IBM Innovate 2011
Rational Solutions For Packaged Application Testing

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IBM Software

Innovate2011

The Premier Event for Software and Systems Innovation

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Business Challenges Solved by Rational Solutions for Packaged Applications

- **Coordinating Change Across Enterprise IT**
  - Most enterprises are heterogeneous – mix of legacy, custom, and packaged applications
  - Traditionally application delivery to the business is silo'ed with each package having its own separate set of tools and lifecycle approaches

- **Ensuring Quality and Security Of Deployed Business Processes**
  - Packaged applications are deployed via changes to the existing system and most have multiple points of integration with other applications and multiple types of user interfaces
  - Testing and QA are the primary activities next to business process definition

- **Managing Business Requirements Across the Enterprise**
  - Documenting gaps between AS-IS and TO-BE business processes is a primary task with packaged delivery
  - Given the heterogeneous nature of large enterprise IT shops, managing the relationship between business gaps and their implementation across legacy, custom, and packaged applications is difficult

"The biggest challenge for us is keeping the project itself in scope — keep it in time, budget, and quality because SAP projects are very complex…you always have to put very high attention on change management on the project to keep the life cycle in short terms."

"My biggest pain was the integration with the non-SAP applications."

"Wouldn't it be great if we could extend [SAP] Solution Manager's capabilities to manage all of the applications and infrastructure as well. Then we get one view of everything and manage it all out of one tool set."

Govern the QM Lifecycle with Rational Quality Manager
The first centralized test management offering on the Jazz platform

Jazz IBM Collaborative Application Lifecycle Management

Rational. Quality Manager

Quality Dashboard

Test Management

Requirements

Defects

Create Plan	Build Tests	Manage Test Lab	Execute Tests	Report Results

Functional Testing

Performance Testing

Web Service Quality

Code Quality

Security and Compliance

Application Lifecycle Management with SAP Solution Manager and IBM Rational software

SAP Solution Manager

IBM Rational
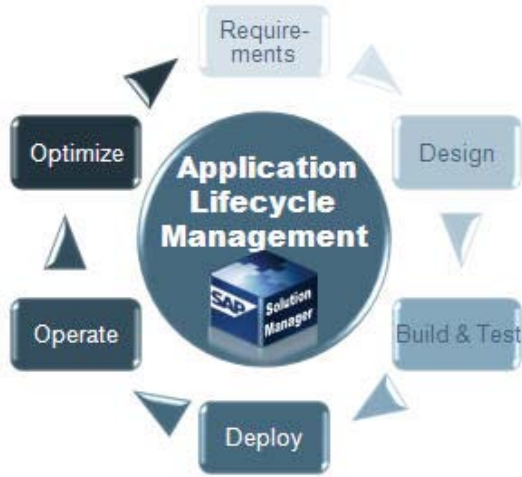
- **Reduces risk and lowers TCO** through standardized and integrated E2E Solution Operations according to ITIL

- **Optimizes business benefits** through a comprehensive and integrated quality management process

- **Leverages built-in innovation** by making innovation a non-event and protecting existing investments
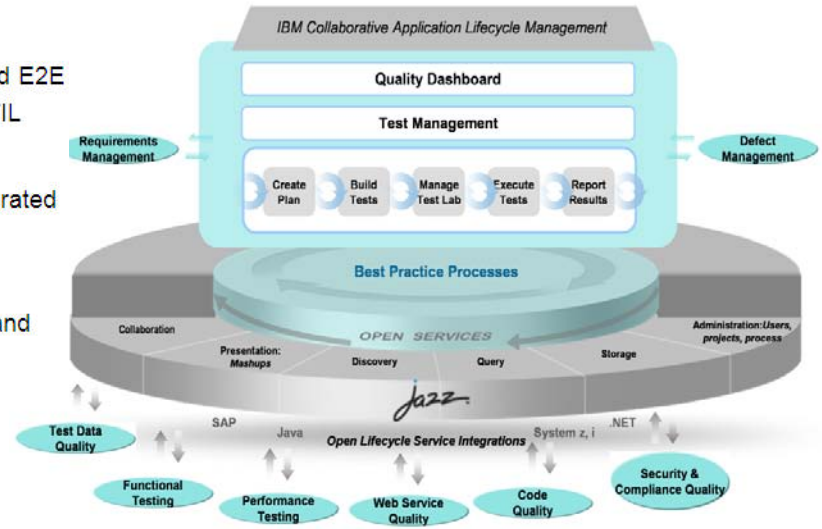
End-to-end Quality Management is a key element of effective Application Lifecycle Management to help lower costs and improve deployment success

