IBM Software Group

Qualitymanagement Lösungen für innovative Softwareentwicklung

Quality Driven Software Delivery

Rational. software

Go to IBM

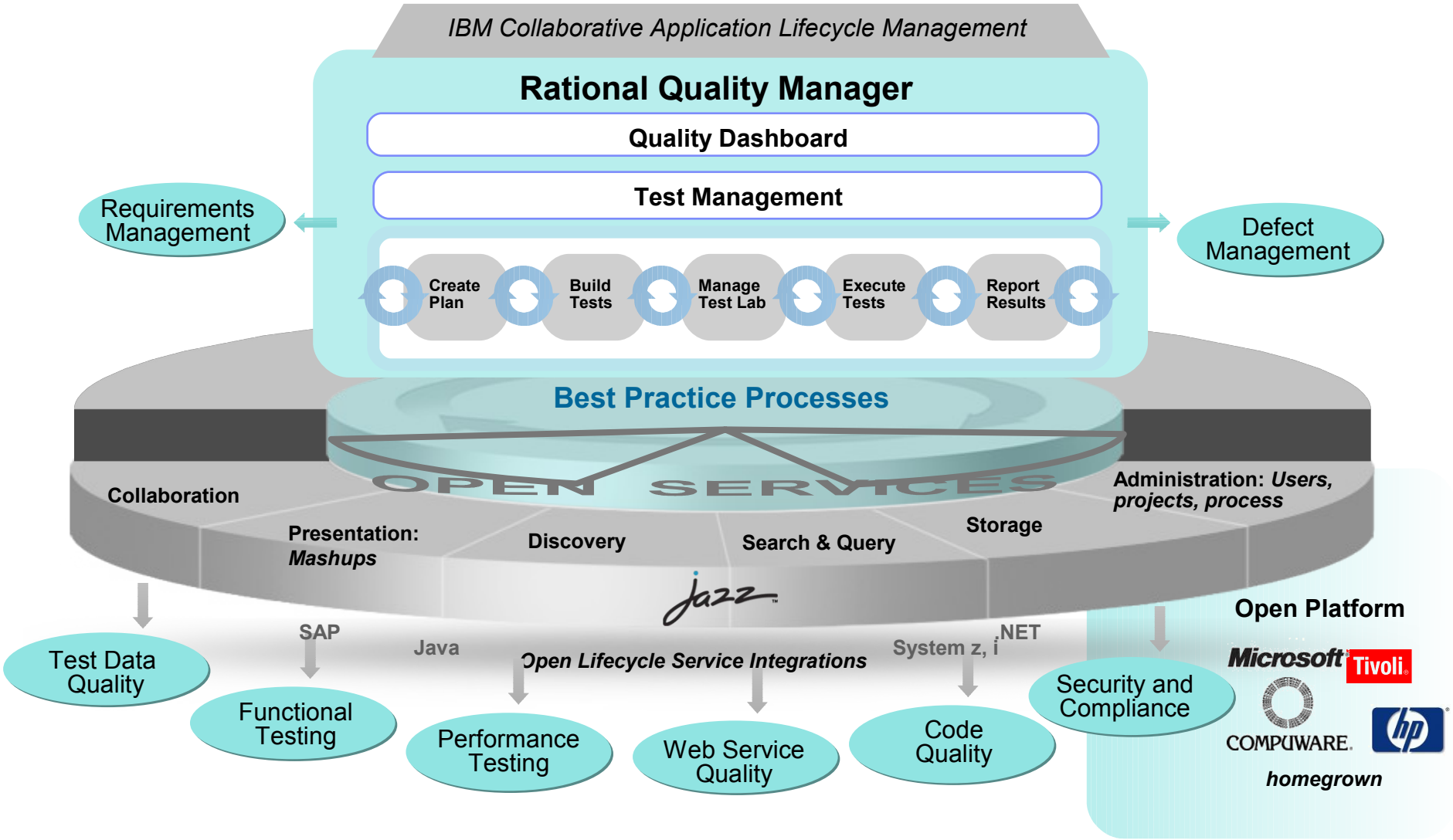
Edgar Boehm
edgar.boehm@de.ibm.com

IBM Rational Quality Management

Quality Driven Software Delivery

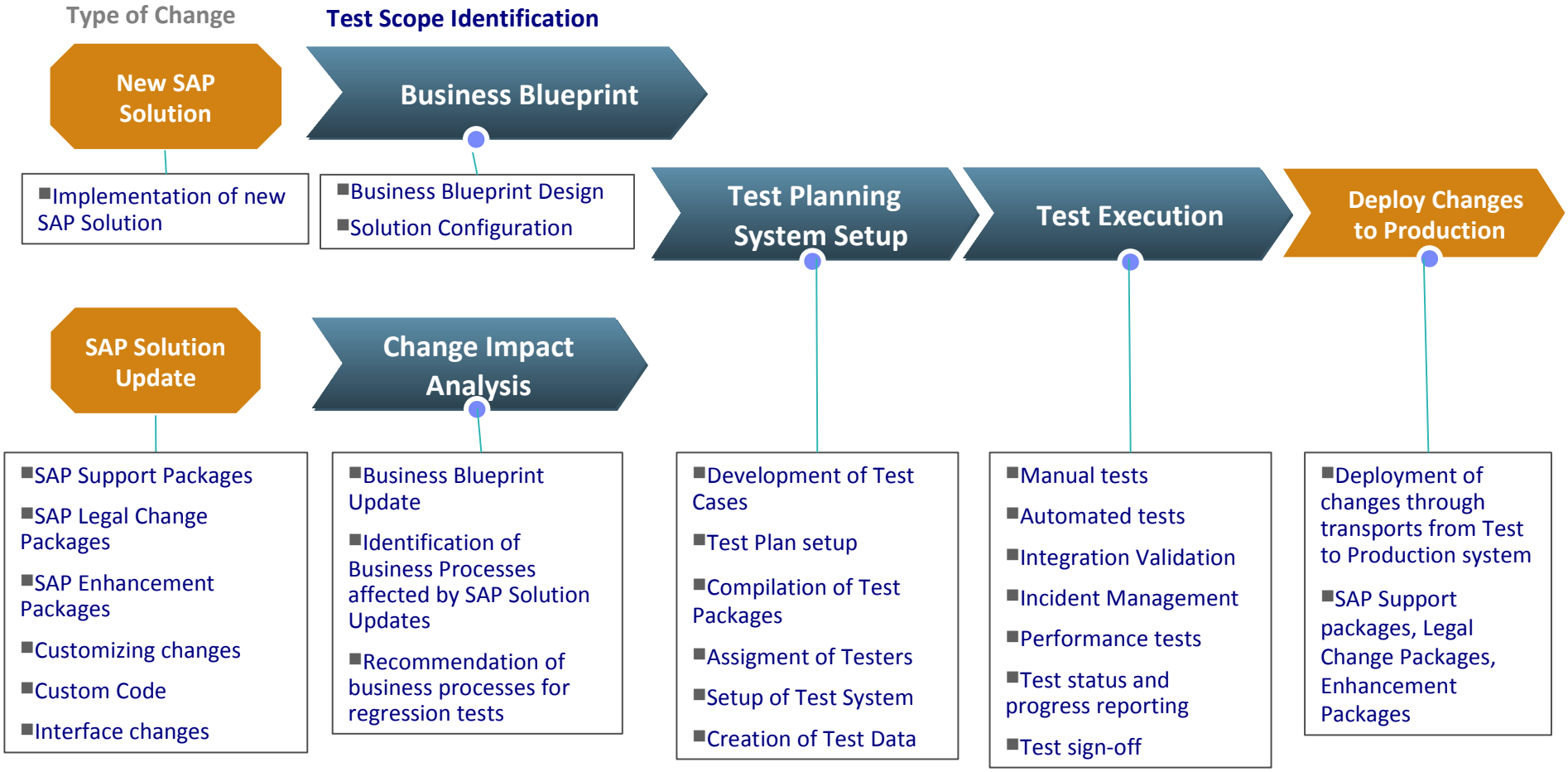
- IBM Rational Quality Management
- Rational Functional Testing
- Rational Performance Tester
- Rational IT Web Security

Collaborative Application Lifecycle Management



E2E Integration Testing of SAP Solutions

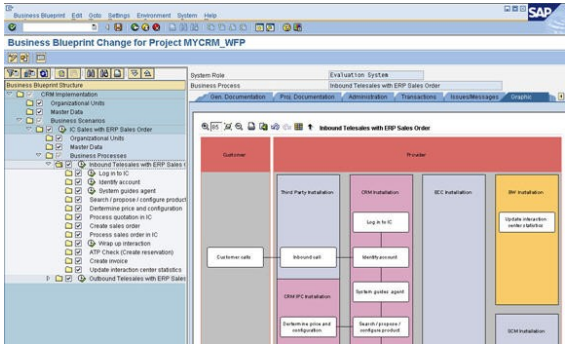
Test Process embedded in the SAP Application Lifecycle



Rational Software and SAP Solution Manager for Testing

Rational software and SAP Solution Manager for testing integrates application lifecycle management capabilities of SAP Solution Manager with test planning and test execution capabilities of Rational software

