IBM

Rational. software

IBM Rational Software Modeler

Highlights

■ **Architectural modeling & specification**

– *Supports the major UML 2 diagrams*

– *Supports patterns and transformations for automating refinement of models and transition between analysis, design, and implementation*

– *Supports OCL for specifying architectural constraints*

■ **Ease of adoption and use**

– *Simplified and responsive user interface*

– *Browse and explore models or code using diagrams*

– *Automatic & assisted diagram generation*

■ **Open & extensible modeling platform**

– *Powered by Eclipse technology, an open and extensible tools integration platform*

– *Based on the open standard Unified Modeling Language (UML 2)*

– *Leverages Eclipse open source APIs, including the Eclipse Modeling Framework (EMF) and the UML 2 meta-model*

– *Supports the development of custom meta-models*

■ **Lifecycle and team integration**

– *Integrates with IBM Rational RequisitePro, IBM Rational ClearCase LT, and IBM Rational ClearQuest*

– *Includes an IBM Rational Unified Process configuration for Software Architects*

– *Supports CVS for software configuration management*

– *Automates traceability from requirements to design and implementation*

Architects, system analysts, and designers are responsible for specifying and maintaining various views of a system under development. IBM® Rational® Software Modeler is a visual modeling and design tool that enables users to clearly document and communicate these varying views on a system.

Rational Software Modeler supports the Unified Modeling Language (UML), the industry's standard modeling language, offering all stakeholders the greatest familiarity in modeling notation. Rational Software Modeler is built on top of the open and extensible Eclipse platform and leverages several open industry standards to provide an unprecedented level of extensibility. This allows customers and third parties to integrate their modeling practices into existing environments for meeting the most rigid customization needs.

ON DEMAND BUSINESS™

Model more productively than ever

It's hard to incorporate new technology into existing processes. So when a project brings in, say, a new development tool, productivity often initially takes a hit. The tool may be too hard to install, to configure, or to learn. This results in the perception that the new tool is simply too hard to adopt— that it slows things down.

Rational Software Modeler includes new ease of adoption and use features that raise the bar for modeling productivity. A variety of diagram types aid in the design, discovery, and documentation activities. Web Diagram editors and the Page Designer help design rich web applications. And you can further improve productivity by automating patterns development and model transformations.

These advanced modeling features help you customize the tool to conform to your particular needs. Combined with seamless integrations between process guidance and other facets of the lifecycle, Rational Software Modeler simplifies analysis and design, furthering ease of use and development productivity.

Leverage an open and extensible modeling platform

Many software professionals see the value in modeling their software but are concerned about locking into a single vendor's proprietary modeling tool technology. They worry that a tool built on a proprietary platform will make it difficult to extend or otherwise customize the tool for their environment. Many organizations are also developing applications that span multiple development and deployment platforms. They worry that tools based on proprietary domain-specific modeling languages will limit interoperability.
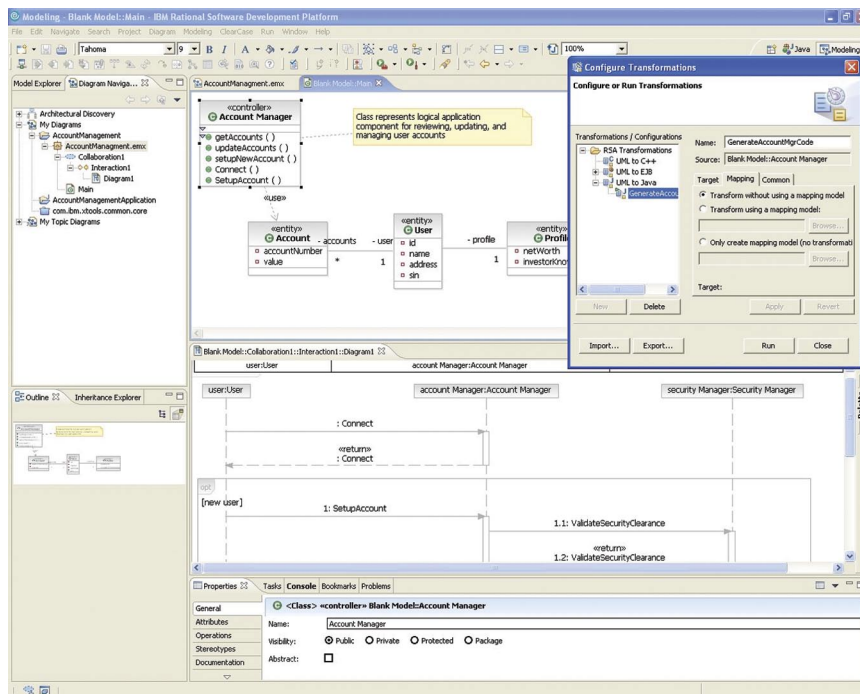

Figure 1. Rational Software Modeler provides a number of usability features that make modeling more productive than ever.

