Rational Rose

Software Development Paradox - Build Better Software Faster

Today's software development is fundamentally changing the way companies do business. The combination of larger and more complex software applications, more competition, and shorter development cycles has created a software development paradox - the need for your team to create higher quality software in less time. In the past, organizations could choose what was most important, but that is no longer an option.

If you're a Software Developer, Project Manager, Engineer or Analyst looking for proven ways to build better software faster, Rational Rose® is your answer. Rational Rose is the award-winning, Unified Modeling Language (UML) - based model-driven development tool that is part of Rational Software's comprehensive and fully integrated software development solution.

Unify Development Teams

For successful software development, all members of a development team must communicate with a common language. By using UML, Rational Rose and your favorite configuration control solution enables all team members to use one tool and one language to communicate effectively. Whether your software team consists of 10 individuals or 500 individuals across 20 different groups, Rational Rose will enable you to develop individually, communicate collaboratively and deliver better software.

Every analyst, modeler, or developer in your organization can use Rational Rose to define and communicate the architecture of your application. Rational Rose is a complete solution for:

- **Business and System Analysts** – Enable your analysts to visualize and model business processes and system requirements. Publish designs and models to your website in HTML, sharing business models within your entire organization. Through a tight integration with RequisitePro, Rational's Requirements Management solution, you can consistently and seamlessly manage all use case artifacts, including specification documents, attributes, traceability, and diagrams.

- **Enterprise and System Architects** – Rational Rose offers system architects the best UML-based model-driven development tool for modeling the entire application architecture. A common UML business or domain model can be communicated and then transformed by developers into a number of distinct technologies.

- **Database Designers and Data Analysts** (Windows) – One tool, one language, one team. Rational Rose offers a single unified tool, language, and notation for the whole team. For data analysts, Rational Rose offers comprehensive database support for object-relational mapping, schema generation, and round-trip engineering. For the first time, you can connect your business, application, and data modelers with a common understanding of all of your valuable project resources.

- **Visual Studio and Microsoft Developers** – Rational Rose gives Windows developers seamless integration with Microsoft Visual Studio. Rational Rose provides deep support for WinDNA semantics and frameworks, allows visualization and round-trip engineering of MFC, COM/ATL, MTS, and ADO code, and features customizable and extensible design patterns for generating multi-tier enterprise, distributed applications.

- **Web and XML Developers** (Windows) – With the only solution to deliver a comprehensive view of Web architectures, Rational Rose enables you to visualize even the most complex Web sites. It provides enhanced UML-based Web Application extensions, round-trip engineering of JSP and ASP Pages, and advanced modeling features, ensuring the correct construction of Web artifacts for code generation.

- **Java and EJB Developers** – Rational Rose provides unmatched functionality and flexibility for Java Developers. Its powerful round-trip engineering capabilities offer you the choice of either manual or automatic code-model synchronization, and includes features such as multiple file support, flexible Javadoc options, and rich style choices for generated code. EJB and Servlet/JSP

Rational, the software development company

Highlights

- Accelerates and simplifies development
- Enables architectural flexibility and software quality
- Leverages UML-based visual models into more robust code
- Minimizes repetitive manual development steps
- Unifies developers across the team in a single tool and language
- Streamlines development through integration with leading IDEs

A Quick Look at Model-Driven Development

Modeling can help you...

- Visualize your application as it really is - or as you want it to be
- Specify the complete structure or behavior of your application
- Create a blueprint that guides you as you construct your application
- Design quality applications
- Document all the decisions you have made along the way

The bottom line? Model-Driven Development will help you improve communications, manage complexity, define software architecture, enable reuse, and capture vital business processes.
“What’s been very effective with Rational Rose is not only are we able to go to the customer and ask if a particular model addresses their needs, but we are also able to understand if the particular developer, that is doing the analysis, truly understands the problem.”

Richard Martelli, LSEF Program Manager - Lockheed Martin, Canada

“I think Rational Rose helps us to design our products better. We can visualize the design. We can show it to the product manager more vividly. They can understand what we are going to do. And then the design process becomes shorter because of using Rational Rose. It’s a more standard way of communicating the information between the developers and the project managers.”

Liora Milbaum, SCM Manager - Tecnomatix Technologies Ltd.

Model-Driven Development with UML

development are made simple with Rational Rose for Java’s support for design patterns (J2EE and Gang of Four) and its EJB Assistants. Rational Rose for Java integrates with your favorite IDEs including JBuilder, Visual Age, Forte, and Visual Cafe, and is fully compliant with all supported versions of J2SE and J2EE.

The ability for deploy-to-test within Rational Rose in Windows provides the functionality to deploy Java and J2EE applications directly from Rose to your J2EE application server. The servers include IBM WebSphere, BEA Web Logic Server and the Sun Java Reference Implementation. It also allows developers to remain in Rose while deploying, and then leverage Rational QualityArchitect to test EJBs and/or run the web components in a unit test mode.

- UNIX/Linux Developers – Rational Rose for UNIX/Linux offers interoperability between UNIX, Linux and Windows 95/98/2000/NT, providing the same user interface and file formats while allowing mixed-platform teams to easily share models and development projects within the same model-driven development framework.

