Silicon Labs and ARM Collaborate to Drive the Future of Low-Power ARM mbed IoT Device Platforms

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Running mbed on EFM32® Devices Will Accelerate Deployment of Energy-Friendly Internet of Things Applications

AUSTIN, Texas--(BUSINESS WIRE)-- Silicon Labs (NASDAQ: SLAB), a leading provider of microcontroller, sensing and wireless connectivity solutions for the Internet of Things (IoT), today announced a collaboration with ARM to define and deliver the first power management application programming interfaces (API) for ARM® mbed ™ platforms. Adding power management APIs to mbed will bring energy efficiency to standards-based solutions optimized for ultra-low-power, battery-operated connected devices. The new APIs will enable the mbed community of more than 100,000 registered developers to optimize their mbed-enabled ARM Cortex®-M architecture-based designs for the utmost energy efficiency and longer battery life.

In addition to enabling developers to manage processor and peripheral states, the mbed power management APIs are designed with real-world, low-energy application scenarios in mind. A new feature exposed by the APIs on Silicon Labs' EFM32® Gecko microcontrollers (MCUs) automatically determines and enables the optimal sleep mode based on the MCU peripherals in use, which can dramatically reduce system-level energy consumption. Low-energy optimization is achieved by enabling I/O operations to be executed in the background and by allowing those operations to continue even while the MCU core is in sleep mode or during other processing tasks.

The automatic selection of the optimal sleep mode, combined with low-energy, autonomous MCU peripherals, enables developers to significantly reduce the energy consumption of their IoT applications with minimal effort. For example, energy profiles of an application updating a clock display every second on a memory LCD - a common use case for IoT devices - have shown a current consumption reduction from 1.03 mA to 0.100 mA.

"The new power management APIs for ARM mbed make it possible for developers to create applications that take advantage of the low-power features of ARM Cortex-M based microcontrollers," said Zach Shelby, vice president, IoT business marketing, ARM. "This is an important step toward enabling full energy-awareness in IoT devices, and it is one of the key building blocks for mbed OS that is due for public release later this year."

"As pioneers in low-energy processing solutions for the IoT, Silicon Labs and ARM have made enormous progress in defining and delivering the new power management APIs for mbed," said Daniel Cooley, vice president and general manager of Silicon Labs' MCU and wireless products. "We're excited to help deliver the industry's first low-power mbed platform, which will play a key role in accelerating the deployment of countless battery-powered IoT applications."

Availability

Silicon Labs plans to provide mbed-enabled EFM32 Gecko starter kits in April 2015. Silicon Labs' initial platforms supporting mbed will include the Wonder Gecko, Leopard Gecko, Giant Gecko and Zero Gecko starter kits. Developers with existing EFM32 kits will be able to mbed-enable their hardware through a simple software update. For more information about Silicon Labs' mbed platforms, please visit www.silabs.com/mbed.

Silicon Labs

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