IBM Software Group

Discovering the Value of IBM Rational Quality Manager

An IBM Proof of Technology

Agenda

- Rational® Quality Manager Overview
- Test Management Overview
  - Lab 1: Test Management
- Test Planning Overview
  - Lab 2: Test Planning
- Test Creation Overview
  - Lab 3: Test Creation
- Test Execution Overview
  - Lab 4: Test Execution
- Reporting Overview
  - Lab 5: Reporting
- Lab 6 Impact Analysis of a Requirement Change
- Lab 7 Importing Requirements from Requisite Pro® (Optional)
- Lab 8: Running Rational Functional Tester (RFT) tests from Rational Quality Manager (Optional)

Objectives

- Demonstrate how Rational Quality Manager:
  - Mitigates business risk: Catch defects earlier and keep the team in synch with dynamic process and activity-based workflows
  - Improves operational efficiency: Automate labor-intensive lifecycle processes and determine optimal plans addressing wide range of platforms and requirements
  - Provides greater visibility of metrics: Make reliable decisions with constant access to prioritized metrics tailored for individuals and teams
  - Protect existing investments and deliver greater predictability: Adopt successful deployment patterns and map to operational Key Performance Indicators (KPIs), platforms and requirements

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Rational Quality Manager Overview

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TechWorks

The increasing costs of fixing a defect

80% of development costs are spent identifying and correcting defects!

Source: GBS Industry standard study
Defect cost derived in assuming it takes 8 hrs to find, fix and repair a defect when found in code and unit test.
Defect FFR cost for other phases calculated by using the multiplier on a blended rate of $80/hr.

Process-led Automation yields real savings

Examples of automation capabilities

	Developing repeatable industry test solutions			**Advanced Defect Analysis**	**Developing repeated test process models applicable to future projects**		**Integrating end to end processes**	
Asset	Test cases copied	Manual scripts copied	Manual scripts Reuse	Prevent and Block duplicate Defects	Baseline & migrate documentation	Baseline artifacts	Leveraging component Reuse	Dynamic updates of test assets
Quantity	290	296	1,178	765	1,154	1,711	870	1,883
Hours saved	141	148	589	Discovery in 4 Hr 1,484	577	855	435	470
Value	$11, 600	$11,850	$47,000	$857,000	$46,200	$68,000	$34,800	$37,700

Source: GBS Test Practices study over 855 projects

Average per project saving with automation and collaboration best practices calculated on a per asset task and process savings

Estimated hours saved per project: 4700 hours

IBM® Rational raises the bar for Quality management

Scenarios that show the difference

Mitigate Business Risk

Collaborate

Collaborative, continuous, and comprehensive information sharing reduces defects, improves handoff and increases customer satisfaction

Improve Operational Efficiency

Automate

Automating labor-intensive activities reduces time-to-market and increases predictability and consistency to improve return on investment

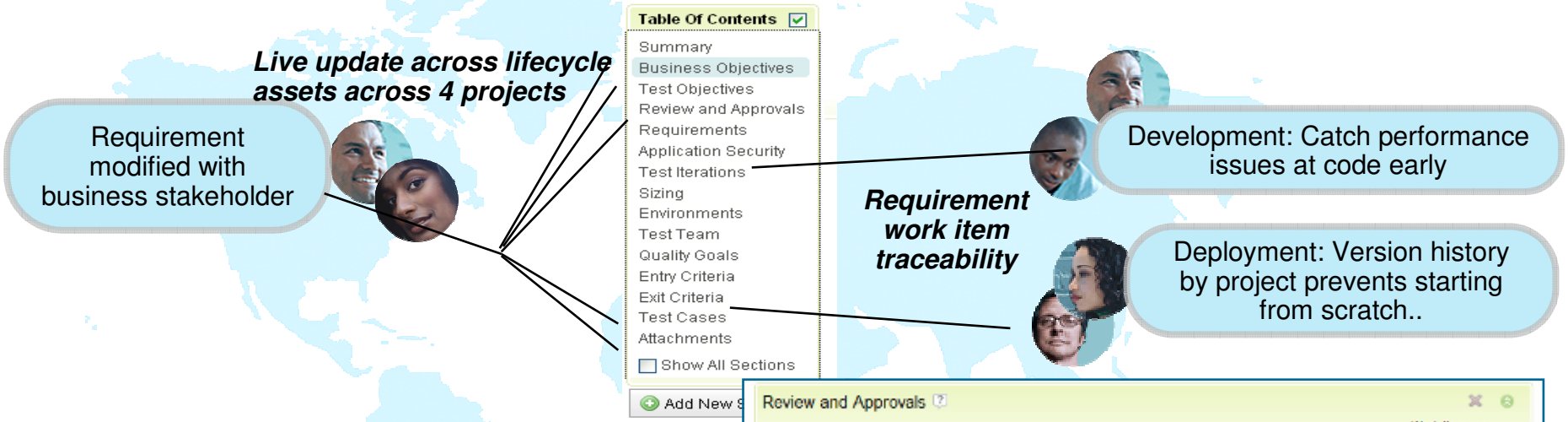
Make confident decisions

Report

Moment by moment understanding of software quality metrics for immediate corrective action and release decisions addressing both business and IT needs

Mitigate business risk in an environment of constant change

What is needed: Comprehensive quality impact analysis beyond walls of QA with lifecycle collaboration and process orchestration