SAP Solution Manager



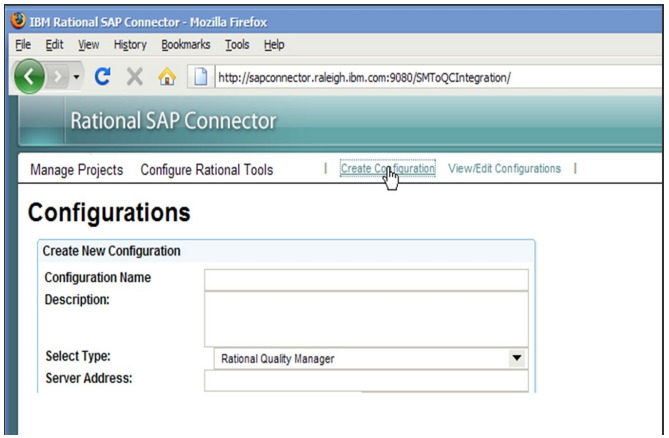
Outbound

- Business Blueprint
- Bus. Requirements
- Test Objects
- Documents
- Incidents

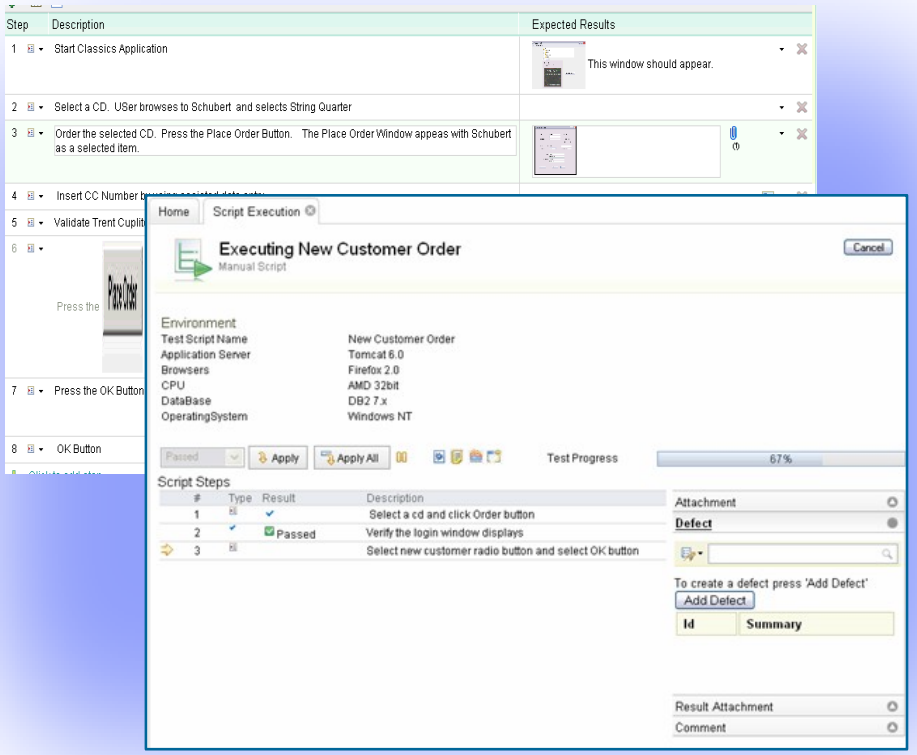
Inbound

- Test Results
- Incidents

Rational software



Integrated Manual test authoring and execution



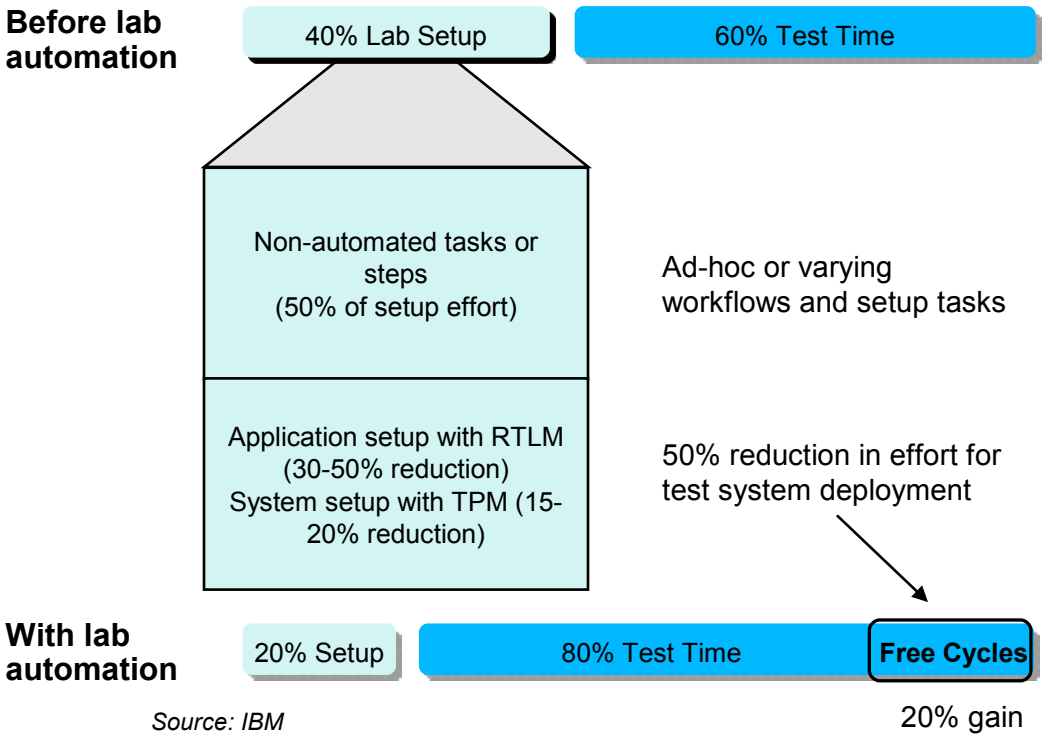
- Manual test author and execute
  - Step by step capture and execution of manual tests
  - Assisted data entry
  - Keyword support for integrated manual and automated testing
  - Rich defect capture during execution, including screenshot and attachments
  - Simple intuitive interface for quick test execution

Maximizing efficiency of manual testing

Test lab automation and management

Insight and control over the test lab

- Manage
  - Verify that I have the resources required to fulfill my test plan
- Deploy
  - Deliver the configurations my teams require for test
- Optimize
  - Analyze patterns to minimize cost and maximize utilization