- RealTime and Embedded Developers – Rational Rose RealTime is specifically tailored to the demands of real-time and embedded software teams. It provides a UML-compliant solution to the unique problems of concurrency and distribution. By providing an extensive set of tool integrations to meet the needs of the entire team, Rational Rose RealTime supports the entire development lifecycle, from requirements capture to high-performance code generation to debugging operating system targets.

Create Robust System Architectures

A component-based architecture enables you to build scalable, reusable code and assemble disparate components together, helping you to control the ripple-down effect of most software changes. With the ability to view the user interface separately from the business logic and from the data, Rational Rose lets software processes evolve in a controlled, managed and identifiable way. Whether these evolutions involve changes in languages or platforms, or the need to adapt to future technologies, Rational Rose helps you manage your development challenges. And with Rational’s Development Accelerator initiative, your software teams will be able to reuse previously existing components, reduce your time-to-market, and obtain the strategic advantage you need to stay ahead of your competition.

Round-Trip Engineering

Rational Rose allows you to move easily from analysis to design to implementation, supporting all team members throughout the project’s lifecycle. This controlled, iterative style of development lets projects begin with a set of known requirements, then evolve as project parameters change or new requirements are added. Rational Rose supports this dynamic change management process with forward engineering, reverse engineering, and model updating features, allowing you to alter your implementation, assess your changes, and automatically incorporate them into your design. Rational Rose’s support for round-trip engineering ensures that the iterative development cycle is controlled and predictable, avoiding the costly and time-consuming changes that afflict most software projects.

Today’s Dynamic Development Environment — Managing the Intellectual Vacuum

Given the nature of many developer positions and consultants, Project Managers have a real concern with losing the intellectual capital that is accumulated in a project. Without the right system in place, information, procedures and processes that are experience-based can be forever lost if key developers move on. And the longer a project takes, the bigger these risks. Modeling solves these problems with resilient, component-based architectures, keeping your project’s intellectual capital in your project, in your system, and in your company. Everyone
on your team can directly view the elements of the project with UML-based models, rather than trying to deduce what they represent through source code, old notes, and word-of-mouth. The models contain the artifacts, descriptions, project requirements, use cases, classes and interfaces that are critical to your project’s success. What does all this mean for you? A seamless information environment which reduces ramp-up time for new developers, minimizes process recreation costs, and manages the intellectual vacuum.

Integrate with Legacy Systems
Avoid the remodeling of existing code and components. Even with new projects, existing or off-the-shelf components & code must be incorporated into the new model. Rational Rose automates this by providing reverse engineering features. It creates a model, based on analysis of existing libraries and components that designers can refine and complement, leading to full integration with legacy systems, rapid setup and higher accuracy.

Flexible, Controllable Synchronization Features
In order to take full advantage of model-driven development, developers must be able to take existing code in its native language, automatically generate synchronized models, and easily move between code and model without losing information, quality or time. Synchronization must also be a flexible, controllable process. Without the ability to turn synchronization on and off, mistakes or changes made to either the model or code are permanent. Rational Rose is the only solution that offers a controllable round-trip development capability - change the code, the model or both, and easily re-synchronize them at any time. And with the ability to reverse-engineer the latest and most popular code languages, Rose synchronizes your code and models quickly and easily.

Quality by Design — Rational QualityArchitect (Windows)
The quality of a software system and your development work is determined long before assembly and testing. Unfortunately, it’s difficult to know what the quality of the system or its component pieces are until the very end of the process because it’s so expensive, tedious and time-consuming to test quality early on. Rational QualityArchitect is an extension of Rational Rose that automates this process by generating drivers and stubs and validating components directly from Rose’s visual models. Problems can be found and fixed while components are still isolated, resulting in a higher predictability of an integrated system. You can now test earlier and more often in the product life-cycle, reducing risk, improving predictability and saving time, money and downstream problems. Most importantly, it lets you get back to doing the development work that you enjoy most and do best.

Rational Rose — Continuing to Lead the Way
Rational Rose is the hands-down leader for object-oriented analysis, modeling, design and construction tools. Industry experts, journal editors and consumers have all recognized Rational Rose with more awards than any other model-driven development tool. With recent awards from Java Developer’s Journal, VSJ, Delphi Informant, Yphise, and Java Report, our market dominance remains unmatched.

Rational Software has 20+ years of industry-leading experience on solid financial ground, and is acknowledged as the technology leader for its role in the development of the UML, largely due to the efforts of Grady Booch, Ivar Jacobson, and Jim Rumbaugh — the three chief UML authors. With partners and customers like Ericsson, Merrill-Lynch, Microsoft, Nokia, Hewlett-Packard and IBM, Rational will continue to be the model-driven development market leader for years to come. No one can protect your software investment better than Rational, offering the deepest and broadest solutions for the latest technologies, including WinDNA, J2EE/SE/ME, and Wireless & Embedded.