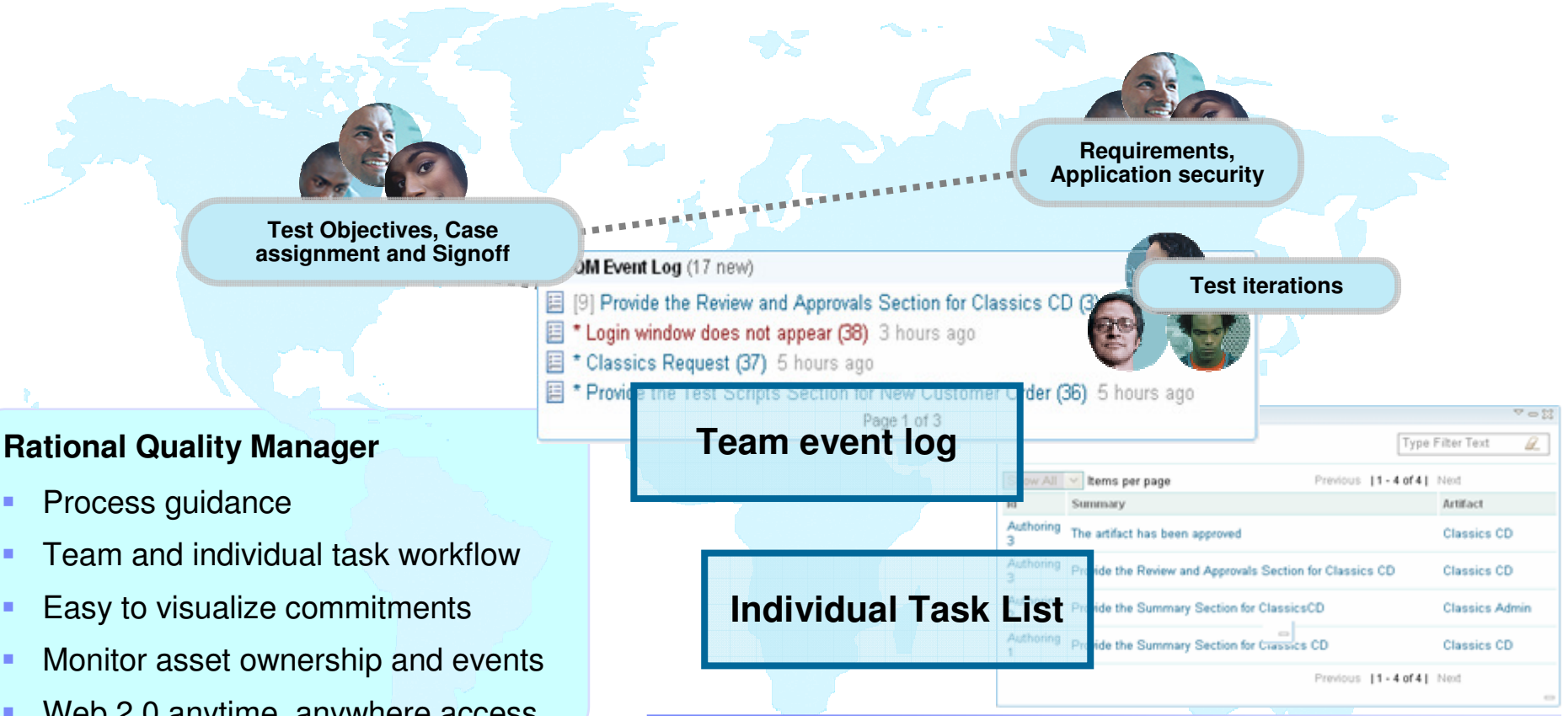
Rational Quality Manager

- Review and approvals of tasks across projects
- Out of the box requirements integration
- Asset versioning with dynamic updates
- Advanced defect analysis prevents duplicates
- Upstream quality- Static code analysis

Comprehensive risk mitigation and reduced rework cost by $900/defect

Improve operational efficiency

What is needed: Team awareness of activities, clear ownership and simpler on-boarding



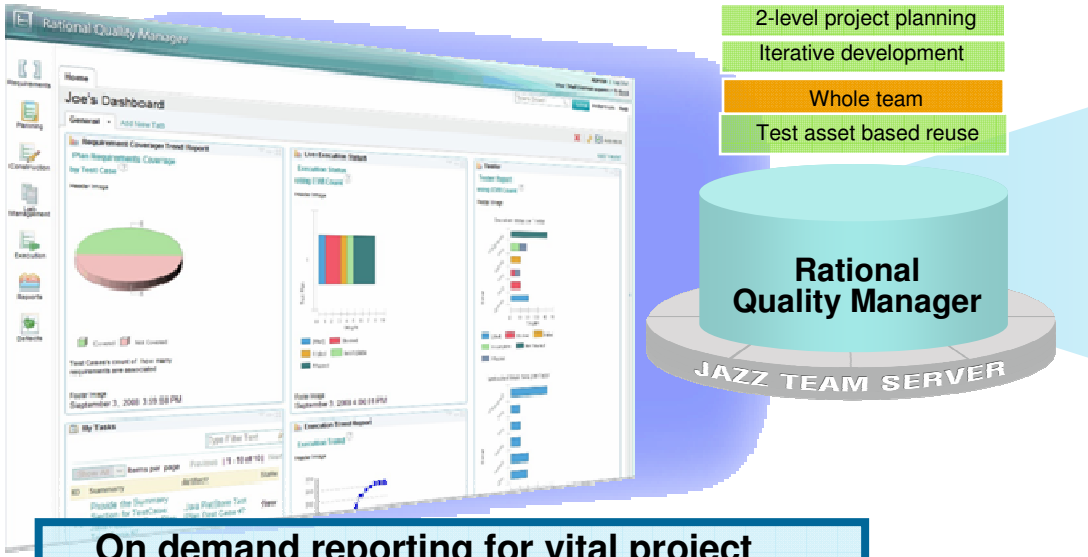
Rational Quality Manager

- Process guidance
- Team and individual task workflow
- Easy to visualize commitments
- Monitor asset ownership and events
- Web 2.0 anytime, anywhere access

Keep on schedule and under budget. Know what others are doing, what is expected of you.

Make confident decisions

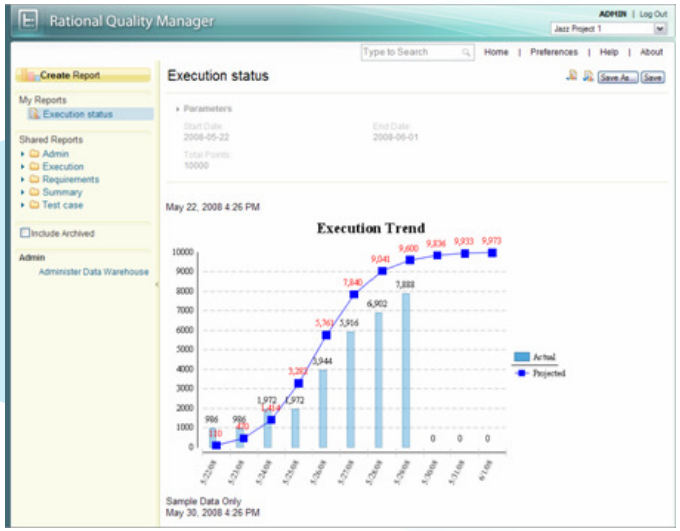
What is needed: Always current metrics tailored by role for the right stage coupled with trends, best practices and proven assets to accelerate decision making



2-level project planning
Iterative development
Whole team
Test asset based reuse

Rational Quality Manager

JAZZ TEAM SERVER

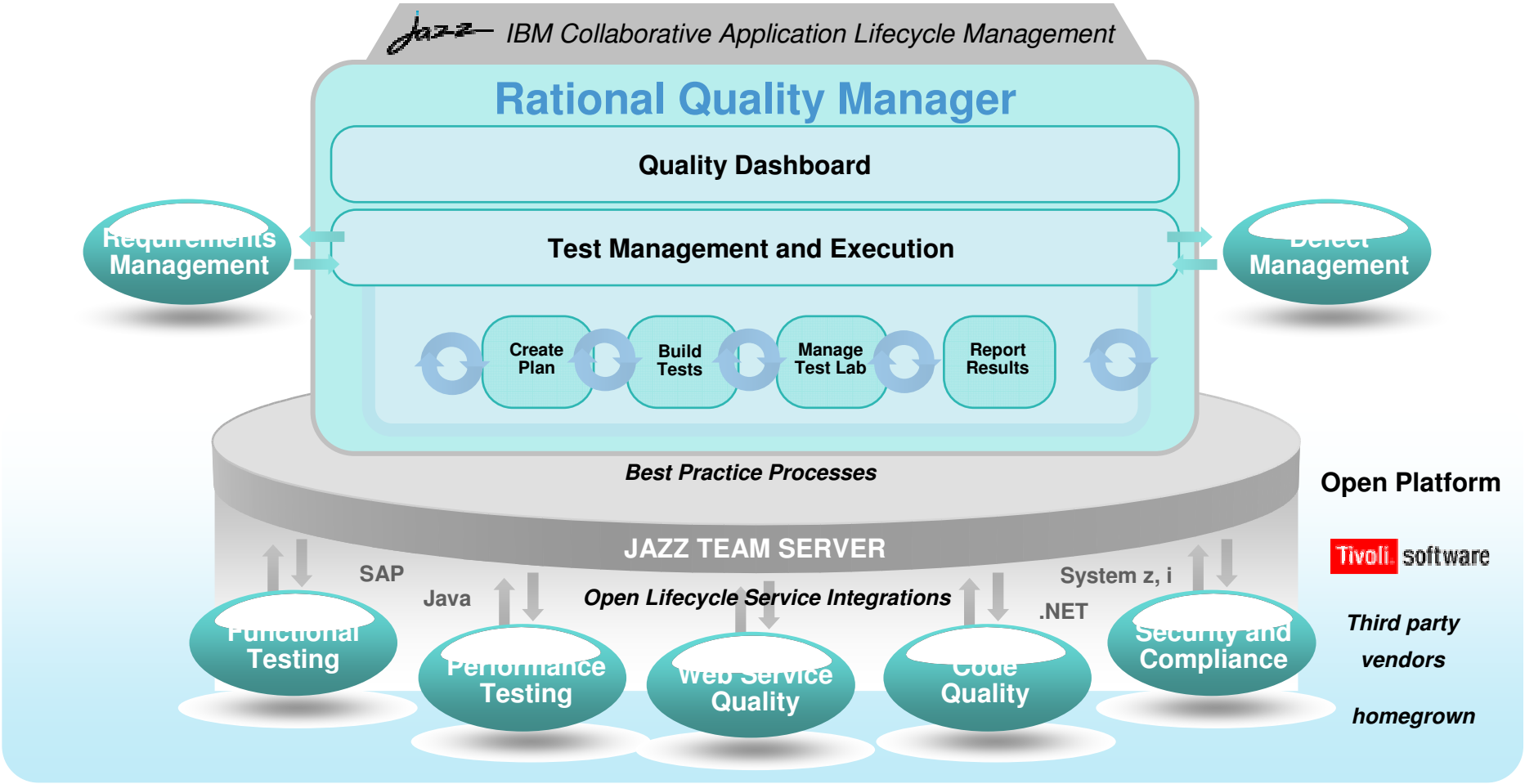


On demand reporting for vital project information customizable by role

Process and asset based predictive analytics

Project 95% confidence on coverage and cycle completion

Centralized test management offering allowing full lifecycle support across all types of testing and platforms



