

# IBM Innovate 2011 Rational Solutions For Packaged Application Testing

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# Innovate2011

The Premier Event for Software and Systems Innovation



Software. Everyware.

Aug 9-11 Bangalore India



# 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

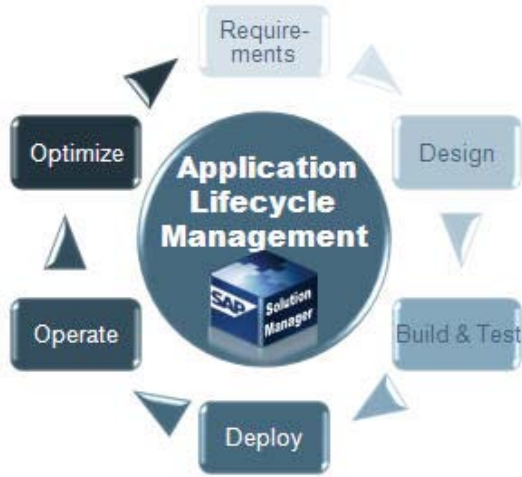
Code Quality

Security and Compliance



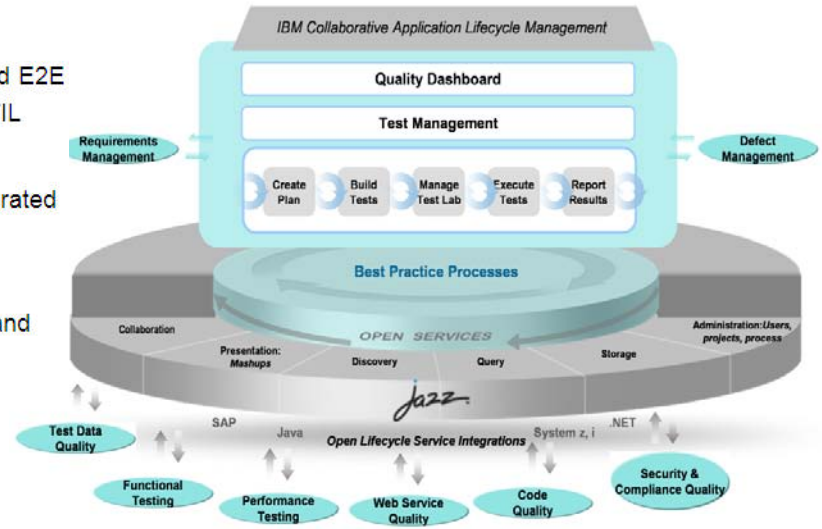
# Application Lifecycle Management with SAP Solution Manager and IBM Rational software

## SAP Solution Manager



- **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

## IBM Rational



*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

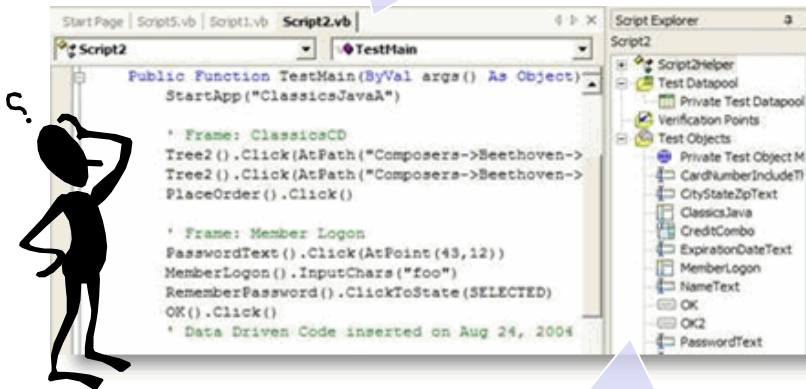


# Rational Functional Tester: Storyboard Testing

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

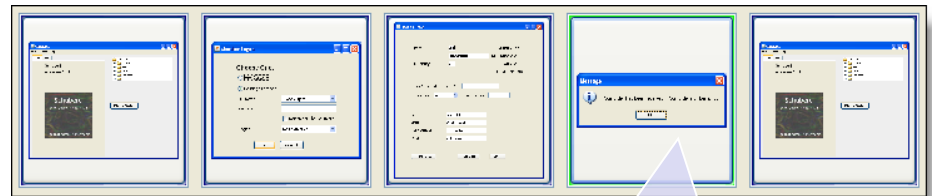
Non-technical SME is overwhelmed by technical depth

Business user is faced with a programming language ...

