



Solid Sands partners with Rapita Systems

To solve the demand for C++ standard library coverage analysis

Amsterdam and York – 30 January 2023 – Solid Sands and Rapita Systems announce that the companies have entered into a strategic partnership to develop ways to improve code coverage analysis on parts of the C++ standard library code that are traditionally invisible to coverage analysis tools.

Due to a joint customer that required large-scale coverage analysis for the C++ standard library implementation, the companies were introduced. They now see possibilities to deepen their offering to the market of safety-critical applications.

“To the best of our knowledge, we were the first to attempt large-scale coverage analysis for the C++ standard library.” said Marcel Beemster, CTO of Solid Sands. “During this analysis, we found that significant parts of the C++ standard library implementation are implemented by code that is evaluated at compile time. This is an essential feature for C++, which aims to exchange run-time overhead for safety and speed of compile-time evaluation. However, this makes it hard to do code coverage analysis because such analysis is based on recording run-time execution effects.”

Solid Sands, the world-leading provider of testing and qualification technology for compilers and libraries, reached out to many companies that offer coverage analysis solutions and found that, at this time, only some are enthusiastic about tackling coverage analysis for compile-time executed code. Solid Sands believes this is a safety-critical feature.

Antoine Colin, CTO of Rapita Systems said, “As the safety-critical industry evolves to use more modern programming features, it is crucial that verification tools keep up with the pace and support these features. We are delighted to work with Solid Sands to achieve this aim by exploring how RapiCover can collect coverage of compile-time code to support the development of Solid Sands’ solutions and our customers’ verification needs.”

Rapita Systems is an international company that develops on-target embedded verification software solutions for customers in the avionics and automotive electronics industries. Their tool RapiCover is now used to jointly look for ways to perform large-scale coverage analysis for the complete C++ standard library.

For Solid Sands, this collaboration comes just in time as they are working on launching SuperGuard for C++ at the end of 2023.

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About Rapita Systems

Rapita Systems develops on-target embedded verification software solutions for customers in the avionics and automotive electronics industries. Our tools help to reduce the cost of measuring, optimizing and verifying the timing, performance, and test effectiveness of critical real-time embedded systems for both single and multicore systems. The Rapita Verification Suite (RVS) reduces the effort needed to verify critical embedded software for functional behavior (requirements-based testing), structural coverage, and timing behavior. In addition, Rapita's MACH¹⁷⁸ provides an end-to-end solution for providing certification evidence to satisfy DO-178C and CAST-32A/AMC 20-193 objectives for multicore systems.

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About Solid Sands

Founded in 2014, Solid Sands is the one-stop shop for C and C++ compiler and library testing, validation and safety services. Solid Sands offers extensive test and validation suites with a unique level of compiler and library test coverage, enabling customers to achieve the software tool quality level demanded by ISO standards. The company's name combines sand – the world's most abundant source of silicon – with the solidity and security expected of sector-leading testing and validation technologies. More information on the company's products and services is available at www.solidsands.nl. You can follow Solid Sands on [LinkedIn](#), [Twitter](#) and [YouTube](#).

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