ARILOU SECURE-BOOT

Secure-Boot for Automotive ECUs

THE CHALLENGE

Automotive electronics control units (ECUs) are computerized devices running software which controls a variety of different processes and features throughout the vehicle. Easily compromised by hackers, attacks on ECUs can have a severe impact on vehicle operation and safety.

- ECUs power and boot the operating system (OS) that controls application launch

- Tampering with or compromising the OS image or load process enables the execution of rogue software

- Common ECUs have basic ROM bootloaders, which are not capable of fully authenticating the firmware

THE SOLUTION

Arilou Secure-Boot safeguards the boot-chain, ensuring that only the original, authenticated, firmware is loaded.

Main Features

- Closes the gaps in the Chain-of-Trust

- Authenticate and boot any size and number of applications

- Flexible addressing. Supports versioning

- Essential enabler of OTA

- Works with new or existing ECUs

- Provisioning support

How It Works

- Provisioning mechanism prepares and manages the authentication key loading, configuration, etc., image downloaded into the ECU.

- Initial bootloader execution is secured by a hardware Root-of-Trust (RoT)

- The authenticated bootloader verifies, loads, and executes the operating system

- Reports unauthenticated components and, optionally, halts the boot process

ECU
ROM Micro Bootloader

RoT → Secrets

→ Authentication →

Arilou
Secure Boot

→ Authentication →

Firmware image:
Main Bootloader,
OS, Application

ABOUT ARILOU:

Arilou Automotive Cybersecurity, part of NNG Group, believes in an automotive future secured against cyber-attack. A leading provider of pioneering cybersecurity solutions for the automotive industry, Arilou was the first to introduce CAN (**Sentinel-CAN, Sentinel-TRK**) and automotive Ethernet (**Sentinel-ETH**) in-vehicle network security.

Winner of **Frost & Sullivan's** 2019 Technology Innovation award, and independently tested by **UMTRI**, with perfect results, Arilou's **Sentinel-CAN** software intrusion detection and prevention system and **Sentinel-PHY** electronic fingerprint authentication offer supreme detection and prevention rates with zero false alarms.

With its holistic approach and low-cost multi-layered solutions, **Arilou** is making full protection for vehicles a reality.

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