SEGGER licenses C++ runtime library to SiFive for code size and performance efficiency

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SEGGER, a leading supplier of RTOS and software libraries, debug and trace probes, in-system flash programmers, and software development tools, is proud to announce that SiFive, Inc., the founder and leader of RISC-V computing, has licensed SEGGER's cutting-edge emRun++ C++ library for RISC-V.

emRun++ is a complete C++ standard library specifically designed and optimized for GCC/LLVM-based toolchains and embedded systems. It is based on SEGGER's efficient emRun and emFloat runtime and floating-point libraries.

"After licensing and integrating SEGGER's emRun C runtime library for RISC-V into our Freedom Studio IDE and Freedom Tools packages in 2021, and experiencing its superior code size and performance compared to existing open-source alternatives, the next step was to consider C++ support. It was an easy decision to upgrade to emRun++ once it became available for licensing," said Sam Grove, Director of Product Management — Software at SiFive. "As a modern programming language, C++ has become increasingly important in the embedded sector, offering developers more and more options. It is essential for SiFive to be able to offer a state-of-the-art C++ library to our customers. emRun++ is perfectly suited for this purpose."

"SEGGER's emRun++ is a proven part of our multi-platform Embedded Studio IDE. The memory footprint and the performance are simply amazing," says Rolf Segger, founder of SEGGER. "SiFive customers have already been enjoying the benefits of the SEGGER emRun C library, and soon, C++ developers using SiFive tools will also benefit from emRun++."

emRun++ guarantees fast heap operations with a low instruction count, enabling even hard real-time applications to be written in C++. To support common embedded use cases even on resource-constrained targets, the C++ library is available in a "no-throw" configuration, avoiding overhead associated with exceptions.

Designed specifically for embedded systems, emRun++ provides interrupt-safe memory management, allowing use of C++ in Interrupt Service Routines.

emRun++ includes a complete C++17 Standard Library with standard algorithms (sorting, searching, transformations), generic container templates (such as sets,

vectors, lists, queues, stacks, maps), function objects, iterators, localization, strings and streams, and utility functions for everyday use cases.

For more information on emRun++, please visit:
https://www.segger.com/products/development-tools/emrunpp/

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About SEGGER

SEGGER Microcontroller GmbH has 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 including communication, security, data compression and storage, user interface software and more. Using emPower OS gives developers a head start, benefiting 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 through affordable, high-quality, flexible and easy-to-use tools.

The company was founded by Rolf Segger in 1992, is privately held, and is growing steadily. SEGGER also has a U.S. office in the Boston area and branch operations in Silicon Valley, Shanghai and the UK, plus distributors on most continents, making SEGGER’s full product range available worldwide.

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

Why SEGGER?

In short, SEGGER has a full set of tools for embedded systems, offers support through the entire development process, and has decades of experience as the Embedded Experts.

In addition, SEGGER software is not covered by an open-source or required-attribution license and can be integrated in any commercial or proprietary product, without the obligation to disclose the combined source.

Finally, SEGGER offers stability in an often volatile industry, making SEGGER a very reliable partner for long-term relationships.

For additional information please visit: www.segger.com

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