Rational Software Modeler is built on top of Eclipse, the award-winning, open source platform for constructing powerful software development tools and rich desktop applications. Having Eclipse as a foundation allows you to easily extend the features of Rational Software Modeler to meet your specific project requirements. Eclipse also fosters an ecosystem of third-party plug-ins that further your choices in how to best model your applications. And because Eclipse is written in Java, you can outfit your team for modeling across both Windows and Linux development environments.

Powered by Eclipse technology, Rational Software Modeler provides you with an open, highly extensible and customizable tool that supports modeling across your enterprise.

Exploit the latest in modeling language technology

Modeling helps reduce the risk associated with developing systems. It allows organizations to specify and communicate information about their applications from several perspectives to a variety of stakeholders. Modeling tools automate the repeatable activities and can improve the productivity and overall maturity of one's development process. The Unified Modeling Language (UML) has been instrumental in these improvements by virtue of its standardization and applicability to a wide variety of application domains. Yet through experience, customers have found that the UML lacks sufficient expressiveness in certain areas, such as modeling complex system structure and behavior. And those most experienced with UML need better guidance for separating business and application logic from underlying implementation technology.

Rational Software Modeler supports UML Version 2 (UML 2), including structured classes and improvements to sequence, activity, and state machine diagrams. These and other revisions to the standard allow users to express their architecture with more clarity and control than ever. The Object Management Group (OMG) has taken this expressiveness to the next level in process guidance with its Model Driven Architecture (MDA) initiative. Rational Software Modeler supports MDA by allowing the user to define multiple levels of models coupled with user-defined transformations between those models, resulting in a clearer separation of concerns across the lifecycle.

Integrate with other facets of the lifecycle

Complex software projects need traceability throughout the lifecycle. When requirements change, architects need to know what part of the architecture is affected. Such projects also need to manage the change as it impacts model files and other lifecycle artifacts. This all becomes quite complex and challenges even the best managed change processes. Failing to address these issues introduces increased risk to overall project success.

Rational Software Modeler helps you integrate modeling with other facets of the lifecycle. Requirements stored and managed in Rational RequisitePro can be accessed, associated to corresponding modeling elements, and synchronized with user-selectable rules. Users can generate reports highlighting traceability from requirements to design. Modeling files can be managed by Rational ClearCase LT, our robust software configuration management product, that ships with Rational Software Modeler. Alternatively, the product integrates with

Concurrent Versions System (CVS) for customers already committed to that tool. And the integration with the IBM Rational Unified Process (RUP) gives teams the ability to work through all of this with common, online, and integrated process guidance.

Rational Software Modeler integrates with these and other aspects of the IBM Rational Team Unifying Platform, providing requirements management, traceability, model version control, and other team management functions throughout the lifecycle. These integrations reduce the risk associated with systems development and make the business of modeling more predictable.
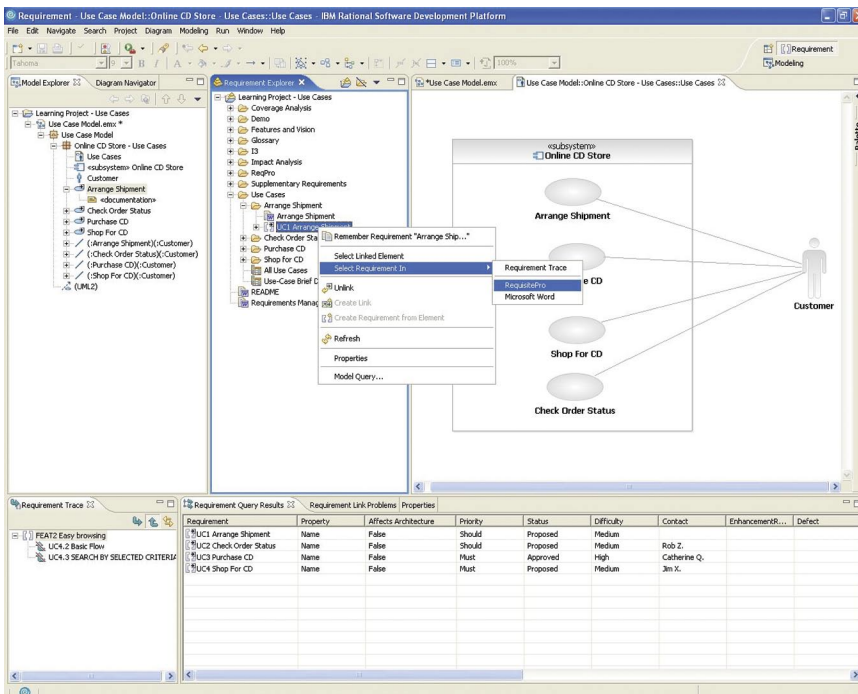

Figure 2. Rational Software Modeler integrates with the IBM Rational Team Unifying Platform, providing requirements management, traceability, model version control, and other team management functions throughout the lifecycle.

