

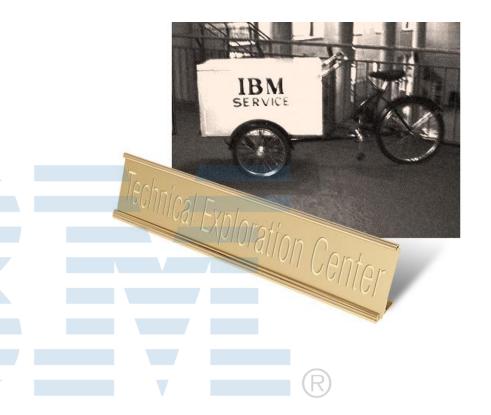
## IBM Rational Solution for Collaborative Lifecycle Management





#### Introductions

- Please introduce yourself
- Name and organization
- Current integration technologies/tools in use



What do you want out of this Exploration session?



#### Agenda

- Introduction to Collaborative Lifecycle Management
- Lab Overview
- Module 1: Aligning plans
- Module 2: Responding to a change request
- Module 3: Planning the sprint
- Module 4: Completing a story
- Module 5: Testing and fixing a story
- Module 6: Stabilizing the sprint
- Session Summary



#### **Objectives**

- Explore how the IBM Rational Solution from Collaborative Lifecycle Management:
  - Enables teams to collaborate in real time in the context of the work they are doing, especially in globally diverse environments.
  - Enables projects to be managed more effectively by providing visibility into accurate project health information drawn directly from actual work.
  - Automates traceability and auditability by managing artifacts and their interrelationships across the lifecycle, empowering teams to deliver more value.
- Provide a hands on experience using IBM Rational Requirements Composer, IBM Rational Team Concert™, IBM Rational Quality Manager, and IBM Rational Software Architect Design Manager to automate the software delivery process.



# Introduction to Collaborative Lifecycle Management (CLM)





#### ALM is about connecting the disciplines

#### **Project/Planning**

- Business Drivers
- Iterations
- Sign-off
- Contract
- Risk Assess
- User Involvement

#### Requirements

- Use Cases
- Nonfunctional
- Sign-off
- Contract
- Risk Assess
- Threat Model
- Test Requirements

#### **Development**

- TDD
- Build Management
- Static Analysis
- BVT
- Source Management
- PairProgramming/Code Review

#### **Testing**

- Scenario-DrivenAutomation
- Exploratory Test
- User Involvement
- Contract
   Validation