IBM Rational Functional Testing for Packaged Apps

Extensive Domain Support

§SAP certified solution for SAP R/3 and SAP NetWeaver applications (BC-TEST-GUI 7.0, 6.40, 6.20)

§SAP WebDynPro 7.0 Support

§SIEBEL 7.7, 7.8, 8.0

§PowerBuilder Support 10.5, 11,11.2 and 11.5

§Oracles forms 10G and 11i Applications

SAP® Certified Integration

SIEBEL
IT'S ALL ABOUT THE CUSTOMER™

Rational Functional Tester:

Storyboard Testing

Scenario: My non-technical SME must contribute to the QA activities

Non-technical SME is overwhelmed by technical depth

With 8.1 we speak the language of the non-technical SME

Business user is faced with a programming language …
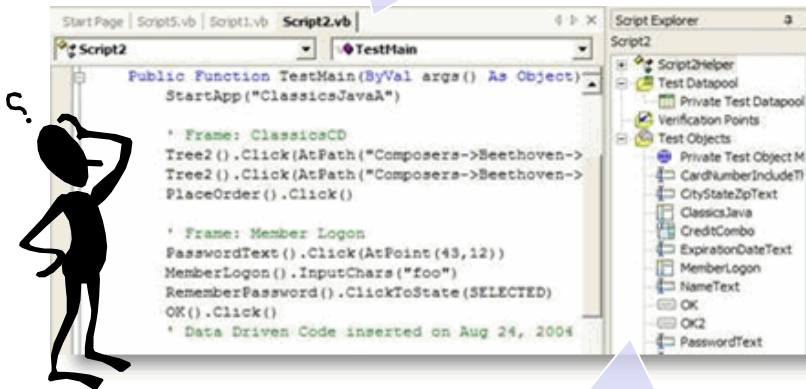
… and 'Objects' and other advanced options
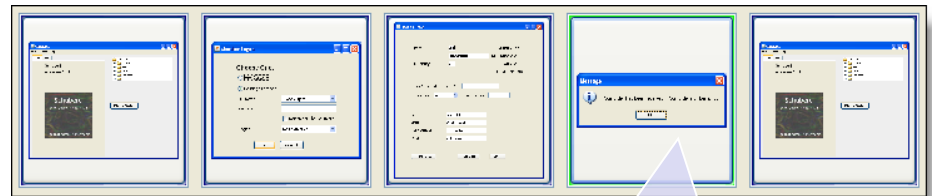
Storyboard navigation of test flow …
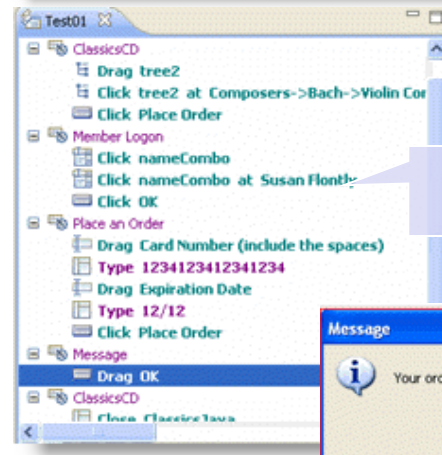
… with natural language test actions.
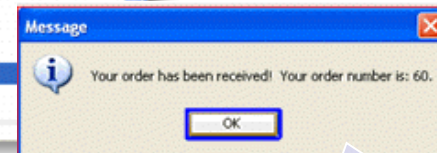
Edit anywhere: Script, text, screen

IBM Rational Functional Testing in SAP® deployments

Test SAP customizations before they go live

- SAP certified solution for SAP R/3 and SAP NetWea

- Integrates with the SAP NetWeaver platform to exch
  SAP Business Suite family of applications

- Minimize test maintenance with scripts resilient to a

- Wizard enhanced automation to speed test creation

- Powerful scripting language and IDE integration for
  consistent, integrated environment for functional an

