

Adding Tickless Support to its embOS Real Time Operating System SEGGER Reduces Microcontroller Power Consumption

Battery lifetime can be significantly increased

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Increasing efficiency and reducing power consumption is key for modern embedded systems. To support these demanding needs SEGGER added tickless low power support to its popular embOS real time operating system. The embOS tickless low power feature reduces the power consumption for e.g. battery powered devices. It stops the periodic system tick interrupt during idle periods. Instead of having a timer interrupt for each system tick the timer is reprogrammed to be able to spend as much time as possible in low power mode.



One of the most common ways to reduce power consumption is to keep the processor in sleep (idle) mode for as long as possible. Typically an RTOS will wake the processor on a regular system tick - even if there is nothing to do. The embOS tickless low power support reduces power consumption by creating a variable length system tick which allows the processor to continue sleeping when there are no application tasks to execute.

Stopping the tick interrupt allows the microcontroller to remain in a deep power saving state until either an interrupt occurs, or the RTOS kernel has to transit a task into the ready state. This can make a huge difference in battery life.

Tickless support can be added to any embOS project and is available with the latest version of SEGGER embOS real time operating system. SEGGER provides application notes for tickless support for different CPUs.

More information about SEGGER's support for tickless operation can be found here: <http://segger.com/tickless-support.html>

More information about embOS is available at: <http://segger.com/embos.html>

About embOS

embOS is a high-performance real-time OS that has been optimized for minimum memory consumption in both RAM and ROM, as well as high speed and versatility. It supports fully nested interrupts for zero interrupt latency. embOS is a priority-controlled multi-tasking system, designed as an embedded operating system for real-time applications for all popular CPUs. It provides a migration path with identical APIs across all platforms.

embOS is available as full source code and comes with a simple licensing model without royalties. Full product specifications and a trial version are available at:

<http://www.segger.com/>

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About SEGGER

SEGGER Microcontroller develops and distributes hardware and software development tools as well as software components for embedded systems. An "embedded system" is one in which a microprocessor and associated components are incorporated into a device helping to accomplish difficult and complex tasks in products such as cell phones, medical instruments, instrument clusters, measurement instruments, satellite radios, digital cameras etc.



SEGGER was founded in 1997, is privately held, and is growing steadily. Based in Hilden with distributors in all continents and a local office in Massachusetts, SEGGER offers its full product range worldwide.

SEGGER software products include: embOS (RTOS), emWin (GUI), emFile (File System), emUSB (USB host and device stack) and embOS/IP (TCP/IP stack). With the experience in programming efficiently on embedded systems, SEGGER created highly integrated, cost-effective programming and development tools, such as the Flasher (stand-alone flash programmer) and the industry leading J-Link/J-Trace emulator.

SEGGER cuts software development time for embedded applications by offering affordable, high quality, flexible and easy-to-use tools and software components allowing developers to focus on their applications. Find out more at <http://www.segger.com>.

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