PoT Lab Overview

Quality Management Lifecycle

Lab 1 – Test Management

The QM Manager
Mary

- User Dashboard
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Lab #1

Test Management

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Collaboration to synchronize team efficiency
People, not organizations, make great software

Promoting team synergy

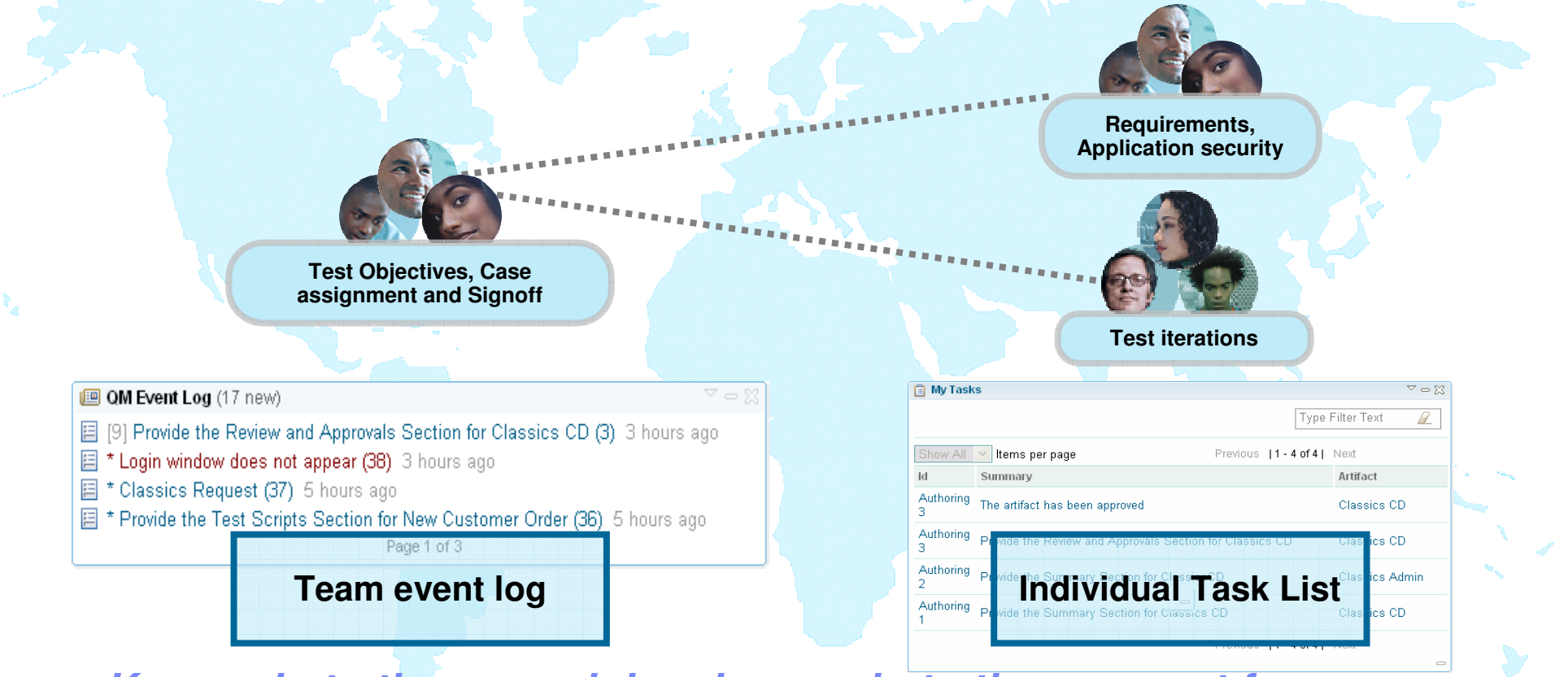
- ✓ Clearly define roles and responsibilities
- ✓ Manage team activities with customized interface
- ✓ Create dynamic test plans
- ✓ Communicate project status efficiently

Up to date work progress information

Task management for individual and team

Challenge: Assigning and coordinating test plan ownership and events across distributed teams

Solution: Visualize commitments, reduce rework, track tasks and monitor events



Know what others are doing, know what others expect from you

Proof of process

Challenge: Centralized QA team works with multiple stakeholders across lines of business

Solution: Keeping version history and managing approval process at different phases

All project stakeholders can review, refine and sign-off on all quality related artifacts

Project A

Analyst

Requirements Signoff

Project B

Project Manager

Quality Certification

Project C

Lab Manager

Ready for Release

Artifact Reviews and Approvals

QA team maintains accurate project history with detailed artifact versioning

Artifact Versioning

Complete Lab 1

- Identify the Lab Workbook and where to start (page #), where to stop (page #)

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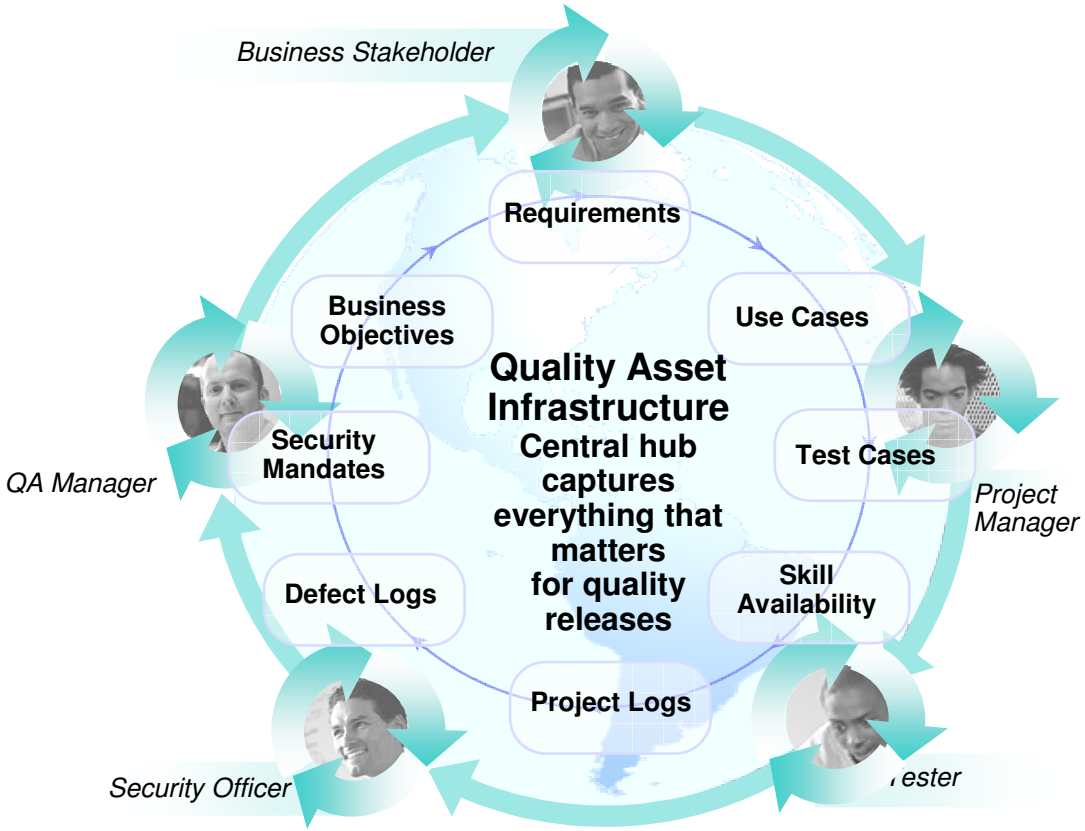
Lab #2