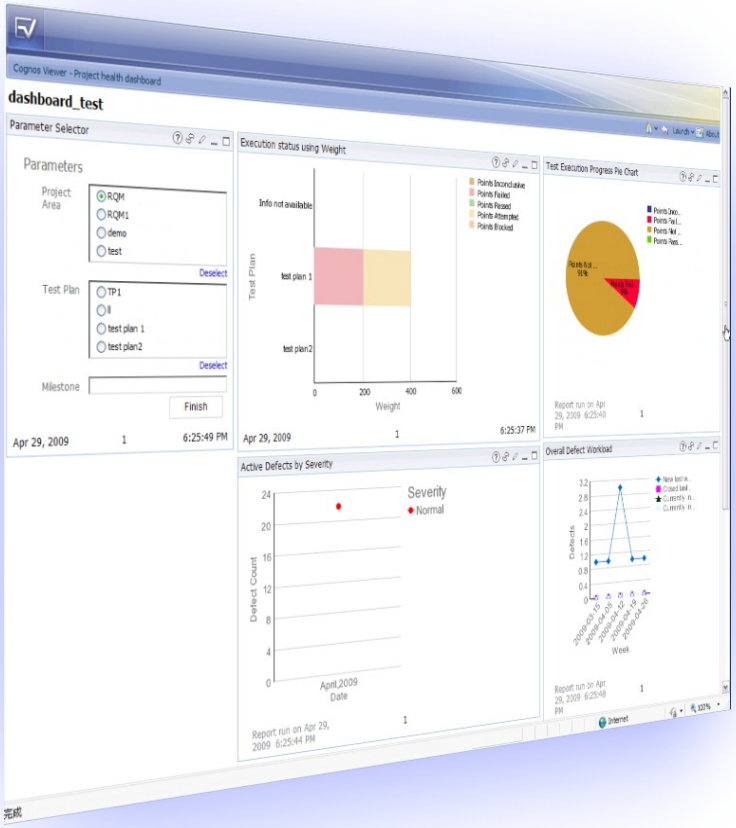


Source: IBM

Work smarter, save on test lab overhead, infrastructure and duration costs

Make confident decisions with effortless reporting

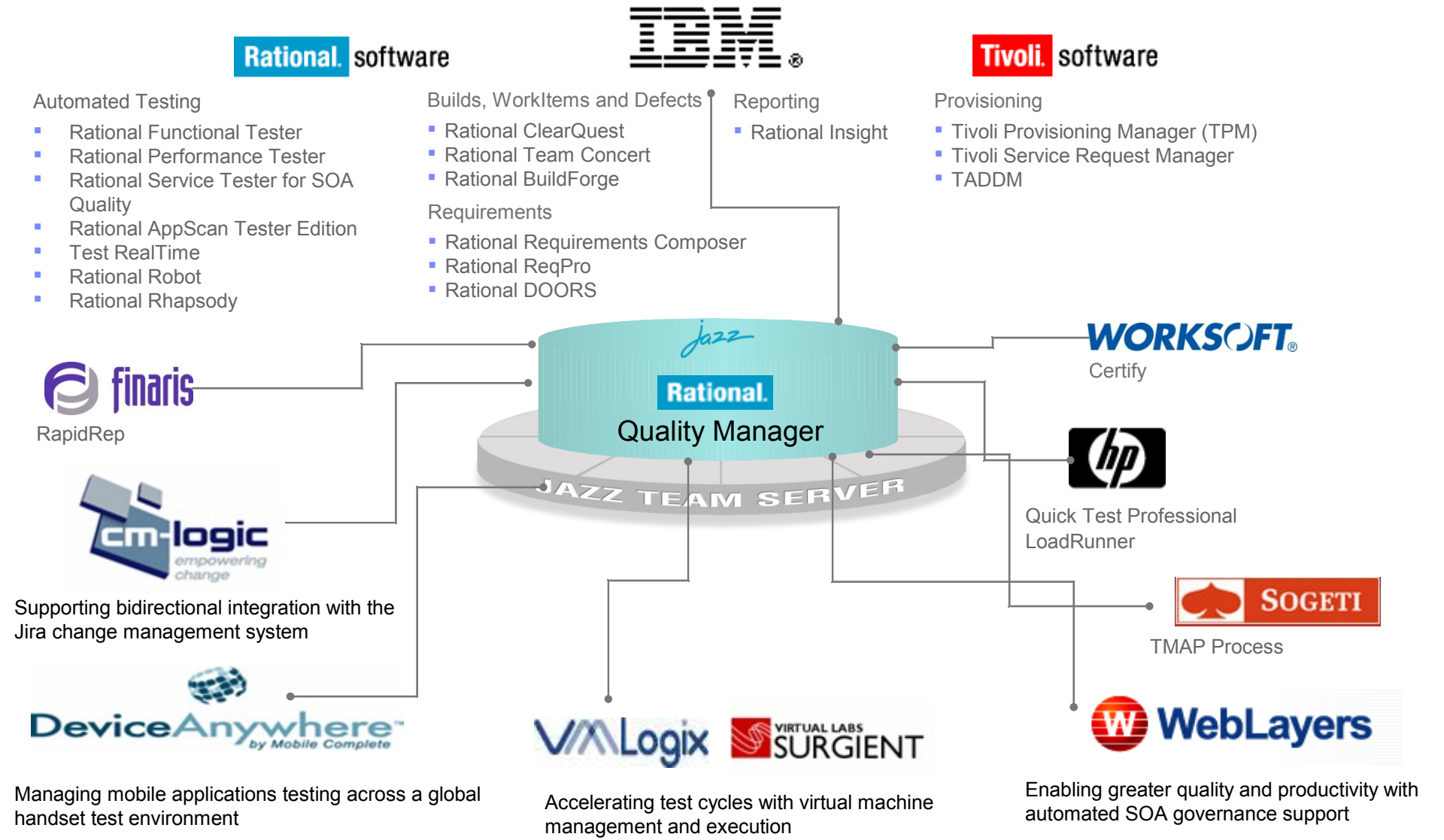
Closed Loop Analysis & Reporting



- Customizable reports and dashboards
  - Reduce escalating cost of information gathering
  - Reduce risk by identifying trends before they become issues
  - Raise enterprise visibility and transparency to reduce costs and risk
  - Measures the effectiveness of processes and practices to improve organizational and business outcomes

Make the right decisions at the right time

Rational Quality Manager Open Ecosystem Today



Quality Management Portfolio Update

Team based, business driven software quality

- IBM Rational Quality Management
- Rational Functional Testing
- Rational Performance Tester
- Rational IT Web Security

Maximize your investment in test automation

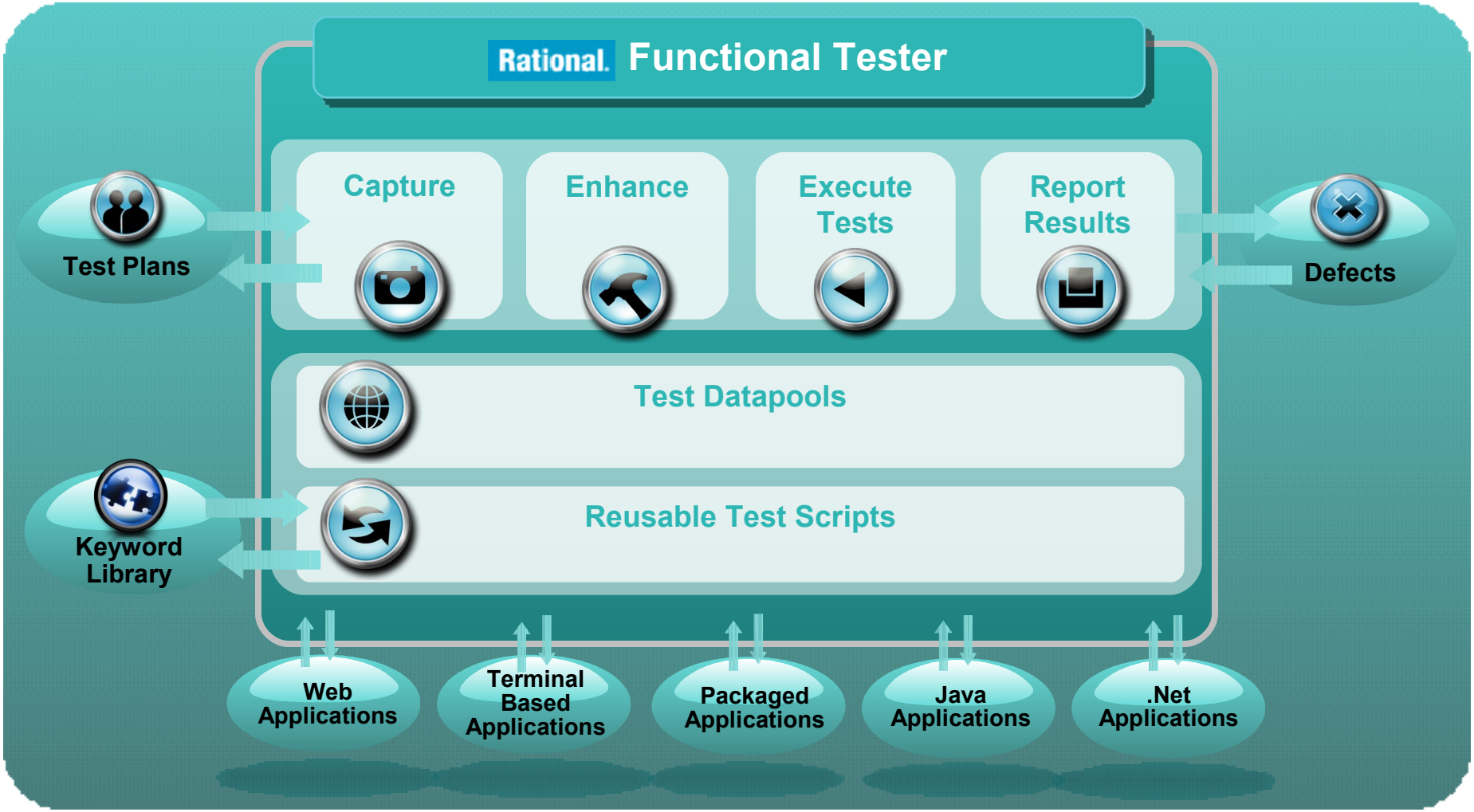
With IBM Rational Functional Tester

- Achieve success quickly and minimize maintenance
  - Simplified natural language scripting with Storyboard testing
  - Eclipse based or Visual Studio .net
  - Easy to learn
  - Maximize reuse
- Complete test coverage
  - Supports testing for Java, Web, Visual Basic .Net, SAP, Siebel, Web 2.0, Power Builder and Terminal Based applications
  - Ability to support custom controls

System z

System i

Rational Functional Tester 8.1



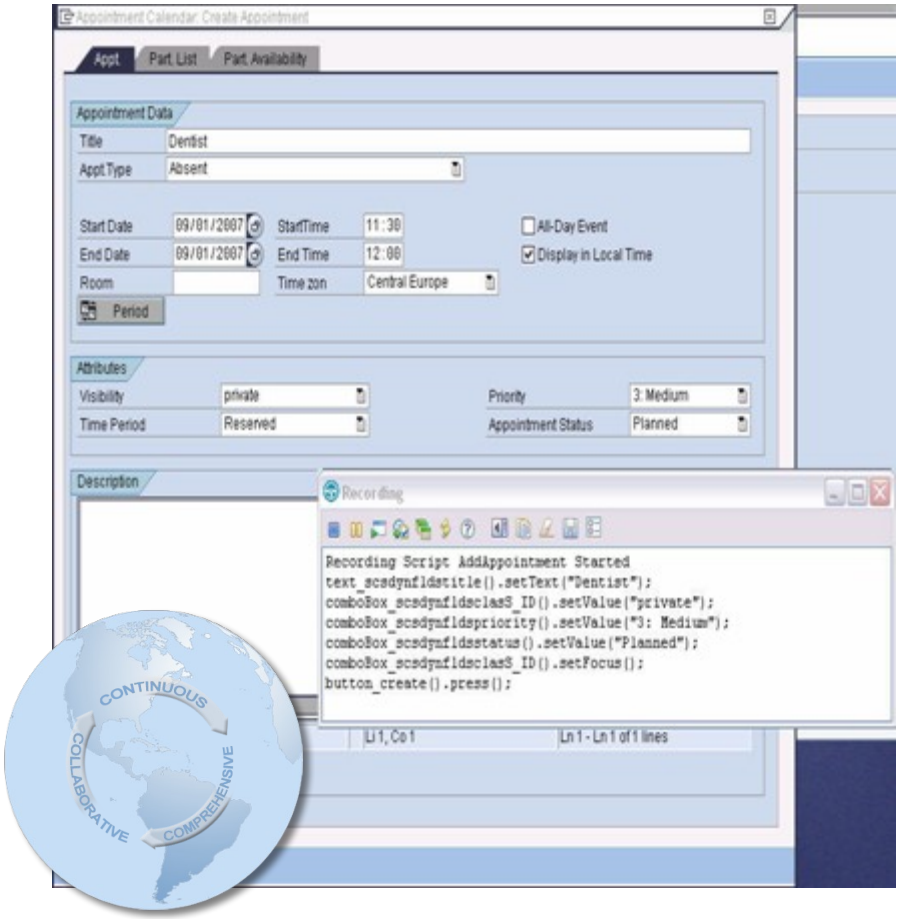
12

IBM Rational Functional Testing in SAP® deployments

Test SAP® customizations before they go live

- SAP® certified solution for SAP R/3 and SAP NetWeaver applications (BC-TEST-GUI 6.40)
- Integrates with the SAP® NetWeaver platform to exchange critical data with instances of the SAP Business Suite family of applications.
- Minimize test maintenance with scripts resilient to application changes
- Wizard enhanced automation to speed test creation for the new user
- Powerful scripting language and IDE integration for the professional tester provides a consistent, integrated environment for functional and performance testing
- Supports team oriented parallel development

