



## **LDRA and OpenSynergy partnership promotes a defence-in-depth strategy for embedded automotive applications**

Secure coding techniques supported by the LDRA tool suite underpin the domain separation capabilities inherent in OpenSynergy's COQOS hypervisor technology

**Berlin, Wirral – June 15, 2021 – LDRA, the leading provider of automated software verification, source code analysis and test tools, and OpenSynergy, specialist in high-quality embedded automotive software, today announced their partnership to support and promote a defence-in-depth strategy combining hypervisor technology with secure coding techniques.**

Automotive connectivity is an ongoing concern with vulnerability to attack from bad actors being demonstrated in models from a range of manufacturers. The inexorable rise in popularity of electric vehicles can only add to that unease, because several features of the connected Electrical Vehicle are associated with the batteries and their charging systems with inherent safety implications.

Automotive applications developers are already familiar with the demands of functional safety standards including ISO 26262's defined development, validation, and verification processes, and with the capacity of the LDRA tool suite to help achieve those aims. The benefits of virtualization in the automotive sector are also well known, and class-leading COQOS hypervisors present an opportunity for development teams to realize reduced cost, reduced device size, weight and power (SWaP) improved CPU performance, and a convenient migration path for unmodified legacy applications.

But it is their capacity to provide a mechanism for domain separation that is critical to automotive cybersecurity. The need for inter-process communication (IPC) between those domains is inevitable, and a likely source of vulnerabilities. The role of secure application code is pivotal in that context, because the code handling the data processed by IPCs has a key role to play in defending a potential weakness in a virtualized architecture.

OpenSynergy focusses on the automotive virtual platform COQOS Hypervisor SDK based on VIRTIO technology. The hypervisor on this platform runs directly on the System-on-Chip (SoC) application cores and creates several virtual machines (VMs). Each VM is isolated from the others. This separation makes it possible to run functions with different real-time behavior and functional safety requirements simultaneously on a single SoC.

"The wisdom of a defence-in-depth strategy is unquestionable," said Matthias Stumpf, Vice President (VP) Sales OpenSynergy. "Defences against cyberattack are often envisaged as analogous to a medieval castle with moats, perimeter walls and armed soldiers all operating independently. But the combination of LDRA's secure coding and OpenSynergy's hypervisor technology goes beyond that analogy by combining defences that are mutually supportive, ensuring a level of security that they could not provide independently."

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“Automotive application software developers have a lot to contend with” added Ian Hennell, Operations Director, LDRA. “The demands of ISO 26262 are challenging enough, and the emergence of the connected car with its implications for cybersecurity only adds to those challenges. By providing a tool suite that allows security and functional safety objectives to be fulfilled concurrently and accommodates a focus on the secure coding of software associated with inter-process communications, we hope to help lighten the load”

Both the LDRA tool suite and the OpenSynergy hypervisors have been certified by SGS TÜV as suitable for development of safety-related software compliant with ISO 26262. In addition, the LDRA tool suite offers tool qualification support packs for the qualification of LDRA tools for high assurance applications requiring regulatory approval.

#### **Product Availability**

The OpenSynergy COQOS hypervisors are available now. Contact [sales@ldra.com](mailto:sales@ldra.com) or [sales@opensynergy.com](mailto:sales@opensynergy.com) for more information or download a free 30-day trial of the LDRA tool suite.

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#### **About LDRA**

For more than 40 years, LDRA has developed and driven the market for software that automates code analysis and software testing for safety-, mission-, security-, and business-critical markets. Working with clients to achieve early error identification and elimination, and full compliance with industry standards, LDRA traces requirements through static and dynamic analysis to unit testing and verification for a wide variety of hardware and software platforms. Boasting a worldwide presence, LDRA has headquarters in the United Kingdom, United States, Germany, and India coupled with an extensive distributor network. For more information on the LDRA tool suite, please visit [www.ldra.com](http://www.ldra.com).

#### **About OpenSynergy**

OpenSynergy provides embedded software products for the next generation of vehicles. Its hypervisor and communication products pave the way for an integrated driving experience.

The automotive virtual platform COQOS Hypervisor SDK integrates a mix of real-time applications and open source solutions on powerful domain controllers. It supports a large bundle of features corresponding to the virtualization standard VIRTIO, creating maximum flexibility: guest operating systems can be used and reused on different Systems on Chips.

The automotive leading Bluetooth® stack Blue SDK is one of OpenSynergy’s communications platforms. It is the reference Bluetooth® implementation for many OEMs around the world. The variant Blue SDK Fusion offers a reliable Automotive-Grade Bluetooth stack for Android™ Automotive OS.

OpenSynergy further provides complimentary Automotive-Grade software components tailored for the Android™ Open Source Project (AOSP) to boost Android’s adoption in the automotive domain.

OpenSynergy also provides engineering services to support the customization of its products.

Read more on [www.opensynergy.com](http://www.opensynergy.com)

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