Test Planning

An IBM Proof of Technology

A quality contract for the entire software delivery team

Comprehensive rich test plan

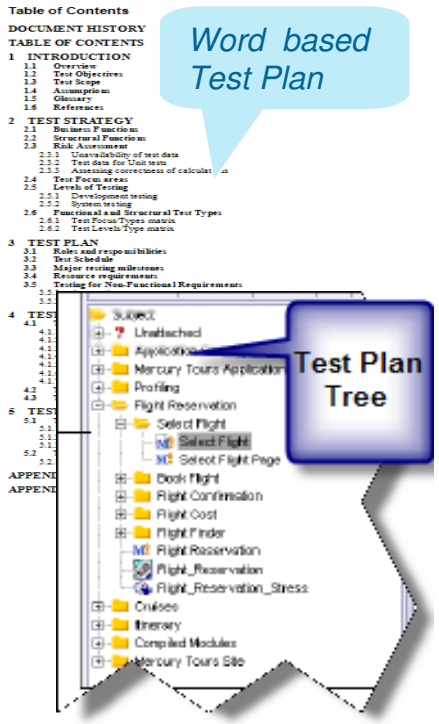


- **Collect and track all test data**
  - Central location for business objectives requirements, resources, platform and exit criteria to name a few
- **Defined Responsibilities**
  - Individual sections are assigned to team members to clearly establish ownership
- **Goal Oriented**
  - Formalized and documented exit criteria
- **Extensible**
  - Add sections, import custom data
- **Keep track of changes**
  - Snapshot version control to track plan history throughout the life of the project

Comprehensive dynamic planning and updates

Process flow, not artifacts drives team activities

Other Test Plans

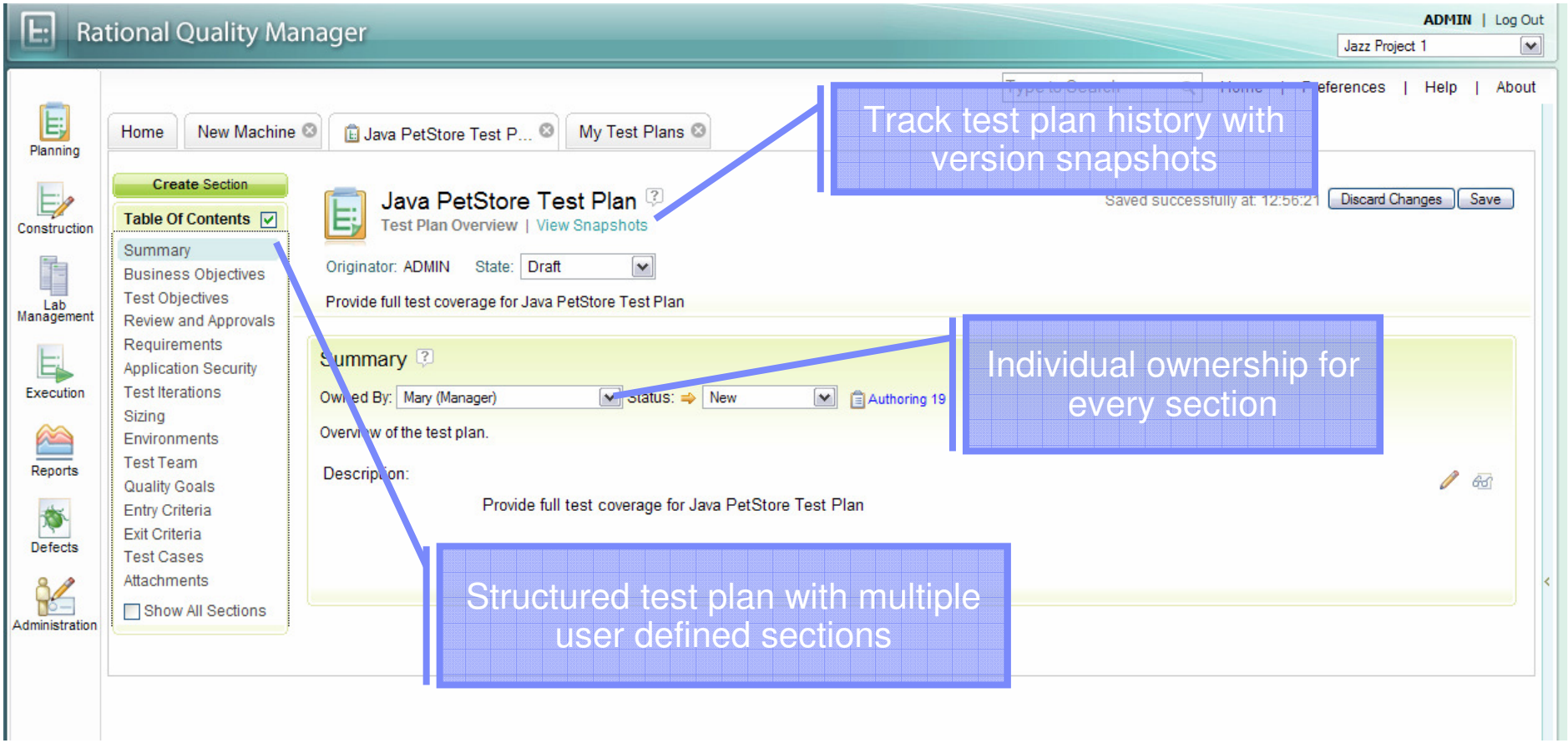


Rational Quality Manager Plan

- ✓ Live dynamic documentation
- ✓ Defines test process and strategy
- ✓ Defines responsibilities
- ✓ Activity based versus hierarchy
- ✓ Business level reporting against quality objectives

Collaborative and adaptive test plan management

Test plans that are easy to create and evolve with our projects



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Complete Lab 2

- Identify the Lab Workbook and where to start (page #), where to stop (page #)

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Lab #3

Test Creation

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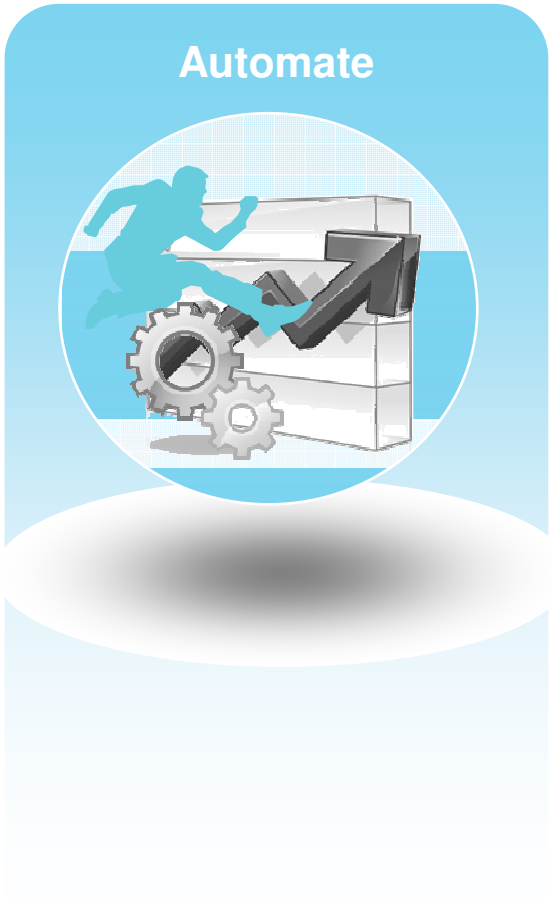
Automate to accelerate test creation and execution

