



The IBM Rational Jazz Strategy
for Collaborative Application Lifecycle Management

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Collaboration and the Development Landscape

Software and systems are essential to nearly every business. Global organizations require software solutions that span geographic boundaries, cultures, and business units and that comply with corporate governance mandates. Such global businesses must collaborate effectively and leverage existing investments, or lose out to competitors.

Fortunately, the global technology infrastructure—specifically the use of the Internet and Web-based services—provides proven, scalable, and often cost-effective solutions for the challenges of distribution and collaboration. New technology-driven ways of working, such as those leveraging Web 2.0 concepts, are familiar and have transformed users' expectations. For example, worldwide procurement via eBay or Amazon is an everyday occurrence. The power and value of collaboration among those building software is also well understood.

So why not implement these same approaches when developing and delivering business software solutions? Project teams are essentially a microcosm of the global business world: team members and the assets they produce are geographically distributed, and unique skills and resources can reside at any location. Successful application lifecycle management (ALM) environments must address this complexity by connecting all members and components of a project and then providing each individual with a role-based view. By coupling these two concepts—*global access* to a common project environment and an *individualized context* in which to work—teams have the potential to change the ways that they develop and deliver their products.

People produce high quality software. Tools and processes are enablers. With the Jazz project, IBM Rational is providing integrated tools and processes that help people working on distributed teams become more effective in producing software solutions. It calls this type of environment *Collaborative ALM*, and defines it as a “new paradigm for transforming the software lifecycle so that it is more collaborative, transparent, and productive.”¹ The Jazz project is Rational's vehicle for achieving collaborative ALM.

¹ Source: John Wiegand, IBM Software Group, Rational, Distinguished Engineer and Rational Chief Architect.

The Jazz Project encapsulates three distinct but related initiatives that enable collaborative ALM:

1. Rational's *vision* of an open integration architecture that can achieve truly collaborative, productive, and transparent software delivery in a global environment.
2. Jazz *technology*, a set of core services that enable ALM tools to add value and interact with each other.
3. A *community* in which Rational developers, customers, and business partners can collaborate on developing Jazz services and associated tools.

Just as Eclipse provides rich integration and productivity for individuals, Jazz does so for teams.

Key Benefits of the Jazz Project

Successful collaborative ALM requires innovation in collaboration, process, and transparency. These concepts underlie three of the key benefits of the Jazz project:

1. Collaboration in Context.

Diverse and geographically distributed teams work towards a single set of goals, as defined by a project. However, each participant on a project has his own role, his own responsibilities, and therefore his own context for working. "Collaboration in context" refers to a team member's ability to work with others on shared deliverables in the most productive way for the individual task at hand.

In the Jazz environment, team members are aware of who else is on the team, what each team member is working on, and the relationship of others' work to their own. But the Jazz technology goes a step further and treats all interactions as valued project assets, storing them as associations with the specific artifact (e.g., defect, test case) that was the source of the interaction. This approach to collaboration is unique to the Jazz offering and is perhaps its greatest differentiator. In a global environment, teams need to be able to draw upon resources regardless of their location. The greater the information available to a team member, the lesser the need for real-time interactions, reporting, and other forms of overhead. Individual productivity improves, as does the quality of team collaboration.

2. “Just Enough” Process.

No single development or deployment process is appropriate for any organization. Companies require a portfolio of processes to support the myriad projects that they run. The Jazz integration architecture supports the ability to define and implement a range of processes, from lightweight approaches used by small iterative teams to highly-structured, rule-driven processes necessary for corporate or regulatory compliance.

3. Global Transparency.

Transparency is a fundamental component of any collaborative ALM solution and a requirement to satisfy governance initiatives. Global teams must have the same degree of visibility at all locations. Effective transparency has two distinct aspects: the *availability of accurate information* and the achievement of *passive governance*.

