Rational. software

Telelogic Rhapsody

Enhance your productivity using Telelogic Rhapsody Developer Multi-Language

Managing shrinking design cycles and design complexity, combined with juggling a limited number of resources, increased quality demands and multi-site development teams, makes for a challenging design environment. Languages such as C and C++ replaced assembler years ago as the preferred languages for embedded programming, resulting in a huge increase in productivity. Today, Telelogic® Rhapsody Developer Multi-Language™ offers users similar productivity enhancements, with new features that help optimize your communications and flexibility, leveraging model-driven development (MDD) to improve your development process.

BENEFITS

- ***Improve flexibility, communication and collaboration using models***
- ***Help eliminate defects early and increase quality with design simulation***
- ***Reduce development times through automatic C, C++, Java and documentation generation***
- ***Help increase savings and boost productivity with legacy code, systems and model reuse***
- ***Help ensure the design meets the requirements***
- ***Enhance software asset reuse***

FEATURES

- ***Eclipse platform integration provides integrated modeling and debugging software development environment***
- ***UML 2.1 and Graphical C design modeling environment with Domain Specific Language (DSL) support including Telelogic Rhapsody DoDAF*, MODAF* and AUTOSAR****
- ***Model verification with model simulation and execution***
- ***Comprehensive application generation of C, C++, and Java in an integrated design environment***
- ***Requirements modeling and traceability features***
- ***Reuse and visualize your existing code into the modeling environment***
- ***Dynamic Model/Code Associativity (DMCA) enables design to be done with code or diagrams, supporting maximum flexibility and synchronization***
- ***Customizable* documentation generation***

Overview

The Telelogic Rhapsody Developer Multi-Language solution is an extendible MDD environment designed for developing embedded or near-real-time applications based on Unified Modeling Language (UML) or Systems Modeling Language (SysML).

Telelogic Rhapsody® provides key technologies for code visualization, model-driven testing, team collaboration, requirements capture and traceability, and automated documentation. Rhapsody Developer Multi-Language generates complete C, C++ and Java™ applications, including the architectural and behavioral views. Rhapsody synchronizes changes to the code and the model, enabling a more flexible workflow, so you can work the way you want for better productivity.

The Telelogic Rhapsody for Eclipse Interface™ integrates MDD within Eclipse, enabling development within a single integrated modeling and coding environment. Leverage graphical abstraction, design-level debugging, automated documentation creation and Eclipse code-editing capabilities within a single environment. Rhapsody helps increase productivity by generating production code and promotes early design validation to improve quality.

Key modeling and requirements traceability capabilities

- *Integrated modeling environment within Eclipse*
- *UML, Graphical C and SysML visual modeling support*
- *DSL support using profiles for enhanced communication and design organization*
- *Visualize existing code with automatic diagram creation*
- *Integrate external code with modeling environment*
- *Static model checking for completeness and consistency*
- *XMI import/export and Rose Import* (with additional add-on pack)*
- *Work in a functional, object-based or object-oriented paradigm*
- *Integrated requirements modeling to help ensure the design meets the requirements*

Key application generation capabilities

- *Complete C, C++, and Java code generation, including behavioral diagrams, helps reduce time to market*
- *DMCA enables you to work at either code or model level*
- *Eclipse for flexible modeling or coding environment*
- *Automatically visualize external code without modifying it for integration into the model*
- *Reverse-engineer existing code into your model for easier updates*
- *Automated build of multiple components at the same time*
- *Customize the generated C code using the Telelogic Rhapsody in C Developer Code Generation RulesPlayer Add On™ and the Telelogic Rhapsody in C Developer Code Generation RulesEditor Add On™*

Key collaboration capabilities

- *Design collaboration allows various-size teams to work together more effectively*
- *Base-aware graphical differencing and merging*
- *Automatic merging of design components*
- *Customizable* documentation generation*
- *Organize information in tables and matrices for better communication*
- *Multiple model environment with cross referencing*
- *Command-line code generation for integration into the build process*
- *Configuration management capabilities* with enhanced integration with IBM Rational® ClearCase® (with additional add-on pack)*

