



PRESS RELEASE

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KRONO-SAFE enables safe and secure coexistence between ASTERIOS® and Linux - without any virtualization - on new generation ARM®-based multi-core processors.

KRONO-SAFE, an European supplier of software solutions for the design and real-time execution of smart, safe and secure embedded applications, announces today the support of its new “ASTERIOS® RTK with Guest-OS” software solution running on the ARM®-based multi-core processors leveraging the ARM® TrustZone® processor security technology.

Such development extends the ASTERIOS® product roadmap with the ability to coexist in a secure way on the same single- or multi-core platform with another Guest-OS, while keeping ASTERIOS®'s intrinsic determinism in running real-time critical applications.

Linux has been the first choice as Guest-OS since it provides the necessary POSIX-compliant API for an easy legacy code reuse, as well as it supports a large number of open communication protocols and graphics display solutions.

By combining “Secure World” (with security or safety constraints) with “Normal World” applications (less constrained by security or safety requirements), the ASTERIOS® RTK with Guest-OS solution will allow the Industrial IoT industry to design critical applications able to communicate on an open network without compromising the safety and the security.

ASTERIOS® is the unique market solution combining the benefit of an integrated development tool-chain with an exhaustive simulator, a new formal language, a time and space partitioned small footprint kernel with a time-triggered architecture model capable of deploying automatically the optimal deterministic scheduling policy for any given real-time application.

“The embedded market is in dire need of innovative solutions to develop safer, more secure smart systems in a time and cost effective way, especially when targeting multicore platforms” says Didier Roux, CEO of KRONO-SAFE.

“ASTERIOS® already offers outstanding real-time performances and productivity gains for the design and execution of complex embedded applications on multi-core processors. With the new “ASTERIOS® RTK with Guest-OS” solution, we challenge the limits of the present market technologies in offering to the industry a novel method

to combine safety-critical, deterministic software with open Linux software applications on a secure hardware platform.”

“Cohabitation of real-time critical functions, subject to certification, with other functions on the same hardware platform requires total confinement, via spatial and temporal partitioning, to ensure the critical system stays dependable under all circumstances. KRONO-SAFE provides a straightforward solution for implementing this confinement in mixed-criticality systems that is unique on the market”, says Maurice Pitel, Innovation Project Manager at Schneider Electric’s Corporate Research Center.

About KRONO-SAFE

KRONO-SAFE is a privately owned company founded in 2011 to commercialize software technologies originally developed with the French atomic energy commission (CEA).

KRONO-SAFE develops and markets ASTERIOS[®], a software tool-suite including an innovative real-time kernel (RTK) for safety-critical real-time embedded systems and providing an integrated development environment (IDE) to simulate exhaustively and integrate automatically the application on the single- or multi-core hardware target platform.

KRONO-SAFE serves markets in need for a safer and more efficient solution to develop complex real-time embedded applications. These extend to both well-established markets such as aerospace, defense, automotive, industrial automation, transportation, energy, medical and new markets springing up where safety and security converge like the Industrial Internet of Things.

With a forty-strong team of experts and a management staff of seasoned professionals, KRONO-SAFE is firmly focused on software development as a way of efficiently serving its customers. The company holds a portfolio of patents securing all its breakthrough solutions developed so far and is actively pursuing its innovation and patenting activities.

KRONO-SAFE is currently based in France and Germany, and has plans for expanding to Europe and the USA.

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