Easy-to-use performance test automation for ensuring the scalability of complex applications
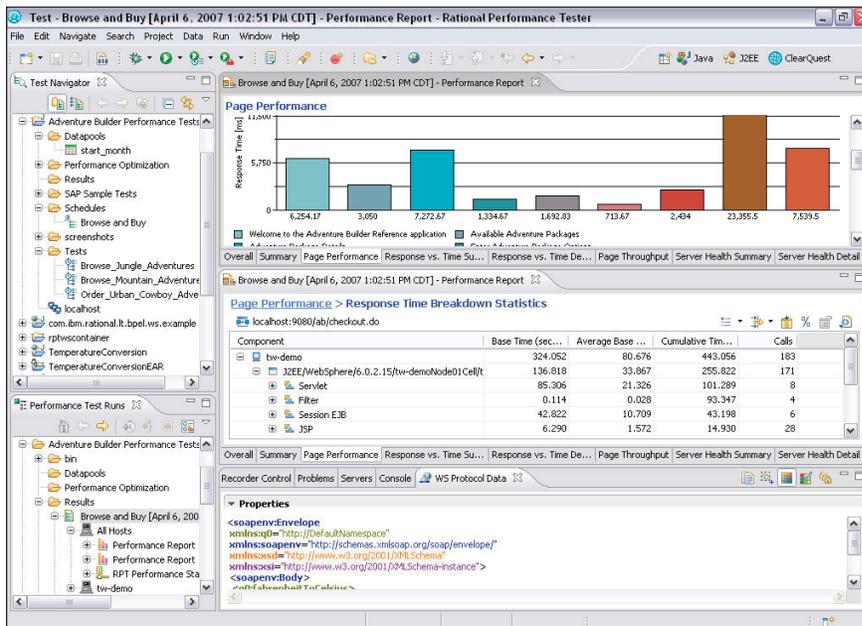
IBM

Rational® software

IBM Rational Performance Tester

Highlights

■ *Executes multiuser performance testing for Microsoft Windows, Linux, UNIX and mainframe environments with an available Windows and Linux software-based user interface*

■ *Supports load testing against a broad range of applications such as HTTP, SAP, Siebel and Citrix*

■ *Enables Windows, Linux and mainframe technology-based test execution*

■ *Provides a rich, tree-based test editor that delivers both high-level and detailed views of tests*

■ *Offers flexible modeling and emulation of diverse user populations*

■ *Reports in real time to enable immediate recognition of performance problems and renders an HTML browser-like view of Web pages in the test*

■ *Automates identification and management of dynamic server responses*

■ *Automates test data variation and enables insertion of custom Java code for flexible test customization*

■ *Collects and integrates server resource data with real-time application performance data*

■ *Minimizes the memory and processor footprint, enabling large multiuser tests with limited hardware resources*

■ *Helps ensure a shared user experience across team disciplines, through integration with the IBM Rational Software Delivery Platform*

IBM Rational® Performance Tester software is a performance test creation, execution and analysis tool for teams validating the scalability and reliability of their Web and enterprise resource planning (ERP)-based applications before deployment. It combines a simple-to-use test recorder with advanced scheduling, real-time reporting, automated data variation and a highly scalable execution engine to help ensure that applications are prepared to handle large user loads.

Few organizations can survive without increasing their presence on the Web. Business must be conducted in real time, where interactions with customers, suppliers, partners and employees require immediacy that old infrastructures simply can no longer support. Change is one of the few constants.

Building a successful Web presence or ERP implementation hinges on two fundamentals—functionality and performance. Functionality refers to what the application lets its users accomplish, including the transactions it enables and the information it renders accessible. Performance refers to the system's ability to complete transactions and to furnish information rapidly and accurately despite high multiuser interaction or constrained hardware resources.

Rational Performance Tester validates the scalability and reliability of applications.

Application failure due to performance-related problems is preventable with predeployment performance testing. However, most teams struggle with one or more of the deficiencies listed below, guaranteeing trouble with availability, reliability and scalability when teams deploy their application to the "real world."

