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

Rational software

IBM® Rational® Performance Tester

Highlights

- **Multi-user performance testing for Windows, Linux, UNIX and mainframe environments**

- **Windows and Linux-based user interface**

- **Windows, Linux, UNIX and mainframe-based test execution**

- **Rich, tree-based test editor delivering both high-level and detailed views of a tests**

- **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**

- **Collection and integration of server resource data with real-time application performance data**

- **Rendered HTML browser-like view of web pages in test**

- **Custom Java code insertion for flexible test customization**

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 simply can no longer support. Change is now one of the few constants.
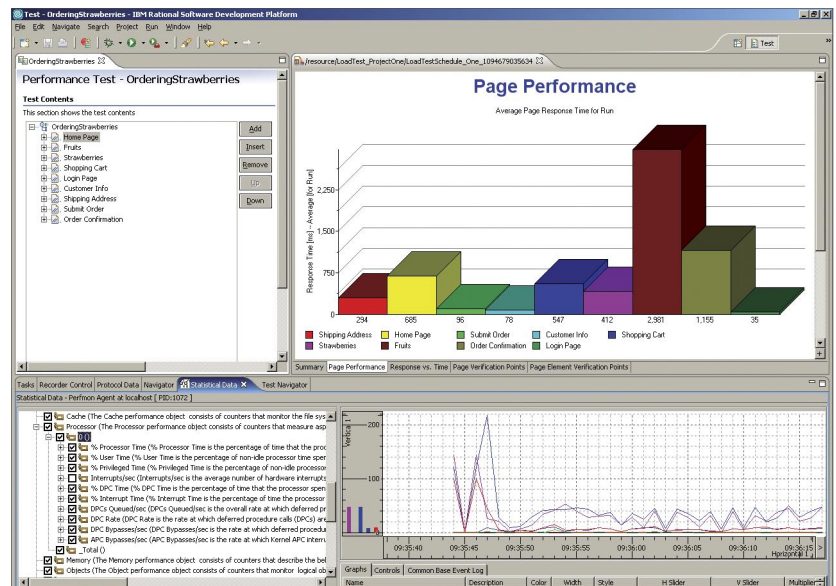

Figure 1. IBM Rational Performance Tester is a performance test creation, execution and analysis tool for teams validating the scalability and reliability of their Web-based applications before deployment. It combines a simple-to-use test recorder with advanced scheduling, real-time reporting, automated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

ON DEMAND BUSINESS™

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, ensuring 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 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 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. Users 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 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 (e.g., 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 and system information retrieval can occur on both Windows, UNIX, and Linux-based 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 avoids vendor lock-in and creates opportunity for future innovation by IBM, it partners and is customers.

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 IBM Software Development Platform ensures 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 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.

Member of the IBM Rational Professional Bundle

IBM Rational Performance Tester is included inside IBM Rational Professional Bundle, which includes all of 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.

Supported by 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.

Specifications

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 Rational Sales Team for Details

- Processor
  – Intel® Pentium® IV 1.5 GHz or compatible 500 MHz PIII
  – Recommend: 1.4+ GHz PIV

- Available RAM
  – 768 MB

- Available Disk Space
  – 1.5 GB installation directory per product

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