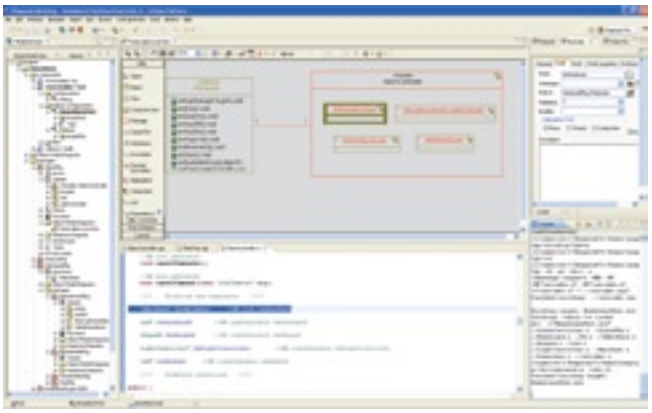

Figure 1. Rhapsody Developer enables you to develop software at the model or code level, while keeping both in-sync, allowing you to be more productive.

Key testability capabilities

- *Model-driven testing automates mundane testing tasks and helps enable errors to be found and eliminated early in the development process*
- *Simulating the model on the host helps reduce dependency on target availability*
- *Execute the application on the target and animate the model on the host*
- *Requirements-based testing (with Telelogic Rhapsody TestConductor™)*
- *Model-driven automated test generation (with Telelogic Statemate Automatic Test Generation™)*
- *Collaborative debugging (with additional add-on pack)*

IDE and target operating system adapters

The Rhapsody Multi-Language Pack offers integrations with industry-leading integrated development environment (IDE) and realtime operating systems (RTOS) solutions. You can select from Eclipse C/C++ development tools and Java development tools, as well as third-party IDEs, to leverage the best tools for the job. In addition, you are able to work with the leading RTOS solutions available. Rhapsody can be customized to work in your RTOS of choice as well.

For the most up-to-date list of target operating system adaptors with specific version information, please refer to the release notes for the specific Rhapsody version you are using. Additional adaptors can be created by IBM or obtained by contacting support.

Rhapsody Developer add ons

*(Capabilities previously marked with * are provided by these optional add ons)*

Rhapsody Developer may be customized with additional functionality. There are a number of value add-ons:

- *Interfaces Pack: includes the Simulink integration, Configuration Management (CM) interface for collaborative development with most CM tools, Rose Importer, Telelogic SDL Suite™ integration, Telelogic Statemate®, Telelogic System Architect® Interface and XMI support*
- *Tools and Utilities Pack: includes Telelogic Rhapsody ReporterPLUS™, a highly customizable template-based documentation utility, graphical panels for rapid prototyping and debugging with interface mockups and Telelogic Rhapsody Webify Toolkit™, a rapid prototyper/model stimulator that can be built into your application*
- *Telelogic Rhapsody Gateway Add On™: includes advanced interface to popular requirements management tools (Telelogic DOORS®, IBM Rational RequisitePro® and more) and popular requirements authoring tools*
- *TestConductor: improve test productivity and early detection of defects; automate tedious testing tasks; define tests with code and graphically with sequence diagrams, statecharts, activity diagrams and flowcharts; and execute the tests interactively or in batch mode*
- *Statemate Automatic Test Generation: includes automatic test generation for the Rhapsody model to facilitate the highest-possible coverage*
- *Telelogic Rhapsody for DoDAF Add On™ and Rhapsody for MODAF Add On™: support to allow Rhapsody to create DoDAF and MODAF product artifacts*
- *Telelogic Rhapsody for AUTOSAR Add On™: capture AUTOSAR system models using AUTOSAR terminology and import/export AUTOSAR XML*
- *Telelogic Rhapsody Net Centric Systems Add On™: provides "SOA approach" for development of net-centric operations with generation and import of WSDL*

For details, see the appropriate data sheet and the release notes for the add-on you are interested in. For specially priced value packages, contact your salesperson.

For more information

To learn more, please visit:

www.telelogic.com

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