IBM

Rational® software

Delivering smarter, better products faster—with reduced cost and risk.

Flexible quality management processes and tooling from IBM

Highlights

■ *Provides a collaborative, Web-based platform that helps business, systems development, and other decision makers and quality professionals work together more easily*

■ *Delivers a centralized test management environment for test planning, execution, tracking and traceability*

■ *Enables geographically distributed teams to communicate more effectively, helping reduce risk*

■ *Speeds time to market with smart automation that increases operational efficiency and individual and team productivity*

■ *Enables greater insight into projects for informed, confident decision making via flexible reporting capabilities and metrics*

The world is becoming more interconnected, instrumented and intelligent. To get ahead, successful organizations are taking advantage of these new capabilities to produce smarter products and systems and to carve out new niches in the marketplace. However, producing smarter products and systems can be challenging. Made up of embedded and real-time software, along with electronic and mechanical components, smarter systems are highly complex and riddled with interdependencies. So organizations need more-innovative ways to manage their processes, technology and communication to maintain and improve their competitiveness. It's becoming clear that a more strategic approach to quality management is required and that companies need to move away from silos of testing to quality actions that span the lifecycle, from initial requirements elicitation to acceptance of the delivered product.

A quality management strategy can help you develop increasingly complex systems while reducing your costs and risk. It can also help you discover bugs earlier in the development and delivery lifecycle, when they are less costly to fix. In addition, it can help you instill quality in your products throughout the requirements, design, development and testing lifecycle.

A collaborative, customizable solution from IBM

IBM offers a comprehensive solution that can help you improve the quality of your systems while helping reduce your costs and risk. The solution is based on IBM Rational® Quality Manager software and provides a collaborative, customizable, Web-based platform that helps your business, systems development, and other decision makers and quality professionals work together—whether they're down the hall or across the globe. It delivers a test management

IBM collaborative application lifecycle management

Rational Quality Manager software

Quality dashboard

Test management

Create plan · Build tests · Manage test lab · Execute tests · Report results

Requirements management · Defect management

Best practices

Open services

Collaboration · Presentation: mashups · Discovery · Search and query · Storage · Administration: users, projects, process

IBM Jazz Team Server

Open lifecycle service integrations

Based on the Jazz platform, Rational Quality Manager software supports a more collaborative approach to software delivery.

environment for test planning, execution, tracking and traceability. Rational Quality Manager software is built on the IBM Jazz™ platform, which is designed to optimize how people work together to build systems—making software delivery more collaborative, productive and transparent. Jazz technology provides an extensible framework that dynamically integrates and synchronizes people, processes and assets associated with software delivery projects.

Reduced risk through greater collaboration

More effective collaboration can lead to greater innovation, closer alignment with marketplace needs and shorter time to market for a more rapid ROI. Rational Quality Manager software

supports collaboration by enabling geographically distributed stakeholders and teams to communicate more effectively using a Web 2.0–style interface. The interface is zero footprint, so project members can access up-to-the-minute information from practically anywhere. The application is role based, so you can deliver customized information to different project members. This way, you can make sure that all members of the team have access to the information they need, helping you keep projects on track and identify potential issues earlier, when they are less costly to fix. In addition, this visibility can help reduce the risk inherent in software delivery projects.

Increased efficiency through automation

When resources are stretched thin and projects continue to grow in scale and complexity, you need to find ways to do more with less. By automating your testing efforts with quality management software from IBM, you can help increase efficiency and productivity. You can help ensure that systems are tested throughout the entire lifecycle, rather than just at the end—when issues are more costly to fix. Automation within Rational Quality Manager software also provides version history and full traceability of quality-related artifacts. For example, you can automatically link testing to requirements to help make sure the final product aligns with your business needs.

Informed, confident decision making

To meet your quality objectives, you need to effectively manage your projects. Rational Quality Manager software provides flexible reporting capabilities and metrics, so you can deliver timely, relevant information to all project participants. Participants are able to make better decisions faster, which can help control project costs. Plus, armed with greater insight, your team members can detect problems earlier and take appropriate action, helping keep projects on track. This up-to-the-minute information can also be used to perform ongoing analyses to help you identify trends, make ongoing, incremental improvements, and prevent problems from occurring in the first place. Rational Quality Manager software consolidates all of your quality management information, giving you a greater degree of predictability in your delivery timelines and greater confidence in the performance of your systems.