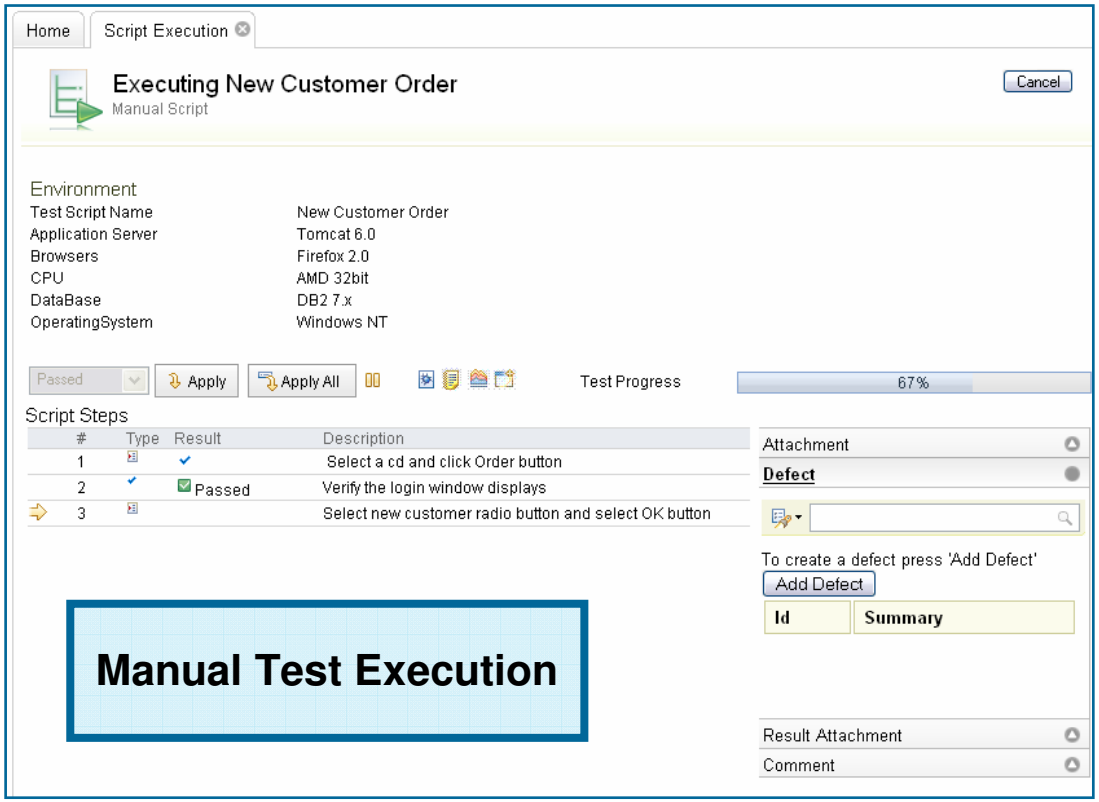
Quality at the speed of business

- Run manual and automated test execution for rapid quality cycles
- Enact test coverage optimization
- Streamline test lab management



Integrated manual test authoring and execution

Track execution results and defects from manual test efforts



Manual test author and execute

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

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Lab #4

Test Execution

An IBM Proof of Technology

TechWorks

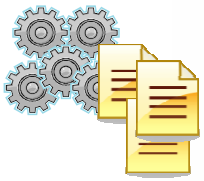
Configuration aware testing

Test the right cases instead of everything. Plan optimal execution

800 Total Combinations

10 different CPU Types

DB2®
Oracle®
MySql®
Derby



Windows® XP
Win XP SP2
Win Vista
SLES 10
Win 2003

Pairwise Optimizations

Less than 20 Combinations

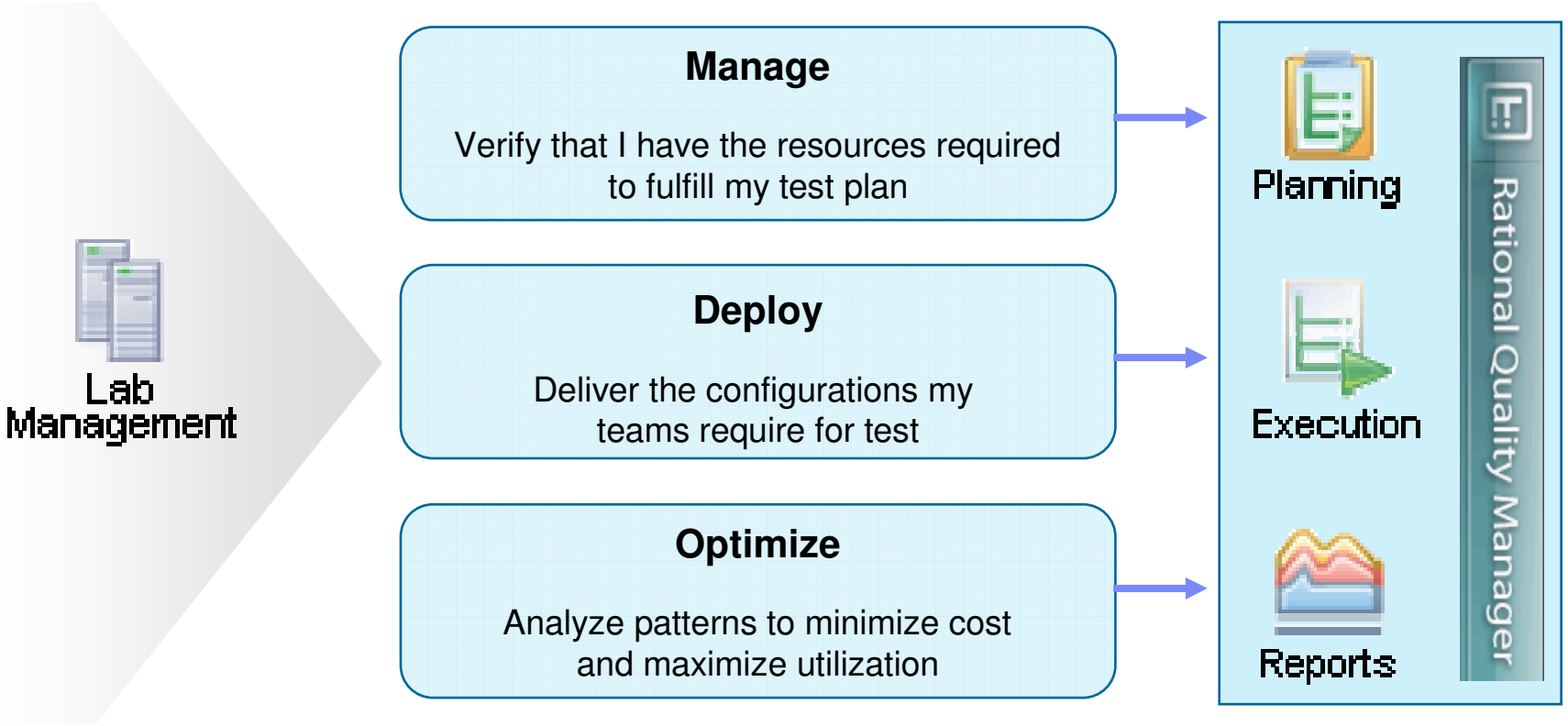
OS	Browser	Protocol	CPU	DBMS
XP	IE	IPv4	Intel	MySQL
XP	Firefox	IPv6	AMD	Sybase
XP	IE	IPv6	Intel	Oracle
OS X	Firefox	IPv4	AMD	MySQL
OS X	IE	IPv4	Intel	Sybase
OS X	Firefox	IPv4	Intel	Oracle
RHL	IE	IPv6	AMD	MySQL
RHL	Firefox	IPv4	Intel	Sybase
RHL	Firefox	IPv4	AMD	Oracle
OS X	Firefox	IPv6	AMD	Oracle

