

Embedded UML Studio™ Based on Rhapsody®

WILLERT.
pioneers in embedded software engineering

UML Tool

Features

UML 2.0 and SysML support

MDD (Model Driven Development)

Code generation even for small target systems

Code generation for a variety of target platforms

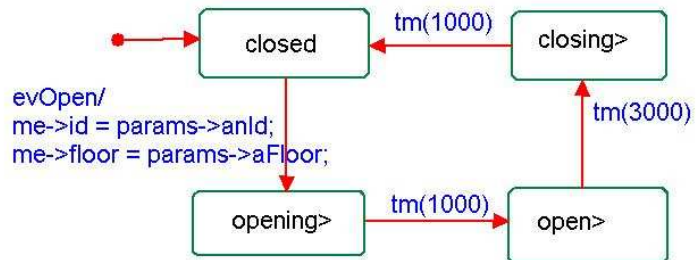
C167 - TriCore - ARM - M16C - BlackFin - MC16 Coldfire - ATmega - 8051 ...

Interfaces to standard configuration management tools

Based on the technology of the market-leading UML tool Rhapsody® from Telelogic

Model - code association

Highly optimised for the application in systems with limited resources on the basis of the EmbeddedUML RXF™



A Picture is Worth a Thousand Words

Embedded UML Studio™ provides the basis for mastering the key challenges of embedded software engineering.

- Improved understandability based on graphical representation of the software design
- Encapsulation as a prerequisite for efficient reuse, test and teamwork
- Structured procedures for software engineering, requirements engineering, documentation, design and implementation of embedded software
- Platform independent software design based on the use of the UML notation in connection with an Object Execution Framework.

Embedded UML Studio™ is a highly integrated development environment for the modeling of software based on the graphical notations UML and SysML. It is based on the expertise in CASE tools and

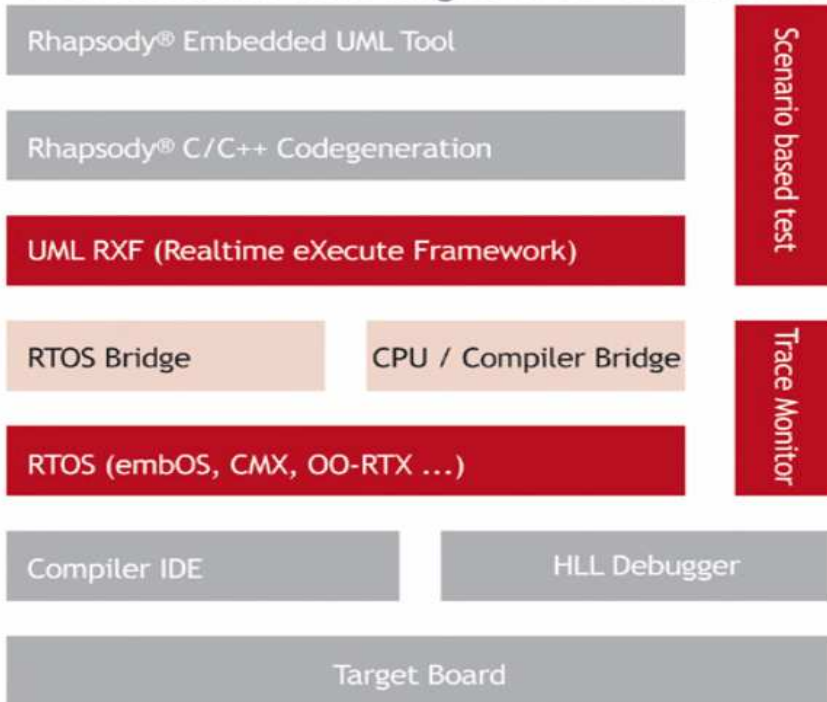
code generation for embedded systems by company Telelogic and on the experience of Willert Software Tools in software engineering for applications with limited resources. Embedded UML Studio™ integrates the following tools:

- Rhapsody® from Telelogic (special WST edition)
- Embedded UML RXF™ (Realtime eXecution Framework) from Willert Software Tools

With this combination, we have created a unique UML solution that facilitates the use of UML for even the smallest applications (down to 8 bit microcontrollers). It is one of the few UML/SysML solutions that support code generation with adaptation for different target platforms.

Embedded UML Studio™ is suitable for consistent use across the V-model, for systems engineering, requirements engineering, software design, implementation and test of embedded systems.

UML solutions with Target Code Generation



Embedded UML Studio™ is a UML based development environment that facilitates adaptations for basic ANSI-C code generation tools for specific microcontrollers. The modeling notation UML comprises modeling constructs that go far beyond ANSI-C syntax elements. For the code generator to represent these constructs in ANSI-C, information and code patterns are required, for example, for programming a timer on the CPU.

The timer again depend on the CPU, compiler or RTOS used. The code generator is therefore based on a framework. Embedded UML Studio integrates a framework specially designed for embedded target platforms: Embedded UML RXF (Realtime eXecution Framework). This framework contains code segments that are target platform- specific and encapsulated in modules.

Thus, the adaptation of code generation to a specific target platform takes only a few days. For many target platforms, proven adaptations are already available which are already used by our customers. These adaptations also include, for example, elements for the integration of interrupt service routines or memory mapping so as to locate memory at specific addresses. These special features of Embedded UML RXF™ provide for the efficient use of UML for embedded platforms with typical requirements on real-time or safety (dogwatch timer, error handler...).

Your local contact:

WILLERT SOFTWARE TOOLS GMBH

Tel. +49 5722 9678 60 - FAX: +49 5722 9678 80
Email: info@willert.de - www.willert.de
Hannoversche Str. 21 - 31675 Bückeburg

Profile:

- 12 month warranty
- Delivery of RXF including source code.
- No royalties for RXF

The following is required for successfully using the product:

- Experience in using 'C' for embedded systems (proficient use of compiler/linker)
- Suitable knowledge of the target platform ('C' start-up configuration, memory mapping, ...)
- Knowledge of the OO architectural design
- Knowledge of UML 2.0 for practical application and for use in embedded systems. Participation in our 'Embedded UML Start Up Training' is recommended to get started.

Restrictions of Embedded UML Studio™ compared to the Rhapsody® in C Developer Edition:

- no gateway support
- no MATLAB interface

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Depending on the RTOS or compiler, some of the technical restrictions of the basic tools may affect the use of UML, for example:

- UML based target animation / tracing
- support of ports
- active classes
- Compiler error backtracing into the model

Supported tools from our partner companies feature the following logo:



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