

To address these concerns and keep up with today's tight timelines, companies need a code quality solution that is automated, objective and comprehensive. IBM Rational® Software Analyzer software now integrates with the IBM Rational Team Concert™ collaborative software delivery environment, enabling you to automate your code quality processes. The Rational Team Concert environment is based on the IBM Jazz™ platform, a technology platform designed to make software delivery more collaborative, productive and transparent. This solution:

- *Automatically checks code, helping prevent any rework needed to attain compliance with corporate programming governance and compliance mandates.*
- *Enables developers to identify code-level issues early in the software development lifecycle, when they are less costly to fix.*
- *Helps keep structural coding errors out of test environments.*
- *Frees developers and testers from having to perform code reviews and allows them to focus on higher-value tasks.*

IBM Rational Software Analyzer software now integrates with the IBM Rational Team Concert environment, enabling you to implement automated code quality processes throughout the software development lifecycle.

Discovering issues early in the development lifecycle

Auditing software late in the development lifecycle can not only have a devastating effect on your development teams, but on your entire organization as well. In fact, as much as 80 percent of software development budgets are spent identifying and correcting defects.* That's why it's critical to analyze your code and make sure that you are adhering to governance and compliance best practices as early as possible in the lifecycle, when issues with code are less costly to fix.

As much as 80 percent of software development budgets are spent identifying and correcting defects.

Using Rational Software Analyzer technology in conjunction with the Rational Team Concert environment, you can make sure your teams are using consistent code review processes. Plus, your stakeholders can automatically insert code quality policies and standards throughout the software delivery process, which allows your development teams to detect—and in many cases correct—coding issues to help improve the overall quality of code as early as possible. Rational Software Analyzer software essentially performs the equivalent of spelling and grammar checking on your code. It offers:

- *A rich set of out-of-the-box programming rules that enable development teams to perform code reviews using development best practices.*

- *An extensible framework that allows development teams to create custom rules and reports to help enforce your company's own coding best practices. This framework also enables you to plug in other analysis products for centralized management of third-party products.*
- *A single framework to establish multiple dimensions of overall application health, along with code quality, security vulnerability and other aspects of application development.*
- *Automated and centralized code scans that incorporate code quality analysis into existing build processes, adding a layer of static analysis quality checks.*
- *The ability to manage code review, measurements and metrics to determine the overall health of development projects.*

Enhancing collaboration

Successful development involves many stakeholders who all participate in the software delivery lifecycle. That's why timely, accurate communication between disparate teams is critical to controlling project timelines, risks and costs. By using the combination of Rational Software Analyzer and Rational Team Concert software, teams gain an integrated solution that can help enhance collaboration and lead to improved code quality. The solution includes:

- **Automated code review processes.** *Your teams can insert code quality reviews into the overall software development process. Plus, managers can track the progress of each developer's adherence to code policies using preconditions set by the Rational Team Concert administrator through configured rules in Rational Software Analyzer software.*