Configuration awareness

Plan for test execution across all of your target environments

IBM Rational Test Lab Manager

Save 30-40% test time with integrated test lab management



QA Teams spend more than 36% of their time configuring machines to make them ready for testing – IBM Survey

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Complete lab 4

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Lab #5

Test Reporting

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On demand reporting for instant project status

Moment by moment grasp of project information for decision making

- ✓ Measure progress with extensive query, reporting facilities and dashboard
- ✓ Address needs of QA and stakeholders

Reduce risk with constant access to quality metrics

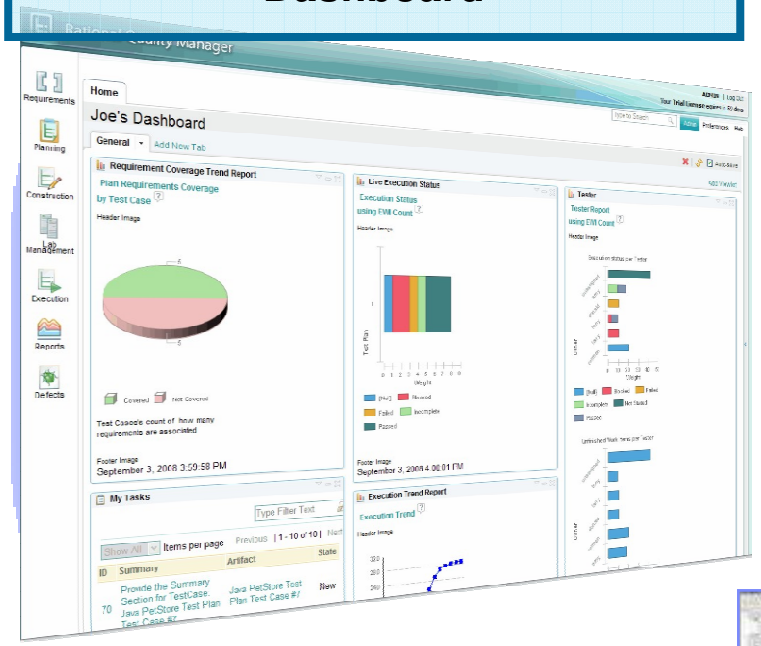
Lifecycle quality perspective to proactively manage risk

Manual and functional test automation results available

Performance risks are always visible and quickly resolved

Security risks are monitored continuously to ensure business continuity

Quality Manager Dashboard

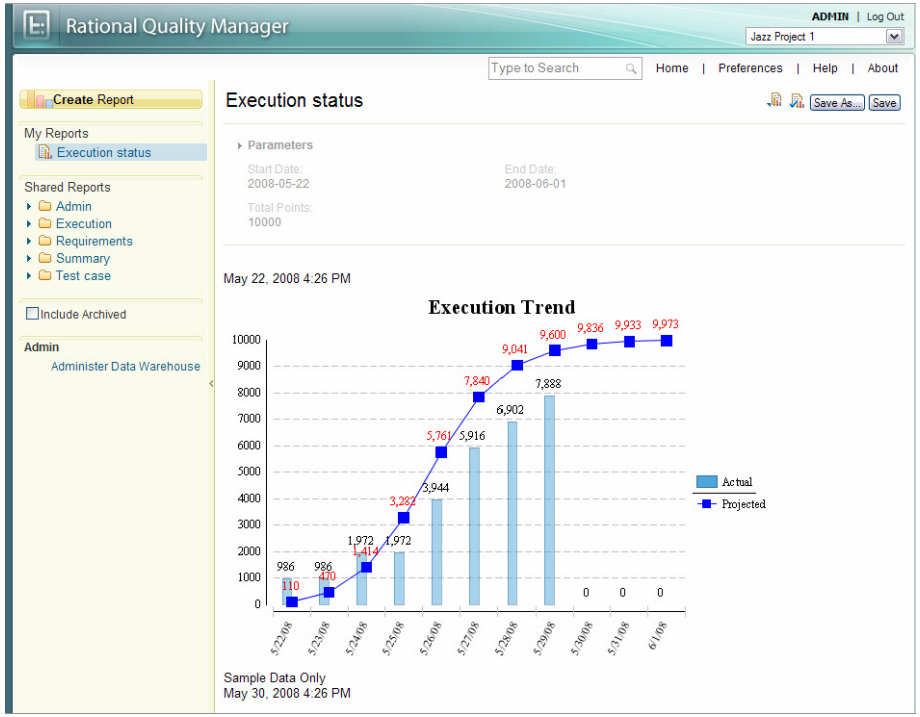


Testing of requirements can be tracked to assure business needs are realized

Change management and defect tracking fully integrated to assure all changes to production are tested

On demand reporting

Snapshot views of project status from multiple perspectives



Customizable reporting enables sharing and communication of vital project information

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Lab #6

Requirements Coverage and Impact Analysis

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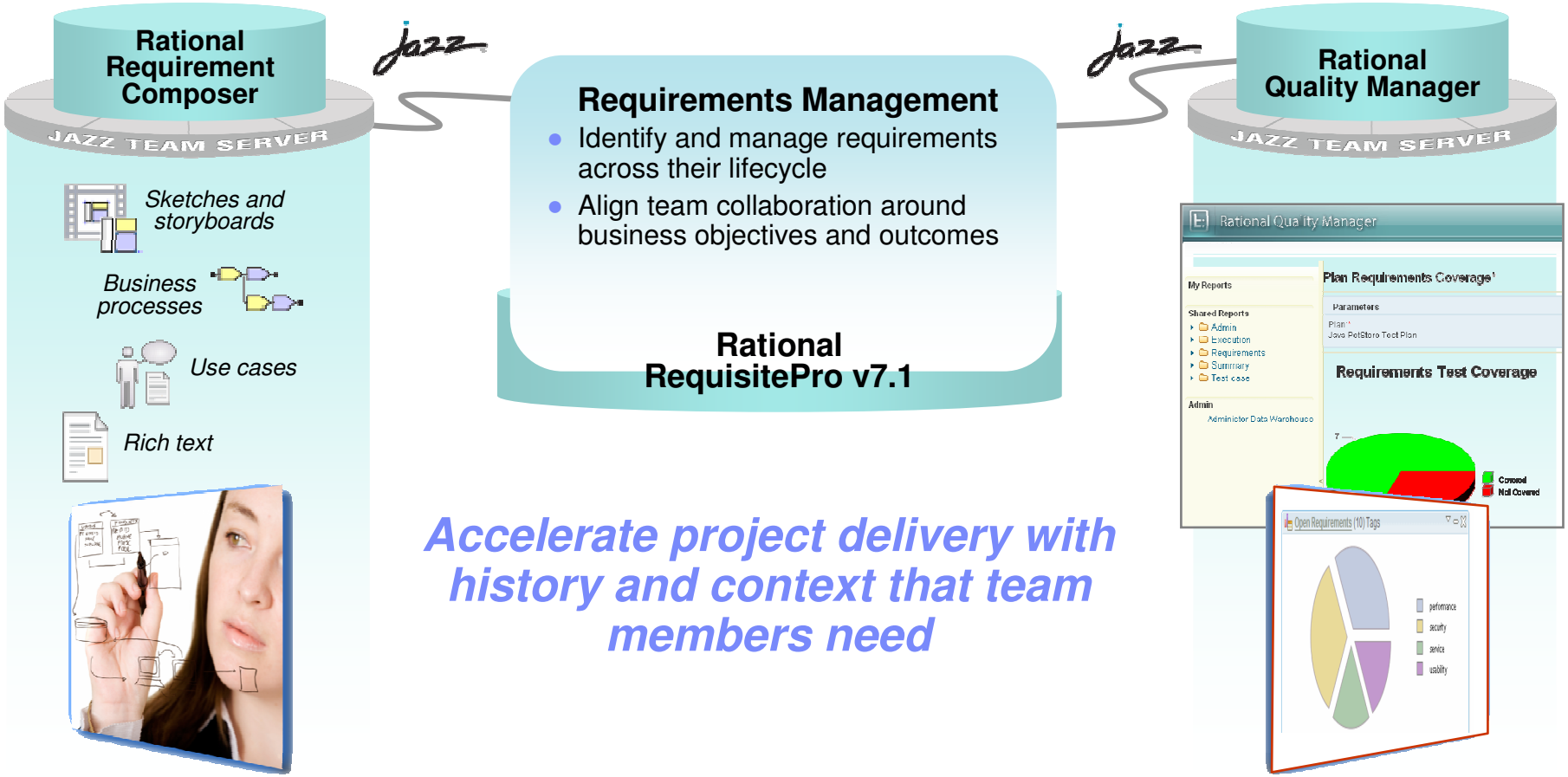
Traceable requirements definition and management