SAP Certified Integration

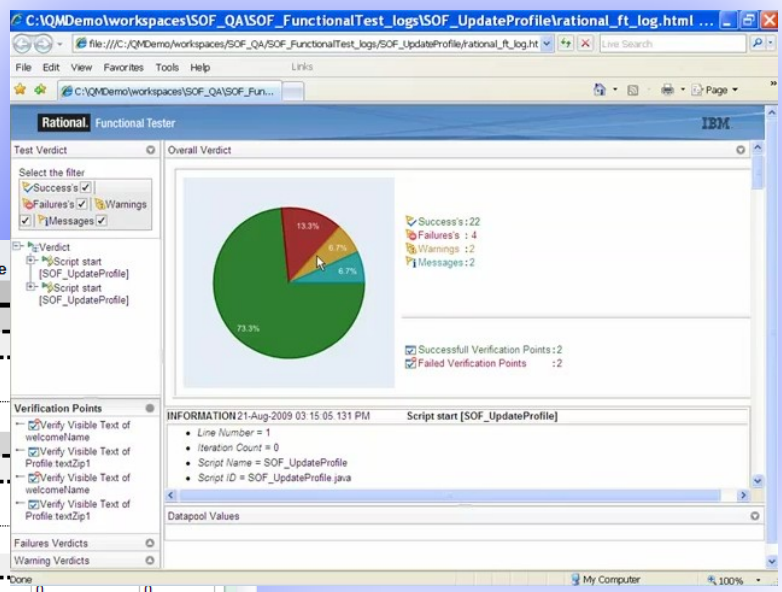


Executing Scripts

Reporting fits your organization's needs

- Following execution results can be viewed and stored in many ways:
  - Viewed and stored in an XML or HTML format
  - Centralized in Rational Quality Manager
  - Adobe® PDF 7 and 8 documents

Functional Tester XML



Rational Quality Manager

Test Iteration	Tester	Configuration	Test case	EWI ID	Weight	Points Passed	Points Failed	Points Blocked	Points Inconclusive		
M0					320	160	0	0	0		
	ADMIN				95	95	0	0	0		
		SAMPLE_AMDx86_WinXP_IE			95	95	0	0	0		
			Accessibility Web UI Test 3		95	95	0	0	0		
				3	95	95	0	0	0		
	donald				65	0	0	0	0		
		SAMPLE_IntelX86_WinXP_Firefox			45	0	0	0	0		
			Performance Web Services Test 2		45	0	0	0	0		
				2	45	0	0	0	0		
		SAMPLE_x86_Linux_Firefox			20	0	0	0	0		
			Accessibility Web UI Test 4		20	0	0	0	0	0	0
				4	20	0	0	0	0	0	0
	larry				65	65	0	0	0	0	5
		SAMPLE_IntelX86_WinXP_Firefox			65	65	0	0	0	0	5
			Functionality Security Test 8		65	65	0	0	0	0	5
				8	65	65	0	0	0	0	5

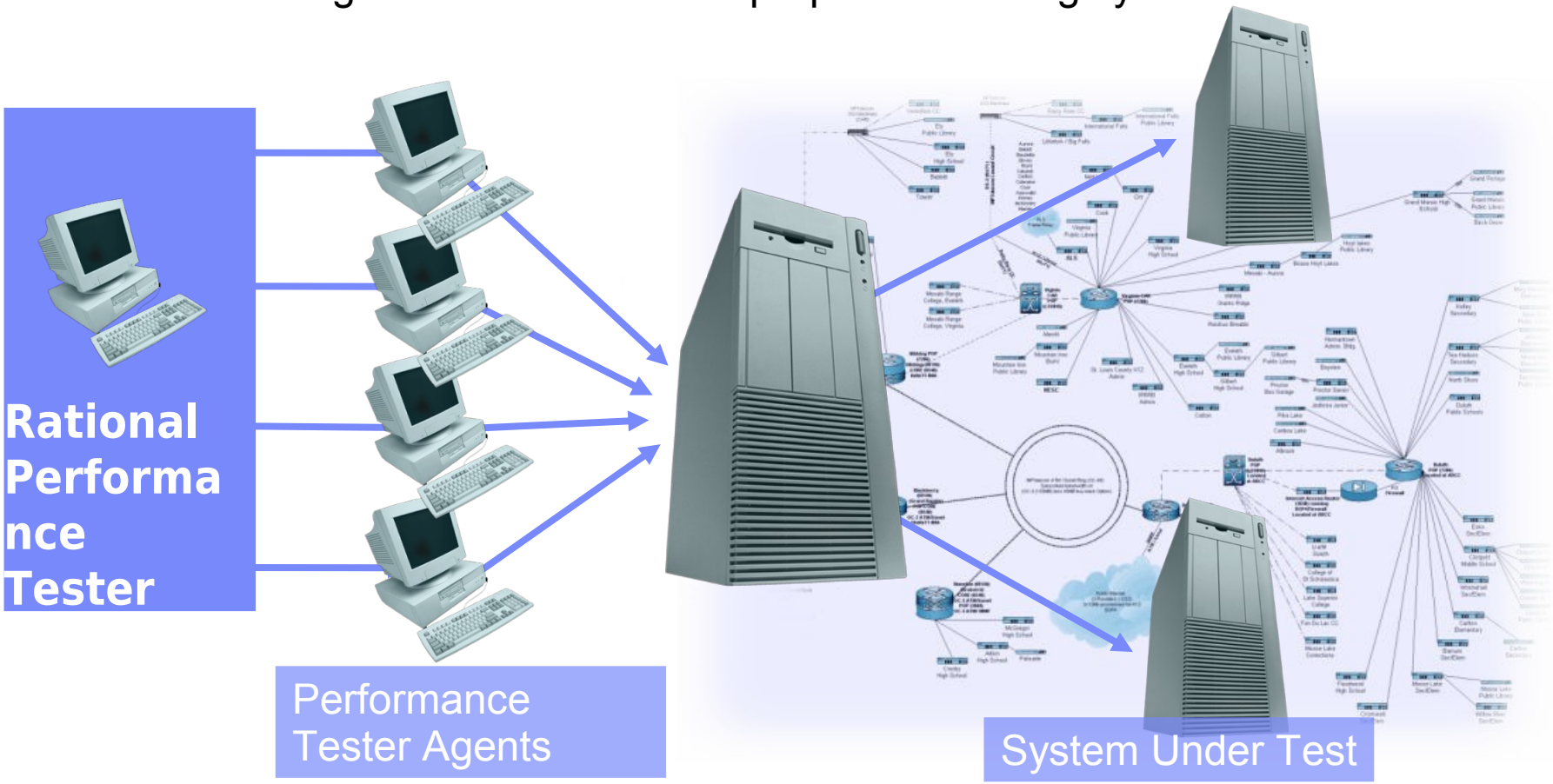
IBM Rational Quality Management

Quality Driven Software Delivery

- IBM Rational Quality Management
- Rational Functional Testing
- Rational Performance Tester
- Rational IT Web Security
- Summary

What Is Performance Testing?

- The process of exercising an application by emulating actual users with a load generation tool for the purpose of finding system bottlenecks



Performance Testing with IBM Rational Performance Tester

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

Creating a Performance Test

Creating a performance test is a three step process

Build Scripts **Schedule Workload** **Execute & Analyze**

- **Script Creation Considerations**
  - Visual test editor, varying input data & correlating server responses
- **Scheduling Considerations**
  - Accurately representing a true user workload
- **Execute and Analyze Considerations**
  - Validating responses & finding the bottleneck

IBM Rational Performance Testing for SAP®

Maximize the performance and scalability of business-critical applications

SAP® Recorder

Enables users to easily capture all SAP transactions using SAPGUI

Provides full visibility into all SAP activities

SAP® Protocol Browser

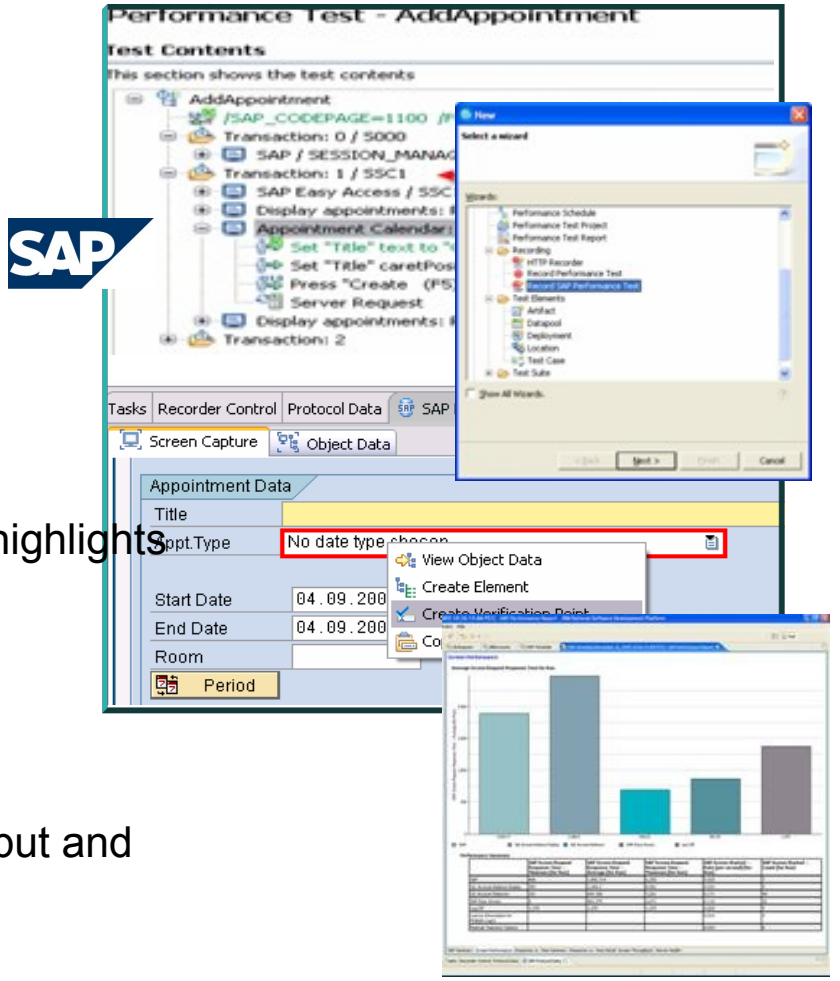
Enables users to easily read and edit tests

