



Rational software

**Collaborative software delivery:
managing today's complex environment
to improve software quality.**

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Introduction

Ten to fifteen years ago, software delivery was a fairly straightforward process. Programmers and their managers worked together in a single location, communicating and collaborating face-to-face.

Now the process is much more complex. Teams may be scattered across the globe or telecommuting. And they may include not just your company's employees but also employees from other organizations, vendors or contractors. You may be in the process of adopting agile processes and struggling to find the right tooling. The list of stakeholders involved in the development process has grown to include legal and security officers, analysts, auditors and project managers. If you're going to successfully deliver high-quality software that aligns with your business objectives, addresses your requirements and adheres to regulatory compliance requirements, all of these stakeholders must be able to effectively collaborate and communicate. And virtually everyone—from developers to senior management—requires greater visibility into the development process to make sure projects are on schedule and addressing stakeholders' needs.

It's ironic that many development teams—the very organizations tasked with delivering innovative solutions—are often hindered by antiquated practices and tools. That's why IBM created a solution that can potentially change the way you create and deploy software. This white paper talks about how IBM Rational® Team Concert™ software can help unite your teams and simplify, automate and govern the delivery process. Based on IBM Jazz™ technology, Rational Team Concert software provides a single integrated environment for software delivery teams and stakeholders that can help you with agile planning, project governance, version control, task tracking and workflow, and continuous build. In short, it can help you manage today's complex software delivery environment so you can improve software quality and accelerate your delivery efforts.

Highlights

Rational Team Concert software helps developers effectively work together to attain peak performance.

Drive greater software innovation through enhanced collaboration and agile development

Rational Team Concert software can help individuals and teams work together effectively to attain peak performance. It's designed to connect dispersed development teams to enhance individual and team productivity, compress development cycles and help your company develop higher-quality, more-innovative software. This is accomplished with a unified—yet modular—set of development functions, including agile planning, work item management, version control and continuous build.

Rational Team Concert software can help your teams and stakeholders:

- Gain greater visibility into individual and team work.
- Track project progress with dashboards that include real-time project statuses.
- Identify defects earlier in the software delivery lifecycle, when they are less costly to fix.
- Accelerate development cycle times using out-of-the-box process workflows, common services and a unified application lifecycle management (ALM) architecture.
- Implement and enforce the use of best practices, including agile methodologies.
- Improve the predictability of project outcomes.
- Reduce total cost of administration by leveraging a highly scalable, centralized solution featuring high availability and security-rich project access control.

IBM Rational Team Concert software supports:

- *Team collaboration.*
 - *Streamlined agile development.*
 - *Automated governance.*
 - *Enterprise scalability.*
 - *Greater unification of diverse teams.*
-

Highlights

Rational Team Concert software manages relationships among artifacts and provides a rich communications infrastructure for project teams.

The collaboration tool includes planning templates for Scrum and OpenUP frameworks to make it easier for you to support or extend your agile or iterative process adoption.

Facilitate team collaboration

Rational Team Concert software can deliver collaboration in context by managing relationships among artifacts and providing a rich communications infrastructure for project teams. With straightforward setup and dynamic provisioning of new team members and projects, you can begin improving productivity from day one. This accelerated onboarding capability enables more rapid response to business needs and helps make the best use of business and technical talent wherever it is located. Rational Team Concert software is also designed to deliver just the right amount of governance by automatically collecting metrics and producing real-time reports and alerts—virtually eliminating administrative overhead and helping to reduce project risk.

Support your agile processes

Agile software development techniques have taken the industry by storm, with 76 percent of surveyed organizations reporting that their development teams had adopted agile techniques.¹ Agile is used by so many companies for a simple reason—it works. Agile teams enjoy high success rates, produce higher-quality software and systems, have greater levels of stakeholder satisfaction, enjoy lower development costs and have higher productivity rates.² Rational Team Concert software includes planning templates for Scrum and Open Unified Process (OpenUP) frameworks to make it easier for you to support or extend your agile or iterative process adoption.

Highlights

Rational Team Concert software helps enable team members to easily access the real-time information they need to keep projects moving.

Greater visibility, productivity and resource utilization

Rational Team Concert software includes project planning, work item support, source code control and continuous build. Because it leverages the IBM Jazz open integration architecture, Rational Team Concert software can help you optimize interoperability, improve visibility and minimize software delivery costs. Plus, the software delivers a number of other benefits.