**Continuous Learning and Feedback** 



#### Five Imperatives for Effective Application Lifecycle Management to improve organizational productivity

**(1)** 

Maximize product value with In-Context Collaboration



Accelerate time to delivery with Real-Time Planning



Improve quality with Lifecycle Traceability



Achieve <u>predictability</u> with <u>Development Intelligence</u>



Reduce costs with Continuous Improvement

Learn more at ALM Everywhere



#### In-Context Collaboration always shows the latest

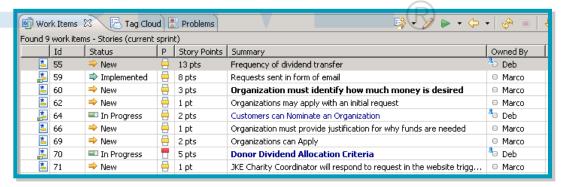




Threaded discussions on requirements



#### Recent discussions highlighted on requirements



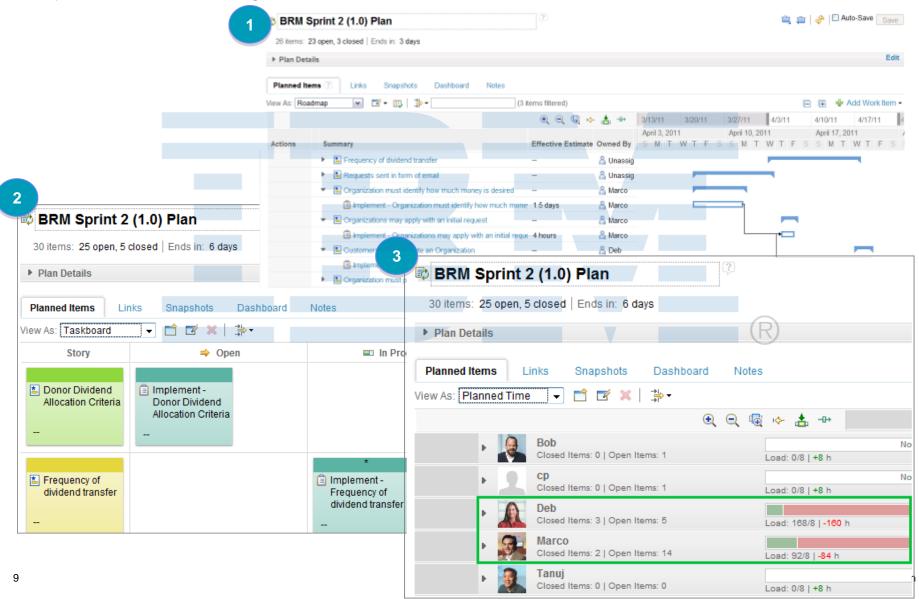
Unread work Items bolded for developers



#### Real-Time Planning: One plan with multiple views



Everyone sees meaningful data in the context of their work





Lifecycle Traceability Team leads can improve quality and predictability



Creating a shared vision delivers what the stakeholders want

✓ Whole team buy-in improves team trust, efficiency and focus

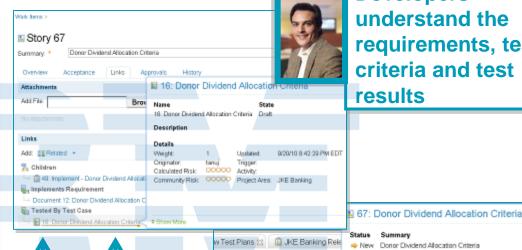
Everyone knows what work is needed by whom and when.

Traceability provides insight to knowing when you are DONE!

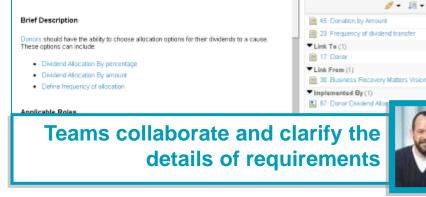
12: Donor Divid... •

Requirement: Donor Dividend Allocation Criteria

🖴 JKE Business Recovery Matters | Features - 🐧 Extended Functionality, Release 1 |



**Developers** understand the requirements, test criteria and test results



Testers define and execute tests cases with a clear understanding of requirements

Details

Filed Against

Story Paints:

Team Area

Creation Date:

Quick Information

Subscribers (1): B

Story

Business Recovery Matters / JKE Banking

Children (1): 49.

September 10, 2010 8:42 PM

🌄 Implements Requirement (1): 1 - 🍇 Tested By Test Case (1

Donors should have the ability to choose allocation options for the

Donor Dividend Alloca

Test Case Overview | Snapsh

tricinator: Tanui Owner: Unassigned

lescription: < Click here to enter a description.

Change management items that are aligne

Criteria

Development Items

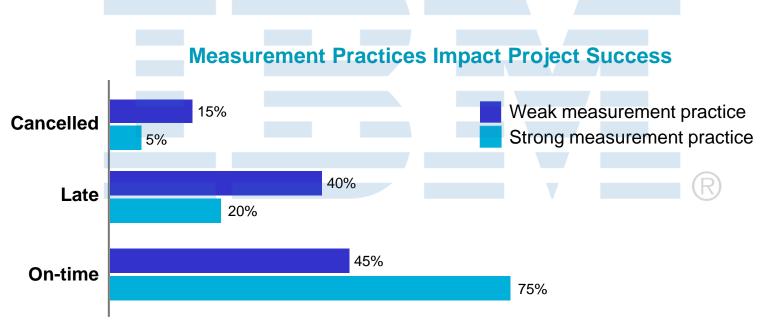
Show All - Items per page



#### Development Intelligence improves predictability



- Enable fact-based decision making (to communicate status, monitor progress, diagnose problems, identify corrective actions)
- Steer projects and programs to deliver on-time
- Apply Business Intelligence techniques to software and systems development

