

Enhance visibility into and control over software projects



Rational software

IBM Rational change and release management software

Accelerating the software delivery lifecycle





Faster delivery of high-quality software

Software and software-based systems play a defining role in the ability of most organizations to respond rapidly and effectively to customers' demands while minimizing costs, maximizing on marketplace opportunities and addressing competitive threats. As a result, you face increasing pressure to deliver higher-quality software and systems solutions more quickly. Efforts to increase delivery speed are often complicated by siloed development, testing and deployment functions, as well as the disparate processes and tools used by teams that can span vast geographies. And outsourcing activities can add yet another barrier to effective communication and integration.

IBM Rational® change and release management software products unify and automate the software delivery process. The solution can help empower your business by accelerating software and systems delivery, making global teams more efficient and enabling governance of end-to-end software processes with minimal administrative overhead.

The IBM Rational solution is a comprehensive family of products that bridges technologies, functions, geographies and environments to deliver an integrated foundation for agile and streamlined software change and release management. The solution includes a powerful combination of software configuration management, software change management, and automated build and release management capabilities that increase process efficiency, communication and end-to-end traceability. Requirements management, design, development, testing, deployment and portfolio management can be tightly linked, allowing you to manage the full software lifecycle. The flexible, scalable architecture helps your global teams stay productive and deliver projects on time. Built-in auditing, configurable automated processes and strong role-based security capabilities can improve the governance of software delivery and simplify compliance management.

As a result, you can respond more quickly to customer needs and consistently meet project deadlines. You can detect errors in the software delivery cycle earlier, so teams can improve software quality and reduce costs. And you can improve project visibility, team efficiency and project control to mitigate risk and better manage tasks and schedules.

Increase visibility into projects

Software delivery projects can include cross-functional teams at multiple locations both inside and outside the organization. Often, these different groups operate independently, which can limit visibility into overall project performance. Systems analysts, developers, build teams, testers and those who deploy the software may all use different tools and processes.

Redundant information across the different silos may be incomplete and out of date, requiring manual effort to keep project content in sync. From a project management perspective, it can be virtually impossible to obtain a clear and complete understanding of what's occurring at any point in time across the software delivery lifecycle.

The IBM Rational change and release management product family brings together end-to-end project information in a single place. Consolidated project reporting is available in real time. Integrated performance metrics and lifecycle traceability help simplify and streamline analysis and oversight from requirements definition to software deployment and service monitoring. You can make better decisions, and you can make them fast. You can more easily manage and track project status, allocate resources, establish realistic project timetables and comply with internal and external mandates.

Improve control over projects

Manual processes can impede project success. They are difficult to control and are often unreliable and hard to reproduce. In addition, they're error prone, inconsistent and frequently undocumented, increasing the likelihood that critical steps will be delayed or missed entirely. Individuals may not be notified of changes that affect their work. Coordinating team activities consumes valuable staff time, and you can never be sure that compliance mandates have been met. And when manual processes are known only by a select few, the project is vulnerable to significant risk and loss of mission-critical information.

Enabling reliable, enforceable and repeatable processes

The IBM Rational change and release management products help get your processes under control. They integrate and automate the software lifecycle for reliable, enforceable and repeatable processes.



You can know that the right activities are being performed by the right people at the right time. You can incorporate best practices from project to project, and stop reinventing the wheel. The appropriate team members can be automatically notified when actions are required. The most current and complete information can be shared with team members. You can be sure that everyone is working on the right activities and on the right versions of the right files, and that no tasks are skipped, reducing risk and allowing your teams to work efficiently, saving valuable time.

Providing built-in process auditing

With the IBM Rational change and release management family of products, process enforcement, documentation and auditing are built in. You can achieve low-cost, ongoing compliance with automated workflow management, version and access control, a complete bill of materials and continuous audit trails. You can document the origin and detail of all activities that take place during the software delivery process.

And by linking requirements, code, build results, test cases, deployment records and other development assets, the IBM Rational change and release management products extend traceability across the full software lifecycle. Teams don't have to scramble to find information to prepare for an audit—it's all there.

Shorten delivery cycles for faster response

Inefficient and uncoordinated development processes can delay project schedules and make it difficult for you to respond to changing customer needs. Functional teams may be distributed, disconnected or working from information that is incomplete or out of date. It's difficult enough for you to coordinate sequential activities, let alone manage concurrent delivery of multiple application variants.

By providing automated, integrated and streamlined lifecycle processes across functions and distributed teams, the IBM Rational change and release management products can help you deliver

code fast. Automating information flow removes such redundant busywork as rekeying data. Automating interactions helps ensure you don't miss steps and helps keep team members in sync. It also removes bottlenecks and accelerates feedback so problems can be identified and resolved more quickly. Built-in features like parallel development support and build acceleration result in more iterative cycles for fast delivery. Team members can work concurrently on the same code base or product release to get more done in a shorter period of time.

Improve software quality

The later in your software development cycle that you find a bug, the higher the cost and the greater the risk of delays. Team communication and coordination failures can lead to errors that negatively affect product development and delivery schedules. Manual operations also can introduce errors when your team misses steps or completes them incorrectly.





