

New Hypervisor for real-time applications

OpenSynergy brings hypervisor to latest NXP microcontroller

Berlin, June 18, 2018. OpenSynergy, specialist in automotive hypervisor technology, is now realizing the first hypervisor for platforms based on upcoming Arm® Cortex®-R52 together with the largest supplier of automotive semiconductors NXP: OpenSynergy's COQOS Micro SDK brings hypervisor technology to the new NXP S32S microcontroller family. This joint solution enables the integration of multiple real-time operating systems requiring high levels of safety (up to ISO26262 ASIL-D). At the 22nd International Congress Automotive Electronics in Ludwigsburg OpenSynergy is going to present a first simulation from June 19 to 20 at booth no. 19.

“NXP is a leader in the development of the new generation of microcontroller that are based on hardware virtualization. They are the first to use Arm® Cortex®-R52 for multi-core ASIL-D computing,” emphasized OpenSynergy's CEO Stefaan Sonck Thiebaut. “OpenSynergy is already developing on the hypervisor technology for microcontrollers since two years. COQOS Micro SDK has been the industry's first software hypervisor for the Arm® Cortex®-R52 processor currently still simulated on the Arm Fast Model. Therefore we are glad to have found this strong partner now.”

COQOS Micro SDK has been developed specifically to integrate multiple real-time operating systems, such as AUTOSAR onto a single microcontroller using MPU only. It takes full advantage of the hardware capabilities provided by the NXP S32 microcontroller family including the memory protection.

The hypervisor, the key component of the COQOS Micro SDK, creates independent virtual machines (VMs), whose separation provides freedom from interference between the integrated systems. This means, software systems with different safety levels (up to ASIL-D) can be executed with non-critical software on the same hardware. In addition, multiple vendor-independent operating systems or stacks can run on a single microcontroller. Furthermore, the VM isolation allows to modify or update the systems independently.

COQOS Micro SKD is being developed according to ISO26262 as an ASIL-D Safety Element out of Context (SEooC).

“Due to the partnership with NXP, OpenSynergy made a large step forward in realizing a solution taking advantage of this innovative technology,” highlights Stefaan Sonck Thiebaut. “We will soon provide a solution that enables to reduce hardware for safety-critical functionalities. This enables customers to achieve fast time-to-market solutions in different domains.”

PRESS RELEASE

The development of COQOS Micro SDK has been supported by the project



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About OpenSynergy

OpenSynergy provides software products for the next generation of vehicles. Our hypervisor platforms and the product line for vehicle communication pave the way for an integrated driving experience. The company is a market leader in the automotive software industry, especially in the area of hypervisors and Bluetooth.

Our virtualization technologies enable customers to integrate numerous software systems with different requirements on a single hardware, for use cases, such as, Cockpit Controllers, Body Controllers, Smart Antenna, Telematics Units or Multi-Display Entertainment.

OpenSynergy's vehicle communication platforms ensure a reliable, high-quality connection between devices within the car or between the car and the outside world. First and foremost, this includes OpenSynergy's Bluetooth Stack Blue SDK, which is used worldwide a million times over. It enables numerous connectivity functionalities.

Read more on www.opensynergy.com

Contact:

OpenSynergy GmbH

Sabine Mutumba
Director of Marketing

Rotherstr. 20
D-10245 Berlin
Tel.: +49.(0)30.60 98 540-41
Email: marketing@opensynergy.com

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