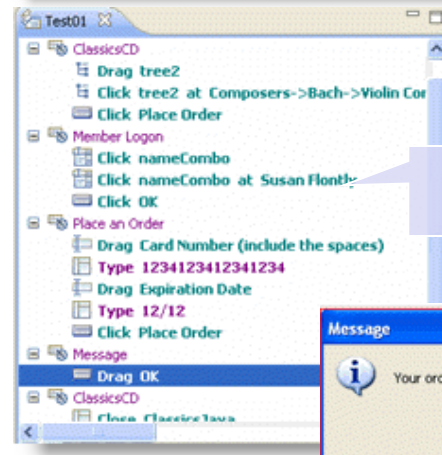


... and 'Objects' and other advanced options

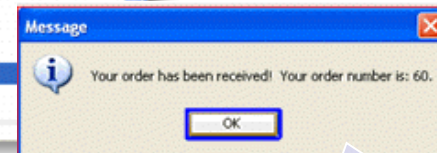
With 8.1 we speak the language of the non-technical SME



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 NetWeaver
- Integrates with the SAP NetWeaver platform to exchange data with the SAP Business Suite family of applications
- Minimize test maintenance with scripts resilient to application changes
- Wizard enhanced automation to speed test creation
- Powerful scripting language and IDE integration for a consistent, integrated environment for functional and performance testing
- Supports team oriented parallel development

SAP® Certified Integration

Appointment Calendar Create Appointment

Appt. Part List Part Availability

Appointment Data

Title: Dentist  
Appt.Type: Absent

Start Date: 09/01/2007 Start Time: 11:30  
End Date: 09/01/2007 End Time: 12:00

Room: Time zone: Central Europe

Period

Attributes

Visibility: private Priority: 3 Medium  
Time Period: Reserved Appointment Status: Planned

Description

Recording

```
Recording Script AddAppointment Started
text_scdynfids_title().setText("Dentist");
comboBox_scdynfids_class_ID().setValue("private");
comboBox_scdynfids_priority().setValue("3: Medium");
comboBox_scdynfids_status().setValue("Planned");
comboBox_scdynfids_class_ID().setFocus();
button_create().press();
```