Helps improve visibility and governance

To complete your projects on time and within budget, all of your stakeholders need insight into project statuses. Rational Team Concert software can automatically create and track the progress of individual work items in accordance with established team processes, best practices and project rules. So team members can easily access the real-time information they need to keep projects moving. As work is completed, Rational Team Concert software captures relevant information—such as who, what, when and why—associated with each work item to provide much-needed context when work items are shared among team members. The solution also tracks changes to artifacts automatically, so you can easily roll back to previous versions. And it provides support for code collaboration and approvals, so you can make sure your reviews and approvals are taking place on schedule.

Highlights

Using Rational Team Concert software, team members can work together more efficiently, regardless of their location.

The tool provides greater visibility into your teams' workloads, so you can more effectively utilize your resources.

Helps enhance productivity

Using Rational Team Concert software, team members can work together more efficiently, regardless of their location. Developers can host daily status meetings using taskboards, review change sets, discuss artifact changes and collaboratively debug programs — all in real time. Because there are no meetings to schedule and no e-mail threads to sift through, developers can make better use of their time, focusing on what really matters: producing high-quality software. Work items, code changes and build activities are all automatically linked, so it's easy to determine which changes caused errors. And developers can easily reproduce work spaces and suspend and resume development activities multiple times. Rational Team Concert software also provides the right combination of private and public workspaces. It includes integrated stream management and server-based sandboxes, so developers can work on problems in a controlled environment and then contribute the solution to the team's regular build.

Supports more effective resource utilization

Rational Team Concert software helps provide greater visibility into your teams' workloads, so you can more effectively use your team members. Project managers can use integrated dashboards and taskboards to quickly see who is working on what — so they can identify and reduce bottlenecks and distribute work as needed, helping your teams complete projects on time. And because Rational Team Concert software integrates project and resource management, there is no need for project managers to maintain external documents, spreadsheets or separate planning tools that can easily get out of sync.

Highlights

Using Rational Team Concert software, teams that rely on disparate tools — including those from IBM, other vendors, open source projects or in-house development — can share resources in a way that is open and nonproprietary.

“Where we previously used separate systems, with Rational Team Concert software we now have well-integrated functionality. Our developers are more efficient because they are better able to focus on important issues. Our project managers greatly value the ability to customize these dashboards and instantly provide status on their milestones.”

— Mika Koivuluoma, production manager, Tieto

Supports a broad range of products from multiple vendors

One of the primary goals of Rational Team Concert software is to enable teams that rely on disparate tools — whether the tools are from IBM, other vendors, open source projects or in-house development — to share resources in a way that is open and nonproprietary. So if you already have a point solution in place for version control, for example, you can continue to take advantage of that investment by integrating it with Rational Team Concert software. IBM works with IBM Business Partners, clients and other vendors to effectively integrate Rational Team Concert software with other solutions to simplify collaboration across the software delivery lifecycle.

Via direct integration with the Microsoft® Visual Studio client, Rational Team Concert software provides support for Microsoft Visual Studio developers. So your Visual Studio developers can directly access Rational Team Concert capabilities and collaborate with other teams to create a common planning process model and project status reporting framework. Plus, the Rational Team Concert environment integrates with Microsoft SharePoint and IBM Lotus® Quickr™ software, enabling software development and document collaboration. With this integration, other business stakeholders can participate in the broad collaboration and delivery support of Rational Team Concert software.

Highlights

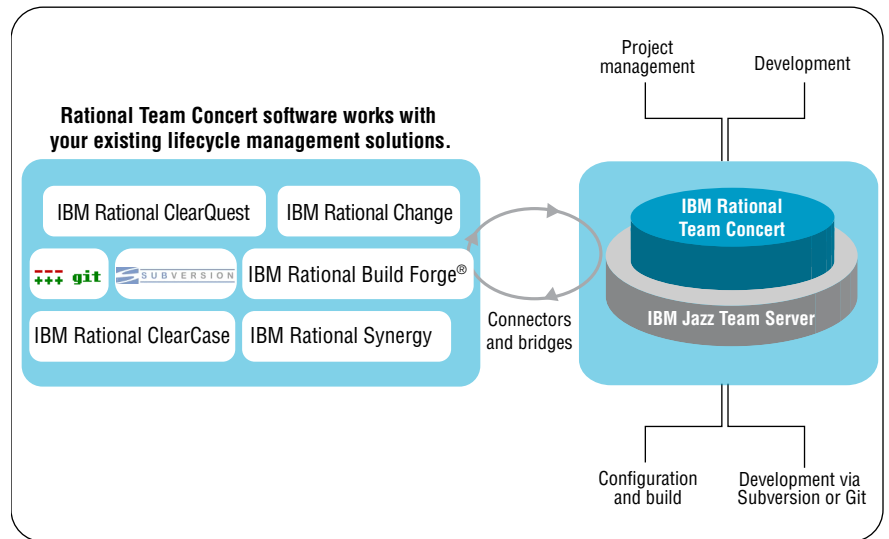


Figure 1: With Rational Team Concert software, your teams can take advantage of revolutionary collaborative application management capabilities while reducing your business risk. They can reuse enterprise assets, processes and investments; better manage application priorities and statuses; and deliver work directly into project platforms, even from satellite offices.

