Discovering the Value of IBM Rational Quality Manager
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
Rational Quality Manager Overview

An IBM Proof of Technology
The increasing costs of fixing a defect
80% of development costs are spent identifying and correcting defects!

-$80$/defect During the requirements phase
-$240$/defect During the design phase
-$960$/defect During the QA/Testing phase
-$7,600$/defect Once released as a product

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*

<table>
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<tr>
<th>Asset</th>
<th>Developing repeatable industry test solutions</th>
<th>Advanced Defect Analysis</th>
<th>Developing repeated test process models applicable to future projects</th>
<th>Integrating end to end processes</th>
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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

- Live update across lifecycle assets across 4 projects
- Requirement modified with business stakeholder
- Development: Catch performance issues at code early
- Deployment: Version history by project prevents starting from scratch.
- 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
- Requirement work item traceability

**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

- Test Objectives, Case assignment and Signoff
- Requirements, Application security
- Test iterations
- 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

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

Lab 1 – Test Management
- User Dashboard
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Lab 2 – Test Planning
- Entering Test Plan Information
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  - Weights
  - Entering Test Defect

Lab 5 – Test Reporting
- Out of the box reports
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Lab 6 – Requirements Coverage

Lab 7 – OPTIONAL
Import Requirements from Requisite Pro

Lab 8 – OPTIONAL
Executing Rational Functional Tests from Rational Quality Manager
Lab #1

Test Management

An IBM Proof of Technology
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

- Test Objectives, Case assignment and Signoff
- Requirements, Application security
- Test iterations
- Test Objectives, Case assignment and Signoff
- Test iterations
- Individual Task List
- Team event log

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

QA team maintains accurate project history with detailed artifact versioning
Complete Lab 1

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

- 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

Structured test plan with multiple user defined sections

Track test plan history with version snapshots

Individual ownership for every section
PoT Lab Overview

Quality Management Lifecycle

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Lab 6 – Requirements Coverage

Lab 7 – OPTIONAL Import Requirements from Requisite Pro
Lab 8 – OPTIONAL Executing Rational Functional Tests from Rational Quality Manager
Complete Lab 2

- Identify the Lab Workbook and where to start (page #), where to stop (page #)
Lab #3

Test Creation

An IBM Proof of Technology
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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  - Executing Rational Functional Tests from Rational Quality Manager
Complete Lab 3

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Lab #4

Test Execution

An IBM Proof of Technology
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**

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**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

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

QA Teams spend more than 36% of their time configuring machines to make them ready for testing – IBM Survey
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Lab 6 – Requirements Coverage

Lab 7 – OPTIONAL Import Requirements from Requisite Pro

Lab 8 – OPTIONAL Executing Rational Functional Tests from Rational Quality Manager
Complete lab 4

- Identify the Lab Workbook and where to start (page #), where to stop (page #)
Lab #5

Test Reporting

An IBM Proof of Technology
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*

Quality Manager Dashboard

- Manual and functional test automation results available
- Performance risks are always visible and quickly resolved
- Security risks are monitored continuously to ensure business continuity
- 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

Lab 7 – OPTIONAL Import Requirements from Requisite Pro

Lab 8 – OPTIONAL Executing Rational Functional Tests from Rational Quality Manager
Complete Lab 5

- Identify the Lab Workbook and where to start (page #), where to stop (page #)
Lab #6

Requirements Coverage and Impact Analysis

An IBM Proof of Technology
TechWorks

Rational Requirement Composer
Rational Quality Manager

Business processes
Sketches and storyboards
Use cases
Rich text

Requirements Management
- Identify and manage requirements across their lifecycle
- Align team collaboration around business objectives and outcomes

Rational RequisitePro v7.1
Accelerate project delivery with history and context that team members need
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
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Lab 7 – OPTIONAL
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Lab 8 – OPTIONAL
- Executing Rational Functional Tests from Rational Quality Manager
Complete Lab 6

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Lab #7 Optional

*Importing Requirements from Requisite Pro*

**An IBM Proof of Technology**
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Lab 8 – OPTIONAL
Executing Rational Functional Tests from Rational Quality Manager
Complete Lab 7

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Lab #8 Optional

*Executing Rational Functional Tests from RQM*

An IBM Proof of Technology
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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Complete Lab 8

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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
- 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](http://www.ibm.com/software/awdtools/rqm/), Hosted by the Global Rational User Group Community
  - [Quality in Action: Managing the Test Lab](http://www.ibm.com/software/awdtools/rqm/), Hosted by the Global Rational User Group Community
  - [Ensuring Lifecycle Quality through RQM integration capability](http://www.ibm.com/software/awdtools/rqm/)
- Facebook. [Rational Quality Manager](http://www.ibm.com/software/awdtools/rqm/)
- Videos and quick demos (IBM TV, YouTube)
  - [Rational Quality Manager Preview](http://www.ibm.com/software/awdtools/rqm/)
  - [Star East 2008: Taking a holistic approach to quality management](http://www.ibm.com/software/awdtools/rqm/)
  - [Next Generation Requirements-driven Software Quality](http://www.ibm.com/software/awdtools/rqm/)
  - [R-Heroes Episode 5: QM – Put to the Test](http://www.ibm.com/software/awdtools/rqm/)
  - [Rational Quality Manager in Three Minutes](http://www.ibm.com/software/awdtools/rqm/)
Complete Lab 8

- Identify the Lab Workbook and where to start (page #), where to stop (page #)
We appreciate your feedback. Please fill out the survey form in order to improve this educational event.
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