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

SAP® Performance Reports

Enables users to quickly pinpoint bottlenecks

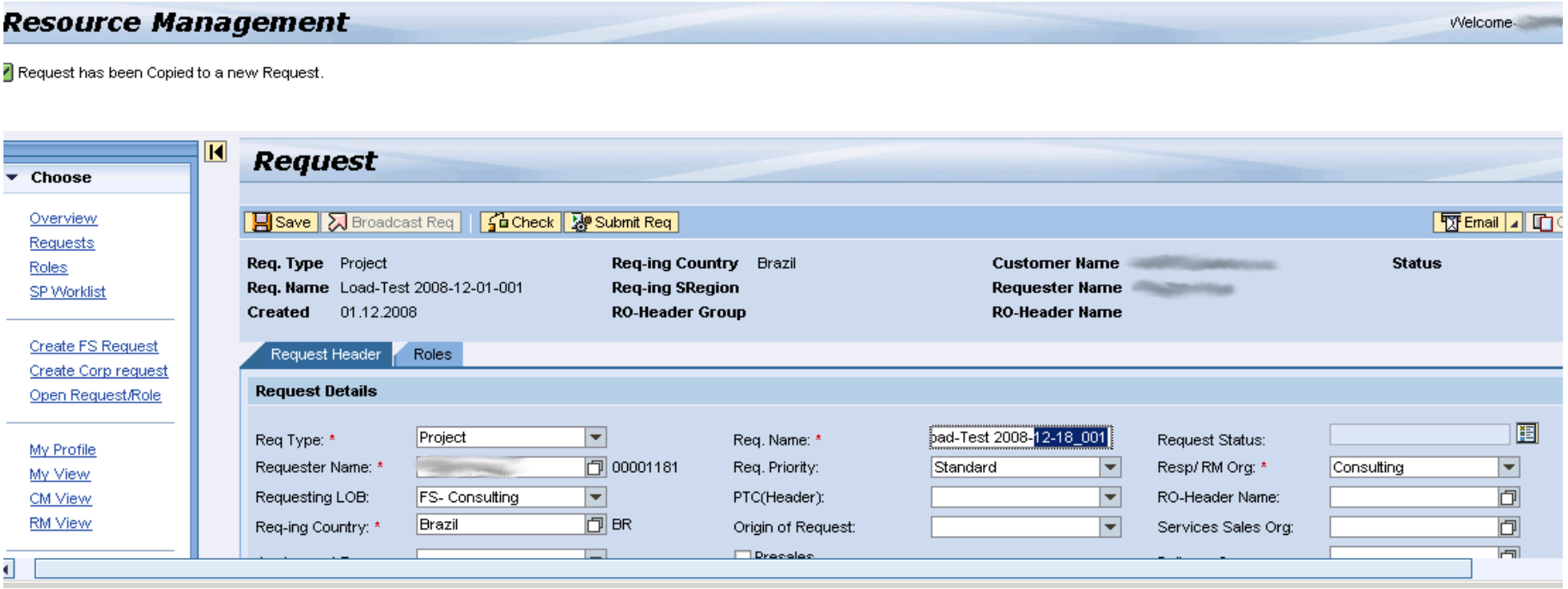
Reports on slow pages, server health, screen throughput and response times for all pages throughout the entire test



IBM Rational Performance Testing for SAP® Portal

Maximize the performance and scalability of business-critical applications

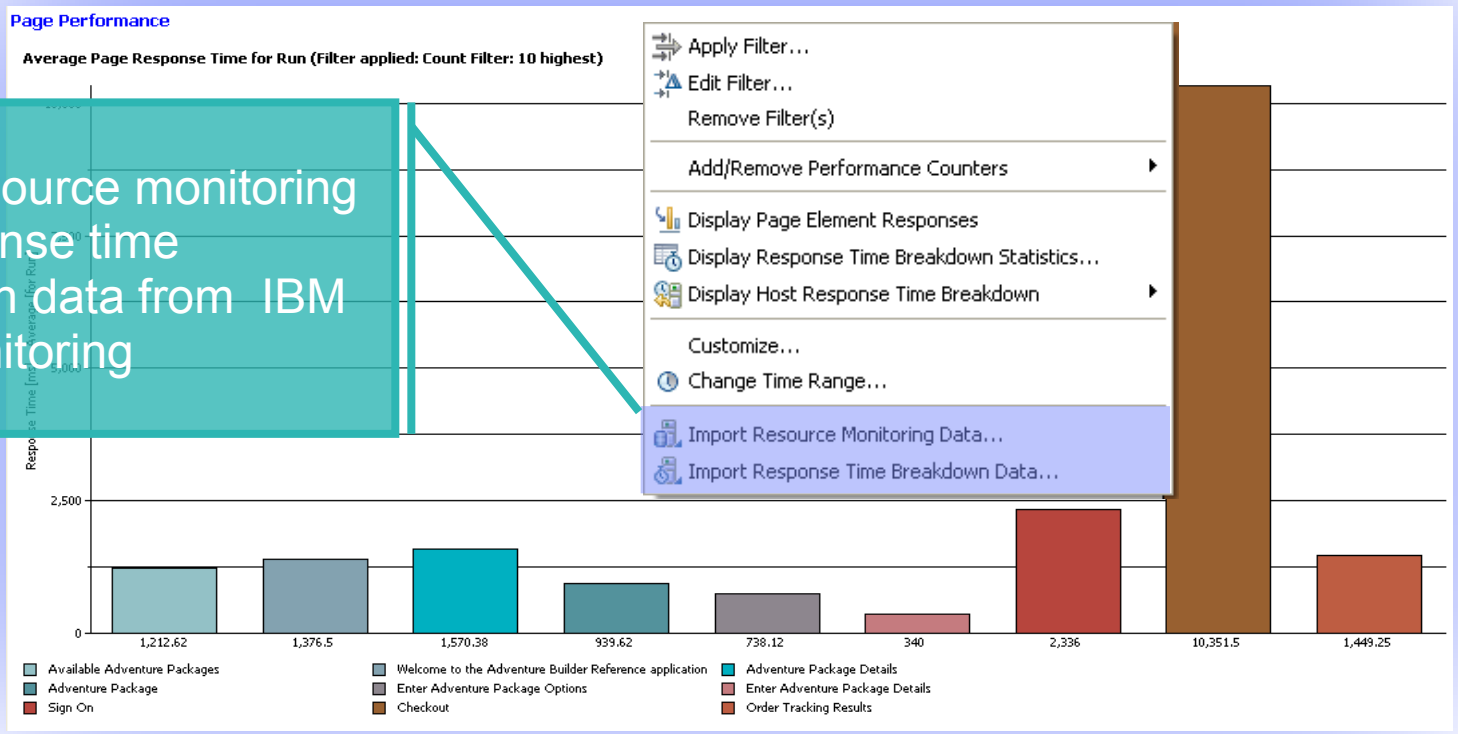
New and Enhanced!



- Improved Support for SAP Netweaver Portal applications
- Supports full automatic data correlation for Java and ABAP Webdynpro
- Reduces test development time

IBM Tivoli Monitoring Import

Resource Monitoring data import from IBM Tivoli Monitoring



Import resource monitoring and response time breakdown data from IBM Tivoli Monitoring

- **Additional data can be imported from IBM Tivoli Monitoring tools**
  - Gain insight for problem diagnosis of WAS, DB2, MQSeries, SNMP (MIB-II only), zOS, Oracle DB, Citrix

IBM Rational Quality Management

Quality Driven Software Delivery

- IBM Rational Quality Management
- Rational Functional Testing
- Rational Performance Tester
- Rational IT Web Security
- Summary

Warum ist Anwendungssicherheit wichtig?

- **Web Applikationen stehen an erster Stelle der Hacker Attacken**
  - 75% aller Attacken betreffen die Applikationsschicht (Gartner)
  - “XSS” und “SQL Injection” stehen an erster und zweiter Stelle der Attacken
- **Die meisten Seiten sind angreifbar**
  - 90% aller Seiten sind angreifbar durch Applikations-Attacken (Watchfire)
  - 78% der einfach anwendbaren Attacken betreffen Web Applikationen (Symantec)
  - 80% aller Unternehmen werden bis 2010 mit Sicherheitsvorfällen konfrontiert werden (Gartner)
- **Web Applikationen sind für Hacker höchst interessant**
  - Zugriff auf persönliche Daten, Kundendaten, Unternehmensdaten, Kreditkarten usw.
- **Compliance Anforderungen werden verletzt**
  - Basel II, Datenschutzgesetze, SOX, Payment Card Industry (PCI) Standards, GLBA, HIPPA, FISMA.

Kosten fehlender Security

Hackers breach LexisNexis, grab info on 32,000 people

By Paul Roberts
IDG News Service, 03/09/05

Hackers have compromised databases belonging to LexisNexis and stolen information on at least 32,000 people, according to a statement Wednesday from LexisNexis' parent company, Reed Elsevier PLC.

The hackers stole passwords, names, addresses, Social Security and drivers license numbers of legitimate customers of the company's Seisint division. Seisint collects data on individuals that is used by law enforcement and private companies for debt recovery, fraud detection and other services.

LexisNexis identified the incidents in a review of security procedures and warned that there may be more incidents of data theft, Reed Elsevier said. The incident is eerily familiar to recent revelations about similar compromises at Seisint competitor ChoicePoint, which acknowledged in February that hackers had access to data on 145,000 people.

Reed Elsevier did not immediately respond to requests for comment.