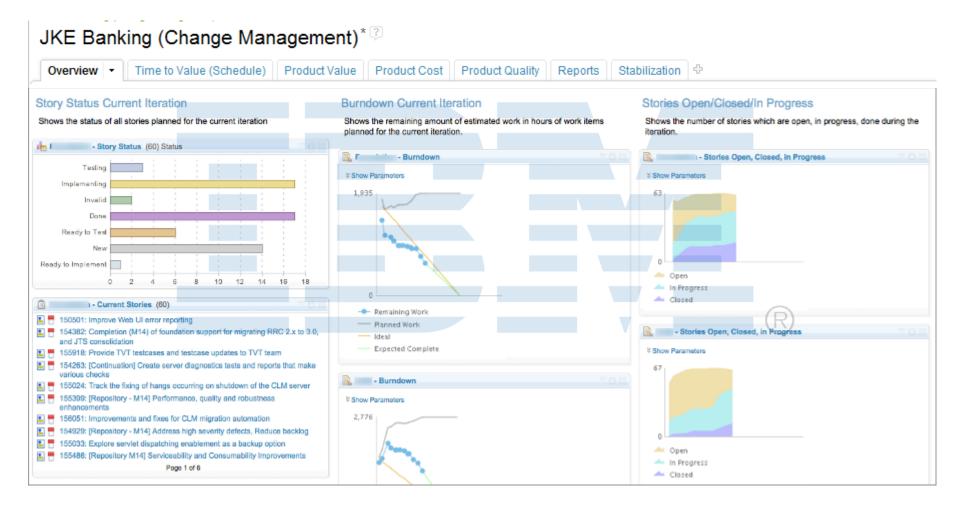


Sources: Capers Jones, Measurement, Metrics and Industry Leadership, Copyright © 2002-2007 by Capers Jones LLC Capers Jones, Software Engineering Best Practices, Copyright © 2010 McGraw-Hill



#### Use dashboards to provide that one view of project health



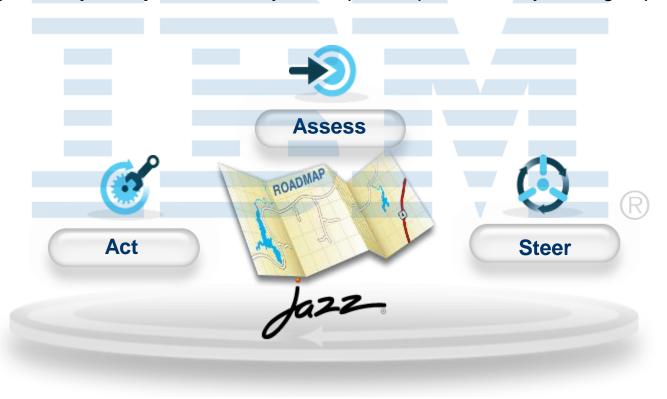




#### Continuous Improvement reduces cost



- Improve software delivery through the ongoing adoption of best practices and automation to reduce manual, non-creative and error prone tasks
- Promote incremental improvement of a project when needed
- Enable breakthrough improvement by capturing best practices and reusing across teams
- Allow everyone to participate with easy to adopt best practices at your fingertips.