Jazz addresses both of these requirements with a tool-based environment that unobtrusively generates and communicates accurate project metrics based on the organization’s unique guidelines. On distributed teams, developers, managers, customers, and other project participants all require real-time knowledge of a project’s status, issues, and risks. Jazz accomplishes this by providing automated user-defined processes, generated project metrics, and global access to dashboards at the individual, team, and portfolio levels.

In addition to these benefits, Jazz offers a future infrastructure for the many Rational ALM tools in use at large organizations, including acquired tools from Telelogic and third-party products. Jazz is designed so that shared services and data can be accessed via standard open interfaces and Web protocols.

Future versions of some Rational products will be “built with Jazz,” meaning that they will fully exploit Jazz Foundation services, processes, and infrastructure. Others will be “integrated with Jazz,” remaining independent products with their own infrastructure and repositories, but able to take advantage of common Jazz services and processes via bi-directional connectors and bridges, and integrations with “Jazz-built” products.

Rational Jazz Products

The Jazz Foundation, a set of shared services and interfaces for Jazz-based products, implements the underlying architecture for a new generation of Rational tools. The Foundation includes the Jazz Team Server technology, the core infrastructure for deploying and integrating tools, as well as a set of frameworks that aid in the construction Jazz-based products. Jazz products leverage the Jazz Team Server's support for in-context collaboration, real-time project health, event notification, process enactment and enforcement, global search and query, presentation mashups, security, role-based access, automated traceability, and a distributed repository for all development assets.

Rational Team Concert (RTC). RTC is the first family of collaborative ALM tools delivered using the Jazz Team Server. The goal with RTC was to think first about how people worked together on a distributed software development team, and then to design a tool to support those work styles and roles. Initially, RTC targeted small- and medium-sized distributed teams, particularly those using Agile processes for development or team management. In the 2.0 release, RTC Enterprise provides support for enterprise-scale projects, spanning teams, locations, and even organizations.

Rational Quality Manager (RQM). RQM is Rational's Web-based test management portal built to the Jazz architecture. Focused on addressing the needs of business analysts and QA professionals, RQM employs a test plan-centric view of testing assets. It provides the ability to use different perspectives for accessing and viewing testing assets, based on the user's role. For example, managers can review timelines and status reports for testing cycles, while business analysts can concentrate on test coverage for business requirements. In addition, test planning assets can be related to specific testing executables stored in Rational functional and load testing tools. RQM version 2.0 is expected in Fall 2009.

Rational Requirements Composer (RRC). In the area of requirements definition and management, Rational offers new visual tools and is providing integration among requirements, SCM, testing, and other ALM tools. RRC provides graphical modeling, storyboarding, and sketching tools for eliciting and defining requirements, and uses a wiki-like platform for enhanced collaboration among stakeholders and development teams. Users can also relate this rich requirements content through RequisitePro to other lifecycle assets, including test cases created in RQM, and thus be able to determine test coverage and traceability for requirements. RRC 2.0, also expected in Fall 2009, includes a Web client with support for review and approval of requirements.

Rational Insight. Visibility and transparency into project and process status are paramount for management teams, particularly those with portfolios that span geographic and organizational boundaries. Insight, Rational's new performance management tool, addresses this requirement and is one of the most important new offerings we've seen in the industry in years. Built using the acquired Cognos technology, Insight automatically collects and analyzes real-time data from a wide range of tools, accessing Jazz and third-party repositories. As a complement to Rational Insight, customers can take advantage of Rational's Measured Capability Improvement Framework (MCIF), a maturity model supported by multiple service offerings. MCIF draws upon a library of best practices experienced by different customers, so users can benchmark themselves against others' results.

Forthcoming Jazz Project Management Solution. This year, Rational is also developing a new Jazz-based tool for project management. Currently available in beta on Jazz.net, this product will be in general release at the end of 2009/early 2010. It provides project planning, scheduling, time tracking, and resource management functions that are essential to project managers, and takes advantage of the underlying Jazz Team Server for capabilities such as team collaboration.