Ln 1, Col 1 Ln 1 - Ln 1 of 1 lines



## *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

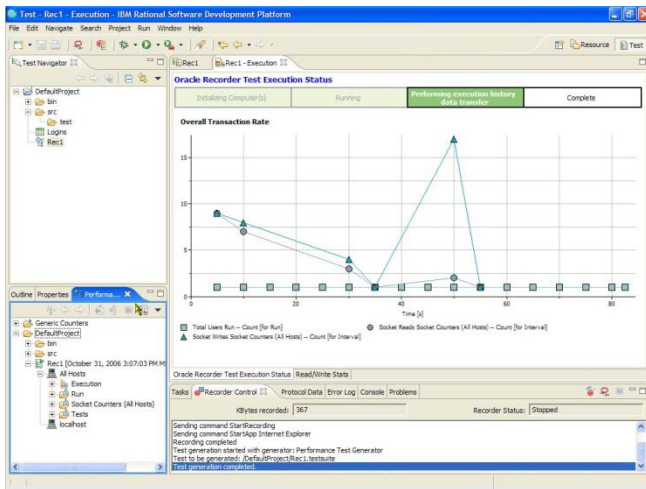
### Performance test automation

- **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



This screenshot shows the 'Performance Test - Rec1' interface. The 'Test Contents' pane on the left lists various test elements such as 'Request (270 bytes)', 'Response (140 bytes)', and 'Connect [17]'. The 'Test Element Details' pane on the right shows the details for an 'Oracle NCA Send' element, including its payload: `<messageblock id=6 timestamp=500><message type=2 handlerClassId=0 handlerId=75><property id=131 datatype='java.lang.String'>TESTER001@EMAIL.COM</property id=195 datatype='java.awt.Point'>java.awt.Point[x=19,y</property id=193 datatype='java.lang.Integer'>1</message><message type=2 handlerClassId=0 handlerId=75<property id=176 datatype='java.awt.Point'>java.awt.Point[x=9,y</message></messageblock response=1>`. A context menu is open over the payload, with 'Add Bookmark...' selected. Below the test details, there is a search window with 'TESTER001' entered in the search field. The search options include 'Test Search', 'dW Search', and 'Help Search'. The search results list various elements to search for, with 'Verification Points' checked. The Oracle E-Business Suite logo is visible in the background.

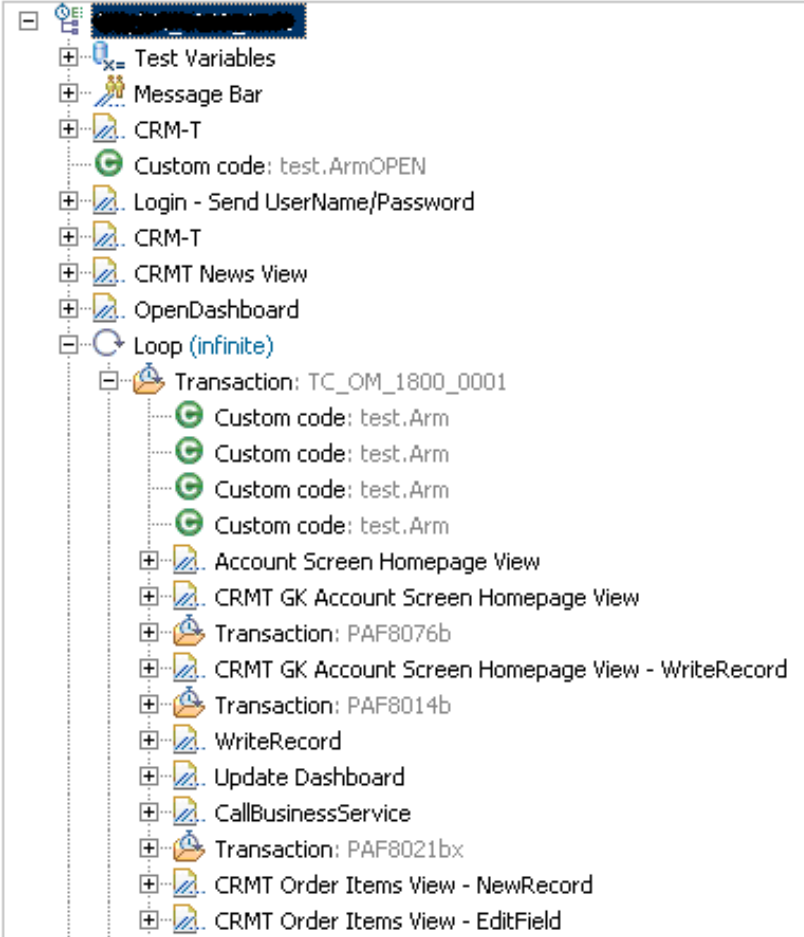
# Rational Performance Tester

Full support for Siebel 7.8 – 8.0  
*Supports Siebel and Http correlation*



## Test Contents

This section shows the test contents



# 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

The image displays three screenshots from the IBM Rational Performance Testing for SAP interface. The top screenshot shows the 'Performance Test - AddAppointment' window with a tree view of test contents. A 'New' dialog box is open, showing a search for 'Performance Schedule'. The middle screenshot shows the 'Appointment Data' table with a red box highlighting the 'Appt.Type' field containing the text 'No date type chocon'. A context menu is open over this field. The bottom screenshot shows a performance report with a bar chart and a data table below it.



