IBM Rational Rhapsody Tools and Utilities Add On

**Highlights**

- **Provides requirements traceability, coverage and impact analysis throughout the project lifecycle**
- **Saves time and improves accuracy by automating system and software documentation**
- **Demonstrates design behavior with prototypes earlier in the lifecycle to minimize costly changes later**
- **Eases understanding of complex SOA systems by visualizing various parts of the system**
- **Simulates architecture and control in a single environment to provide a comprehensive view of the full product design**
- **Enables data exchange with existing XML-compliant systems**

With smarter products raising the bar for software and systems developers, development environments need to be more robust, collaborative and integrated than ever. To enhance your capabilities, IBM Rational Rhapsody® Tools and Utilities Add On software enhances your existing IBM Rational Rhapsody environments for real-time or embedded systems engineering, software development and testing. Using this add-on, you can increase collaboration, help support conformance to requirements, automate document generation and prototype systems as they are built. These capabilities and more help you accelerate the development of quality deliverables.

**Manage, trace and report on requirements**

The IBM Rational Rhapsody Tools and Utilities Add On tool helps you meet demanding design requirements with its Gateway feature, which provides bidirectional information exchange with third-party requirements and authoring products, including IBM Rational DOORS® and IBM Rational RequisitePro® software. Its open architecture supports multiple workflows and helps you organize complex requirements scenarios.

You can organize complex requirements from several sources into a single requirements management environment and trace from requirements to model elements. You can automatically collate these scenarios into detailed impact reports and requirements traceability matrices for readily understandable traceability analysis. The Gateway feature provides comprehensive compatibility with Systems Modeling Language (SysML), Unified Modeling Language (UML) and Department of Defense Architecture Framework (DoDAF). It makes it possible to quickly create traceability links using dependency relationships and then analyze them.
Meet governance and compliance standards
Accommodate your existing workflows while addressing compliance and governance requirements with the Rational Rhapsody Tools and Utilities Add On traceability capabilities. You can import requirements from requirements management or authoring solutions and quickly link them to elements stored within the Rational Rhapsody model. The Gateway feature helps ensure that model elements and requirements are up to date and synchronized throughout the development lifecycle. It also provides traceability across multiple Rational Rhapsody models, as well as test designs and final code delivery.

The Gateway feature of Rational Rhapsody Tools and Utilities Add On software is particularly valuable for programmers, developers and systems architects involved in engineering projects that need specific requirements traceability reports. It helps organizations meet the demanding compliance and safety regulations of standards-driven industries, such as medical device or aerospace.

Customize documentation generation
Rational Rhapsody Tools and Utilities Add On software features the ReporterPLUS tool, which is designed to simplify the delivery and maintenance of design documentation over the project lifecycle. Whether you need a formal report or a design review, the ReporterPLUS feature generates documentation in HTML, Rich Text Format (RTF), plain text, Microsoft® PowerPoint or Microsoft Word formats—directly from the design—that you can easily update and regenerate each time the design changes.

When using the add-on in conjunction with the Rational Rhapsody development environment, it facilitates synchronization among the design, documentation and code. And because you can produce the documentation in HTML, you can easily publish reports on the Web and make them available to end users with the push of a button.

Simulate systems with graphical panels
Rational Rhapsody Tools and Utilities Add On software provides graphical panels that help you to easily simulate models by creating a mock-up or prototype of the design so you can validate its behavior. This feature offers an excellent way to communicate design behavior to your customer or management and helps ensure that you are delivering the desired behavior. You can create a diagram with knobs, buttons, meters, text boxes, sliders and other items and bind them to model elements to control or monitor the design. Rational Rhapsody simulation and design-level debugging with animation helps you demonstrate the design and easily create a custom debugging interface to find defects earlier in the lifecycle.
This capability is available for IBM Rational Rhapsody Developer for C++, C, and Java™ and IBM Rational Rhapsody Designer for Systems Engineers software.

Visualize your model before investing time and effort
You can create a prototype that conveys concepts and visualizes customer-driven ideas with the Rational Rhapsody Tools and Utilities Add On “webify toolkit.” This feature can automatically generate a panel for you to use at virtually any point in the lifecycle to simulate the model and to evaluate its execution. You can generate the model’s infrastructure with the click of a button and enhance the panel itself to create a realistic display, resulting in a powerful rapid prototyping environment.

This capability is available for Rational Rhapsody Developer for C++, C, and Java and Rational Rhapsody Designer for Systems Engineers software.

Combine your embedded and control systems design
The Rational Rhapsody Tools and Utilities Add On Simulink interface enables you to integrate The MathWorks Simulink models into the Rational Rhapsody environment—and vice versa—creating a single solution for embedded and control systems design. To create a true hybrid modeling, execution and code-generation environment, the integration enables you to include control algorithms and plant models developed in the Simulink environment in a Rational Rhapsody design. Or you can generate code from a Rational Rhapsody in C design and plug it into a Simulink model using a Simulink S-function in a platform-independent manner.

This capability is available for IBM Rational Rhapsody Designer for Systems Engineers software and the C++ and C environments of Rational Rhapsody Developer for C++, C, and Java software.

Develop robust SOA applications
The net-centric systems feature of Rational Rhapsody Tools and Utilities Add On software provides a special domain-specific profile, which allows systems and software engineers to clearly describe parts of the net-centric system as Web services for a service-oriented architecture (SOA) design approach. The profile includes the type definitions and stereotypes needed to fully describe Web services that can support net-centric system development. Moreover, using a Rational Rhapsody model, you can quickly generate Web service definition language (WSDL) specification files and further refine them for implementation. You can also import WSDL specification files directly into the model.

You can find problems early in the net-centric system design process and apply static model checking and simulation to your design when you use the net-centric systems feature with Rational Rhapsody Developer for C++, C, and Java software.
Exchange and reuse model information
To facilitate communication with other model-based development tools, the Rational Rhapsody Tools and Utilities Add On XML model interchange (XMI) interface provides a common language for specifying, visualizing, constructing and documenting models. The XMI toolkit provides improved XML support with OMG Model Interchange Working Group (MIWG) Test Case 2 compliance and National Institute of Standards and Technology (NIST) compliance for SysML interchange.

Create a tightly integrated MDD and PLM environment
The Rational Rhapsody Tools and Utilities Add On software enables you to integrate your Rational Rhapsody environment with Siemens Teamcenter product lifecycle management (PLM) software. This integration helps to bridge the gap between systems and software by enabling users to interactively exchange information between the Rational Rhapsody and Siemens Teamcenter solutions.

Rational Rhapsody systems and software models can be managed as a part of the Siemens Teamcenter data management environment. By incorporating models into the complex systems architecture, product teams are able to understand how the software, electronics and mechanical systems work together. With the Rational Rhapsody and Siemens Teamcenter integration, Rational Rhapsody software supports systems and software development functions, including designing, developing, testing, collaborating and implementing high-quality code in a model-driven development (MDD) environment that supports multiple domain-specific modeling languages.

For more information
To learn more about IBM Rational Rhapsody Tools and Utilities Add On software, contact your IBM representative or IBM Business Partner, or visit: ibm.com/software/awdtools/rhapsody

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