

Intel Plans New Intel Atom Processor-based System-on-Chip

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Two Intel executives today outlined the latest Intel system-on-chip (SoC) products for embedded applications and described new research to allow homes and small businesses to better use and manage energy. The forthcoming SoC product features an Intel Atom processor core that, for the first time, will let other companies create PCI Express-compliant devices that directly connect to the chip, which offers new flexibility for embedded applications.

Intel also highlighted work with HawTai, a major Chinese [car maker](#) that plans to use [Intel](#) Atom processors and MeeGo software for their in-car infotainment systems. In addition, [China Mobile](#), the world's largest wireless [telecommunications company](#), will adopt Intel chips for targeted platforms powering its wireless networks.

"Intel is committed to focus our technologies on innovative new applications in China," said Doug Davis, corporate vice president and general manager of Intel's embedded and communications group. "We're cooperating closely with local companies in China to provide smarter and better connected computing solutions for cars, homes, businesses that provide infrastructure to power a more mobile and faster Internet experience."

Davis disclosed details on a future Intel product code-named "Tunnel Creek" during his speech. This SoC for embedded applications, such as in-vehicle-infotainment and IP media phones, will use a standard interconnect to the processor. The highly integrated SoC combines an

Intel Atom [processor core](#), the memory controller hub, graphics engine and video engine into one chip.

The chip will also enable companies to connect their own custom-built silicon to the Intel chip as long as it is a PCI Express compliant. The flexibility in this highly integrated one-chip solution helps reduce bill of materials and saves on board real estate for embedded applications.

China Wins in Cars, Telecom

Davis also welcomed an executive from major Chinese auto manufacturer, Rongcheng HawTai Automobile to join him on stage. HawTai announced that its new B11 luxury sedan will incorporate the Intel Atom processor and open-source MeeGo software platform in its in-vehicle-infotainment systems.

"With an infotainment solution that utilizes the Intel Atom [processor](#), we are leveraging the well-established and latest Internet technologies, and re-using existing software that has been developed on MeeGo based Linux platform," said Mr. Wang Dian Ming, vice chairman of HawTai Automotive. "It saves us application development costs, and enables new services to be introduced quickly with high reliability."

As more computers and PC-like devices connect to the Internet, telecommunications companies are seeking ways to more efficiently and cost-effectively accommodate growing network demand. Davis outlined Intel's vision of applying the IT industry's compute and cloud model to the telecom industry by consolidating network workloads on a single architecture. He said worldwide telecom leaders are endorsing Intel architecture for targeted platforms in their next generation infrastructure, including Alcatel-Lucent, Ericsson, Hauwei and ZTE.

On stage, Dr. Cui Chunfeng, manager of wireless research labs,

department of wireless communications, China Mobile Research Institute discussed how the largest wireless company in the world will partner with Intel in developing its next generation wireless network infrastructure to help move China Mobile into a 'compute and cloud' model.

"China Mobile has been researching a new Radio Access Network architecture that is intended to provide our broadband wireless network the benefits of world class energy efficiency, reduced total cost of ownership, and high performance, while having the flexibility to allocate infrastructure resources to varying network load conditions," said Dr. Cui. "To accomplish this vision we want to utilize Intel architecture in our next generation infrastructure, and tap into the flexibility, scalability and fast rate of innovation of using a software-defined architecture."

Personal Energy Management

Following Davis on stage, Intel Chief Technology Officer and managing director of Intel Labs, Justin Rattner, discussed how smarter technology at home and at work can reduce and better manage energy consumption. Rattner said the company's goal is to apply Intel technology in ways that empower consumers and small businesses to make better energy choices.

"Consumer empowerment is critical," said Rattner. "Individual consumers must have the information, tools and incentives to conserve scarce energy resources, minimize their carbon impact and keep their energy budgets under control. If we can make energy more personalized with real-time information and offer visual tools that engage entire communities, it will lead to valuable changes in behavior and save staggering amounts of energy."

Researchers at Intel have invented a new wireless device to make the collection of energy data easy and inexpensive for consumers. The

experimental, low-cost sensor need only be plugged into the house wiring to instantaneously measure and wirelessly report the power consumption of each electrical load in the home. The technology could be easily deployed by consumers to analyze energy usage of devices and appliances throughout a home.

Rattner also demonstrated a working prototype of an Intel-powered home energy display that when coupled with the wireless energy sensor, would monitor performance, recommend solutions for more efficient usages, set goals, and reward success. The pair of devices forms the heart of a personal energy management system that could help a U.S. household save up to \$470 per year in electricity costs. Given that the U.S. has 113 million households, the potential savings is over \$50 billion a year. If only one percent of U.S. households were to realize this savings, it could reduce annual coal demands by 371,000 tons and reduce carbon emissions by 2.4 million metric tons, or the equivalent of taking 535,000 cars off the road. Intel's CTO went on to describe how to improve personal energy management of electric cars. He said as the volume of electric cars increase, strain will be placed on the local electric grid at night when most are recharging. Intel Labs is looking at how to better coordinate charging times to reduce peak loads, which would reduce the need to upgrade local electrical distribution facilities and save significant amounts of money.

Source: Intel

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