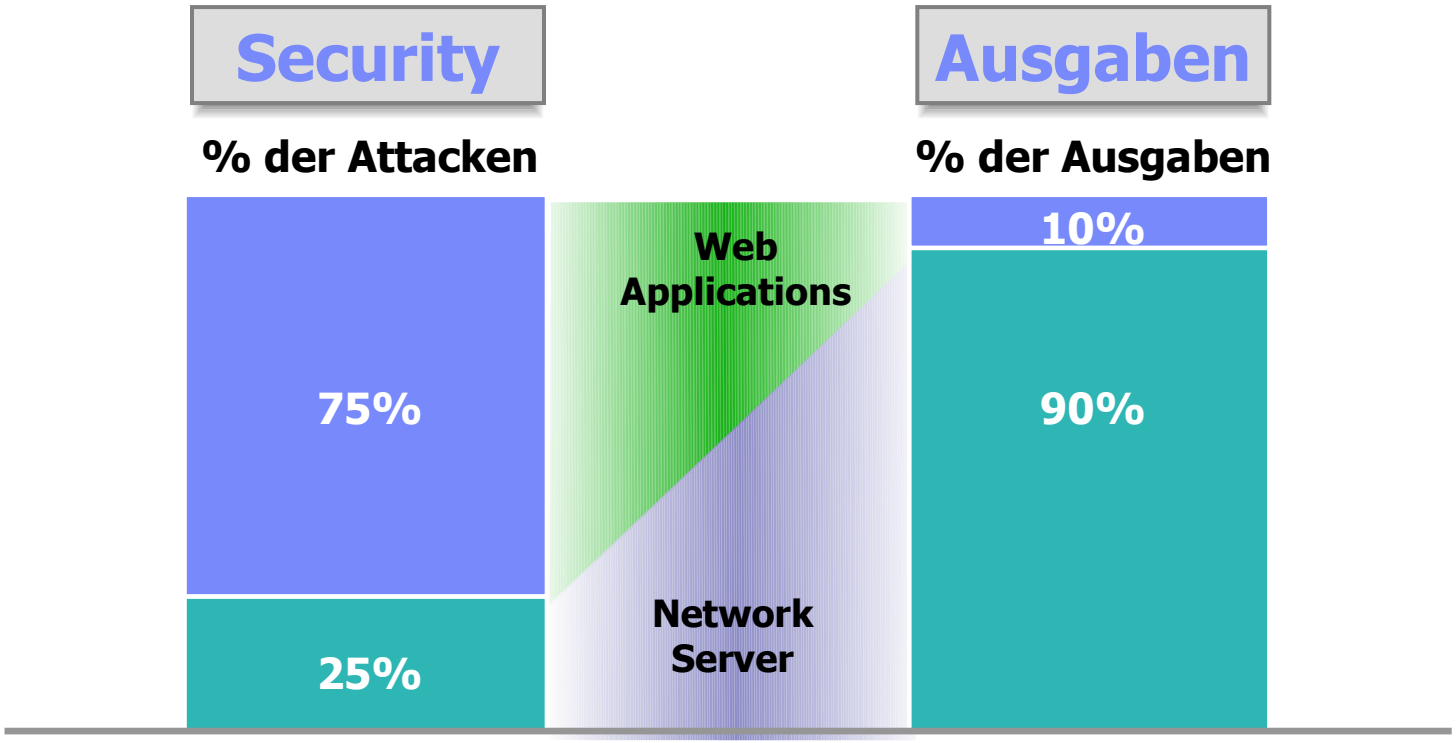
LexisNexis, which acquired Seisint of Boca Raton, Fla., in September for $775 million, expressed regret for the incident and said it is notifying the individuals whose information may have been accessed and will provide them with credit monitoring services.

The U.S. Secret Service is actively involved in an investigation of the incident, but declined to give any details about the case through spokesman Jonathan Cherry.

Like ChoicePoint, Se… Social Security numbers, cre… behind the "Multistate Anti-Terr… id public

- Mediale Aufmerksamkeit
- Beschädigung der Marke
- Stark sinkende Aktienkurse
- Hohe Kommunikationskosten
- Gesetzliche Strafen
- Verstärkte Audits
- Klagewelle von Kunden
- Verlust von Kunden

Ausgabenverteilung für Security



75% aller Attacken auf Informationssicherheit finden im Web Application Layer statt

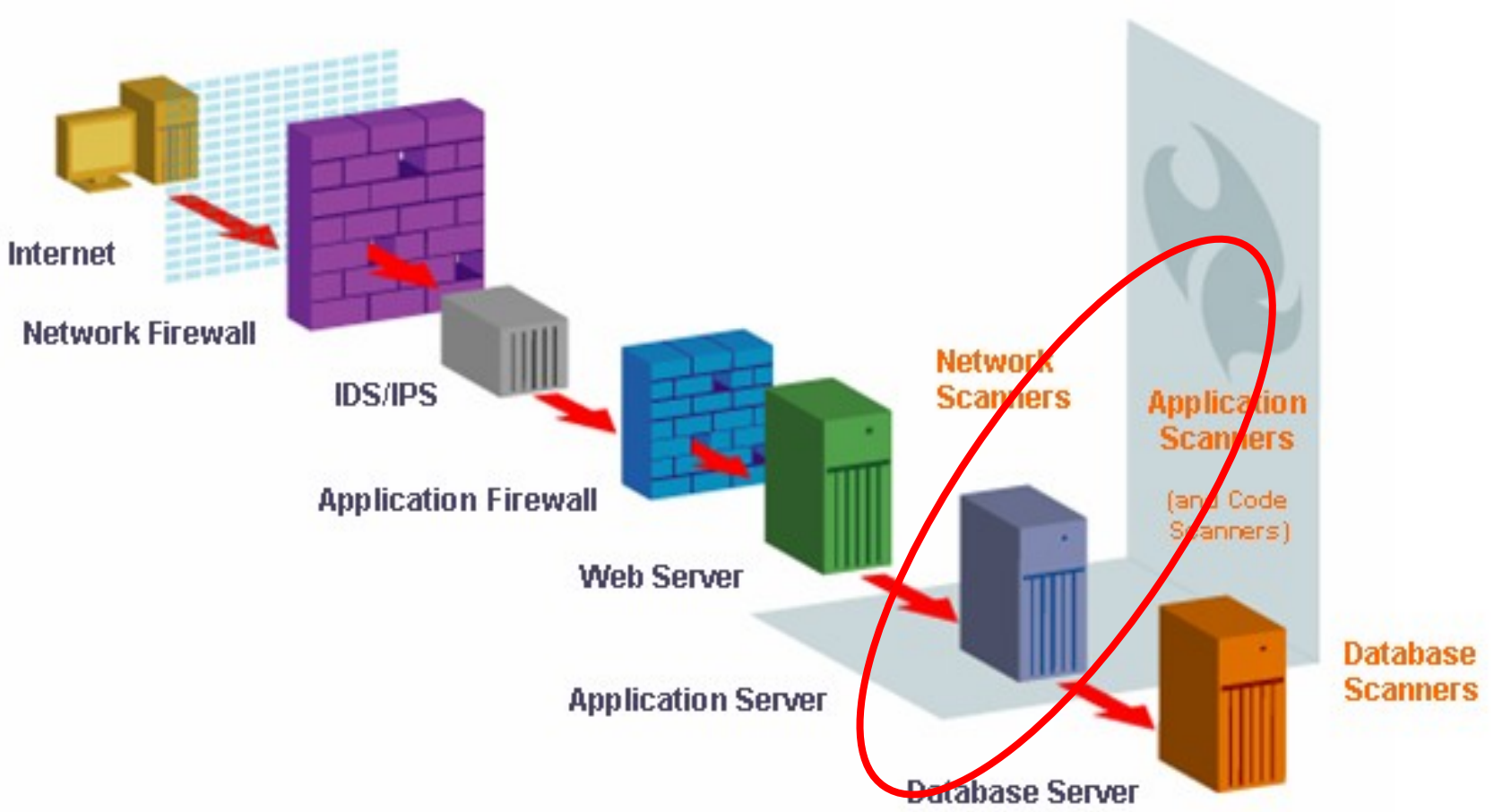
2/3 aller Webanwendungen sind gefährdet. Gartner

Sources: Gartner, Watchfire

Warum ist Anwendungssicherheit wichtig?

- **Seit dem 1. September 2009 gilt ein neues Bundesdatenschutzgesetz!**
  - *"...Gehen beispielsweise personenbezogene Daten verloren, verschaffen sich Unbefugte Zugriff darauf oder werden sie unrechtmäßig an Dritte weitergegeben, **müssen** Unternehmen und Behörden dies künftig **veröffentlichen** (Novelle II des Bundesdatenschutzgesetzes BDSG, §42a). Festgelegt ist auch, dass Unternehmen die von den Datensicherheitsverletzungen **Betroffenen informieren** müssen. Dies kann schlimmstenfalls bedeuten, dass sie sich an Millionen von Betroffenen beispielsweise über Anzeigen in Tageszeitungen wenden müssen..."*
- **Web Applikationen sind für Hacker höchst interessant**
  - Zugriff auf persönliche Daten, Kundendaten, Unternehmensdaten, Kreditkarten usw.
- **Compliance Anforderungen werden verletzt**
  - Basel II, Datenschutzgesetze, SOX, Payment Card Industry (PCI) Standards, GLBA, HIPPA, FISMA.

Einordnung von Webanwendungssicherheit



(IDS=Intrusion Detection System, IPS=Intrusion Prevention System)