“The Unified Modeling Language has been absolutely critical in our ability to stay on the same page, to discuss issues at hand and to describe the different parameters that revolve around those issues. So it’s been really important to use UML and to create these documents by using Rational Rose. It has been a very big part of making sure that we all work together, that we collaborate, that we communicate and that we really reach our objectives.”
Richard Irving, President - IrvNet, Inc.

With Rational Rose you can visualize and control robust system architectures quickly and easily.
Rational is acknowledged as the technology leader for its role in the development of the UML, largely due to the efforts of Grady Booch, Ivar Jacobson, and Jim Rumbaugh — the three chief UML authors.

And with over 100 different partners and add-in products available, Rational Rose provides the most flexible and inclusive solution in the industry. Other products in the Rational software development solution are tightly integrated with Rational Rose to provide related functions such as requirements management, best practices and many others. Software configuration management for Rose models is possible with Rational ClearCase, as well as supporting third-party tools. Through its integration with Rational RequisitePro, for requirements management, Rational Rose users can establish and maintain bi-directional links between use case diagrams in Rational Rose and the corresponding textual definitions of the use cases in Rational RequisitePro. Thus, extending use cases in Rational Rose with detailed requirements information. Managing use cases in conjunction with other requirements ensures the scope of software development projects is better managed, change is controlled and business needs coverage is verified.

Rational Suite: A Complete Lifecycle Solution

Rational Suite is Rational’s complete, integrated lifecycle development solution that unifies the cross-functional development team while optimizing productivity. There is a solution that is right for system analysis, software development, system testing, content management and project management.

Rational Rose is included in Rational Suite Enterprise, Rational Suite DevelopmentStudio and Rational Suite AnalystStudio. Each edition combines a full set of tools for that function and the Rational Suite Team Unifying Platform, a proven foundation for unifying cross-functional teams. When you combine Rational tools with our world-class consulting, training and support services, you have the most complete software development solution available.

Accelerate Success with Rational Software Development Services

Like all Rational tools, Rational Rose is supported by an extensive, worldwide service organization. Rational Software Development Services can help you build your team’s capability through training, consulting services, and technical support. Our services organization offers over 60 courses and a variety of implementation and support plans to speed technology deployment and accelerate project delivery. Available where and when you need them, Rational services improve self-sufficiency as they build a foundation for continuous software development improvement.

The Choice for Software Development

By unifying development teams to deliver better software, creating robust system architecture through component-based design, and enabling developers to use one tool for all their technology needs, Rational Rose helps you build better software faster.

Find out how Rational Rose can work for you. Visit www.rational.com/products/rose to download evaluation software and demos, read up on the latest product and industry information, request a free UML CD, and much more.

From the Rose visual mode, Rational QualityArchitect generates all the code necessary to represent the components, call the operation and verify the return result.

SPECIFICATIONS

Microsoft Windows
System Requirements
- A Pentium-based PC-compatible computer system
- 64 MB of RAM (128 MB recommended)
- 200 MB of disk space
- An SVGA-compatible display (256 or more colors recommended)
- Any pointing device with at least two buttons

Microsoft Windows Supported Platforms
- Window XP Professional
- Microsoft Windows NT 4.0
- Windows ME
- Windows 98
- Windows 2000

Supported Databases
- Oracle 7.x & 8.x
- MS SQL Server 6.x & 7.x & 2000
- IBM DB2 MVS 5 & 6
- IBM DB2 UDB 5 & 6 & 7
- SQL-92 for other DBs
- Sybase System 12

UNIX/Linux System Requirements
- Memory: 64 MB plus 32 MB of RAM per concurrent user
- Server: A midrange of UNIX server or client UNIX workstation (SparcStation 20 and above)
- Client: Any UNIX workstation or PC if running eXceed version 6.1 or higher to display X windows
- Display: X Window Color Display
- Disk Space: 270 MB plus 1-3 MB per Rose model

UNIX/Linux Supported Platforms
- Linux x86 (Red Hat 6.2, 7.0)
- Sun Solaris 2.5.1, 2.6, 7, 8
- HP-UX 10.20, 11.00, 11.11i
- SGI IRIX 6.5.5
- AIX 4.3.2, 4.3.3
- True64 4.0f

Rational Software Development Services
- Dual Headquarters
- 18880 Homestead Road
- Cupertino, CA 95014
- 20 Maguire Road
- Lexington, MA 02421
- Toll-free: (800) 728-1212
- e-mail: info@rational.com
- Web: www.rational.com

International Locations:
www.rational.com/worldwide

Rational, the Rational logo, Rational Rose, Rational Suite, AnalystStudio, Rational Unified Process, ClearCase, ClearQuest, and RequisitePro are trademarks or registered trademarks of Rational Software Corporation in the United States and/or other countries. Microsoft, Microsoft Word, Microsoft Internet Explorer, Microsoft Windows 95, 98, and NT are trademarks or registered trademarks of Microsoft Corporation. Java is a registered trademark of Sun Microsystems. All other names are used for identification purposes only and are trademarks or registered trademarks of their respective companies. ALL RIGHTS RESERVED. Made in the USA.

© Copyright 2001 by Rational Software Corporation.
D-185G; 4/01 Subject to change without notice.