- Supports team oriented parallel development

Test automation for the novice and the professional

IBM Rational Performance Tester

- Performance problem identification and diagnosis for Web, SAP, Siebel, Oracle and Citrix based applications

Performance test automation

- **Built for Day 1 Productivity**
    - Mask complexity to get the job done
- **Advanced Data Access & Manipulation**
    - Automated data variation and synchronization
- **Root Cause Analysis**
    - Identifies location and **root cause** of performance problem in hardware and software

Rational Performance Tester

Performance Test Oracle E-Business Suite and Oracle Forms Applications

Rational Performance Tester

Full support for Siebel 7.8 – 8.0

Supports Siebel and Http correlation

Test Contents

This section shows the test contents

- Test Variables
- Message Bar
- CRM-T
- Custom code: test.ArmOPEN
- Login - Send UserName/Password
- CRM-T
- CRMT News View
- OpenDashboard
- Loop (infinite)
  - Transaction: TC_OM_1800_0001
    - Custom code: test.Arm
    - Custom code: test.Arm
    - Custom code: test.Arm
    - Custom code: test.Arm
  - Account Screen Homepage View
  - CRMT GK Account Screen Homepage View
  - Transaction: PAF8076b
  - CRMT GK Account Screen Homepage View - WriteRecord
  - Transaction: PAF8014b
  - WriteRecord
  - Update Dashboard
  - CallBusinessService
  - Transaction: PAF8021bx
  - CRMT Order Items View - NewRecord
  - CRMT Order Items View - EditField

IBM Rational Performance Testing for SAP®

Maximize the performance and scalability of business-critical applications

§ **SAP Recorder**

ü Enables users to easily capture all SAP transactions using SAPGUI

ü Provides full visibility into all SAP activities

§ **SAP Protocol Browser**

ü Enables users to easily read and edit tests

ü Shows a screenshot of SAP screen being tested and highlights the individual objects that are acted upon

§ **SAP Performance Reports**

ü Enables users to quickly pinpoint bottlenecks

ü Reports on slow pages, server health, screen throughput and response times for all pages throughout the entire test

IBM Rational SOA Testing for SAP®

Easily test SOA service or composed business applications involving SAP

§ **Rational Tester for SOA Quality**

ü Validate web services and component functionality that your NetWeaver applications depend

ü Automate BPEL workflow testing

ü Generates web services test clients

§ **Rational Performance Tester Extension for SOA Quality**

ü Scalability and performance testing for GUI-less services

ü Optimize BPEL workflow performance

ü Identify bottlenecks in service integration

Functional test

Performance schedule

SAP

TAKE BACK CONTROL
TEST THE QUALITY OF YOUR SOA APPLICATIONS
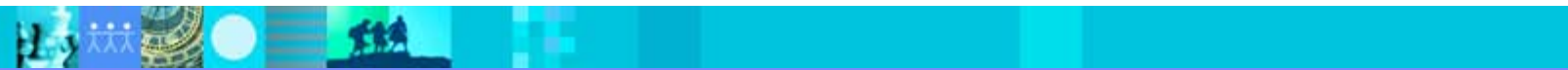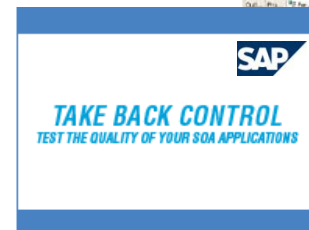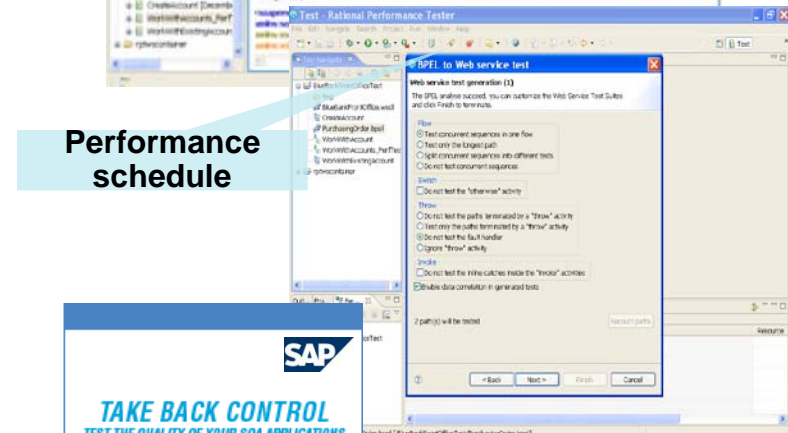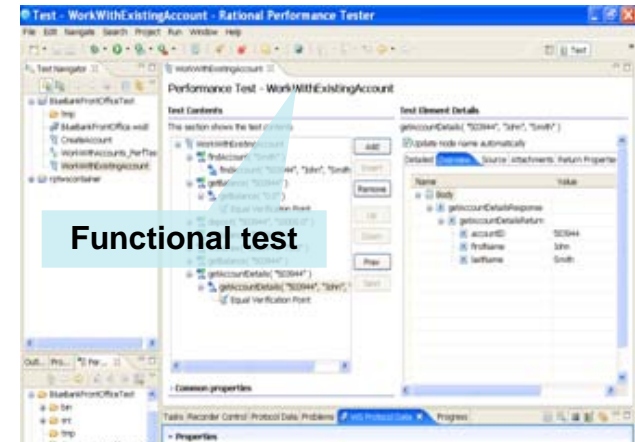
Oracle Applications Add-in High-Level Technical Details