IBM Software Delivery Services for Cloud. The Jazz Web-based integration architecture is also well-suited to providing the next generation of Jazz offerings in the Cloud. The forthcoming offerings (for both private and public Cloud environments) will allow teams to quickly implement a collaborative ALM environment without the up-front infrastructure costs and efforts. Support for private and public Cloud environments will be available in the first half of 2010.

In addition to delivering new Jazz-based products, Rational is integrating existing ALM products to take advantage of Jazz capabilities. For example, the newest release of Rational Asset Manager (RAM) has been refactored to the Jazz platform to improve users' collaboration and governance of software assets.

Early Customer Experiences

Some customers have had access to early versions of RTC since 2007, and so they have built a body of experiences and best practices. Among RTC's many features, early users highlighted several stand-outs:

- *Quick start-up.* Training for the core work item management capabilities is minimal. Some teams worked with Jumpstart staff to conduct a brief three hour training class; others just "figured it out" without formal training. RTC's pre-defined role definitions and workflows made it easy to add new team

members without administrative overhead. (Rational call this “day one productivity.”)

- *Seamless integration with the Eclipse IDE.* One customer noted that in the past, teams had to use three tools and switch from the Eclipse IDE to manage code in CVS and issues in Jira. With RTC, teams work from a single client environment and have access to all their development and collaboration tools—developers no longer need to leave the Eclipse IDE to access other ALM functions. Further, teams had little difficulty learning to use the new tool, since it leveraged the Eclipse interface.
- *Little need for reporting overhead.* By providing customers with a Web browser interface to the work item system and team dashboards, teams don’t need to spend time creating additional status reports. Also, providing 24x7 direct access to team progress led to goodwill and far fewer surprises for customers.
- *Simpler installation and management.* Teams noted that maintaining project assets in the Jazz repository cuts management overhead and is far simpler than maintaining separate SCM and defect tracking environments.
- *Ability to support existing processes.* Not all RTC teams are using agile processes. In fact, one large banking customer has adopted RTC for its waterfall projects, primarily to take advantage of RTC’s work item management and project planning capabilities. This company continues to use ClearCase and ClearQuest for SCM processes, in conjunction with RTC.

Achieving Strategic Benefits

With the Jazz project, Rational has developed breakthrough technology and is poised to set the standard for collaborative ALM. Those companies that adopt Jazz-based tools will be able to transform their software development organizations. Most notably, teams will be able to:

Deploy global teams of developers, managers, business users, and customers to produce leading-edge software;

Improve team productivity and quality through collaboration and seamless tool integration;

Provide real-time visibility into accurate project metrics for all project participants, regardless of their location;

Provide real-time analytics to monitor status and progress across projects, products, and organizational and geographic boundaries;

Employ Agile and iterative development and management practices to address ever-changing business requirements and to shorten delivery cycles; Achieve compliance with corporate governance and regulatory requirements without impeding team productivity;

Leverage development assets created and processes used by existing Rational ALM tools; and

Interact with Rational developers, other customers, business partners, academics, and anyone using Jazz.net to enhance the Jazz environment and participate in creating industry standards.

Jazz offers a great opportunity to initiate Agile projects and provide distributed teams with a productive collaborative environment. Given the current business climate of “deliver more with less much sooner,” organizations have no choice but to rethink the ways that they deliver software solutions. The Jazz project will help teams achieve that goal.

About the Author

Liz Barnett is the Principal Analyst at EZ Insight, Inc., an analyst and consulting firm focused on global software development issues and technologies, founded in 2005. In 2006, she also launched the Agile Journal, an online publication providing in-depth analyses and case studies for Agile developers and managers, and was Editor in Chief for its first two years. Previously, Liz spent 10 years as a Vice President and Research Analyst at Forrester Research, joining Forrester as a result of its acquisition of Giga Information Group. Liz has held management positions at Accenture, PepsiCo, Atelier Research, and New Science Associates (subsequently acquired by Gartner Inc.). Liz earned her B.S. in operations research and industrial engineering at Cornell University.

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