Rational® software

IBM

Gain control of your requirements process and meet your business goals with IBM Rational DOORS.

Are your requirements getting out of control?

Complexity. If you manufacture systems or IT applications, it's nearly impossible to avoid. And as products grow more complex, so do their requirements. Especially when you consider the ever-increasing numbers of stakeholders who must work together to identify customer needs and associated technical requirements. Moreover, these stakeholders are now dispersed practically everywhere—scattered across departments, the supply chain and the globe.

To continuously innovate, you need to be able to manage, track and collaborate on requirements. You need the ability to leverage the creativity and brain power of not only your entire organization, but also your suppliers, outsourcers and design partners. And you need to collaborate to deliver what your customers need and what you're contractually obligated to deliver—on time and within budget.

Do any of these challenges sound familiar?

→ Does your company develop manufactured systems or IT applications with large numbers of components or subsystems?

→ Do you need to manage many different types of requirements—from business objectives and user needs to technical requirements for software or for electronic and mechanical components?

→ Do you need to enforce rigorous enterprise-wide processes?

→ Is your company driven by either internal or external compliance standards to maintain a high level of traceability and auditability?

→ Do you need to foster collaboration among multiple internal groups, such as marketing, engineering and QA, and external groups, such as suppliers, outsourcers and design partners?

Rational DOORS can help you manage your requirements, so you can tackle these challenges head-on.

Develop more effective requirements to meet business goals and reduce rework

A requirements management solution can help you gain control of growing numbers of requirements and enable your stakeholders to work together. By improving communication and collaboration, you can develop better, more coherent requirements. And better requirements reduce project rework.

IBM Rational® DOORS® software is a leading requirements management application that can help you reduce costs, increase efficiency and improve quality by enabling you to optimize requirements communication, collaboration and verification — throughout your organization and across your supply chain. It can help you capture, link, trace, analyze and manage changes to information. So it's easier to make sure that your projects meet business goals, satisfy customer needs and address applicable regulations and standards.

Rational DOORS has been used to manage some of the world's largest projects, which, in some cases, have included millions of requirements and hundreds of thousands of traceability links — from business objectives to component requirements.

A comprehensive environment for requirements management

With its user-defined views, Rational DOORS can record and display requirements text, graphics, tables, attributes, change bars, traceability links and more. So your teams have easy access to the information they need to make better business and design decisions. Plus, using Rational DOORS Web Access software, stakeholders can access a Web browser to view, discuss and edit requirements — without having to install anything on their desktops. And using the requirements interchange format (RIF), your customers, suppliers, outsourcers and design partners can exchange requirements and traceability

information. Rational DOORS also supports requirements data in multiple languages and is fully localized into Japanese, aiding communication across global teams.

Part of the broader Rational portfolio for effective software and systems delivery

Rational DOORS is an integral part of the IBM Rational portfolio of solutions for more effective systems and software delivery. Rational DOORS integrates with the enterprise architecture, product portfolio management, model-driven development, quality management, and change and release management solutions from IBM. This integration allows you to make requirements the common thread that links management, marketing, development and quality assurance (QA) together to deliver IT applications or manufactured systems that meet the real needs of your business and your customers.

"Rational DOORS improves development team communication, helping us meet customer requirements more quickly and accurately."

—Delphi

Improve collaboration and increase efficiency with a central repository

Are you tired of having to constantly exchange marked-up requirements documents? Ad hoc requirements tracking systems are inefficient and error prone. When you use Rational DOORS, stakeholders no longer have to search through multiple documents to find the latest requirements specifications. The application manages requirements documents online, using a central repository that's accessible to your entire team, so everyone can access the most up-to-date information. Plus, each requirement is uniquely identifiable and additionally described by attributes. And because Rational DOORS enables users to lock sections of documents for editing, multiple users can view and update documents simultaneously—without the danger of conflicting changes.

Power users such as systems engineers or requirements analysts have access to editing, configuration, analysis and reporting capabilities through a comprehensive desktop client, while other stakeholders such as managers, marketing professionals, and your development and QA teams can view, edit and discuss requirements using a standard Web browser.

Time not spent in requirements is time spent in rework—at 200 times the cost.

Relative cost to repair

Analysis   Design   Coding   QA test   Acceptance   Maintenance

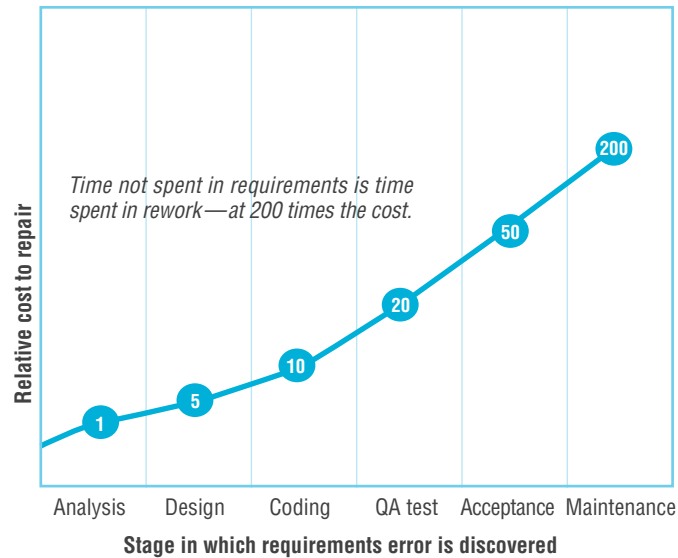**Stage in which requirements error is discovered**

Figure 1: Requirements issues drive excessive rework, delays, poor quality and project failures.