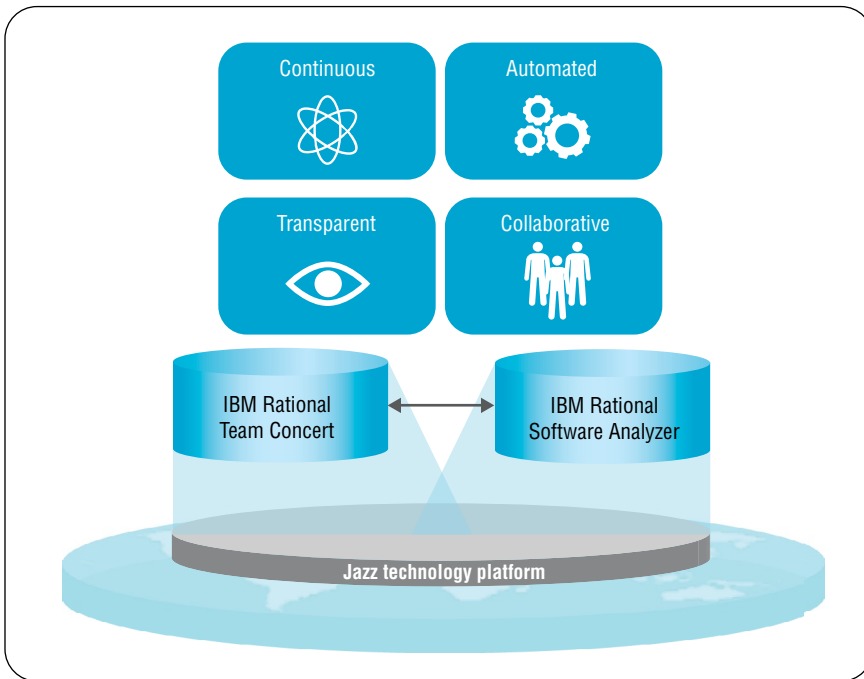


Figure 1: Rational Software Analyzer and Rational Team Concert software work together to help you optimize your agile development with automated code quality.

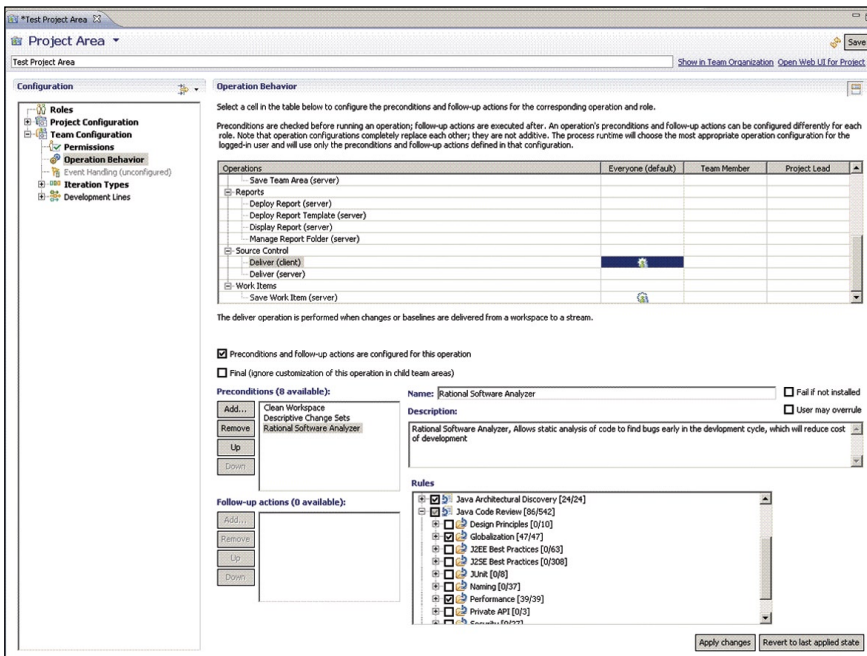


Figure 2: Through automated code quality processes, you can continuously check code for quality issues and find bugs earlier in the software development lifecycle.

- **Team mentoring.** Using shared data rule sets, teams can better collaborate and share information essential for meeting corporate coding standards. Using the Rational Software Analyzer product, developers can configure code quality rules into their own integrated development environments (IDEs), which simplifies the code quality analysis process and enables developers to produce higher-quality code, regardless of their level of development expertise.
- **Incremental analysis.** The solution looks at previous scans and only analyzes the code that has been changed since the previous analysis, dramatically reducing the time required to identify code quality issues.

By integrating Rational Software Analyzer with Rational Team Concert software, you can enforce code governance policies, best practices and quality procedures throughout the entire software development lifecycle. Plus, you can take advantage of the Rational Team Concert environment to implement a more collaborative approach to code reviews, and to access metrics and reports that can help you determine the overall health of your organization's development projects. When developers can produce higher-quality software, and managers can gain the visibility they need to keep track of project progress, organizations can reduce risks, lower costs and reach operational excellence.



For more information

To learn more about how IBM Rational Software Analyzer software and the IBM Rational Team Concert environment can deliver automated code quality that optimizes development and enhances collaboration and visibility, contact your IBM representative or IBM Business Partner, or visit:

ibm.com/software/awdtools/swanalyzer

or

ibm.com/software/awdtools/rtc

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Software Group
Route 100
Somers, NY, 10589
U.S.A.

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* National Institute of Standards and Technology, "Software Errors Cost U.S. Economy \$59.5 Billion Annually," June 28, 2002, http://www.nist.gov/public_affairs/releases/n02-10.htm