S32Z/E Vehicle Integration Platform (GreenVIP)
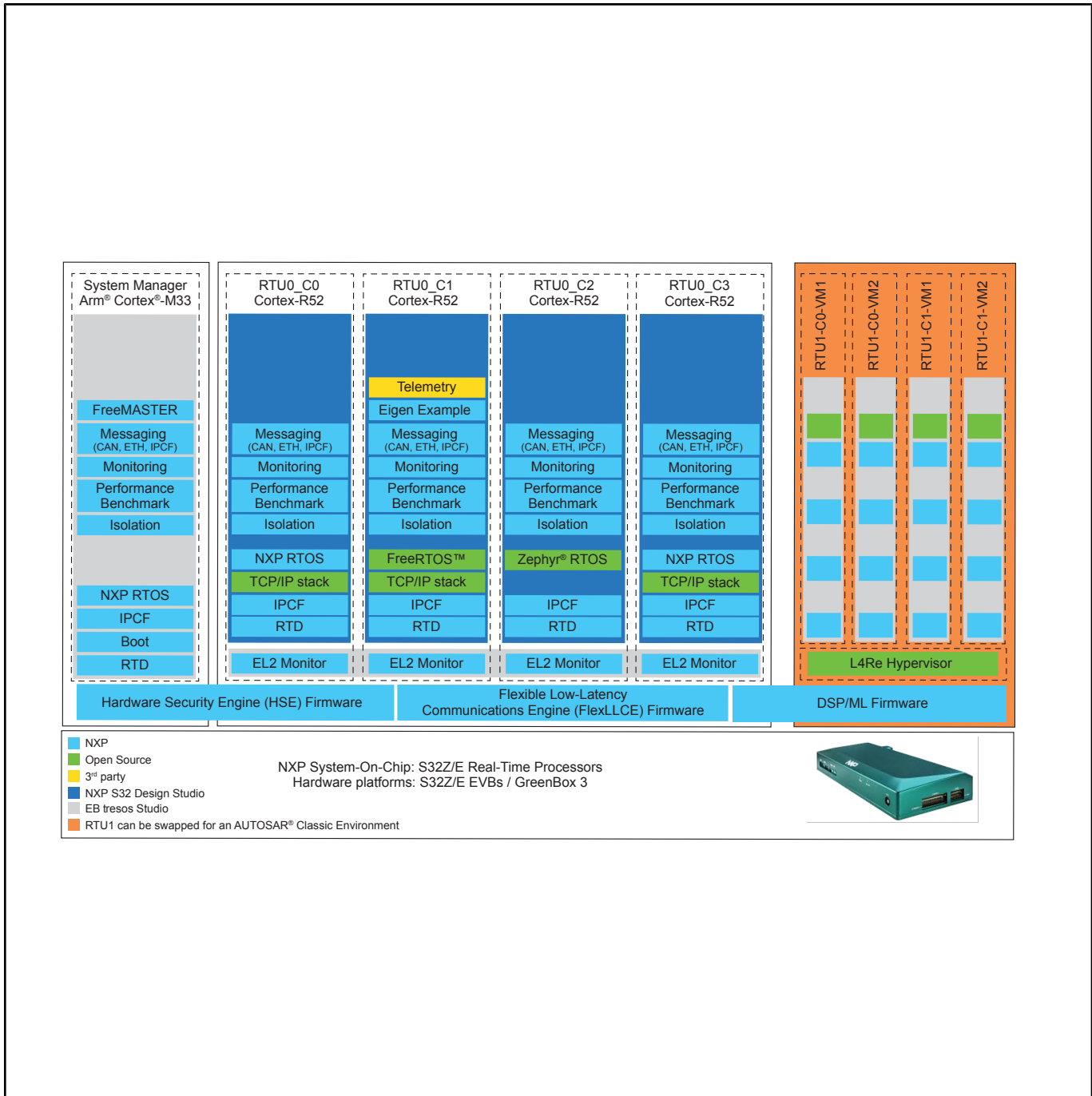
GREENVIP `NEW`

Last Updated: Oct 31, 2024

GreenVIP provides a reference vehicle integration platform that accelerates S32Z/E hardware evaluation, software development and rapid prototyping.

It integrates NXP standard and reference software, along with open source and third-party software to provide an evaluation, development and rapid prototyping platform.

The GreenVIP demonstrates S32Z/E's capability to execute multiple integrated electronic control unit applications (iECUs) in isolated partitions. It leverages the S32Z/E hardware-enforced access control IP to create true freedom-from-interference (FFI) for mixed-criticality applications. This is key for enabling flexible solutions that support different zonal and domain-based vehicle architectures.

S32Z/E Vehicle Integration Platform (GreenVIP) Block Diagram

System Manager Arm® Cortex®-M33	RTU0_C0 Cortex-R52	RTU0_C1 Cortex-R52	RTU0_C2 Cortex-R52	RTU0_C3 Cortex-R52	RTU1-C0-VM1	RTU1-C0-VM2	RTU1-C1-VM1	RTU1-C1-VM2

Telemetry
Eigen Example

FreeMASTER

Messaging (CAN, ETH, IPCF)
Monitoring
Performance Benchmark
Isolation

NXP RTOS
IPCF
Boot
RTD

EL2 Monitor

NXP RTOS
TCP/IP stack
IPCF
RTD

FreeRTOS™
TCP/IP stack
IPCF
RTD

Zephyr® RTOS
IPCF
RTD

NXP RTOS
TCP/IP stack
IPCF
RTD

L4Re Hypervisor

Hardware Security Engine (HSE) Firmware

Flexible Low-Latency Communications Engine (FlexLLCE) Firmware

DSP/ML Firmware

Legend:
- NXP
- Open Source
- 3rd party
- NXP S32 Design Studio
- EB tresos Studio
- RTU1 can be swapped for an AUTOSAR® Classic Environment

NXP System-On-Chip: S32Z/E Real-Time Processors
Hardware platforms: S32Z/E EVBs / GreenBox 3

View additional information for S32Z/E Vehicle Integration Platform (GreenVIP).

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