Discussion

Collapse All | Expand All 1. Tanuj Sep 1, 2011 1:22 PM

2 Tanui Sep 1, 2011 1:24 PM

3. Deb Sep 1, 2011 1:42 PM

4. Bob Sep 1, 2011 1:45 PM



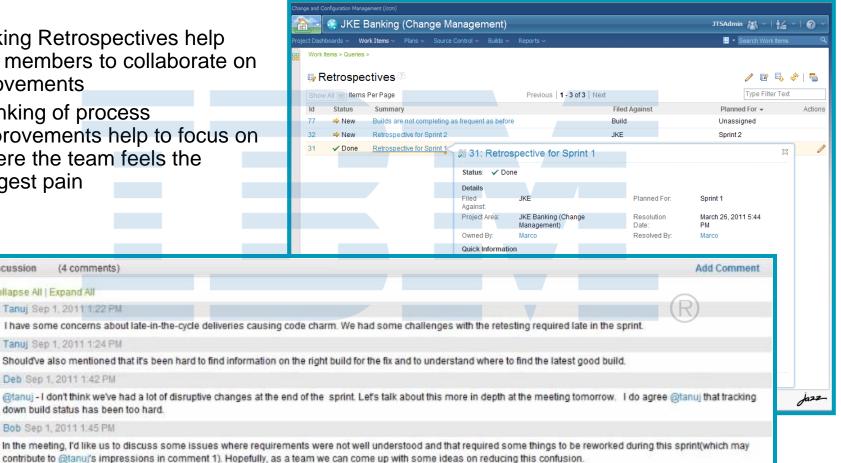
#### Team retrospectives help identify areas of improvement



- Tracking Retrospectives help team members to collaborate on improvements
  - Ranking of process improvements help to focus on where the team feels the biggest pain

(4 comments)

down build status has been too hard.





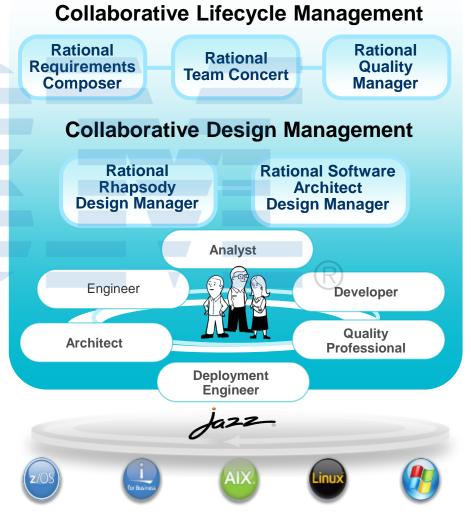
#### **Core** Application Lifecycle Management offerings

#### Reduce the costs of inefficient, multiplatform software development with integrated ALM solutions!

- Optimize your team's productivity through the <u>5 ALM Imperatives</u>
- Collaborate across teams and create deep integrations across the lifecycle
- Extend as your needs evolve with role-based licensing
- Unify your infrastructure and protect your current investments with a single, open, extensible platform

#### **IBM Rational ALM Solutions**

Get Up and Running Quickly







#### Open Services for Lifecycle Collaboration (OSLC)

Working to standardize the way software lifecycle tools share data

#### What is OSLC?



Open Services for Lifecycle Collaboration Lifecycle integration inspired by the web

- ▶ Community Driven @ open-services.net
- Specifications for numerous disciplines
  - ▶ Such as, ALM, PLM and DevOps
  - Defined by scenarios solution oriented
- Inspired by Internet architecture
- ▶ A different approach to industry-wide proliferation

#### How does it work?



Inspired by the web



Free to use and share



Changing the industry





#### Get Started! Collaborative Lifecycle Management



- ☑ view presentations
- see a project dashboard

- watch videos
- ☑ review the release plan

#### Try it out at jazz.net!

1 Download RTC, RRC or RQM for CLM

https://jazz.net/downloads/rational-team-concert/

Sample scenarios for CLM

https://jazz.net/wiki/bin/view/Main/MTM\_Lifecycle\_Welcome

#### Track our progress at jazz.net!

We openly develop our software with our own tools!