- *Failure to anticipate and understand true user behavior*
- *Incomplete or nonexistent performance testing prior to deployment*
- *Load test inexperience, inhibiting creation of performance tests that accurately mirror user activity*
- *Inability to quickly assess a bottleneck and determine the root cause of a problem*

Constructed to address these concerns, Rational Performance Tester reduces load testing complexity while providing robust customization features and reporting capabilities, ensuring teams of various skill levels can effectively validate the performance of their application prior to deployment.

Rapid adoption

Rational Performance Tester contains features explicitly designed to enable you to quickly build, execute and analyze the impact of load on your application environment. Test recording simply involves interaction with the targeted Web-based application or ERP solution through your browser of choice or ERP client. The resulting test is presented in a concise, tree-based editor, which exposes

underlying details to the expert on a "need-to-know" basis. Dynamic server responses are identified and handled automatically to enable data-driven testing—to vary input data from one emulated user to the next—without having to modify the test by hand. And using the built-in application-specific viewer, you can view each visited page or screen offline to review user interaction and transaction ordering. Test scripts can be grouped together in various combinations to reflect the multiple types of users comprising the projected user population. You can then specify the level of simulated user transactions to be emulated. Test execution is accompanied by simple-to-read, real-time reports that update throughout the test run. Bottlenecks based on metrics such as round-trip performance, transaction rates and system diagnostics are highlighted. Utilizing technology from IBM's world-class autonomic computing solution set, Rational Performance Tester is able to first isolate a bottleneck to an overall transaction, then to a given tier in the target environment, then to the specific resource that's causing the bottleneck.

Robust analysis and reporting

Individual page or screen response times can be decomposed into response times for individual page elements (for example, JPGs, Java Server Pages, Active Server Pages), which helps testers identify the elements responsible for poor page or screen response time. And the ability to insert custom Java™ code that can be executed at any point during test execution supplements automated data correlation and data generation capabilities. This capability permits advanced data manipulation and diagnostic techniques.

During test execution, system resource information such as CPU and memory utilization statistics can be collected from remote servers and correlated with response time and throughput data. Collected resource data is crucial for diagnosing which remote system—router, Web server, application server, database server, etc.—is responsible for detected delays, as well as for pinpointing the component (for example, CPU, RAM, disk) that is causing the bottleneck.

Lowered cost of performance testing

Rational Performance Tester generates a low processor and memory footprint when emulating multiple users. As a result, high levels of scalability can be achieved even if the team does not have access to excessive computing power. In addition, test execution and system information retrieval can occur on Microsoft® Windows®, UNIX® and Linux® software-based machines, optimizing a team's usage of existing hardware resources.

An integral part of the IBM Rational Software Delivery Platform

Rational Performance Tester is an integral component of the IBM Rational Software Delivery Platform. The Rational Software Delivery Platform is the industry's most complete and powerful solution for software system creation and application lifecycle management. It provides automation support for essentially all aspects of software development. And it unites team members by enabling them to share information effectively with one another and between their tools. Integration into the Rational Software Delivery Platform helps ensure a shared user experience across team disciplines. From the perspective of

performance testing, this means that developers, testers and members of the IT operations teams can build, share and analyze performance tests from within the same user interface they use to construct, test, deploy and monitor their applications, using other tools within the Rational Software Delivery Platform.

Supported by IBM Rational services

Like all IBM Rational tools, Rational Performance Tester is supported by an extensive worldwide staff of professional services consultants who bring years of experience to help you lay a solid foundation for successful software development projects.

You can engage Rational professional services on large-scale customized consulting projects that are tailored to meet your organization's unique needs, or you can engage your local account team for short-term assistance with a single challenge. Several types of packaged services are also available, including offerings that provide an objective assessment of your software development capabilities, deploy a new tool or methodology, or help you produce tangible assets through a facilitated workshop.

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