RXF
for AUTOSAR Classic Platform

DATASHEET

UML Based Software Development for AUTOSAR™ Classic Platform

Use SodiusWillert's condensed profile and Realtime eXecution Framework (RXF) to implement AUTOSAR Software Components (SWCs) with their runnable entities, ports and more.
Allow non-AUTOSAR experts to do software engineering for AUTOSAR.

EFFICIENT PRODUCTION CODE GENERATION FROM UML FOR THE AUTOSAR CLASSIC PLATFORM

The RXF for AUTOSAR Classic Platform is based on industry-proven code generation for software architecture, structure, and behavior, supporting cyclic and event-driven architectures. Generated code can easily be combined with generated RTE code from market-leading AUTOSAR tools. MATLAB® generated code can be integrated.

Coexist with AUTOSAR Tools and Legacy Code
Import ArXML from your AUTOSAR authoring tool and see all interfaces your Software Components (SWCs) have with the RTE in IBM® Engineering Rhapsody®. Start modeling SWC internal architecture, its behavior, and code generation. Use RTE generated code to interact with other SWCs and Basic Software. Send UML events from legacy C code into your model.

USE CASES

- **Manage Complexity:** software architecture and extensive state behavior are significantly easier to maintain in UML.
- **Reusability:** easily migrate your models between non-AUTOSAR and AUTOSAR environments.

EASY IMPLEMENTATION IN AUTOSAR FOR UML

Implement a fully AUTOSAR-compliant SWC using a minimal knowledge of AUTOSAR. Allow non-AUTOSAR experts to do software engineering for AUTOSAR. The automatic transformation of the AUTOSAR interfaces into the UML model requires no in-depth AUTOSAR specification knowledge from developers.

STANDARD UML IN THE AUTOSAR CLASSIC PLATFORM

Benefit from the usage of statecharts, timeouts, asynchronous events, and flowcharts in your software development. SWC internal architecture can be described using class diagrams, composite structure diagrams, sequence diagrams, and more. Use the SodiusWillert Embedded UML Target Debugger to give you real-time debug information in your UML model.

IMPROVE TRACEABILITY AND DOCUMENTATION

With the RXF for AUTOSAR Classic Platform, requirements can be linked to your model and automatically generated in the source code. Tests can be traced back to requirements to prove full coverage. Documentation is automatically generated from your model and is always in-sync with your latest changes.

PRODUCT FEATURES

Easily Adaptable

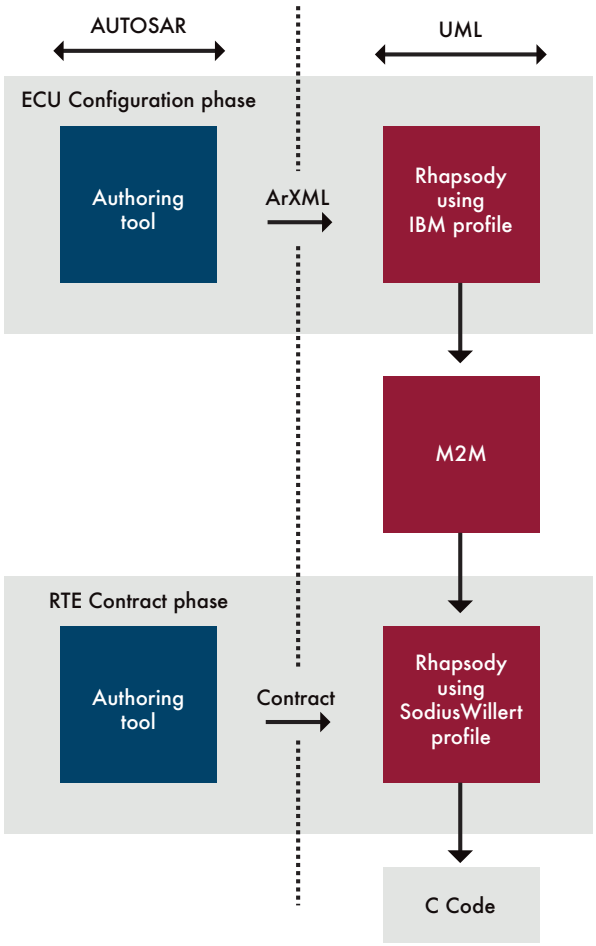
RXF for AUTOSAR Classic Platform has been used with Vector® vVirtualTarget®, configured with DaVinci®. The generated code has been simulated in CANoe®. The interfaces with AUTOSAR are standardized and can easily be adapted to your AUTOSAR environment. The product comes with examples that can be simulated using Windows™ and Visual Studio™ to test your logic.

Model-to-Model Transformation (M2M)

Use M2M to focus only on specific SWCs. Instead of viewing numerous RTE and BSW details, you can now use a minimalistic profile to implement your software from a software designer's point of view.

Solid Base

IBM® Engineering Rhapsody® in C has its big strength in production code generation and the use of UML for embedded systems. Its code generation is further improved by SodiusWillert, who also maintains the IBM AUTOSAR toolkit.



BENEFITS OF RXF AUTOSAR CLASSIC

Ease of use

The automatic transformation of the AUTOSAR interfaces into the UML model requires no in-depth AUTOSAR specification knowledge from developers.

Standard Compliance

Enables modeling in the AUTOSAR context based on standard UML / SysML.

Lower Complexity

Models are the basis for fulfilling and facilitating many ASPICE® requirements. They connect specification and implementation at the model level.

Integrate with Autosar Tools

Compatible AUTOSAR exchanges with Vector and other RTE environments. MATLAB generated code can be integrated.

Better Documentation

Simple documentation of the architecture at the model level. It enables automatic verification system, integration, and software module test at a model level based in TestConductor.

About SodiusWillert

SodiusWillert designs and distributes software solutions for Enterprise Interoperability, Data Transformation, and Model-Based Code Generation to improve traceability, exchange, and sharing of engineering data for the Aerospace, Automotive, Transportation, Defense and Medical industries. For more information, visit sodiuswillert.com.

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