

Deliver smarter products faster with reduced cost and risk



Integrated requirements, quality, and test management from IBM

Highlights

- Deliver predictable high-quality, innovative products that can meet market needs and optimize ROI
 - Help improve time to value and quality by reducing rework and cost while increasing productivity and process automation
 - Instill continuous process improvement
 - Facilitate enhanced decision support for products and systems
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Managing the complexity of smarter products

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 life cycle, from initial requirements elicitation to acceptance of the delivered product.

An integrated requirements, quality and test management strategy can help you develop increasingly complex products and systems while reducing your cost and risk. It can also help you discover defects earlier in the development life cycle, when those defects are less costly to fix. In addition, an integrated solution can help you instill quality in your products throughout the requirements, design, development and testing life cycle.

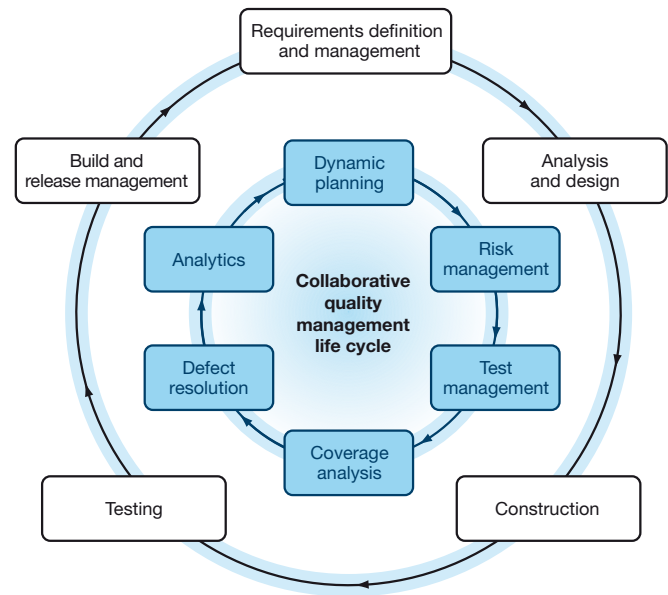


Reduced risk through greater collaboration

More effective collaboration can lead to greater innovation, closer alignment with marketplace needs and shorter time to market for a more rapid return on investment (ROI). The integrated requirements, quality, and test management capabilities of IBM® Rational® support collaboration across those involved in product development who have a role in ensuring market needs are met and required quality levels are achieved. The solution supports the needs of those roles by delivering 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 to 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 developing smarter products that often have to operate in safety-critical environments. Avoiding or detecting quality issues is not only a matter of saving time and cost, but can also help avoid life-threatening incidents.

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 efforts with integrated requirements, quality, and test management capabilities from IBM software, you can help increase efficiency and productivity. You can help ensure that quality reviews are performed throughout the entire life cycle, rather than just having a test phase at the end—when issues are more costly to fix. Automation within this solution also provides version history and full traceability of quality-related artifacts. For example, you can link testing to requirements to help make sure the final product aligns with market needs.



The quality management life cycle aligned with the systems and software engineering life cycle

Keeping ahead of your competition is key to market success and often relies on product innovation and differentiation. Becoming more efficient in ensuring quality in your systems and software engineering process will reduce time spent on quality assurance activities, and more importantly reduce the time spent on fixing problems, freeing up your engineers to spend their time being creative.

Informed, confident decision making

To meet your quality objectives, you need to effectively manage your projects. Rational's integrated requirements, quality, and test management solution offers flexible reporting capabilities and metrics, so you can deliver timely, relevant information to all project participants. Participants can make better decisions faster, which can help control project costs. Plus, armed with greater insight, project 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. The integrated solution from Rational links all of your requirements, quality, and test management information, offering you a greater degree of precision and predictability in your delivery timelines and greater confidence in the performance of your products. Missing promised product launch dates can seriously damage your reputation and impact customer loyalty—so predictability in managing delivery timescales is essential to announcing realistic timing of product availability.

In many projects, documentation is as important as the delivered product. By using the automated reporting capabilities provided by Rational's integrated requirements, quality, and test management solution, 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 requirements and quality artifacts, Rational's integrated solution makes it easier for you to respond to compliance and audit requests with automated evidence of adherence to regulations.

Creating high quality smart products with IBM Rational

The core capabilities of IBM Rational's integrated requirements, quality, and test management solution are:

- **Requirements management:** Provides capabilities for defining and managing requirements, providing traceability and alignment with market needs and industry standards.
- **Quality management:** Offers capabilities for helping ensure software and systems functionality, reliability, and performance in development and production.
- **Software testing:** Enables integrated process and tooling to validate and verify that your products meet intended specifications and requirements.

Conclusion

There's no doubt that the planet is getting smarter. To succeed in today's fast paced, competitive marketplace, companies must cultivate efficient and effective ways to collaborate across business and engineering domains. Differentiate your organization by delivering smarter, high quality products and systems.

IBM Rational's integrated requirements, quality, and test management solution provides the collaboration, workflow automation, test management, tracking, and reporting capabilities you need to do things faster and better. So you can deliver smarter, high quality products and systems with reduced risk and cost.

For more information

To learn more about integrated requirements, quality, and test management from IBM Software, contact your IBM representative or IBM Business Partner, or visit:

ibm.com/software/rational/offerings/lifecycle/

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