IBM Rational Software Delivery Platform and Microsoft .NET
White paper
May 2007

Rational. software

Delivering flexible Microsoft .NET and mixed-platform solutions with IBM Rational software.

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IBM® and Microsoft® products serve many enterprise clients in common, and IBM strives to help those clients derive maximum value from investments in both companies' products. As a Microsoft Premier Visual Studio Industry Partner, IBM has a long-standing commitment to supporting clients who use the popular Microsoft Visual Studio integrated development environment (IDE)—and the IBM Rational® Software Delivery Platform exemplifies that commitment.

The IBM Rational product team develops and maintains a full array of integrated lifecycle solutions for Microsoft .NET software, and the IBM Rational services organization offers deep and complementary expertise in implementing those solutions.

Committed to client choice

Of course, IBM has a different view of the Microsoft .NET platform than does Microsoft. Our ongoing investment in this technology is part of a broader commitment to supporting clients who work in multiple, heterogeneous technology environments. We encourage businesses to make platform-agnostic purchase decisions and to use IBM middleware that enables them to choose the tools and systems best suited to their distinctive needs.

On the development and delivery levels, this translates to offering a single set of lifecycle-spanning infrastructure tools—via the IBM Rational Software Delivery Platform—that are configured to serve an enterprise with multiple and diverse IDEs, including Microsoft Visual Studio.

When architects, developers and designers using multiple platforms and implementation languages standardize on a single set of IBM Rational infrastructure tools, they can better understand the architecture of shared enterprise applications and can more easily bridge technology differences. They become more efficient and productive, leading to cost savings and better resource utilization across the entire software organization. Let's look at some key factors responsible for these benefits.

Highlights

IBM Rational automated lifecycle tools for the Microsoft .NET platform reduce the complexity and cost of working with technologies that do not share a common language, platform or interface.

Easier team communication and technology transfers with UML

The integrated .NET toolset within the IBM Rational Software Delivery Platform promotes effective communication and collaboration within and across multiple teams. Whether your enterprise's development and delivery organization is dispersed around the globe or faces a continuous onslaught of integration challenges resulting from mergers and acquisitions, you know the pain and cost of working with technologies that do not share a common language, platform or interface. IBM automated lifecycle tools for the .NET platform ease this pain, providing development team members with:

- *A common, underlying process.*
- *A highly scalable and distributable team collaboration infrastructure, capable of supporting projects that target a mix of implementation technologies and utilize a number of IDEs.*
- *A universally understandable visual modeling language.*
- *Objective, metrics-based reports that facilitate communication across teams and provide visibility into project process.*

Based on UML, Rational architecture management tools facilitate development and delivery projects that span multiple platforms, languages and cultures.

IBM Rational architecture management tools are based on the Unified Modeling Language (UML), the industry standard specification language for creating conceptual representations of solution architectures. Software development team members can use UML models to support development and delivery projects targeting a number of implementation platforms and languages. In effect, these models constitute a universal language that spans temporal, geographical, language and cultural differences among distributed team members, as well as disparities across technology platforms. They ease the design-to-code experience and enable clear communication across a project portfolio that might include Microsoft .NET/C#; Java™/Java Platform, Enterprise Edition (Java EE); Web services and service-oriented architecture (SOA); and C/C++ applications. For complex applications, UML models provide a way for all team members to understand the relationships between component parts and services.

Highlights

Microsoft users can enhance code-modeling capabilities using IBM Rational Modeling Extension for Microsoft .NET, Version 7.0 software.

The recently released IBM Rational Modeling Extension for Microsoft .NET, Version 7.0 application offers an array of options to enhance code-modeling capabilities for Microsoft users. It brings new support for UML 2, encompassing object diagrams and extended capabilities for modeling activities, components, interactions and other elements. It plugs into host products such as the IBM Rational Software Modeler application, which provides patterns to more quickly generate UML 2-based designs and helps ensure consistency on the Java or .NET platform. And it enables reverse engineering across platforms, providing team members with greater understanding and control of complex system architectures that they might not have had a role in creating.

Using an integrated set of Rational tools, Microsoft Visual Studio teams can keep stakeholders apprised of changes throughout the delivery lifecycle.

More effective change management and quality control

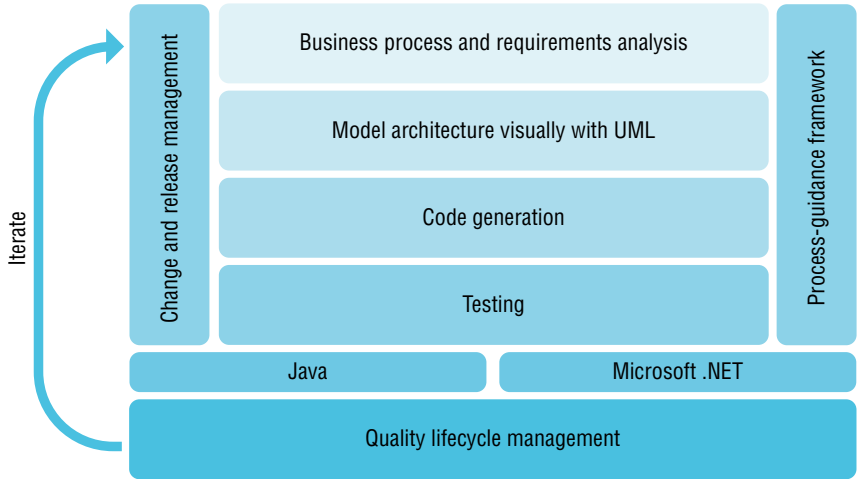
An IBM Rational tool infrastructure enables Microsoft Visual Studio teams to keep all stakeholders apprised of changes via an integrated set of solutions that provide traceability and transparency throughout the delivery lifecycle. IBM Rational RequisitePro® software provides ongoing requirements and use-case management capabilities to help ensure that projects are on track with stakeholder expectations. IBM Rational ClearCase® software provides comprehensive asset management capabilities. IBM Rational ClearQuest® software allows you to manage and control development processes. Project visibility is improved with real-time, consolidated reporting. Defect and change tracking help document and manage issues to resolution. Automated workflows and processes enhance team communication and coordination. By linking requirements, code, build records, test cases, deployment records and other development assets, Rational ClearQuest extends traceability across the full delivery lifecycle. And IBM Rational Build Forge® software provides continuous visibility and traceability for heterogeneous builds.

