SYSGO Partner Solution

Building up embedded Security

PikeOS and XGuard

Karamba's software products protect connected embedded devices throughout their lifecycles in Automotive, Energy and Industrial Control systems. One product offers a runtime integrity technology (called XGuard) pre-integrated in selected SYSGO OS products starting with SACoP. The software integrity is required in the UN ECE WP29 une 2020 regulation and thus a needed requirement.

SACoP stands for "Secure Automotive Connectivity Platform" and is a fully-integrated software framework on SYSGO's PikeOS RTOS and Hypervisor to administrate and exchange data securely thus encompassing the increasing challenge of connected cars.

Learn more: www.sysgo.com/sacop

SOFTWARE PLATFORM & SECURITY SOLUTIONS

PikeOS provides a modular system architecture integrating multiple applications on a single hardware platform. It provides both a full RTOS and a virtualization and partitioning system designed to support the special requirements of e.g. Automotive applications.

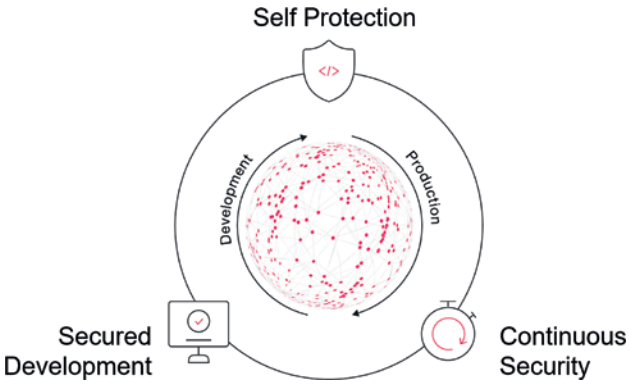
The core of the PikeOS platform is a small, certifiable micro-kernel, providing a virtualization infrastructure with the ability to house diverse resource and function needs into safe individual partitions. Because Automotive applications range from non-critical infotainment systems to highly critical control functions in the car, PikeOS accordingly provides a broad variety of guest OS: From POSIX® to Linux and Android to AUTOSAR or GENIVI.

Thanks to strict separation technology, applications of different Security levels, different criticality levels, real-time or non-real-time can run concurrently in a mixed critical environment on a single standard hardware platform.

Karamba Security's award-winning Security solutions automatically integrate into the system's software and continuously check the system's runtime integrity. When a deviation from the system's factory settings is detected, the system blocks it automatically; preventing zero-day cyberattacks with zero false positives and negligible performance impact.

CUSTOMER BENEFITS

- Control Flow Integrity deterministically detects illegitimate memory utilizations in runtime.
- It can block and report the events continuously via PikeOS logging mechanism
- It minimizes the security overhead via:
  - No false positive (only deterministic deviation from legitimate control flow)
  - No extra hardware
  - No need for lengthy and expansive investigation of detected anomaly
  - No need for constant updates
- Seamless integration into the build process of PikeOS
- Very low impact on embedded systems performance (<5%)



About Karamba Security - Karamba Security provides industry-leading, award winning, embedded cybersecurity solutions for connected systems. Karamba's software is designed and implemented to safeguard resource-constrained systems.

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.