# IBM Rational SOA Testing for SAP®

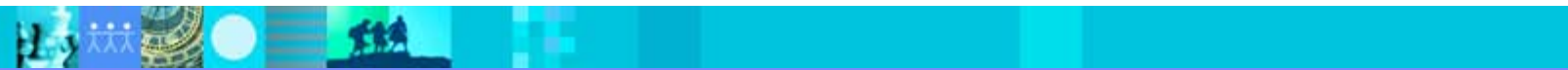
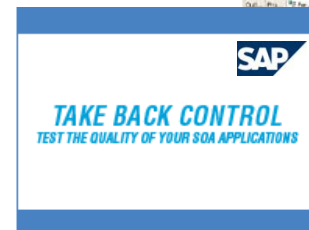
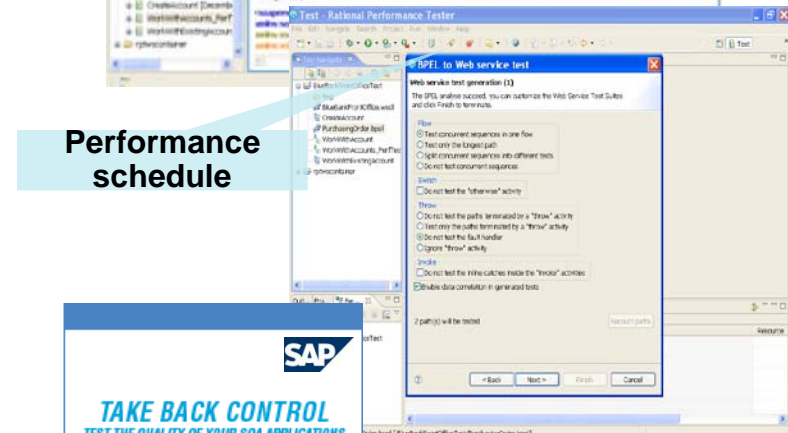
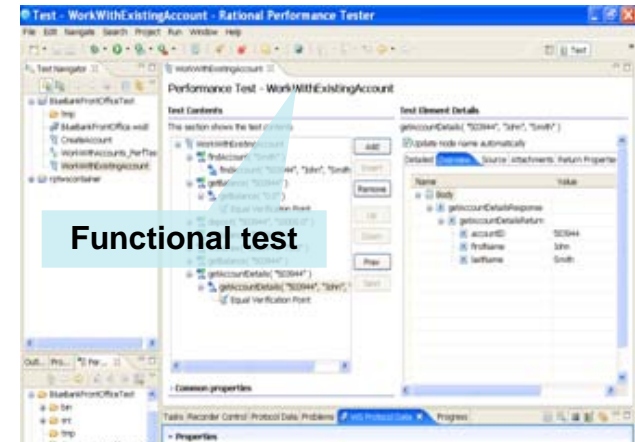
*Easily test SOA service or composed business applications involving SAP*

## § 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



# 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

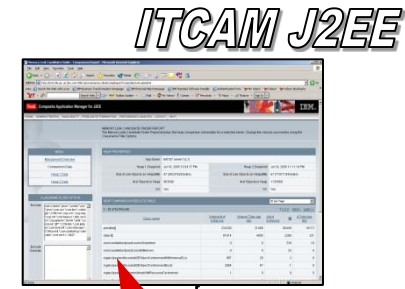
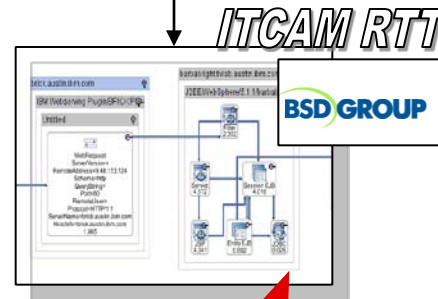
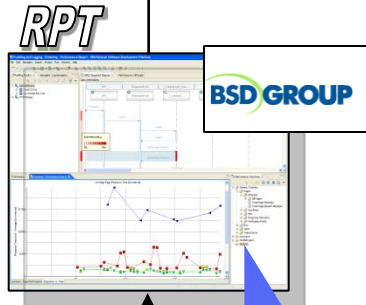


