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IBM Rational Modeling Extension for Microsoft .NET, Version 7.0

Highlights

■ *Supports UML-based model-driven development of applications to be implemented fully or partially on the Microsoft .NET platform*

■ *Integrates with and complements Microsoft Visual Studio 2005 technology*

■ *Supports conceptual modeling of architectures and applications using UML 2*

■ *Offers high extensibility through its foundation on the open Eclipse 3.2 platform*

■ *Supports UML-to-C# and C#-to-UML transformations*

■ *Complements other IBM Rational Software Delivery Platform offerings to provide a complete, full-lifecycle governance solution for enterprises supporting mixed-mode development*

■ *Installs into an IBM Rational architecture management tool such as IBM Rational Software Modeler or IBM Rational Systems Developer*

Software architects and senior developers within a development team play a pivotal role in bringing technical professionals together. They need a powerful and configurable environment to help them create and maintain the architecture, despite challenges like heterogeneous applications and globally distributed development teams. Other members of the delivery team need to do their part as they all collaborate — regardless of application complexity and geographic location — to complete the software project.

Bring open-standard UML to bear on your Microsoft .NET development

IBM Rational® Modeling Extension for Microsoft® .NET, Version 7.0 software, when combined with the IBM Rational Software Modeler product or one of its siblings, is a powerful, integrated design and construction environment that helps with understanding, designing, managing and evolving enterprise solutions and services across the team, across the world and across different areas of technical expertise. Together, these products provide extensive support for the Object Management Group's (OMG's) industry standard

Unified Modeling Language, Version 2.1.1 (UML 2), as well as many powerful domain-specific visual modeling capabilities. The Rational Modeling Extension for Microsoft .NET product is designed to work with other development tools in a variety of process environments to improve productivity, enhance architectural control and ease the design-to-code experience across a project portfolio that might include Microsoft .NET/C#, Java™/Java Platform, Enterprise Edition (Java EE), Web services, service-oriented architecture (SOA), and C/C++ applications.

UML 2 serves as the common architectural language that bridges all projects regardless of the implementation technologies they target. The UML 2 modeling capabilities available for use with the Rational Modeling Extension for Microsoft .NET software include object diagram support (new in Version 7) and extended capabilities for modeling activities, composite structures, components, interactions (sequence and communication diagrams) and state machines — in addition to providing use-case, class and deployment diagramming capabilities.

Diagram in UML model

Microsoft .NET project with RME
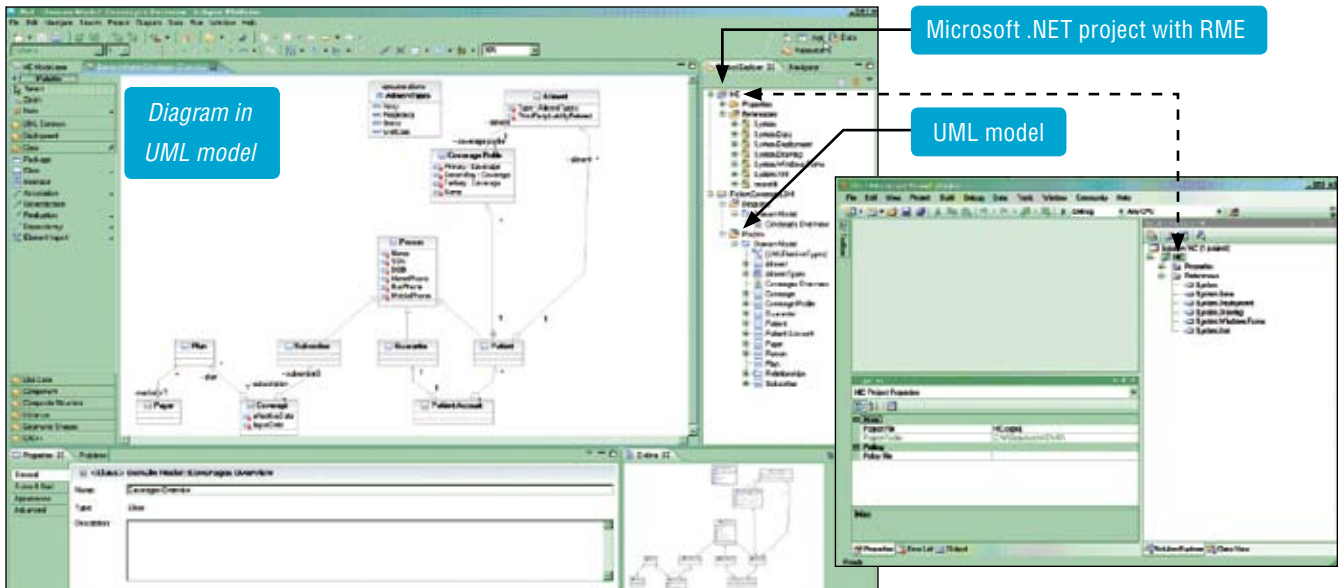
UML model