Challenge: Managing a shared understanding of requirements, business and delivery risks

Solution: Reduce rework, focus meetings, and reuse requirements artifacts on future projects



Accelerate project delivery with history and context that team members need

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Lab #7 Optional

Importing Requirements from Requisite Pro

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Lab #8 Optional

Executing Rational Functional Tests from RQM

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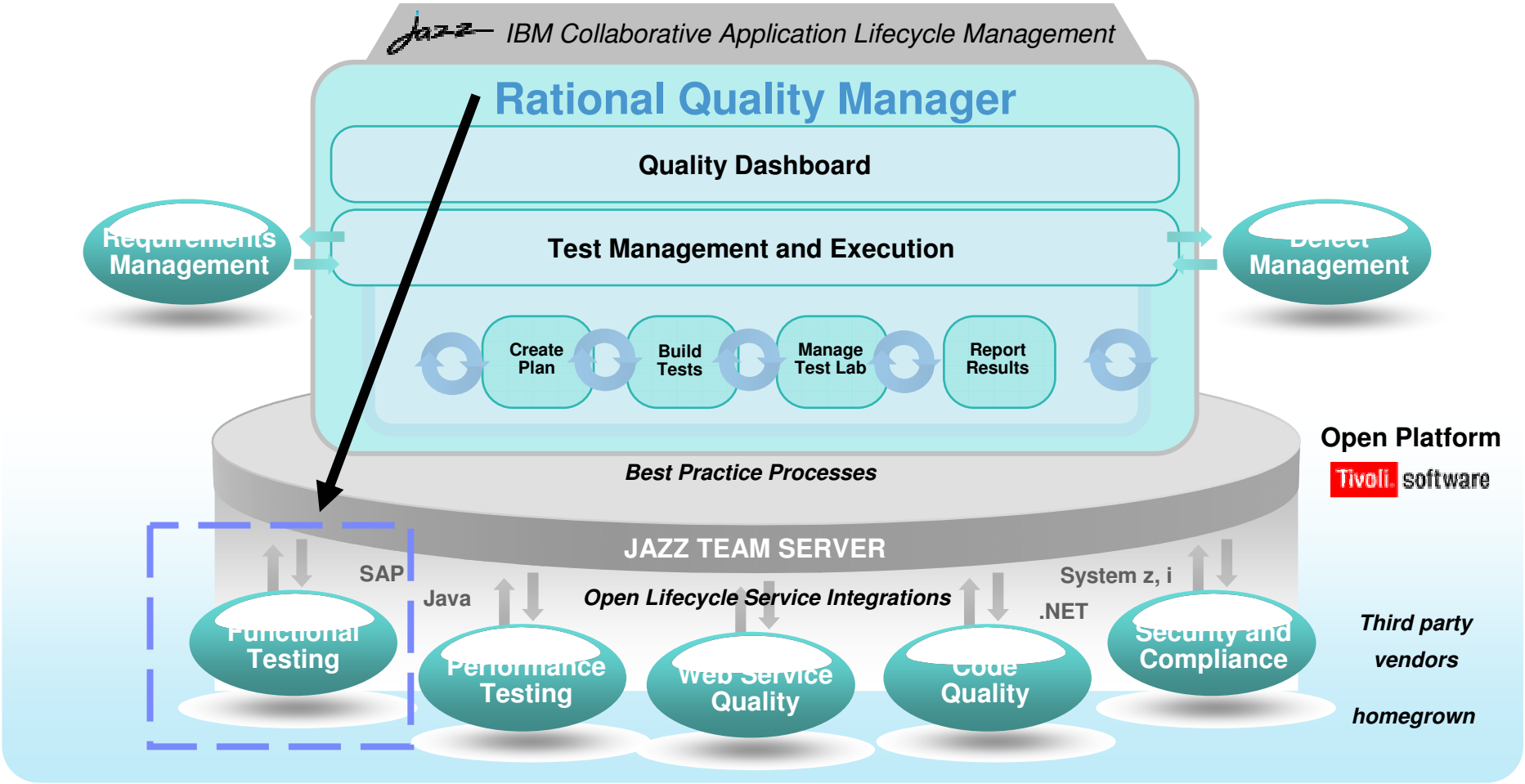
Execution of RFT Tests from Rational Quality Manager

Ability to execute Rational Performance Tester (RPT), Web Service Tests, Security Tests, etc



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Session summary

This is the summary of the entire session.

An IBM Proof of Technology

A central hub for business-driven software quality

Delivering innovation into the hands of quality professionals

Mitigate business risk and reduce cost by catching quality issues early

- ✓ **Stakeholder and team coordination**
  Fewer meetings, less rework using a dynamic test plan
- ✓ **Automated process workflow**
  Reduce labor-intensive tasks, improve cycle time
- ✓ **Upstream and downstream quality**
  Enforce standards at coding and deployment

Improve operational efficiency and accelerate time to market

- ✓ **Lab efficiency and asset utilization**
  Save 30-40% testing time overall
- ✓ **Test coverage optimization across environments**
  95% confidence on optimal coverage
- ✓ **Industry leading environment and lifecycle coverage**
  System z®, System i®, SAP® and .Net