# Ensure Oracle Applications Performance

Development

**ORACLE**  
E-BUSINESS SUITE

Operations



Leverages Tivoli BtM toolkits to increase service manageability

Leverages Tivoli Problem Determination toolkit!

Playback Oracle Apps transactions to monitor end user experience

Collect and report J2EE statistics on Oracle App Server

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

- § Test for performance bottlenecks and validate SLA
- § Generate Synthetic Transactions for RTT

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

- § 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

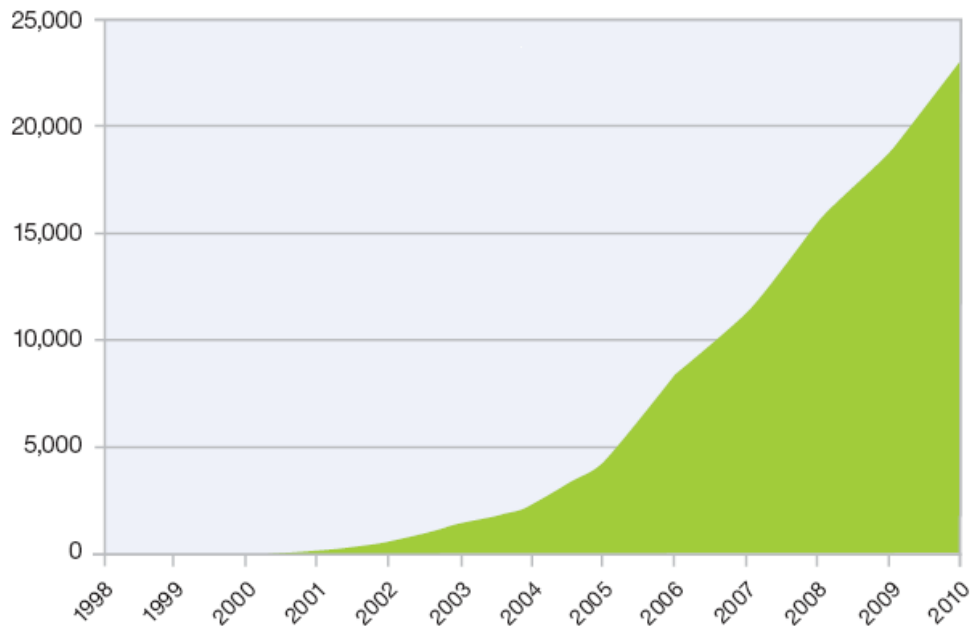
# Application Security : IBM Rational AppScan



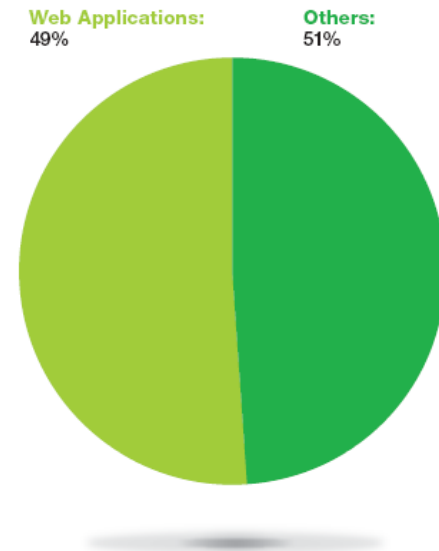
# Web Application Vulnerabilities are still the greatest source of risk for organizations