In many projects, documentation is as important as the delivered system. By using the automated reporting capabilities in Rational Quality Manager software, your engineering resources are freed from the labor-intensive, error-prone task of manually collecting data and authoring reports, so they can be more productive in other areas. By maintaining history and versioning information of quality artifacts, Rational Quality Manager software makes it easier for you to respond to compliance and audit requests with automated evidence of adherence to regulations.

Integrated testing via connections to other quality and testing solutions
Testing complex systems is an involved activity that requires integrated tooling and techniques, from manual to automated testing using specialized test equipment. IBM Rational Quality Manager software includes a broad portfolio of testing products that can meet many of your testing needs. Rational Quality Manager software can be integrated with IBM Rational Test RealTime software for your complex embedded testing activities and with IBM Rational Functional Tester and IBM Rational Performance Tester software for testing hybrid systems applications (for example, those with Web interfaces). It also provides open interfaces to allow you to connect it to other quality and testing solutions—whether they're homegrown, third-party or IBM

solutions. Rational Quality Manager software can also capture your manual testing data, helping you build a single repository of test and quality data. By supporting connectivity to your existing testing products and data, Rational Quality Manager software allows you to integrate your data into a comprehensive lifecycle quality management approach.

Requirements management through integration with IBM Rational DOORS software
System quality is ultimately a measure of whether or not the product meets its requirements, so it's essential to have traceability. Rational Quality Manager software is integrated with IBM Rational DOORS® software, a marketplace-leading requirements management product for systems delivery. Rational DOORS software provides comprehensive features for structuring, managing, tracking and tracing requirements from business needs through technical specifications. Requirements information can be passed directly to your test planning, design and execution teams. During testing, the test status can be fed back to the requirements process, allowing you to verify and validate that your design is meeting the requirements, so traceability is maintained throughout the delivery lifecycle. Ultimately, resolving requirement and quality issues early in the lifecycle can reduce ambiguity and the high cost of rework.

Model-driven development and testing with IBM Rational Rhapsody software
Many systems developers have turned to a model-driven approach to development to improve efficiency and cope with complexity. However, embracing model-driven development has shifted the process bottleneck to the testing domain for many organizations. This has led to the development of model-based testing approaches, which can help boost test productivity and enable testers to keep up with the high levels of productivity in model-based development. Until now, however, such model-based testing has been isolated from the rest of the delivery lifecycle.

Rational Quality Manager software is integrated with IBM Rational Rhapsody® software, a leading systems engineering model-driven development product that includes an integrated model-based testing environment through IBM Rational Rhapsody TestConductor Add On software. You can automate many error-prone manual aspects of test creation and can test your designs early and often, helping improve product quality by eliminating problems as early as possible in the development cycle. The integration between Rational Quality Manager and Rational Rhapsody TestConductor Add On software unites requirements-driven quality and model-driven quality.

Workflow, change and configuration management through integration with IBM Rational Team Concert software

When you're developing complex systems, you can end up with many different products and configurations, which are subject to constant change as requirements evolve and errors and defects are detected and resolved. Project success—whether it's measured in terms of cost, time or quality—is directly related to the efficiency with which change and configuration is managed. Rational Quality Manager software is integrated with change and configuration management solutions from IBM, including IBM Rational Team Concert™ software, a collaborative workflow, change and configuration management tool. The integration leverages the benefits of the common Jazz platform, allowing you to link test cases directly to Rational Team Concert work items to help ensure that there's a clear relationship between what is implemented and what your test cases will test. This integration enables you to automate notifications of build status from Rational Team Concert to Rational Quality Manager software, so tests can be executed against new work products. It also enables you to manage the resolution of defects found in testing. By connecting change and configuration and quality management workflows, you can help ensure that you deliver high-quality systems.

Conclusion

There's no doubt that the planet is getting smarter. Differentiate your organization by delivering smarter products and systems. The IBM Rational quality management solution built around IBM Rational Quality Manager software provides the collaboration, workflow automation, test management, tracking and reporting capabilities you need to do things faster and better. So you can deliver higher quality systems with reduced risk and cost.

For more information

To learn more about quality management solutions from IBM, contact your IBM representative or IBM Business Partner, or visit:

ibm.com/software/rational/offerings/quality