Make confident decisions with effortless reporting

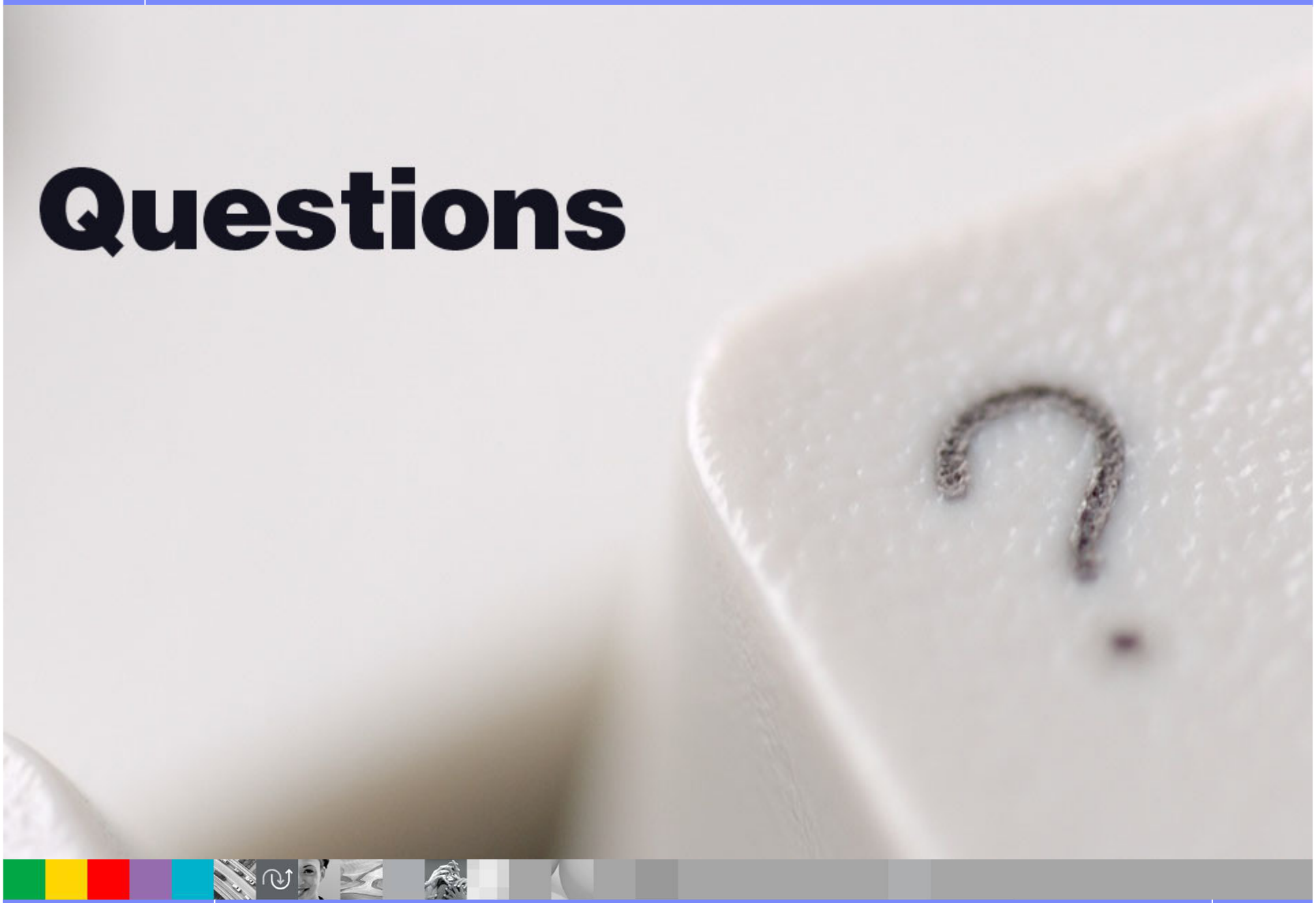
- ✓ **Ongoing process improvement and analytics**
  Version history and trending within and across projects
- ✓ **Proactive risk management and decision-making**
  Automated, filtered and prioritized reporting
- ✓ **Protect existing investments, deliver greater predictability**
  Adopt successful deployment patterns, map to operational KPIs

Session summary

Rational Quality Manager:

- Mitigates business risk: Catch defects earlier and keep the team in synch with dynamic process and activity-based workflows
- Improves operational efficiency: Automate labor-intensive lifecycle processes and determine optimal plans addressing wide range of platforms and requirements
- Provides greater visibility of metrics: Make reliable decisions with constant access to prioritized metrics tailored for individuals and teams
- Protect existing investments and deliver greater predictability: Adopt successful deployment patterns and map to operational KPIs, platforms and requirements

Questions



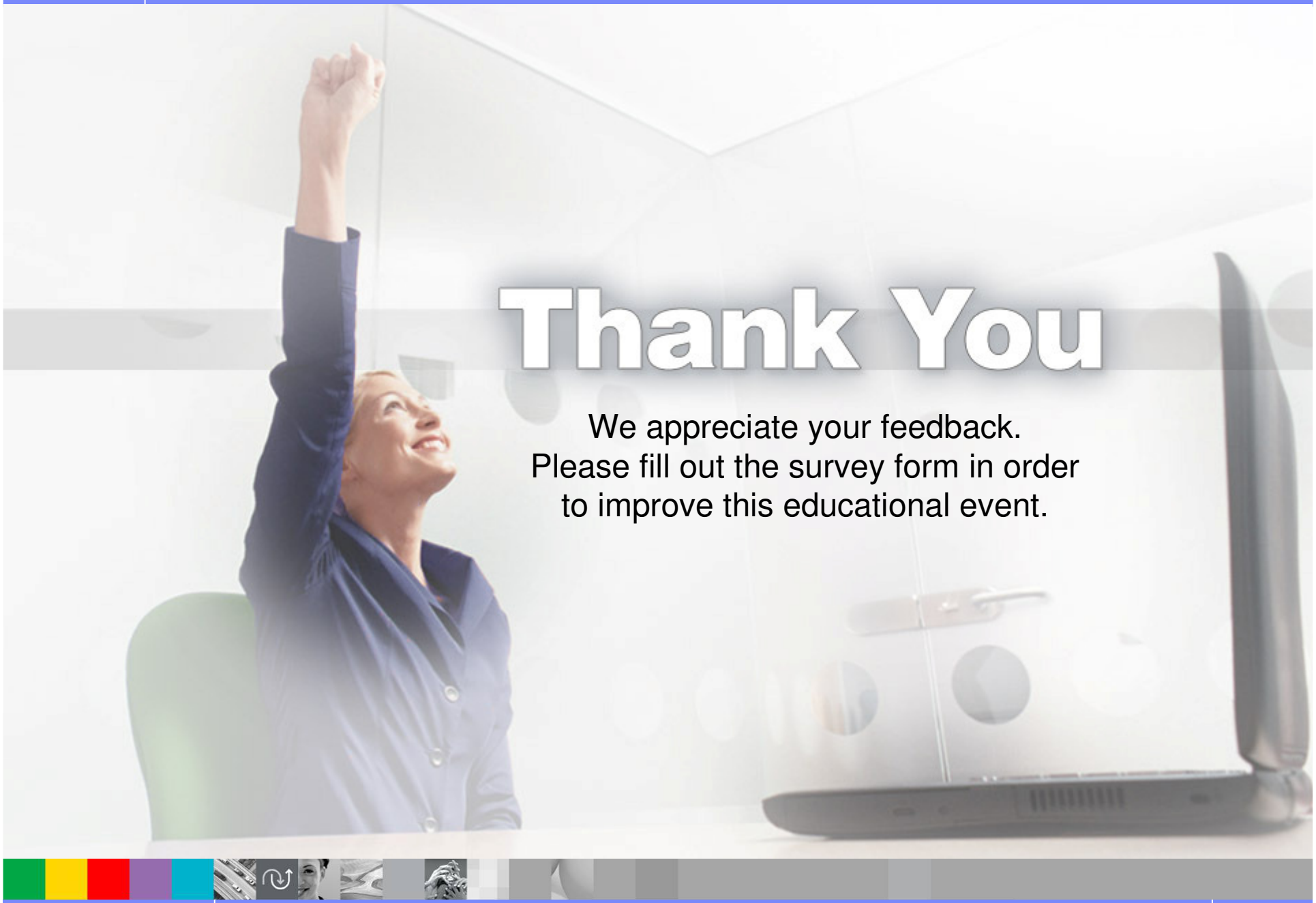
Additional resources

- Find out more about Rational Quality Manager

  http://www.ibm.com/software/awdtools/rqm/
- Download the Rational Quality Manager Trial – Q4
- Learning resources - Webcasts/Telcons/Podcasts.
  - Quality in Action: The Rational Quality Management v8.0 Portfolio – The Shape of Things to Come, Hosted by the Globa Rational User Group Community
  - Quality in Action: Managing the Test Lab, Hosted by the Globa Rational User Group Community
  - Ensuring Lifecycle Quality through RQM integration capabilit
- Blog with us Rational Quality Manager Blog & Rational Tester Blog
- Facebook. Rational Quality Manager
- Videos and quick demos (IBM TV, YouTube)
  - Rational Quality Manager Preview
  - Star East 2008: Taking a holistic approach to quality management
  - Next Generation Requirements-driven Software Quality
  - R-Heroes Episode 5: QM – Put to the Test
  - Rational Quality Manager in Three Minutes

Complete Lab 8

- Identify the Lab Workbook and where to start (page #), where to stop (page #)



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