- ❖ **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

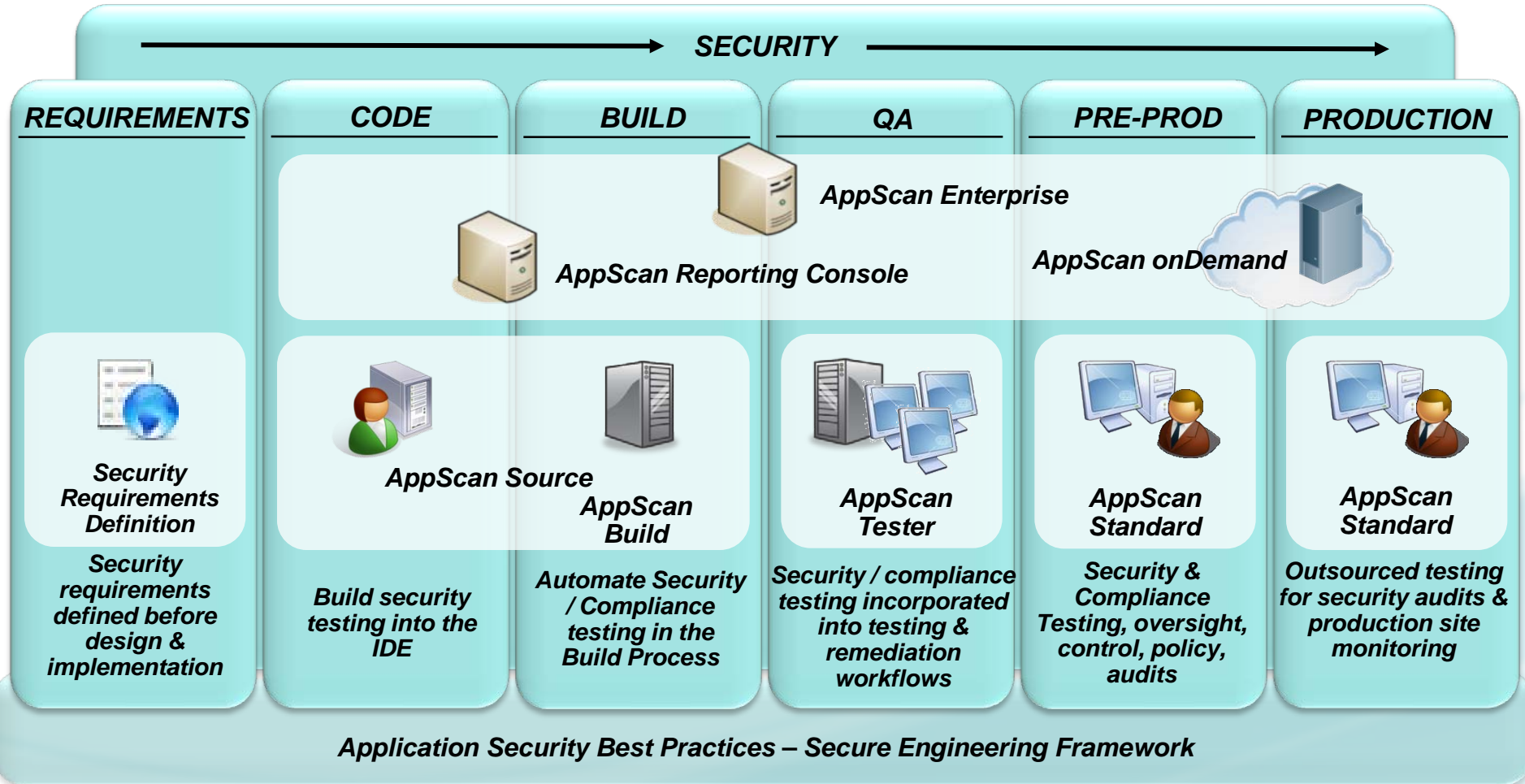


**Web Application Vulnerabilities**  
as a Percentage of All Disclosures in 2010





# IBM Rational AppScan Suite – Comprehensive Application Vulnerability Management



# Security Testing Technologies...