Component of the IBM Rational Professional Bundle

Rational Software Modeler is a component of the IBM Rational Professional Bundle. This bundle includes all of the desktop tools your enterprise needs to design, construct and test J2EE/Portal/Service-oriented applications on both Windows and Linux and to test .NET applications. The bundle provides a single purchase vehicle with just one maintenance contract to manage.

About Rational software

Rational® software from IBM helps organizations automate and integrate the core business process of software development. Rational products, services and best practices power the IBM Software Development Platform, the premier platform for teams who discover, develop, and deploy software assets in business applications, embedded systems, and software products. This modular and complete solution enables teams to adopt a business-driven development approach based on open standards, including the Eclipse open source framework. The result is differentiated business performance. Additional information is available at **ibm.com/rational** and **ibm.com/developerworks/rational/rationaledge**, the monthly e-zine for the Rational community.

Feature	Benefit
UML 2.0 modeling support for analysis and design using Use Case, Class, Sequence, Activity, Composite Structure, State Machine, Communication, Component, and Deployment diagrams	UML 2.0 allows you to capture and communicate all aspects of an application architecture using a standard notation that is recognized by many different stakeholders.
Simplified diagramming using free-form diagrams, topic diagrams, and browse diagrams.	Simplifies the usage of UML notation for design, documentation, communication, and understanding design elements captured in UML models and application artifacts in the development workspace.
Visual modeling with content-assist.	Action bars, connection handles, context-sensitive content suggestions (invoked with CTRL-SPACE), task-specific modeling "Cheat Sheets," extensive online help, samples, and tutorials guide you through the activities of creating well-formed models.
Apply and author patterns and transforms	Allows organizations to capture and promote "recipes" that can be used to increase the predictability and repeatability of software development. The authoring and apply capabilities support teams in "developing for reuse" and "developing with reuse"
Asset Browser for accessing reusable assets	Supports OMG Reusable Asset Specification and supports users in browsing repositories containing reusable assets. Repositories can be structured so that assets can be found easily.
Analyze analysis and design models for traceability links from requirements thru to implementation	Assist users in querying design models for traceability relationships from requirements (in RequisitePro) to analysis/design elements found in models, and to Java code.
Enterprise class IDE powered by Eclipse technology	Adapt and extend your development environment with Eclipse-based plug-ins that match your needs
WS-I compliant Web services and service oriented architectures	Integrates your business applications
Rapid application development tools and wizards	Accelerate portals, SOA and J2EE development
Drag-and-drop UI components, point-and-click d atabase connectivity	Leverages existing skills and shortens Java learning curve
Automated tools for coding standards enforcement; component testing of Java, EJB, Web services; and multi-tier runtime analysis	Improves code quality
Built-in Crystal Reports tools	Quickly build powerful and interactive data reports for the Web
Requirements perspective for browsing requirements in RequisitePro and creating links to model elements	Simplify the creation of traceability links from requirements through to design
RUP configuration for Software Architects with context-sensitive and dynamic process guidance	Process guidance and user assistance is provided dynamically as the user works with the tool.
Open API to support customizing and extending the modeling environment. UML profile creation and editing to customize the properties stored in UML models	Organizations can develop plug-ins customize the analysis and design tools for their environment and process. Supports the creation of an ecosystem allowing vendors to develop integrations.
Generate HTML and PDF reports from UML model files	Create reports and documentation that can be reviewed by team members or other stakeholders.
Scripting support with Java	Create lightweight utilities/extensions to customize a user's development environment.
Team support with multi-model support, compare merge, and SCM integrations	Provides all the capabilities required to teams and distributed teams in designing and developing applications.

IBM Rational Software Modeler Specifications

Hardware Requirements

- Processor - Minimum: Pentium™ 3, 500 Mhz; Recommended: Pentium™ 4, 1.4 GHz or higher
- Minimum memory: 384 MB; 1 GB RAM recommended; more memory generally improves responsiveness.
- Video: XGA 1024 x 768 x 256-color video resolution, XGA 1280 x 1024 recommended; high color or true color recommended.
- Microsoft mouse or compatible pointing device.
- Required disk space: Minimum 768 MB; 1 GB is recommended

Software Requirements

- Microsoft™ Windows XP Professional, Service Pack 1, 2
- Microsoft Windows 2000 Professional, Service Pack 3, 4
- Microsoft Windows 2000 Server, Service Pack 3, 4
- Microsoft Windows 2000 Advanced Server, Service Pack 3, 4
- Microsoft Windows 2003 Standard Edition
- Microsoft Windows 2003 Enterprise Edition
- Linux: Red Hat Enterprise Linux WS 3.0
- Linux: SUSE Linux Desktop 9.0

Software Integrations

- IBM Rational RequisitePro v2004 SR3
- IBM Rational ClearCase LT (actual product is included)
    - On Windows: v2002, v2003 SR3
    - On Linux: v2004 SR3
- IBM Rational ClearQuest v2004 SR3
- Concurrent Versions System (CVS) v1.11.1p1
- IBM Rational Unified Process (RUP) v2004 SR3

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