IBM Rational Performance Tester

Highlights

- **Multi-user performance testing for Web-based applications**

- **Visual editor delivering both high-level and detailed test views**

- **Flexible modeling and emulation of diverse user populations**

- **Low memory and processor footprint, enabling large multi-user tests with limited hardware resources**

- **Real-time reporting to enable immediate recognition of performance problems**

- **Automatic identification of and support for dynamic server responses**

- **Automated test data variation**

- **Dynamic variation of user load during the test**

- **Collection and visualization**

- **of server resource data**

- **Browser-like display of each Web page within a test**

- **Permits custom Java code insertion Java code insertion for flexible test customization**

- **Windows and Linux-hosted test execution**

- **Ships with full-use copy of IBM Rational ClearCaseLT**

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 requires an immediacy that old infrastructures often can no longer support. Change is now one of the few constants.
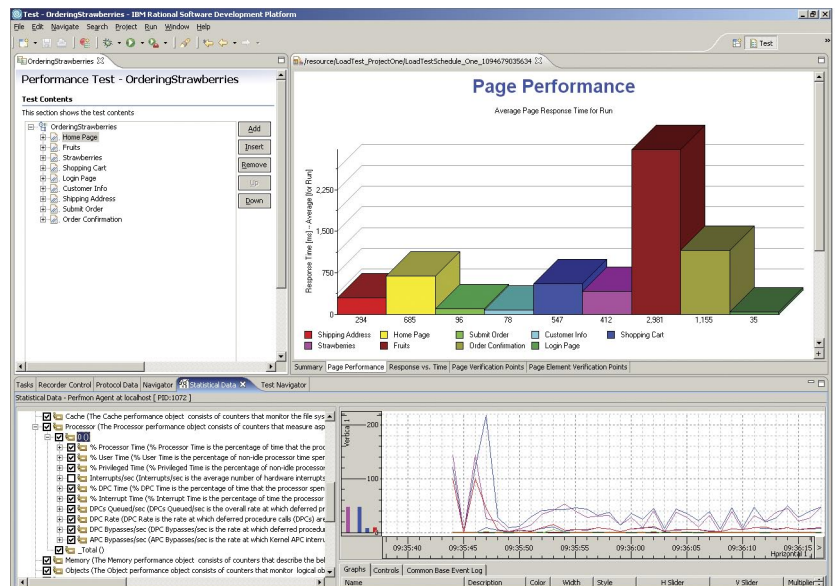

Figure 1. IBM Rational Performance Tester is a performance test creation, execution and analysis tool for teams validating the scalability and reliability of their Web-based applications before deployment. It combines a simple-to-use test recorder with advanced scheduling, real-time reporting, automated data variation and a highly scalable execution engine to ensure applications are prepared to handle large user loads.

Building a successful Web presence hinges on two fundamental ingredients – 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 multi-user interaction or constrained hardware resources.

Application failure due to performance-related problems is preventable with pre-deployment performance testing. However, most teams struggle with one or more of the following deficiencies, guaranteeing troubles with availability, reliability and scalability when deploying 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*

IBM® Rational® Performance Tester was constructed to address these concerns. Performance Tester reduces load testing complexity while providing robust customization features and reporting capabilities, helping to ensure teams of all skill levels can effectively validate the performance of their application prior to deployment.

Rapid Adoption for the Novice

Rational Performance Tester contains features explicitly designed with the novice load tester in mind. Test recording simply involves interaction with the targeted Web-based application through the tester's browser of choice – Internet Explorer, Netscape or Mozilla – on the operating system of choice – Windows or Linux. The resulting test is presented in a high level visual editor, capable of exposing underlying details to the expert on a "need-to-know" basis. Dynamic server responses are identified and handled automatically to help the novice conduct 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 Web page viewer, each visited page can be viewed offline to review user interaction and transaction ordering.

Test scripts can be grouped together in various combinations to reflect the multiple types of users that comprise the projected user population. Testers then specify the number 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 reflected in metrics such as round-trip performance, transaction rates and system diagnostics are highlighted in these reports

Advanced Capabilities for the Expert

Rational Performance Tester supplements rapid adoption capabilities with more advanced features for the expert – including members of the development team as well as experienced testers and IT administrators.