## Combination Drives Greater Solution Accuracy

### Static Code Analysis (Whitebox)

- Scanning source code security issues

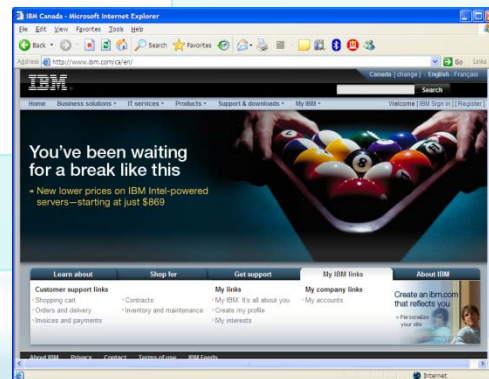
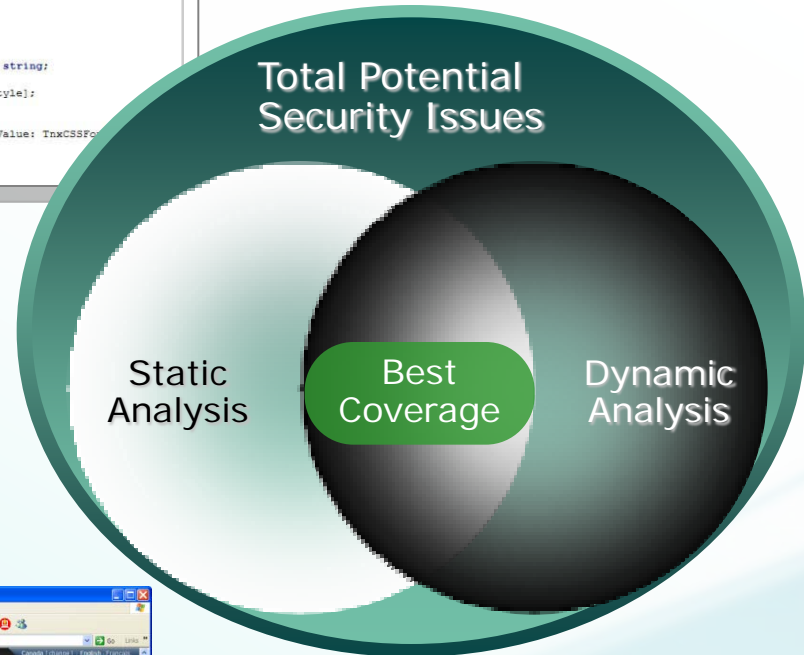
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Welcome Page | nxCSSClassesTests | nxCSSBaseClasses | nxCSSBorderClasses | nxCSSFontClasses

