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MODELBUS® ADAPTER: IBM RHAPSODY

Contact

Dr. Tom Ritter
Director
System Quality Center – SQC
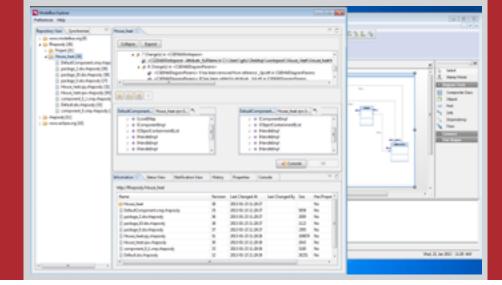Phone +49 30 3463-7278
tom.ritter@fokus.fraunhofer.de

Fraunhofer FOKUS
Kaiserin-Augusta-Allee 31
10589 Berlin
Germany

www.fokus.fraunhofer.de/en/sqc
www.modelbus.org

Software development becomes more and more complex and has to meet increasing demands for time to market, saving of resources and product quality. The number of tools which are used for development comprise traditional well known vendor tools, open source tools as well as customized and in-house tools. Each tool serves a particular purpose and may be highly specialized for accomplishing certain tasks.

The important challenge in such complex development environments is the exchange of data between the individual tools. An easy exchange of data also minimizes the vendor-lock in effect. Thus, companies can easily switch between different tools with different strengths and capabilities. The automation of small and repetitive tasks within a development process is another challenge. These tasks, e.g. the automatic execution of quality checks or the documentation of changes performed, are important for the efficient creation of high quality products.

ModelBus® – Tool Integration and Automation

With ModelBus®, Fraunhofer FOKUS offers a model-driven tool integration framework which supports the integration of heterogeneous development and engineering tools as well as the automation of error-prone and tedious tasks. The engineer's activities automatically trigger subsequent actions, like model transformation, code generation and quality checks, so the exchange of data in distributed teams with their respective tools is ensured. That way, ModelBus® can substantially increase the productivity of creating complex software-based systems.

Rhapsody with ModelBus® Adapter

Each tool is connected to ModelBus® via a specific ModelBus® Adapters and can optionally act as a service by providing its functionality to other tools. An adapter typically bridges between a tool's internal representation of data and a tool's external format, which is then the basis for further processing within the development process. ModelBus® Adapters utilize the capabilities of the respective tools for a seamless integration into the tool workflow and for an unconstraint user experience.

ModelBus® Adapter for IBM Rational Rhapsody

Systems engineering typically involves a high number of specialized tools ranging from quality control to safety design. Furthermore, participating engineers are located in different organizational units or companies. To overcome these interoperability issues, languages like UML and SysML were built. However, in reality exchanging models with team members often is a major problem. The ModelBus® Adapter for IBM Rational Rhapsody overcomes this challenge as it allows you sharing UML and SysML models – based on the ModelBus® infrastructure - with other team members who might be working with other tools. The adapter is capable of exchanging models.

By using the ModelBus® infrastructure the engineers can benefit from a rich set of functionality, including traceability, consistency checks, model transformation and document generation. On the other hand the Model-Bus® Adapter for IBM Rational Rhapsody enables you to seamlessly add the specific features provided by Rhapsody (e.g. simulation of UML models, generation of code) in any existing development process.

Application and Benefits

The ModelBus® Adapter for IBM Rational Rhapsody integrates the system engineer's work, experience, and knowledge into a model-driven development environment. The adapter helps you benefit from functionalities offered by Rhapsody at various locations in the development process, even if a different tool regime is already in place. Seamless exchange of Rhapsody models with other tools used for different jobs increases the productivity of the development teams. In this way IBM Rational Rhapsody can easily complement other UML/SysML tools including open source tools. The ModelBus® Adapter for IBM Rational Rhapsody is perfectly integrated into the tools' user interfaces and provides a fast import and export of models including diagram information. On top, developers benefit from the rich set of functionality offered by ModelBus®.

Features

– Complete model import and export
– Integrated diff/merge
– Preserving diagram information

Selection of Available Adapters

Tools:

– Eclipse: Topcased, Papyrus etc.
– IBM: DOORS, RSA Rhapsody
– Sparx Enterprise Architect
– Matlab: Simulink
– Microsoft: Office, Visio
– TRAC

Services:

– Transformation: ATL, QVT etc.
– Verification: OCL, Metrino etc.
– Testing: FOKUS!MBT etc.
– Code and document generation: MOF-script, M2T etc.
– Traceability: Traceino

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