Day one productivity with flexible adoption

With Rational Team Concert software, you don't have to abandon your existing investments in lifecycle solutions.

Extend the value of your existing lifecycle solutions by adding Rational Team Concert capabilities, such as agile planning and project transparency.

- Add agile planning to your development strategies using Rational Team Concert software's comprehensive agile practice coverage capabilities.
- Integrate the software with established source control and change management solutions such as IBM Rational ClearCase® software, IBM Rational ClearQuest® software, Subversion, Atlassian JIRA, Git and other types of software.
- Adopt Rational Team Concert software for as many as ten developers at no charge.

Highlights

Rational Team Concert software provides an integrated software development environment that helps simplify administration and reduce your TCO.

The value of an integrated solution

Many organizations consider using open source solutions to address their development challenges. While there are many benefits to open source methods, there are times when a free solution might actually turn out to be more costly than a commercial application. If your company requires a high level of support or lacks the resources to customize the solution to your environment, for example, an open source application might not be the best option. It's also worth considering the value of an integrated software development environment.

Maintaining multiple, nonintegrated products leads to duplicate infrastructure investments. With an integrated solution, you only need one server to support all development tooling, which can help reduce your total cost of ownership (TCO). Plus, when you're using disparate tools, they each rely on their own, possibly proprietary, repositories, which can create incompatibilities that can stymie productivity. Or you may need to commit resources to creating and maintaining integrations between disparate products—which can become a problem when you need to scale your operations.

There are also administrative issues to consider. It can be time-consuming to maintain multiple software licenses for all of your different tools and to register new developers into several systems. With Rational Team Concert software, all of these business functions are integrated into a single solution, which makes it easy to onboard and offboard team members. And it's also easier for users. They need only one log-in to access all of the functionality they need to do their jobs.

A comprehensive set of change and configuration management solutions

IBM offers a broad range of change and configuration management software, including:

- **Rational Team Concert** software, which delivers powerful agile planning, risk assessment, work items, version control, continuous build, team collaboration and project health capabilities.
- **Rational ClearCase and Rational ClearQuest** software, which offer highly customizable software configuration management solutions with a wide range of hardware and operating system support.
- **Rational Synergy and Rational Change** software, which provide software configuration management that offers out-of-the-box task- and component-based processes along with capabilities that can help you with compliance and governance.

Based on IBM Jazz next-generation technology for collaborative software delivery

Rational Team Concert software is based on the Jazz open platform, which is designed to transform software delivery by making it more collaborative, productive and transparent, through integration of information and tasks across the phases of the software lifecycle. Designed to meet the needs of distributed teams, the Jazz platform combines an awareness of people, projects and processes with automation to accelerate the software lifecycle and improve project governance. It serves as the foundation for Rational Team Concert software, other solutions such as IBM Rational Requirements Composer and IBM Rational Quality Manager, and a wide range of IBM Business Partner ecosystem integrations. And the Jazz platform supports a wide range of operating systems, including Microsoft Windows[®], Linux[®] and IBM AIX[®] systems, as well as IBM i on IBM Power Systems[™] servers and IBM z/OS[®] and Linux on IBM System z[®] servers.

“At Temenos, Rational Team Concert software is used not only by development teams but also by our large help desk organization. Rational Team Concert software, bridged to Rational ClearQuest software, provides a single end-to-end task management system. A client can submit an issue using the Rational ClearQuest Web interface, we can develop a fix and submit it using the Rational Team Concert Eclipse client, and then we can report the resolution back to the client via Rational ClearQuest software. At management levels, we have reliable, real-time visibility of status, plans and teams across our projects. All aspects of the system are truly connected.”

