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Intel Delivers Intelligence from Device to Cloud to Drive Internet of Things

Expands Low-Power Roadmap, Introduces Intelligent Gateway Solutions to Extend Reach into Emerging Applications

NEWS HIGHLIGHTS

- Intel outlines plans to accelerate the development of intelligent devices, systems of systems and enable end-to-end analytics to drive business transformation.
- Intel® Quark SoC X1000 and Intel® Atom™ E3800 processor family help extend company's reach into emerging Internet of Things applications.
- New features in the Intel® Quark SoC X1000 include error-correcting code (ECC) and industrial temperature range for industrial, energy and transportation markets.
- Intel-based intelligent gateway solutions feature integrated software from McAfee* and Wind River* and will be available in the first quarter of 2014.

SANTA CLARA, Calif.--(BUSINESS WIRE)-- Intel Corporation today announced plans to accelerate the development and deployment of the Internet of Things (IoT) by enabling intelligent devices, end-to-end analytics and connecting legacy devices to the cloud to drive business transformation.

In support of this effort, the company unveiled several products including the Intel® Atom™ processor E3800 product family (formerly codenamed "Bay Trail-I"), a new family of Intel-based intelligent gateway solutions featuring integrated software from McAfee and Wind River, and new features for the Intel® Quark SoC X1000.

"The Internet of Things consists of a wide range of Internet-connected devices, from a simple pedometer to a complex CT scanner," said Ton Steenman, vice president and general manager of Intel's Intelligent Systems Group. "The true value in the Internet of Things is realized when these intelligent devices communicate and share data with each other and the cloud, uncovering information and actionable insight that can transform business. As a leader in computing solutions from the device to the datacenter, Intel is focused on driving intelligence in new devices and gateways to help connect the billions of existing devices."

According to a recent McKinsey Global Institute* report, the number of connected machines has grown by 300 percent over the past five years, due largely to the transformational power of IoT technologies and their ability to drive greater efficiency in the estimated \$36 trillion spend in operating costs in affected industries¹. As more devices become connected every day, companies face increased fragmentation, interoperability and security challenges. To address this, Intel is delivering integrated, scalable hardware and software solutions

specifically designed to meet diverse market needs from devices to the cloud.

A Scalable Roadmap for Intelligent Devices

An end-to-end strategy requires making devices more intelligent and secure to reliably filter and manage data locally. Intel offers a scalable roadmap of products to power devices at the edge of the network, from the energy-efficient Intel Quark SoC to the high-performance Intel® Xeon® processors.

The addition of the low-power, small-core Intel Quark SoC X1000 will extend the company's reach into new and rapidly growing IoT markets. The new product family features error-correcting code (ECC), industrial temperature range and integrated security. ECC delivers a high level of data integrity, reliability and system uptime for equipment required to run at all times, while industrial temperature range helps meet the requirements for industrial control and automation applications. The Quark processor core is a 32-bit, single core, single-thread, Intel® Pentium® instruction set architecture (ISA) compatible CPU operating at speeds up to 400MHz.

The new Intel Atom processor E3800 product family features improved media and graphics performance, ECC, industrial temperature range, integrated security and integrated image signal processing. These features help reduce time-to-market, accelerate data intensive applications and reduce energy consumption. This product family is ideally suited for digital signage applications such as interactive kiosks, intelligent vending, ATMs and point-of-sale terminals as well as portable medical devices and in-vehicle infotainment systems.

Connecting the Old and New with Intelligent Gateways

With more than 85 percent of today's devices based on existing legacy systems,² a significant need exists for an interim step to address interoperability instead of replacing all existing infrastructure. Intel is working with McAfee and Wind River to address this challenge with a new family of intelligent gateway solutions that connect legacy systems, providing common interfaces and seamless communication between devices and the cloud. Targeting industrial, energy and transportation markets, this system of systems helps ensure that the data generated by devices and existing infrastructure can be shared securely with the cloud and for analysis.

The new family of intelligent gateway solutions from Intel provides integrated and pre-validated hardware and software, including McAfee Embedded Control and the [Wind River® Intelligent Device Platform](#), that help develop, prototype and deploy application services faster so companies can focus on creating new, value-added services. With these solutions, users can securely aggregate, filter and share data from the edge to the cloud in areas such as monitoring high-value industrial assets, facilitating manufacturing automation, energy grid automation, and commercial fleet monitoring.

For example, Intel is working with Westfalen Weser Energie*, a large power and gas distribution grid operator, to develop and deploy gateways in its secondary energy substations. As more renewables come online, managing energy flows becomes more complicated and Westfalen Weser Energie is using intelligent gateways to interface with its legacy devices and acquire, analyze and act on data in real-time.

The first set of intelligent gateway solutions will feature versions based on the Intel Quark SoC X1000 and Intel Atom processor E3800 product family and will be available in the first quarter of 2014.

Unlocking Intelligence in Data from Device to the Datacenter

Intel is delivering a comprehensive portfolio of hardware and software products designed to unlock the data intelligence from the device through the network to the cloud to enable new business models and service offerings. By developing horizontal building blocks for vertical end-to-end analytics as well as distributed analytics for edge systems and datacenter, Intel is enabling companies to turn big data into actionable information.

Daikin Applied*, (formerly Daikin McQuay* and a wholly owned subsidiary of Daikin Industries, Ltd.) the world's largest air conditioning, heating, ventilating and refrigeration company, is using the Intel-based intelligent gateway solutions to deploy a complete end-to-end solution for commercial HVAC equipment. Intel is enabling Daikin Applied to connect its existing Rebel rooftop units and deliver data to the cloud that is then aggregated and analyzed. By using an integrated intelligent gateway solution, Daikin Applied is able to focus on rapidly deploying differentiated value-added services such as real-time HVAC unit performance, remote diagnostics, monitoring and control, advanced energy management, and third party content integration services to its customers.

The technology advancement enables Daikin Applied to harness large volumes of data and put that knowledge to work in moving the industry towards intelligent building systems that intuitively know what building occupants need in terms of efficiency, comfort and reliability. Using the Intel-based intelligent gateway solution, Daikin Applied will be able to help people better manage the performance of their buildings and make them aware of HVAC issues before they happen.

About Intel

Intel (NASDAQ: INTC) is a world leader in computing innovation. The company designs and builds the essential technologies that serve as the foundation for the world's computing devices. Additional information about Intel is available at newsroom.intel.com and blogs.intel.com.

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¹ McKinsey Global Institute, Disruptive technologies: Advances that will transform life, business, and the global economy, May 2013

² IMS Research

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Intel Corporation
Krystal Temple, 480-242-6943
krystal.temple@intel.com

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