insert caption

Keep your costs down and your options open

IBM Rational Modeling Extension for Microsoft .NET, Version 7.0 is part of a flexible family of business driven development products that are built on the open Eclipse 3.2 integration platform. Providing the ability to specify requirements, architectures and designs across heterogeneous project portfolios that include .NET projects, the Rational Modeling Extension for Microsoft .NET product integrates with Microsoft Visual Studio 2005 technology, as well as with a full set of lifecycle tools (e.g., the IBM Rational Software Delivery Platform) that also integrate with the Visual Studio 2005 platform. This enables the entire delivery team to learn and administrate a single set of tools, and then use those skills across all projects in the portfolio whether they target .NET, Java EE, UNIX®/C++, IBM

System z™ or other platforms. And these tools scale to meet any challenges in terms of team size, organization or geographic distribution.

As we all know, the one constant in today's world is change. Are you currently favoring Microsoft .NET technology as a target platform but want to keep your options open for a possible future technology migration? You can help position yourself by adopting the use of the UML with tools that support a variety of implementation technologies.

Tap into the power of model-based automations

Modeling alone adds value and helps reduce project risk, but even greater benefits are realized when models are used to automate the creation of other development artifacts, including other models, code and more. Rational

Modeling Extension for Microsoft .NET software plugs in to a host product such as the Rational Software Modeler application. The host products include UML-based design patterns to help you more quickly build the content of your UML analysis and design models. Or, you can create your own UML-based patterns to extend this benefit even further.

Improve productivity with transformation automation

Depending on which host product is used, it may also include transformations for generating Java, C++, Enterprise JavaBeans (EJB), Web Services Description Language (WSDL), XML Schema Definition (XSD), CORBA Interface Description Language (IDL) and structured query language (SQL)-based logical data models from UML models, as well as reverse transformations that go from