Highlights

Entire teams can stay on top of design changes, code changes, test results and other project concerns—regardless of their job role, language or location.

Combining these tools with others in the IBM Rational Software Delivery Platform that enable testing for code consistency, quality, functionality and performance means that every member of every team can stay on top of design changes, code changes, test results and other project concerns—no matter where they are in the pecking order, what implementation language they use or where they are located geographically.

Automated reporting allows managers, developers and testers to continuously monitor project progress and help ensure that their efforts align with specified functional and compliance requirements.



Automated reporting capabilities allow teams to monitor code consistency, quality, functionality and performance throughout the delivery lifecycle.

More flexible architectures and reuse potential

More and more organizations are transitioning to SOA as a way to make optimal use—and reuse—of their heterogeneous technologies. SOA gives them the flexibility to choose the most cost-effective development strategy for their needs—whether it's evolving an existing application, building custom code or integrating a packaged solution. These are fundamental requirements for creating a truly global development and delivery capability.

Highlights

The IBM Rational Software Delivery Platform offers comprehensive consulting and tool support for such a transition. For example, .NET teams can use either the Rational Software Modeler or IBM Rational Software Architect application to visualize both individual services and the overall SOA structure in UML. The models can help them maintain architectural integrity, understand the impact of individual changes on the system, and ensure that their efforts track with requirements. And the services they create in .NET can interoperate with Java services via IBM WebSphere® technology. In other words, an SOA built with IBM Rational tools is an enterprise-wide application lifecycle management solution. It enables developers working within diverse environments to collaborate on services with potential for broad use and reuse across multiple business entities to ensure that the SOA solution meets all of their business goals.

An SOA built using Rational tools delivers a complete application lifecycle management solution for the enterprise.

Because IBM Rational tools are built on open standards, you benefit from the efforts of a broad, collaborative community working to improve development tools and features. The IBM Rational product team is committed to incorporating innovative solutions that support teams working in a variety of IDEs, including Microsoft Visual Studio.

More value for your work

Rational tools can help better align your development team's work with your company's strategic business objectives.

Collectively, these advantages can help bring your team's work—and the work of your entire software organization—into better alignment with your company's strategic business objectives by providing:

- *Efficient geographically distributed development and delivery to support parallel development within global business efforts.*
- *Easier post-merger and acquisition integrations to reduce risk and address compliance with internal standards and external regulations.*
- *A consistent infrastructure for business transformation efforts—including transitioning to a service-based architecture—to support business flexibility and responsiveness.*

Highlights

Simply put, the IBM Rational Software Delivery Platform can help your team provide more business value to the enterprise. Instead of viewing your software development and delivery organization as a cost center, executives will view it as a strategic business asset. And that's a goal that team members working within any IDE can get behind.

What exactly *is* the IBM Rational Software Delivery Platform?

IBM Rational products, services and best practices power this complete and configurable solution for teams that develop and deliver software assets for business applications, embedded systems and software products.

For developers, the IBM Rational Software Delivery Platform delivers a complete, configurable solution that is comprehensive, open, modular and proven.

The IBM Rational Software Delivery Platform is:

- ***Comprehensive.*** *It provides automated support for every development team member, as well as business and operations stakeholders, throughout the software development and delivery lifecycle.*
- ***Open.*** *Based on open standards, it spans the Microsoft Windows®, UNIX® and Linux® operating systems and mainframe platforms, and it supports a wide spectrum of programming languages, IDEs and cross-development environments for real-time and embedded-system developers.*
- ***Modular.*** *Organizations can adapt its integrated product set for their unique team and technology environment, choosing the exact capabilities and adoption path for their needs.*
- ***Proven.*** *The platform is based on field-tested technologies and best practices used by thousands of high-performance software teams.*

The platform also comprises specialized solutions combining products, services and implementation roadmaps to address:

- *Global development and delivery.*
- *Compliance with government and industry regulations.*
- *Systems development.*
- *SOAs.*

An extensive partner ecosystem provides additional industry- and technology-specific capabilities. Ready for IBM Rational software Business Partner solutions provide both product and consulting expertise to accelerate initiatives.

For more information

To learn more about how the IBM Rational Software Delivery Platform can support your development efforts within the Microsoft .NET environment, visit:

ibm.com/software/rational/dotnet

To access additional information about Rational software and services, visit the IBM developerWorks® Web site at:

ibm.com/developerworks/rational/products/rdns

And view a detailed white paper on the subject of using Rational tools to develop within the Microsoft .NET environment by visiting:

ibm.com/developerworks/rational/library/07/0306_kishore_saini

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Produced in the United States of America
05-07

RAW11014-USEN-00