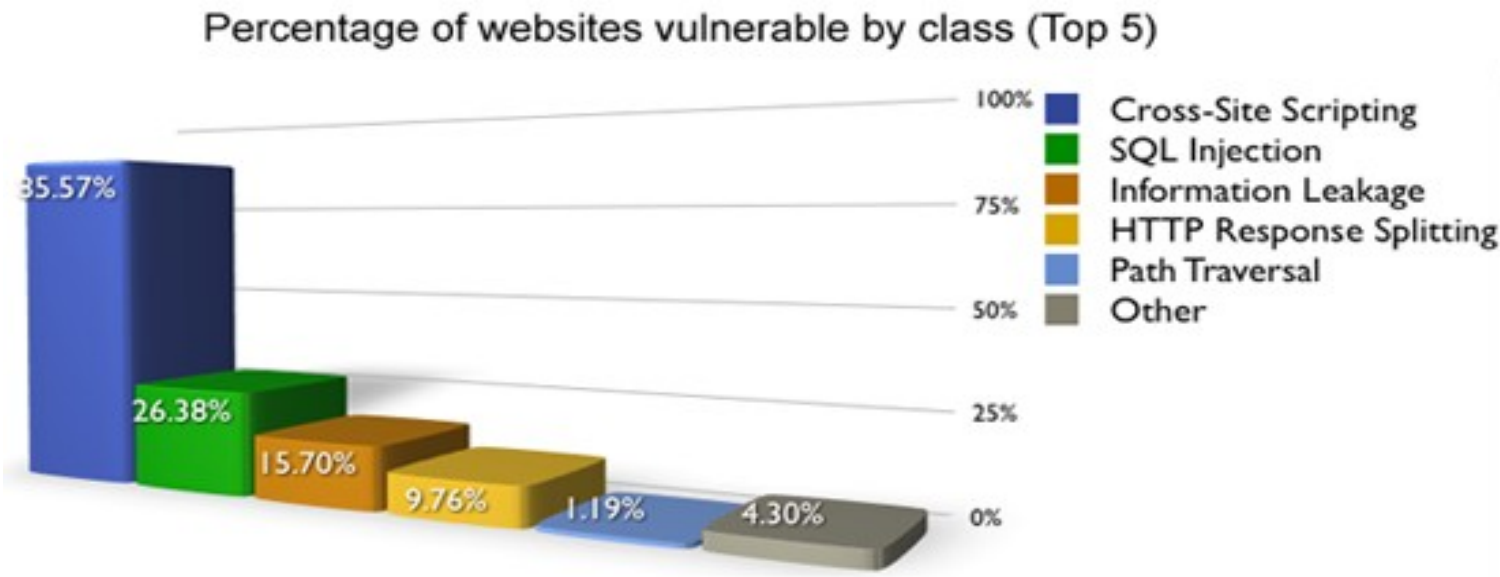
… und die Security Lücken

1. **“Cross-Site Scripting” (XSS)**
2. “Injection Flaws”
3. Verstecktes Ausführen einer Datei
4. Unsichere “Direct Object Reference”
5. Verfälschung eines “Cross-Site Requests”

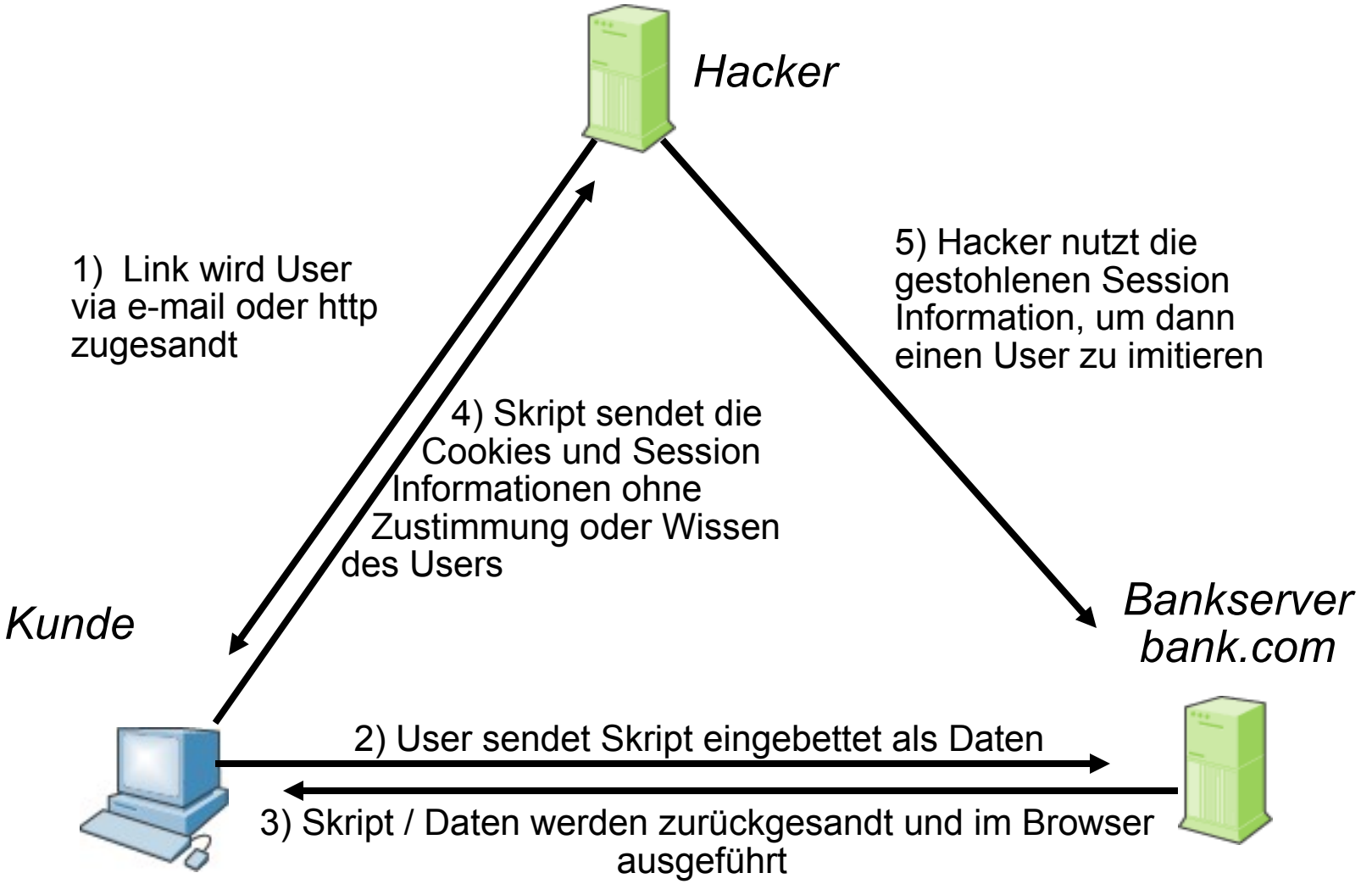
Top Ten des “Open Web Application Security Project” (OWASP)

1. Informationsverlust und unsaubere Fehlerbehandlung
2. Broken Authentication & Session Management
3. Unsichere Kryptografie Speicherung
4. Unsichere Kommunikation
5. Fehlerhafte Abwehr von URL Zugriffen

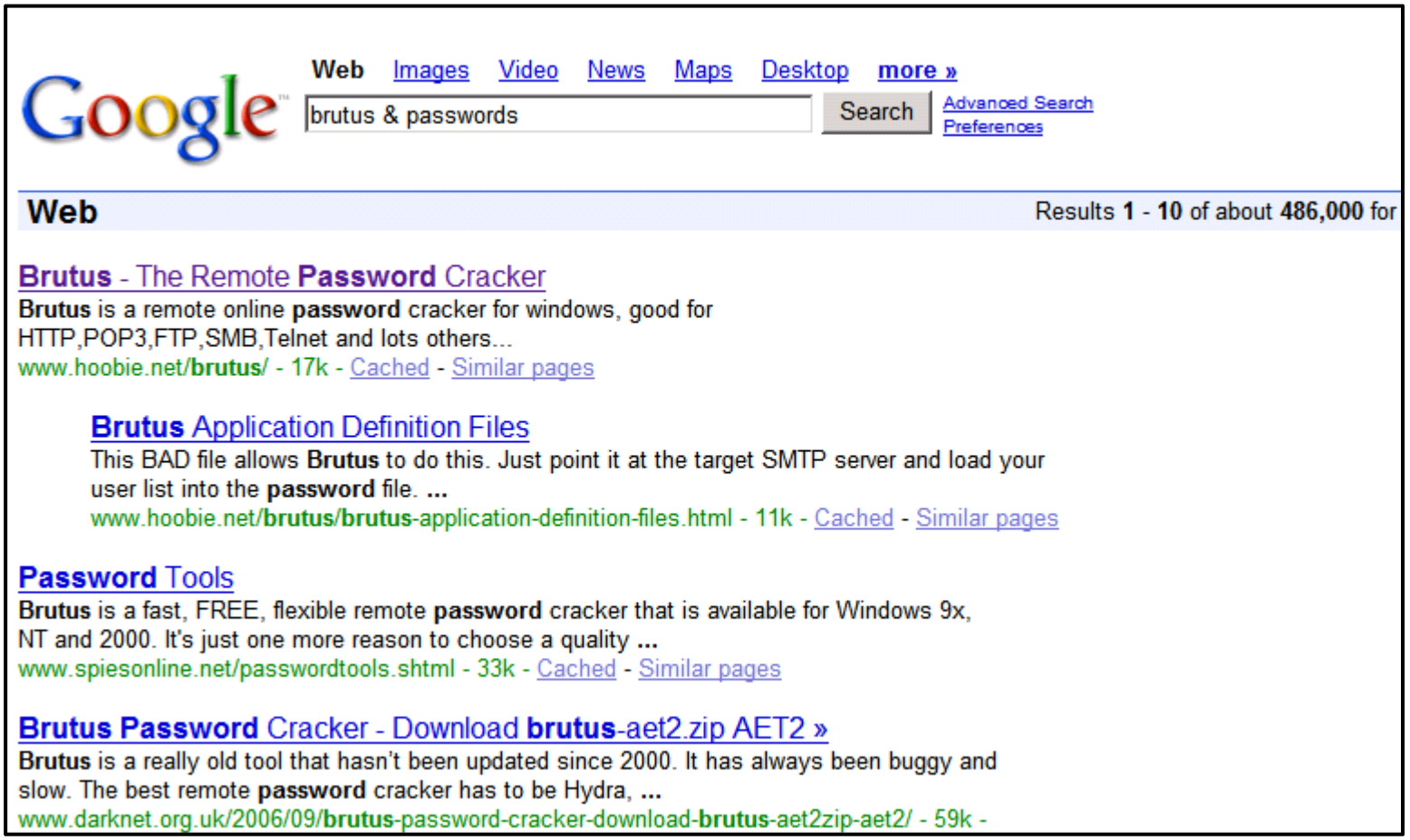
Schwachstellen Statistik (31.373 Seiten)