By automating software lifecycle processes, the IBM Rational change and release management products help improve reliability and repeatability, eliminating errors from miscommunication, inconsistent information and missed or incomplete activities. Real-time feedback, error filters and integration with log data accelerate troubleshooting and problem resolution. Iterative development, together with more rapid development and build cycles, gives test teams more frequent access to releases, allowing them to detect problems earlier in the delivery cycle. And, by integrating typically siloed functions—including analysis, development, testing and deployment—the software enables effective collaboration to identify and fix bugs more quickly.

Manage complex, distributed environments

Development environments are becoming increasingly complex. You need to make offshore and distributed projects successful. You often deliver multiple product variants and features to both

internal and external customers. As the number of versions, team members and sites you have to manage increases, the more difficult it is to keep projects on track. Lack of standard processes, operations that don't scale and complex cross-platform environments make things even more difficult. Communications break down, impacting individual and team productivity.

IBM Rational change and release management products are designed to help global teams stay productive and deliver projects on time. Local and remote (WAN and Web) access capabilities, as well as flexible replication options, allow access from anywhere at any time. Centralized build and test management, process automation and customizable workflows help you effectively coordinate activities across different environments. Support for distributed, mainframe and midrange development across diverse platforms enables platform flexibility and enterprise-wide application development. And the scalable architecture supports teams of all sizes, from small workgroups to globally distributed teams.

A comprehensive solution for successful software and systems delivery

For flexibility in targeting the solution to your specific needs, IBM delivers the previously described capabilities within an integrated family of products. The software configuration management products help you manage and control your software assets. The software change management products automate and enforce software processes. And the build and release management products accelerate build and release cycles. With every product you implement, you further enhance individual and team productivity, expand visibility into projects and processes, improve management of distributed organizations and extend audit trails and traceability across the software lifecycle.





Manage and control your assets with IBM Rational ClearCase software

If you want to better manage software assets, you can start with IBM Rational ClearCase® software. Heterogeneous, cross-platform support enables you to store and manage your software assets for distributed, mainframe and midrange environments. All members of your local and/or enterprise-wide application development teams can have instant, controlled access to the digital content they need to create, update, build, deliver, reuse and maintain the software that's critical to your business.

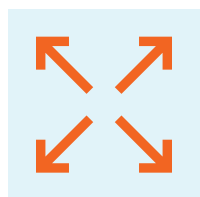
Features such as sophisticated version control, automated workspace management, parallel development support and baseline management enable you to streamline development and increase team productivity. Assets are securely captured and versioned with automatic documentation of what changes were made, when they were made and who

made them. This tight version control, together with build auditing, helps you ensure high-quality code. User authentication and audit trails help you meet compliance requirements. And with integration to design, development, build, test and deployment tools, you can manage your software assets across the full development lifecycle.

Streamline and enforce your processes with IBM Rational ClearQuest software

If you need to more effectively manage distributed teams in complex development environments, IBM Rational ClearQuest® software can give you greater project visibility and control throughout the development and delivery lifecycle. You have the information you need to make better decisions with real-time, consolidated reporting and metrics that streamline performance measurement and management of tasks and schedules, so you can respond more quickly to customer needs. With configurable automated workflows you're able to enforce development processes—from requirements definition through deployment—and improve team communication and coordination.

For higher-quality software releases, enterprise quality management capabilities remove the gap between development and test. You can define test plans, create test cases and associate test cases with specific test plans. Then you can automatically initiate test execution and capture test results for reporting and analysis. And you're able to simplify compliance management with access control, electronic signatures, repeatable processes and audit trails. By providing a comprehensive, end-to-end project view and automated control over your processes, Rational ClearQuest software helps you make sure nothing falls through the cracks—reducing overall project risk.



Compress build and release cycles with IBM Rational Build Forge software

If you need to further compress project schedules and improve software quality, IBM Rational Build Forge® software is designed to automate build and release management across multiple projects. It helps reduce errors that delay downstream testing and deployment activities by enabling developers to quickly build the system while writing code. Diverse build tasks are executed automatically so there are no time gaps due to manual intervention. Nondependent tasks can be run concurrently to accelerate build times. A detailed bill of materials documents the contents of each release for better reproducibility and compliance management.

Rational Build Forge software collects build information and generates intuitive reports to help you uncover bottlenecks, determine trends for specific projects and pinpoint areas where performance can be tuned. You can choose from numerous reports provided out of the box for fast analysis. You can also run ad hoc custom reports on the Rational Build Forge repository for improved visibility and decision support across projects.

And dynamic pooling helps you optimize your hardware environment. Servers that were previously dedicated to a single project become highly productive shared server pools. Build activities can then be distributed automatically across multiple machines, further accelerating build times.

Meet current and future needs

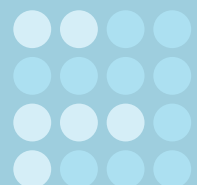
The IBM Rational change and release management products are part of the IBM Rational Software Delivery Platform—and part of IBM. As such, they're designed to integrate with a wide range of IBM Business Partner, third-party and open source development tools, so you can select the scope of the solution to address your current and future development challenges. No matter where you decide to start with implementing the IBM solution, you can gain results quickly, without sacrificing the flexibility you need to scale as your environment changes.



For more information

To learn more about how IBM Rational change and release management products can improve visibility and control of projects and accelerate delivery of high-quality software, visit:

ibm.com/software/rational/offerings/scm.html





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