SEGGER's embOS-Ultra-MPU: the RTOS where safety and security meet Cycle-Resolution Timing

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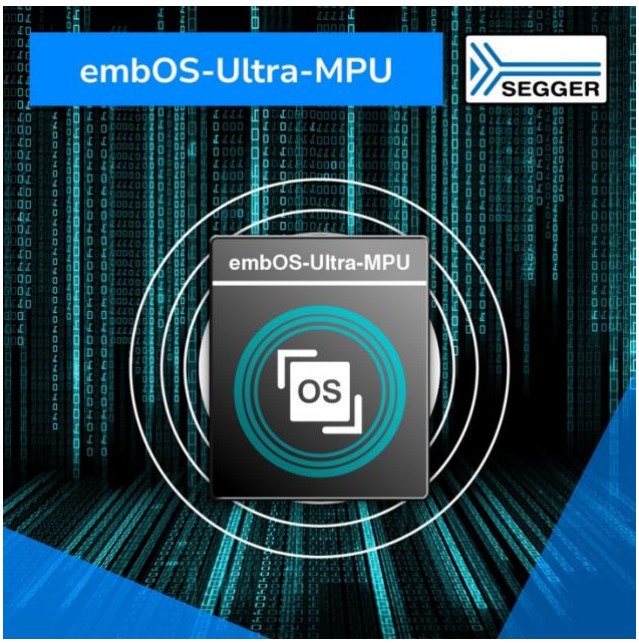
SEGGER announces the release of embOS-Ultra-MPU, the next-generation real-time operating system (RTOS) that builds on the proven foundations of embOS-Classic-MPU and embOS-Ultra.



It combines the precision and power-saving benefits of embOS-Ultra with enhanced memory protection, safety, and system reliability for embedded applications. With its Cycle-Resolution Timing, embOS-Ultra-MPU allows for precise control of timeouts in application programs, making it particularly well-suited for time-sensitive tasks in safety-critical systems.

embOS-Ultra-MPU uses a hardware-based memory protection unit (MPU) to isolate tasks, ensuring that they do not access unauthorized memory regions. This isolation prevents a fault in one task from affecting the entire system.

"embOS-Ultra-MPU is unique. It combines a proven API with zero-interrupt latency, Cycle-Resolution Timing, and robust memory protection," says Rolf Segger, founder of SEGGER. "In the event of faults or malicious activity, critical system components remain unaffected. This makes it the perfect choice for the medical, automotive, and industrial-control industries."

embOS-Ultra-MPU is fully compatible with any microcontroller that includes an MPU.

About embOS-Ultra

embOS-Ultra is a high-precision real-time operating system (RTOS) that uses Cycle-Resolution Timing to offer greater time accuracy and time resolution than any other RTOS on the market. Scheduling of all time-related events (including timeouts, delays, and periodic timing) can be specified in milliseconds, microseconds, nanoseconds, or timer cycles.

The RTOS allows time resolution to be precisely matched to individual CPU cycles via flexible system ticks. This cycle-based scheduling replaces traditional periodic system ticks with single-shot hardware timers, overcoming the limitations of tick-based scheduling with fixed tick intervals. This reduces unnecessary activity and helps extend battery life in low-power applications such as IoT devices and wearables, making it an efficient, energy-saving solution for embedded projects.

For more information, please visit the embOS-Ultra-MPU page at www.segger.com.

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About SEGGER

SEGGER Microcontroller GmbH, founded in 1992, has over three decades of experience in embedded systems, producing cutting-edge RTOS and software libraries, J-Link and J-Trace debug and trace probes, a line of Flasher in-system programmers, and software development tools.

SEGGER's all-in-one solution emPower OS provides an RTOS plus a complete spectrum of software libraries for, among other things, communication, security, data compression and storage, user-interface software, and more. emPower OS gives developers a head start, allowing them to benefit from decades of experience in the industry.

SEGGER's professional embedded-development software and tools are simple in design, optimized for embedded systems, and support the entire embedded-system development process with their affordability, high-quality, flexibility, and ease of use.

SEGGER, with headquarters in Monheim am Rhein, Germany, also has an office in Boston, Massachusetts, United States, and branch operations in Silicon Valley, California, United States; Shanghai, China; and the United Kingdom. With distributors on most continents, SEGGER's full product range is available worldwide.

For more information on SEGGER, please visit www.segger.com.

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