

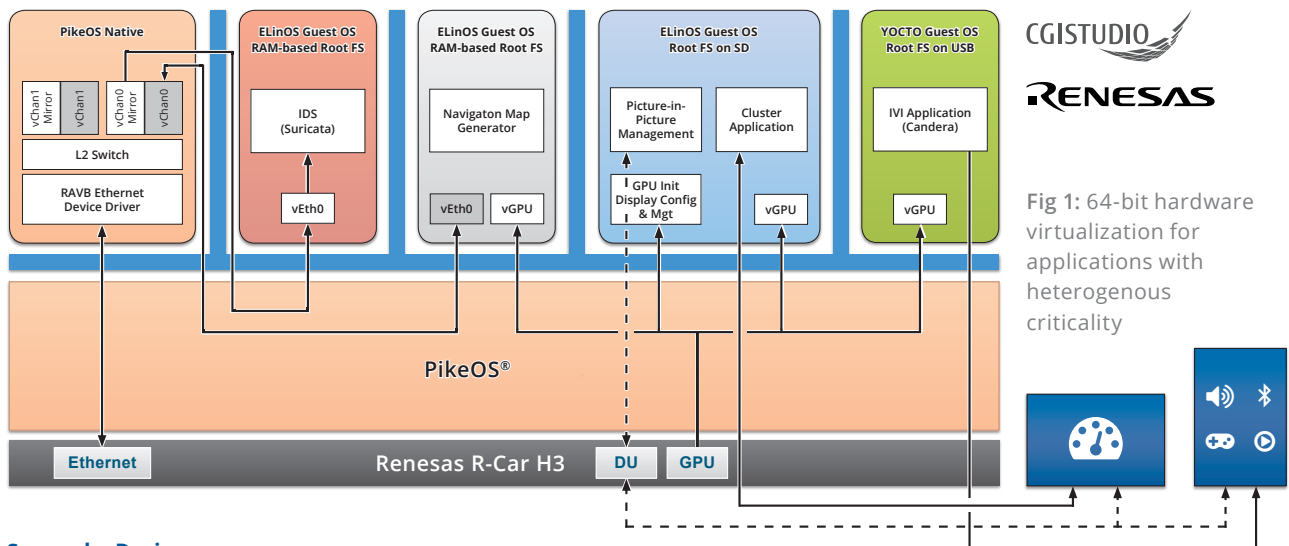


Safety & Security by Design with PikeOS®

Safe & Secure Infotainment

SYSGO is presenting its safe & secure hypervisor PikeOS, set up as a secure compute platform for digital cockpits, running on the Renesas R-Car H3 infotainment platform. PikeOS is configured with several partitions that each host a different type of application: An IVI application generated from Candeira CGI Studio and running in a YOCTO-based Linux environment; a cluster application based on Qt running on SYSGO's embedded Linux distribution ELinOS; an Intrusion Detection System (IDS) executed in a separate ELinOS partition; and finally, a PikeOS native partition for the low-level Ethernet communication support that requires hard real-time behaviour.

Three typical use cases are presented: First the consolidation of multiple domain applications of different criticality on the same HW platform; secondly, the live detection of cyber-attacks relying on an IDS module; and lastly, individual and independent restart of partition. In addition, SYSGO demonstrates GPU and display graphic sharing by using Renesas SoC's GPU HW virtualisation capabilities.



Secure by Design

- A system designed from the ground up to be secure
- Build on a layered security architecture

Real-time and Hardware Virtualization

- Multi-level safe and secure separation of applications on multi-core
- Domain isolation (IVI vs. Cluster vs. IDS)
- Graphics sharing
- Screen sharing with picture-in-picture

Data Security

- Integration of an Intrusion Detection System (IDS) module
- Live detection of cyber-attacks
- Demonstration of PikeOS layered security architecture
- Partition re-boot
- Demonstrate non-interferences between multiple complex applications

Safety & Security

- Ready for upcoming standards
- Certifiable up to ASIL-D (Functional Safety)
- Certified to Common Criteria EAL3+ (Security)
- Secure consolidation of functionalities of different levels of Safety & Security

About SYSGO: Founded in 1991, SYSGO became a trusted advisor for Embedded Operating Systems and is the European leader in hypervisor-based OS technology offering worldwide product life cycle support. We are well positioned to meet customer needs in all industries and offer tailor-made solutions with highest expectations in Safety & Security. More information at www.sysgo.com/automotive