- Supports Oracle Forms 6, 9, and 10; Oracle Applications 11 and 12
  - ▸ Doesn't support Oracle Database
- Custom Recorder
  - ▸ HTTP Requests
  - ▸ Oracle NCA Requests
- Leverages Base RPT for rest of performance test process
  - ▸ Schedules
  - ▸ Playback
  - ▸ Agents
  - ▸ Monitoring
  - ▸ Reporting

Ensure Oracle Applications Performance

Development   ORACLE E-BUSINESS SUITE   *Operations*

RSA
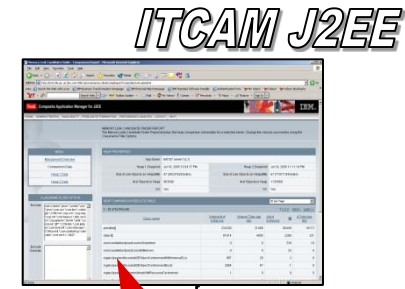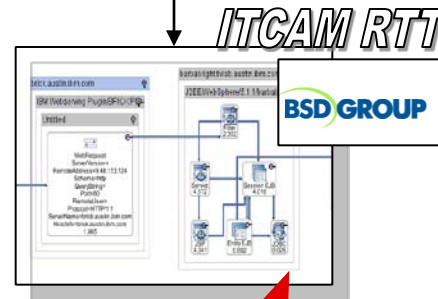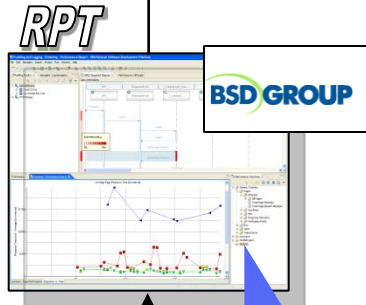
Leverages Tivoli BtM toolkits to increase service manageability

§ Quickly resolve Oracle Apps custom code performance issues based on ITCAM J2EE feedback

RPT

BSD GROUP

Leverages Tivoli Problem Determination toolkit!

§ Test for performance bottlenecks and validate SLA

§ Generate Synthetic Transactions for RTT

ITCAM RTT

BSD GROUP

Playback Oracle Apps transactions to monitor end user experience

§ Recognize and isolate performance problems & visualize transactions path through systems

ITCAM J2EE

Collect and report J2EE statistics on Oracle App Server

§ Feed production application trace data to development tools to speed repair

BUSINESS VALUE:

Reduce down-time and increase customer satisfaction by finding performance bottlenecks early, monitoring Oracle servers and applications for potential problems, and sending production data to developer desktops to speed the process of repairing defects

Application Security : IBM Rational AppScan

Web Application Vulnerabilities are still the greatest source of risk for organizations

❖ **49%** of all vulnerabilities are Web application vulnerabilities.

❖ Cross-Site Scripting & SQL injection vulnerabilities continue to dominate.