2

Visualizations

Generated C#
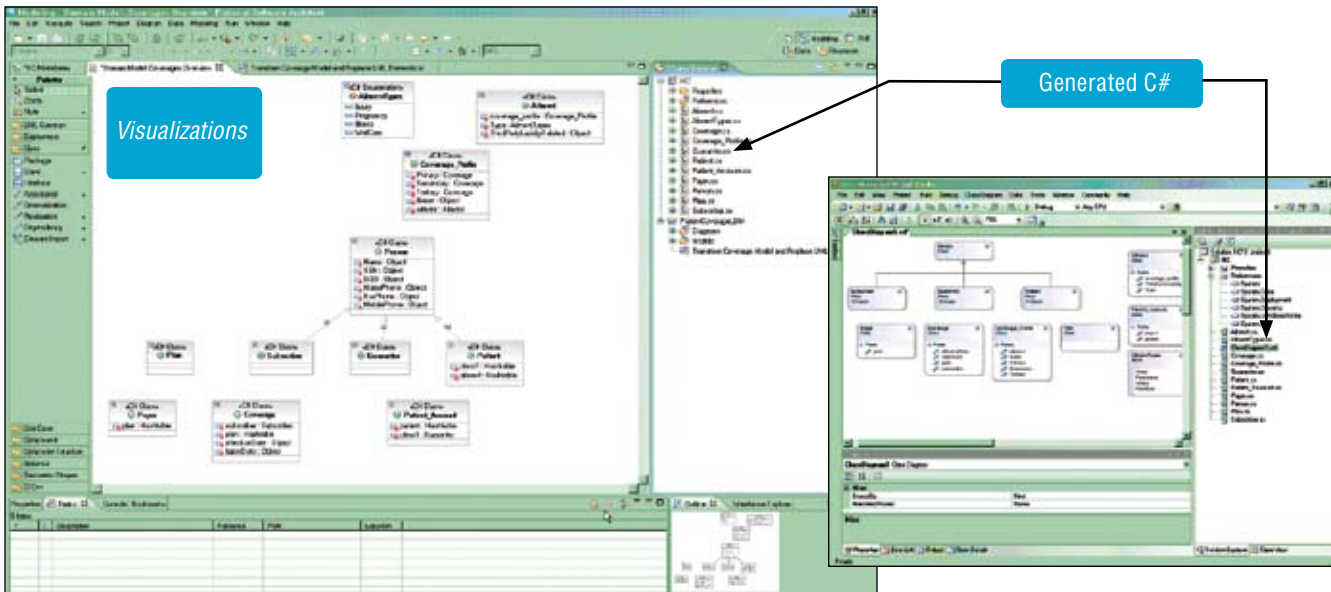
insert caption

the Java language and C++ to UML. Then, Rational Modeling Extension for Microsoft .NET software extends its host to provide transformations from UML to C#, and from C# to UML, as well as a capability to compare conceptual models (UML) and code models (C#) to determine whether a C# implementation conforms to a specified architecture and design contract. And note that the models that analysts and architects create with Rational Modeling Extension for Microsoft .NET software also work with other IBM model-driven development products such as IBM Rational Software Architect, IBM Rational Software Modeler and IBM Rational Systems Developer.

Modeling flexibility for teams

The Rational Modeling Extension for Microsoft .NET software, through its host products, offers great flexibility in managing UML models. Capabilities for model fusing, i.e., "combine these models," and model decomposition, i.e., "make this package into its own model," let you evolve the logical organization of model content into model files that adapt to changing needs. Model files can be further deconstructed into smaller, transparent fragments—files that are version controllable at a modular level to support team development approaches based on exclusive checkout policies. And if you prefer to follow true parallel development policies with nonexclusive checkouts, the Rational Modeling Extension for Microsoft .NET software's fast and efficient model-merging capabilities compare, merge and reconcile parallel changes as they are contributed. Improve productivity with powerful utilities to manage multiple changes within one model.

Take advantage of the Eclipse open and extensible platform

For many years, software developers have realized and used the benefits of open standards in their projects. Now, through the Eclipse project, all of the benefits of open software have come to the development environment itself. Because the Rational Modeling Extension for Microsoft .NET software is built on top of the open Eclipse 3.2 platform, you can more easily extend the Rational features to meet specific project requirements through an ecosystem of third-party plug-ins. Eclipse is written in the Java language, which means you can outfit your team across both Microsoft Windows® and Linux® desktops.

Integrate with other facets of the lifecycle

Integrated design and development improves traceability between code and its most immediately related artifacts. But 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 require the management of 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.

The Rational Modeling Extension for Microsoft .NET software, plus the Rational Software Modeler product, is designed to help you integrate with other facets of the lifecycle. Requirements stored and managed in IBM Rational RequisitePro® software 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 the included IBM

Rational ClearCase® LT software, IBM's robust software configuration management product. Alternatively, the Rational Software Modeler and Rational Modeling Extension for Microsoft .NET products integrate with Concurrent Versions System (CVS) for users already committed to that tool. And the integration with process configurations provided by IBM Rational or created with Rational Method Composer give teams the ability to work through all of this with common, online and customizable process guidance.

The Rational Modeling Extension for Microsoft .NET software integrates with these and other aspects of the IBM Rational Team Unifying Platform™ solution, providing requirements management, traceability, source code control, automated documentation and other team management functions throughout the lifecycle. This helps to reduce the risk associated with software development and helps make application development more predictable.

For more information

To learn more about IBM Rational Modeling Extension for Microsoft .NET software, or to download a trial version, visit:

ibm.com/rational/adc