*— Martin Bailey, product development manager
of technology and research, Temenos*

Highlights

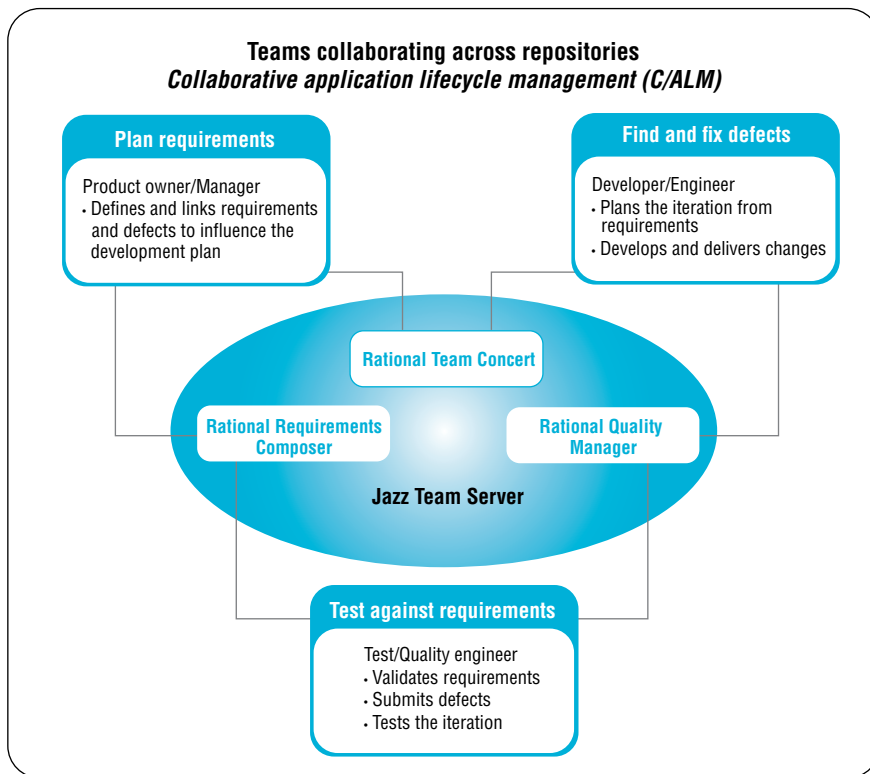
By consolidating your repositories into a single application lifecycle management repository, you can improve communication and improve software delivery.

Rational Team Concert software: a key component of collaborative application lifecycle management

Many organizations want or need traceability across disciplines, but few actually have tools that can support it. Without stage integrations across the lifecycle, teams are left to operate in silos. And when silos form, communication deteriorates and software delivery suffers. As a result, application lifecycle integration becomes one of the most pressing challenges facing software delivery teams.

To help break down silos, it makes sense to consolidate repositories where possible. However, sometimes important project resources already exist in disparate repositories across teams and organizations. For most organizations, migrating sensitive enterprise data into a single ALM repository and retraining the entire software delivery workforce on a new tool is not enticing and may not be an option.

To address these issues, you can leverage Rational Team Concert software as part of a broader, collaborative ALM solution. The software, along with other Jazz technology-based solutions—such as IBM Rational Requirements Composer and IBM Rational Quality Manager software—form an effective ALM framework that nurtures collaboration across development disciplines. This is accomplished via a proven set of usage scenarios that we call collaborative application lifecycle management: a robust set of solution connections that follow Open Services for Lifecycle Collaboration (OSLC) standards and exploit the Jazz integration architecture and Jazz foundation services.



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1 Scott Ambler, "State of the IT Union Survey Results: July 2009," *Ambyssoft*, <http://www.ambyssoft.com/surveys/stateOfITUnion200907.html>

2 Scott Ambler, "Agile Adoption Rate Survey Results: February 2008," *Ambyssoft*, <http://www.ambyssoft.com/surveys/agileFebruary2008.html>

Figure 2: Using Rational Team Concert software and other Rational solutions, teams across software development disciplines can easily collaborate and improve communication, resulting in more-efficient software delivery.

Conclusion

Producing high-quality software can be challenging. That's why it's important to equip your teams with the best tools to do their jobs. Rational Team Concert software includes just about everything your teams need to collaborate and successfully deliver high-quality software that aligns with your business objectives and addresses your requirements. It can help dispersed development teams enhance individual and team productivity, compress development cycles and develop more innovative software. Ultimately, the software positions you to develop higher-quality solutions faster.

For more information

To learn more about IBM Rational Team Concert software, visit:

ibm.com/software/awdtools/rtc/

To explore Rational Team Concert tutorials, demos and other resources, visit:

ibm.com/developerworks/rational/products/rtc/

To learn more how IBM is creating a scalable, extensible team collaboration platform, consider joining the Jazz community at:

jazz.net

To learn more about OSLC as an industry standard initiative, visit:

open-services.net