Full Support for ARTI Profiling on AUTOSAR CP Systems from Elektrobit, ETAS and Vector

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Starting with release R20-11, AUTOSAR includes the "AUTOSAR Run-Time Interface" (ARTI), which is intended for debugging and profiling applications and the OS of the AUTOSAR Classic Platform. The required operating system description is created in ARXML, designed as the successor of the "OSEK Run-Time Interface" (ORTI).

For profiling, ARTI has defined a new interface for tracking events based on instrumentation hooks. These hooks make details of OS events (task state changes, ISR2 state changes, spinlocks, OS calls, etc.) and RTE events (runnable started, runnable stopped) visible. The instrumentation allows the generation of compact trace information, that can be recorded/analyzed by TRACE32 and exported for further processing if required.

As of today, no commercial AUTOSAR stack vendor natively supports ARXML creation and the corresponding ARTI hooks, but Elektrobit, ETAS and Vector already offer proprietary trace solutions. The ARTI hook implementations for Lauterbach include adapters to these proprietary solutions. This means that TRACE32 users already have future-proof access to the full power of ARTI profiling and can thus analyze/monitor the timing behavior of their AUTOSAR system in detail.

Minimum software: TRACE32 Release R.2023.02.

Supported core architectures: Arm® Cortex®-M, AURIX™ TriCore™ TC2xx and 3xx, Qorivva, RH850, more to follow.

For more details refer to the TRACE32 manual app_autosar_cp_arti.pdf.