❖ **88%** of web application vulnerabilities affect plug-ins and not the base platform

Cumulative Count of Web Application Vulnerability Disclosures
1998-2010
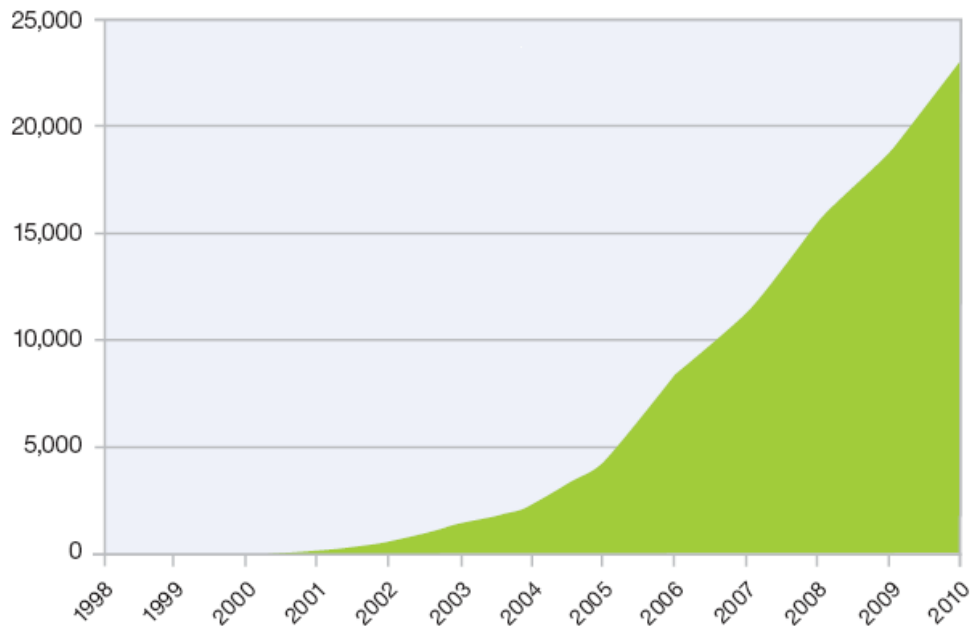
Web Application Vulnerabilities
as a Percentage of All Disclosures in 2010

IBM XFORCE Year-End 2010 Trend Report
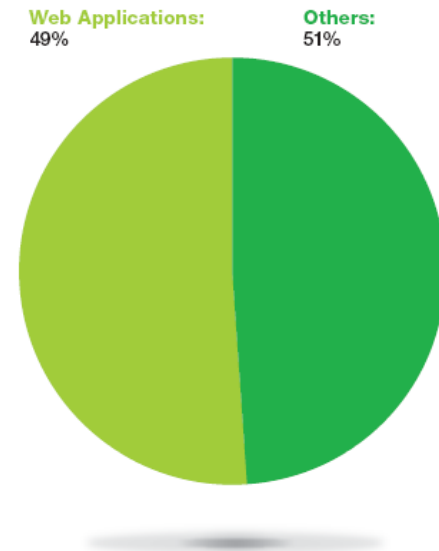
IBM Rational AppScan Suite –
Comprehensive Application Vulnerability Management

SECURITY

REQUIREMENTS	CODE	BUILD	QA	PRE-PROD	PRODUCTION

AppScan Enterprise

AppScan Reporting Console

AppScan onDemand

Security Requirements Definition

AppScan Source

AppScan Build

AppScan Tester

AppScan Standard

AppScan Standard

Security requirements defined before design & implementation

Build security testing into the IDE

Automate Security / Compliance testing in the Build Process

Security / compliance testing incorporated into testing & remediation workflows

Security & Compliance Testing, oversight, control, policy, audits

Outsourced testing for security audits & production site monitoring

Application Security Best Practices – Secure Engineering Framework

Security Testing Technologies...
Combination Drives Greater Solution Accuracy

Static Code Analysis (Whitebox)

- Scanning source code security issues

Dynamic Analysis (Blackbox)

