TrustInSoft Analyzer Breaks New Ground in Software Validation on Emulated Target Hardware and Associated Memory Mapping

Enhanced feature emulates architecture with ultimate precision

PARIS and SAN FRANCISCO—11th December 2023 — TrustInSoft, the leader in exhaustive C/C++ software source code analysis, announced today that TrustInSoft Analyzer now includes memory mapping, in addition to its already highly accurate target hardware awareness.

Low-level software relies on mappings between program variables and chipset-specific memory regions. Memory mapping awareness is therefore of high importance when analyzing low-level code that accesses specific memory regions (like bootloaders or device drivers).

TrustInSoft Analyzer implements a unique feature that faithfully represents these memory mappings thanks to the new TIS Address variable attribute. Thanks to this accurate representation of physical memory access, TrustInSoft Analyzer can more precisely analyze the behavior of these programs.

Target architecture awareness enables TrustInSoft Analyzer to faithfully emulate hardware features such as endianness, integer and float sizes, and type alignment constraints of a targeted platform. TrustInSoft Analyzer supports 24 architectures for six processors including x86, PowerPC, ARM, SPARC, MIPS, and RISC-V, a range of out-of-the-box architectures and can be easily configured for others.

“TrustInSoft Analyzer’s unique feature set, which now includes TIS Address, differentiates it from any other testing software by allowing the user to accurately emulate architectures with total control over address and pointer formats.” said Fabrice Derepas, Founder and CEO of TrustInSoft. “What this means to C/C++ SW developers, embedded software developers, and product security experts is that TrustInSoft Analyzer enables them to verify low-level software like drivers, firmware, bootloaders, and operating systems that rely on specific hardware behaviors.”

TrustInSoft Analyzer is the most advanced industrial-scale sound code analyzer for proving absence of bugs and memory safety vulnerabilities in C/C++ code available on the market today. Thanks to its emulation abilities, TrustInSoft Analyzer offers several important benefits including:

- Testing effort optimization, by helping to test software against any target hardware early in the software module development cycle, reducing the number of test iterations on the final platform.
- Solving the constraints due to the unavailability of hardware platforms and enabling concurrent engineering

- Reducing the number of hardware platforms and emulators required for integration testing.

Derepas added, “The benefits of TrustInSoft Analyzer help to eliminate the bottleneck typically caused by limited access to a hardware platform and enables developers to clean their code much earlier in the process, resulting in significant cost reductions. Its unique target awareness capability enables software developers to accurately emulate and test their target, therefore eliminating the need to access and test the real targets.”

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About TrustInSoft:
TrustInSoft participates in the Application Security Testing market. TrustInSoft Analyzer is a hybrid static and dynamic code analyzer that automates Formal Methods to mathematically guarantee C/C++ code quality, security, and safety. For more information, visit https://www.trust-in-soft.com.

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