XSS – Beispiel Bankanwendung - Prozess

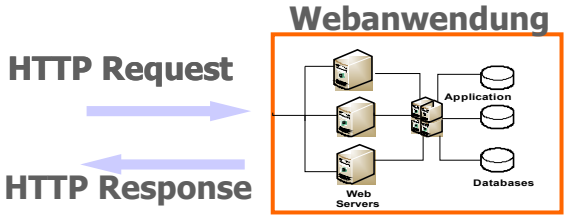


Brute Force Tools sind einfach zu finden…

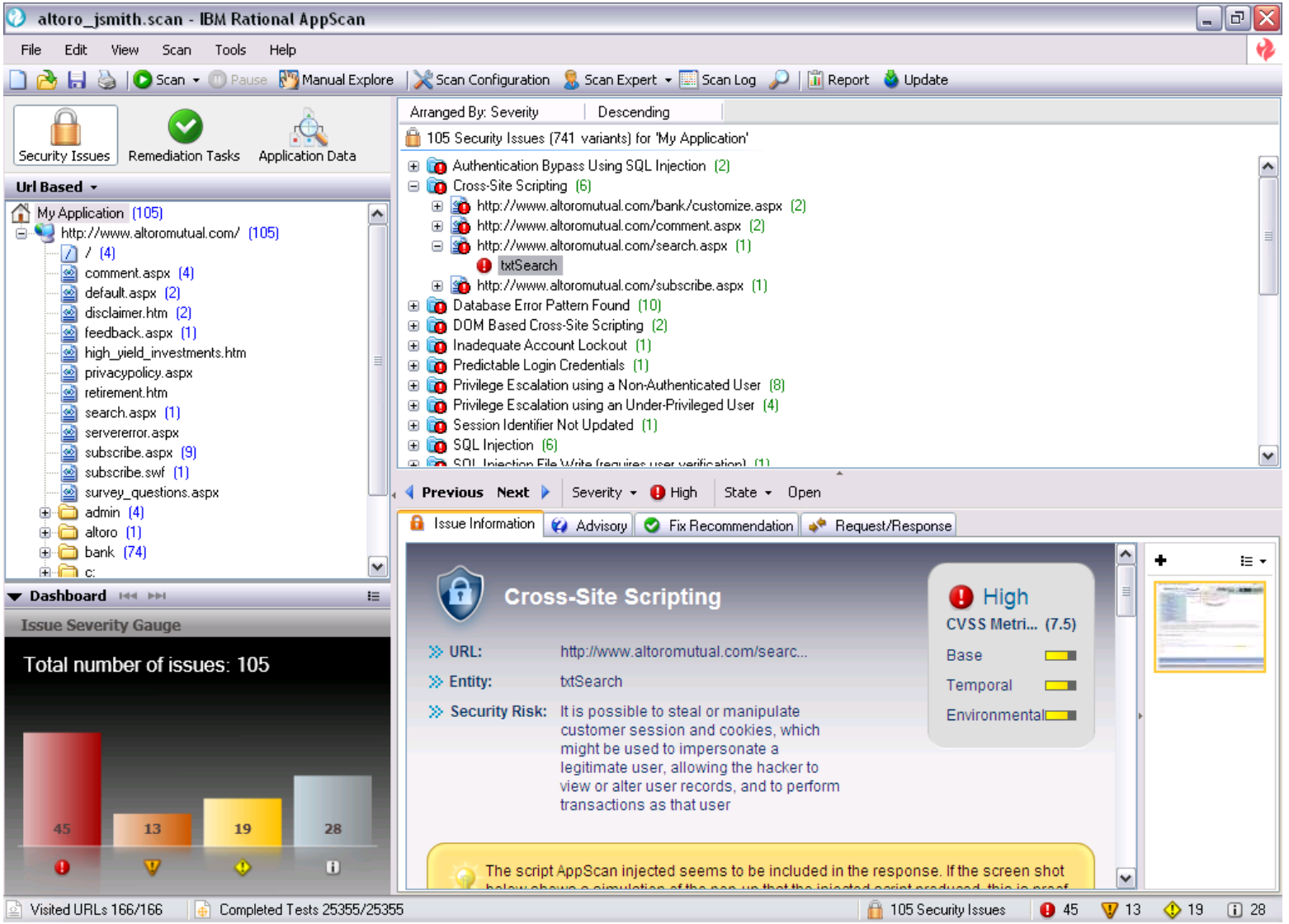


Was ist IBM Rational AppScan?

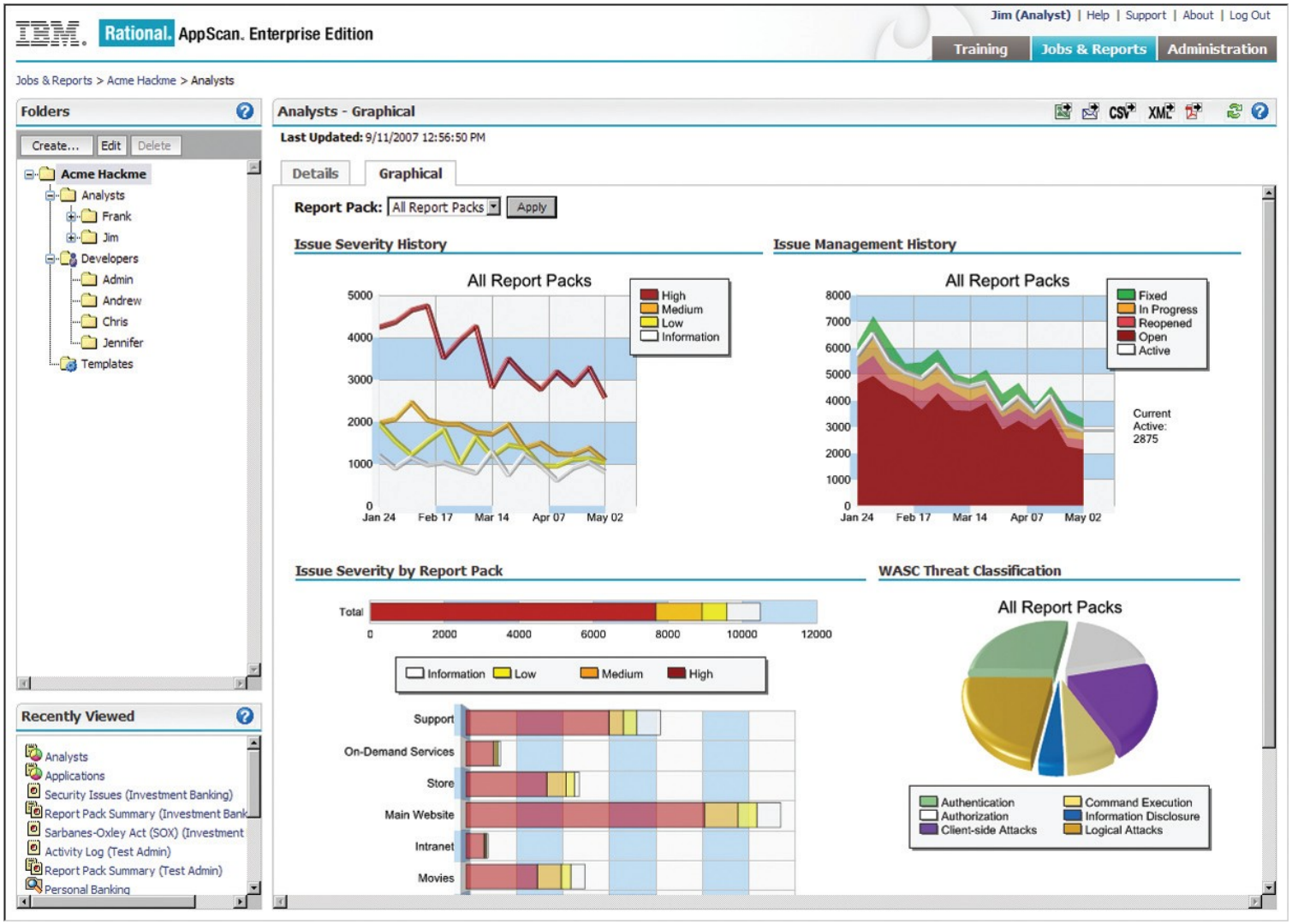
- Ein automatisiertes Testtool zum Aufdecken von Sicherheitslücken in Webanwendungen
- Zweistufiges Vorgehen:
  1. „Auslesen“ der URL-Struktur und Scan der Seiten, um potentielle Angriffspunkte zu finden und zu listen.
  2. Test der gefundenen Angriffspunkte.
- Mehr als 2000 vordefinierte Sicherheits- und Compliancetests werden automatisiert durchgeführt
- Ein Expertenteam beobachtet laufend bekannte und neue Angriffsarten. Entwickelt neue und aktualisiert bestehende Tests und stellt diese per Update zur Verfügung.
- Ausführliche, konfigurierbare Reports zu den durchgeführten Tests.
  Zu den gefundenen Schwachstellen werden Maßnahmen zur Abhilfe vorgeschlagen.



Rational AppScan Standard Edition



Rational AppScan Enterprise Edition



Basisoperationen der Rational AppScan Source Edition

Security Anforderungen: Ein Manager oder Sicherheits-experte definiert Schwachstellen und wie diese beurteilt werden

Konfigurieren: Der Project Configuration Wizard hilft Anwendungsscans aufzusetzen

Scannen: Code wird untersucht und Ergebnisse werden geliefert.

Triage: Separieren von echten und potenziellen Sicherheitslücken, um kritische Schwachstellen sofort beheben zu können

Beheben: Eliminieren von Schwachstellen durch Code Änderungen oder Hinzufügen von Sicherheitsfunktionen

Überprüfen: Rescan des Codes um sicherzustellen, dass die Schwachstellen entfernt wurden

Eine Erfolgsstory mit mehr als 800 Referenzen

9 der Top 10 größten US Banken	8 der Top 10 Technologie Unternehmen	7 der Top 10 Pharma Unternehmen	Grosse Öffentliche Kunden
Bank of America – Higher Standards	IBM	Wyeth	Veteran's Affairs
Citi	Microsoft	Novartis	Army
JPMorgan	Intel	AstraZeneca	Navy
SunTrust	Nokia	Abbott Laboratories	Air Force
Wells Fargo	Cisco Systems	Aventis	Marines
Wachovia	Sony	Roche	Social Security USA Administration
Washington Mutual	Dell	Genentech – In Business For Life	United States Postal Service
US Bank	Canon		
HSBC			

Referenzen in Deutschland:

Telefonica

O2

OEV ONLINE DIENSTE


Thank
You