Address compliance with enhanced traceability

Companies today are facing a surge of regulations. And failing to comply with them can have serious consequences—from lost customer confidence to lost revenue. To help ensure that you stay in compliance with the necessary regulations, Rational DOORS logs who changed what and when—so you always have an audit trail of the changes that have been made. You can also use the traceability capabilities of Rational DOORS to show how the system under development will address compliance with industry regulations and laws. By linking requirements back to the regulation or law they address, you can show auditors how your system requirements, designs and tests intend to make your solution compliant with certain regulations or laws.

Rational DOORS can help you address and prove your compliance with many regulations, including those associated with the Federal Aviation Administration (FAA), the Department of Defense (DoD), the U.S. Food and Drug Administration (FDA), International Organization for Standardization (ISO) guidelines, the Health Insurance Portability and Accountability Act (HIPAA), the Sarbanes-Oxley Act and International Electrotechnical Commission (IEC)

standards. In addition, Rational DOORS provides an electronic signature capability that allows you to electronically sign off on requirements. Last, Rational DOORS supports role-based access control, so you can always be in control of sensitive information. You can govern who has access to projects, documents, requirements and even attributes. User authentication can be linked to your Lightweight Directory Access Protocol (LDAP) directory.

Rational DOORS can help you address and prove your compliance with just about any regulations, including FAA, DoD, FDA, Sarbanes-Oxley, IEC, ISO and HIPAA.

Handle change with impact analysis and change management capabilities

Requirements can change. But if proposed changes aren't carefully analyzed before they're implemented, they can seriously impact your ability to stay on schedule and within budget. You need to make sure that you have a way to assess and review the effect of changes, so you can make informed, intelligent decisions about the impact they'll have on cost, schedule and functionality. Rational DOORS can automatically notify your team of changes that will potentially affect other requirements or associated artifacts such as designs and tests.

Plus, it provides extensive impact analysis and reporting capabilities to trace the effect of a change to your business objectives, user and system requirements, detailed technical requirements, designs, and tests.

Rational DOORS includes the change proposal system (CPS), a built-in change process for requirements management. CPS is a ready-to-use requirements change management process that allows you to group dependent changes together or to create single changes that affect many requirements. Users can even set up the system to send an e-mail any time the status of their change proposal is updated.

Rational DOORS also integrates with Rational change management solutions, giving you the ability to implement an enterprise-wide change control process that can be customized to meet the specific needs of your organization. Through this integration, you can decide which review and approval steps are needed, along with who should be included in your virtual change control board. And you can use this integration to track the progress of your requirements through to implementation, so you know how close you are to being able to release your application or product.

Rational DOORS in action: BAE Systems Australia

BAE Systems Australia combines key skills in engineering and systems integration across air, land, sea and joint environments as a leading through-life capability partner of the Australian Defence Force. Using Rational DOORS, the company was able to enhance traceability, improving product quality and speeding time to market.

Challenge: The company was using multiple, diverse requirements management products, making it impossible for developers to trace requirements and collaborate efficiently, resulting in duplicated effort.

Solution: BAE Systems Australia standardized on the IBM Rational DOORS solution to create a requirements-driven approach to development.

Benefits: By adopting Rational DOORS, BAE Systems Australia has gained control of requirements traceability, testing and impact analysis, helping to improve product quality, accelerate time to market and enhance customer satisfaction.

"Rational DOORS gives us the traceability we need. Now, we can maximize reuse of requirements, better understand the scope of a project and estimate delivery times more accurately."

—BAE Systems Australia

Improve quality by integrating requirements management with quality management

Too often, tests fail to determine whether the application or product actually meets your business requirements. That's why it's important to make sure that the status of each requirement is measured in terms of quality.

Rational DOORS integrates with IBM Rational Quality Manager and HP Quality Center software, so not only can you base your test plans on your requirements, you also can link your test plans to your requirements. This way, you can easily see when there are outstanding defects from a test run of test cases that are linked to each of your requirements. Plus, you're able to measure the quality of the deliverable by how well it satisfies critical requirements, rather than what percentage of tests it has passed. Furthermore, analysts and testers can collaborate early in the lifecycle when requirements are developed, which can help avoid costly requirements errors, minimizing project rework and improving delivery time.

Leverage IBM's extensive experience to support your company's innovation

IBM has decades of experience creating tools that can help you improve the efficiency of your development process and the quality of your systems and IT applications. As part of the broader Rational portfolio from IBM, Rational DOORS can help you meet your requirements challenges head-on, so you can develop better requirements, improve collaboration among your stakeholders, manage change and address compliance. It can support your company's efforts to continually innovate, thereby helping you to better meet the demands of your customers.

For more information

To learn more about IBM Rational DOORS software, talk to your IBM representative or IBM Business Partner, or visit:

ibm.com/software/rational

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Produced in the United States of America
June 2009
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RAB14016-USEN-01