Platform Technologies, Cleantech and Digital Health, Intel Capital

Intel Capital fosters and accelerates the success of innovative companies in ways that complement Intel's strategic objectives. Clean technology is one sector within Intel Capital that is growing in strategic importance.

- Intel Capital makes and manages financially attractive investments in support of Intel's strategic objectives. Intel Capital is focused on actively seeking and structuring investments in companies worldwide that are producing products and services in a variety of "green" areas such as energy efficiency, alternative power generation and storage, transportation and materials.
- Intel Capital today announced five investments that all support efforts within Intel to drive energy-efficient performance across Intel's value chain. The deals, which total approximately \$10 million and span two continents, include first-time investment in U.S.-based CPower (demand response and energy efficiency) as well as follow-on investments in Ireland-based Powervation (digital power control) and US-based companies Convey Computer (energy efficient high performance computing), Grid Net (smart meter infrastructure) and iControl (home automation and monitoring).
- The Intel Open Energy Initiative helps to foster deployment of open standards to accelerate the integration of and synergy between intelligent renewable energy sources, smart grids, smart buildings and empowered energy consumers. Intel actions include research and development of "smart energy" technologies, partnerships with utilities on smart grid pilots and deployment, smart energy policy influence, leadership in smart grid standards bodies and strategic venture investment via Intel Capital.

Mobility: Innovation Unleashed!

Mooly Eden

Vice President and General Manager, Mobile Platforms Group

Eden said Intel is helping drive future mobility growth with innovations and solutions based on high-performance and low-power Intel® Architecture platforms across a broad range of segments and price points. He also discussed the growing personalization of mobile computing and highlighted how the pervasiveness of the Internet continues to drive new users and usages with the rise of broadband and the advent of rich content and applications, including video, social networking and online services. Intel is delivering on a variety of mobile form factors optimized for different usage models and designed to deliver the right balance of performance and power.

- Eden highlighted the need for energy-efficient performance and how Intel's high-performing mobile processors do not sacrifice battery life. Eden also described how Intel-based systems can finish tasks quickly in order to return to lower power states.
- Intel is taking ultra-thin notebooks to new levels through a combination of breakthrough ultra-low voltage small form factor processors and innovative thermal and cooling technologies. These advances enable a host of new, very thin consumer laptop designs with long battery life and mainstream price points.
- Calpella is the codename for the next generation of mobile processors and the company's first laptop chips based on the Nehalem microarchitecture. Scheduled to launch later this year, it will consist of the 5 series chipset, Centrino wireless and the Clarksfield quad-core processor. Later it will include the Arrandale processor.

- Pine Trail is Intel's next-generation netbook platform, a two-chip solution versus today's three-chip solution. The platform includes the 45nm Intel® Atom™ processor, codenamed Pineview-M, and integrates graphics, display and memory controllers on the processor. The platform also includes Tiger Point, an input/output (I/O) hub. The integration in Pine Trail will offer overall platform BOM savings, improved performance, graphics, thermals and lower average power compared to today's solutions.

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