- Performing security analysis of a compiled application

Total Potential Security Issues

Static Analysis

Best Coverage

Dynamic Analysis
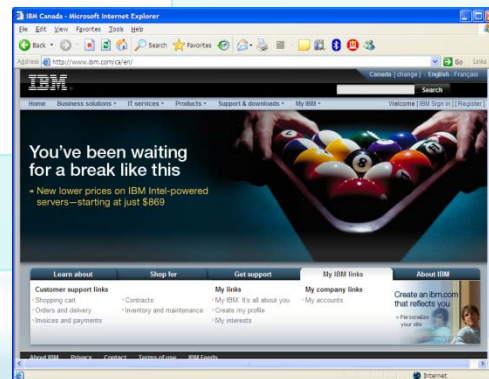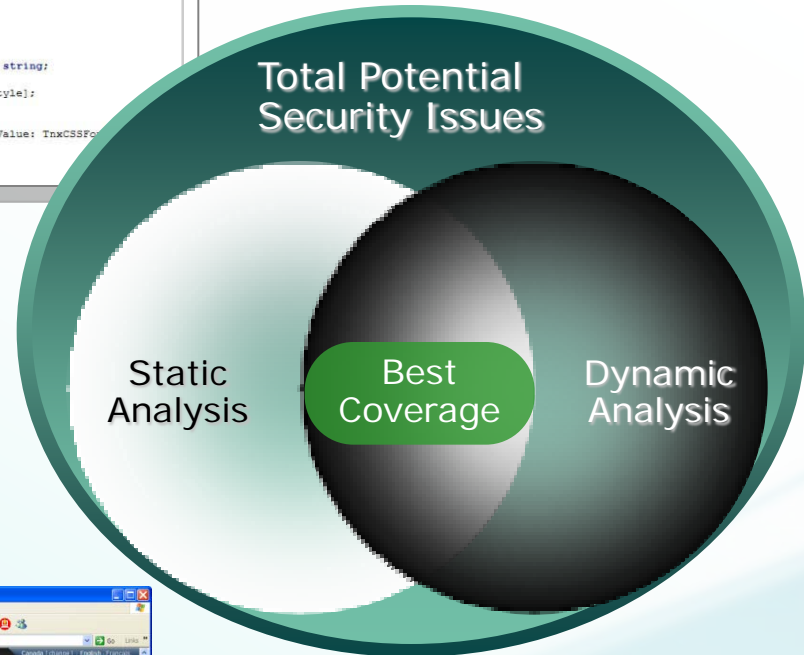
DAST and SAST – Issue Type Coverage

Static Analysis

- Null pointer dereference
- Threading issues
- Code quality issues
- Issues in dead code
- Insecure crypto functions
- Issues in back-end application code
- Stored vulnerabilities
- Complex SQL injection

Total Potential Security Issues

Dynamic Analysis

- Environment configuration issues
- Patch level issues
- Runtime privileges issues
- Authentication issues
- Protocol parser/serializer issues
- Session management issues
- Issues in external 3rd party web components
- Cross-site request forgery
- Malware analysis

Dynamic & Static

- SQL Injection
- Cross Site Scripting
- HTTP Response Splitting
- OS Commanding
- LDAP Injection
- XPath Injection
- Path Traversal
- Buffer Overflows
- Format String Issues

Manual Assessment

- Business logic issues

Hybrid Analysis*

- Client-side issues
  - DOM-based XSS
  - DOM-based Open Redirect
  - HTML5 Notification Phishing
  - HTML5 Client-side SQL Injection
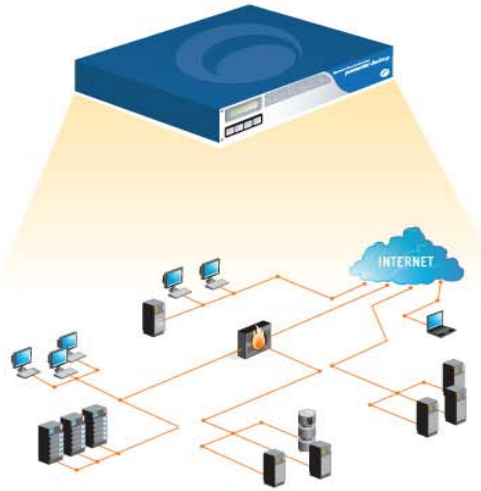 - Etc.

How does Rational AppScan(BlackBox) work?

Automates Application Security Testing

Scan Web Applications/Web Services

Analyze

(identify issues)

Report

(detailed & actionable)

www.ibm/software/rational