Individual page response times can be decomposed into response times for individual pages elements (ex. JPGs, JSPs, ASPs), helping testers identify the elements responsible for poor page response time. And supplementing automated data correlation and data generation capabilities is the ability to insert custom Java code that can be executed at any point during test execution. 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 the component (CPU, RAM, disk, etc) that comprises 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 can occur on Windows and Linux machines, optimizing a team's usage of existing hardware resources.

Built on open standards

Rational Performance Tester is built upon both the Eclipse architectural framework and its test, trace and monitoring extension, Hyades. Both Eclipse and Hyades are open source projects that provide shared, open services across tools that target application development, testing, deployment and monitoring. This infrastructure promotes benefits ranging from the elimination of proprietary datastore formats to enabling support for both internal and third party customization and contribution. An investment in tools based on Eclipse and Hyades can avoid vendor lock-in and encourages future innovation.

An Integral part of the IBM Software Development Platform

IBM Rational Performance Tester is an integral component of the IBM Software Development Platform. The IBM Software Development 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. Further it unites team members by enabling them to share information effectively with each other and between their tools.

Integration into the Software Development Platform is designed to ensure a shared user experience across team disciplines. From the perspective of performance testing, this means the ability of testers and members of the IT operations team to 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 Software Development Platform

Component of the IBM Rational Professional Bundle

IBM Rational Performance Tester is included in IBM Rational Professional Bundle, comprised of all the desktop tools an enterprise needs to design, construct, and test J2EE/Portal/Service-oriented applications, in a single purchase vehicle with one maintenance contract to manage.

IBM Rational Services

A variety of service offerings are available to complement IBM Rational tools and best practices to help you build the capabilities you need in a combination that's right for your business. Our services are designed to help you build team skills, reduce the time to productivity when implementing a new solution, and to maximize the return on your investment in IBM Rational tools.

- *IBM developerWorks: Rational is the technical resource for the community of development professionals using or evaluating IBM Rational tools and best practices. developerWorks: Rational offers a variety of downloads, resources, discussion groups, and education designed to help you utilize IBM Rational solutions to best advantage.*

- *IBM Rational software training offers a curriculum that includes courses covering all the software development capabilities. A blended curriculum of provides a variety of options to suit your organization's education needs.*

- *The IBM Rational worldwide staff of professional services consultants 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.*

- *IBM Rational Customer Support helps ensure that your project keeps moving forward with the help you need, when you need it. These maintenance programs offer efficient problem resolution with both online access to tens of thousands of technical notes, patches, and upgrades, as well as direct access to a talented team of support engineers. IBM Software Maintenance is the standard maintenance offering, and Technical Support Account Services can supplement this, according to your business requirements*

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About IBM Rational software

Rational® software from IBM helps organizations automate and integrate the core business process of software development. Rational products, services and best practices power the IBM Software platform for teams who discover, develop, and deploy software assets in business applications, embedded systems, and software products. This modular and complete solution enables teams to adopt a business-driven development approach based on open standards, including the Eclipse framework. The result is differentiated business performance. Additional information is available at **ibm.com/rational** and **ibm.com/developerworks/rational/ rationaledge**, the monthly e-zine for the Rational community.

IBM Rational Performance Tester hardware and software requirements

- Operating System for User Interface:
  - Windows XP SP1 and SP2
  - Windows 2000 Professional SP3 and SP4
  - Red Hat® Enterprise Linux 3
  - SUSE® Linux Enterprise Server 9

- Operating System for Execution Agent:
  - Windows® XP SP1 and SP2
  - Windows 2000 Professional SP3 and SP4
  - Windows 2000 Server SP3 and SP4
  - Windows 2000 Advanced Server SP3 and SP4
  - Windows 2003 Server – Enterprise Edition
  - Windows 2003 Server – Advanced Edition
  - Red Hat® Enterprise Linux® 3
  - SUSE® Linux Enterprise Server 9

- Additional Execution Agent platform support may be available. Contact your IBM Rational sales team for details.

- Processor
  - Intel® Pentium® IV 1.5 GHz or compatible

- Available RAM
  - Minimum: 512 MB product
  - Recommend: 1 GB

- Available Disk Space
  - 1.5 GB