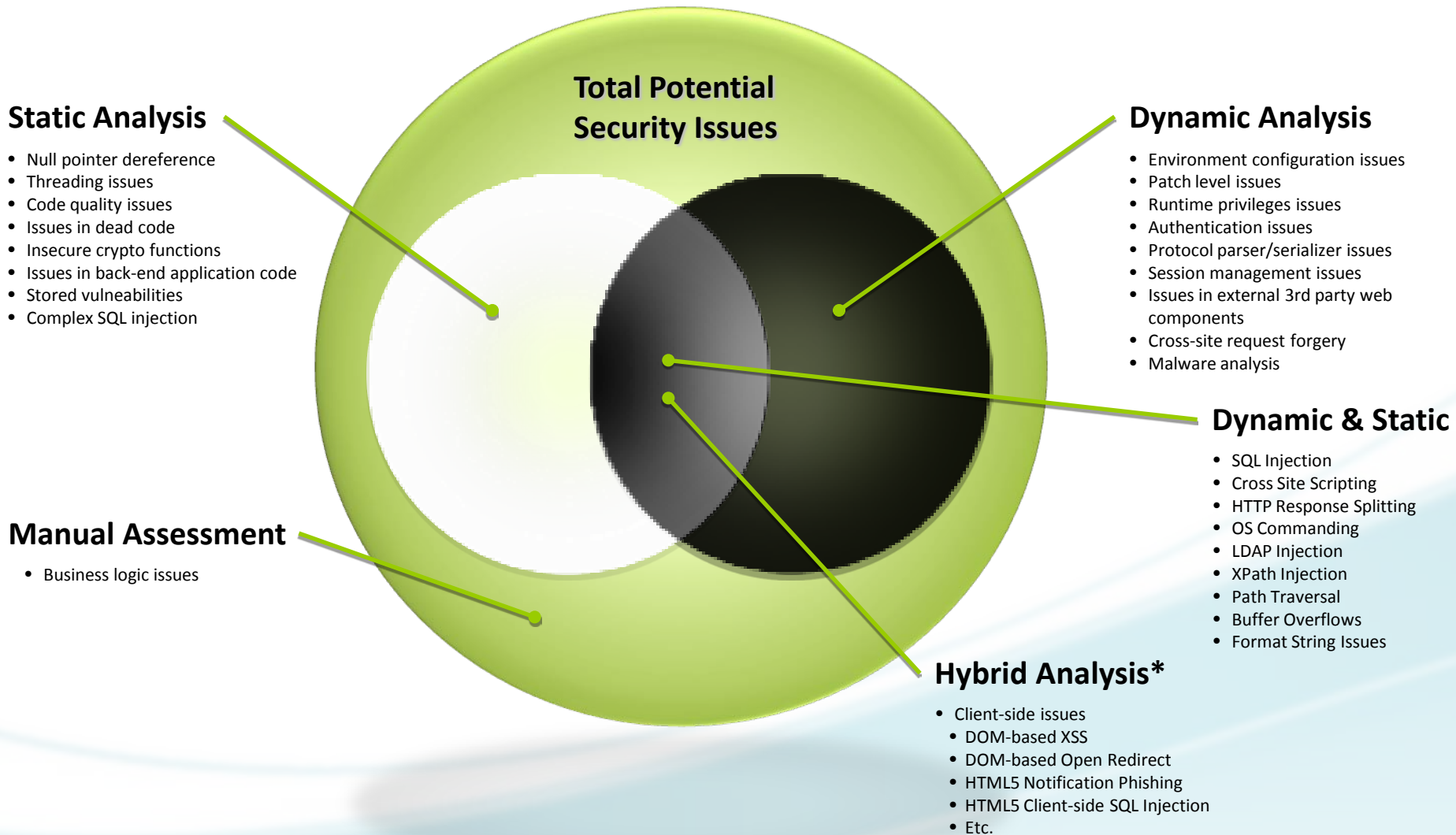
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### Dynamic Analysis (Blackbox)

- Performing security analysis of a compiled application



# DAST and SAST – Issue Type Coverage

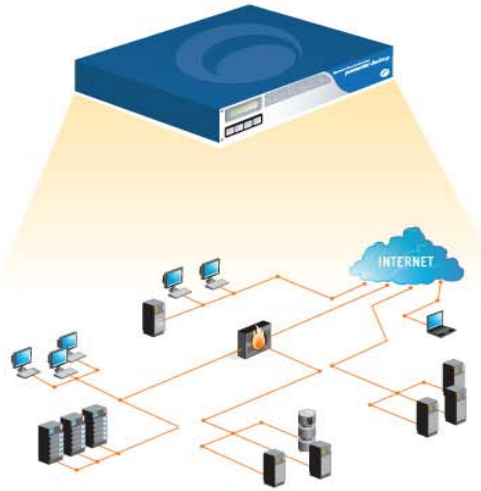


# How does Rational AppScan(BlackBox) work?

## Automates Application Security Testing



**Scan Web Applications/Web Services**



**Analyze  
(identify issues)**



**Report  
(detailed & actionable)**



# QUESTIONS

[www.ibm/software/rational](http://www.ibm/software/rational)