https://jazz.net/projects/clm/

#### **Interactive White Board**



Short, simple way to share the 5 ALM imperatives

ibm.co/alm-everywhere

#### **Role-based Demo**

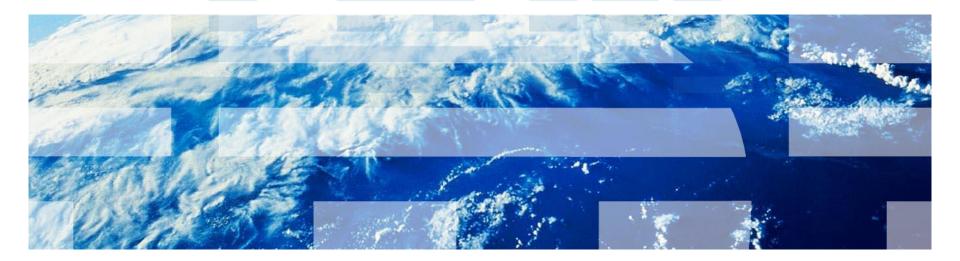


VP of Development, a Business Analyst or Project Owner, Agile Team Lead, Developer and Test Lead.

bit.ly/jazzCLMdemo



#### Lab Overview





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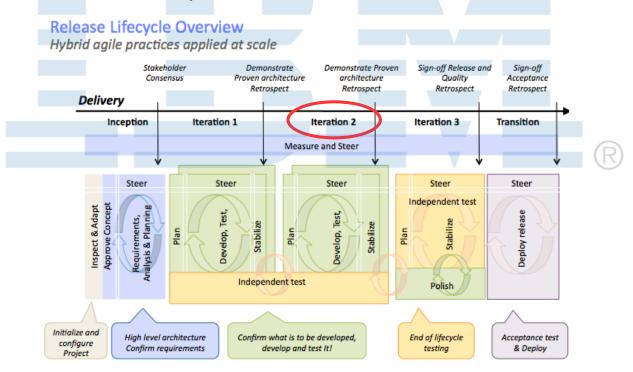




#### Scenario for Proof of Technology (PoT) Labs

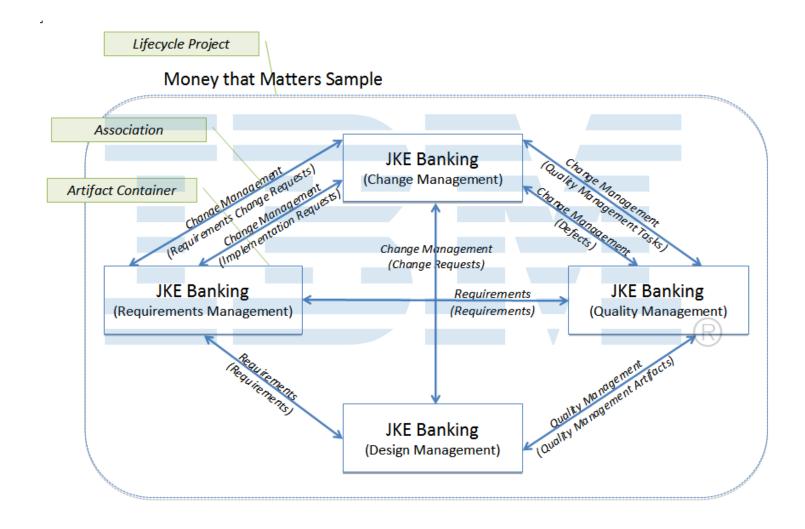
This workshop is based on the Money that Matters lifecycle scenario which uses a fictitious banking company called JKE and a realistic software development project whose goal is to deliver Release 1 of the JKE Banking application.

■ The scenario centers on a single iteration (sprint) by the team responsible for delivering an initiative called "Business Recovery Matters".



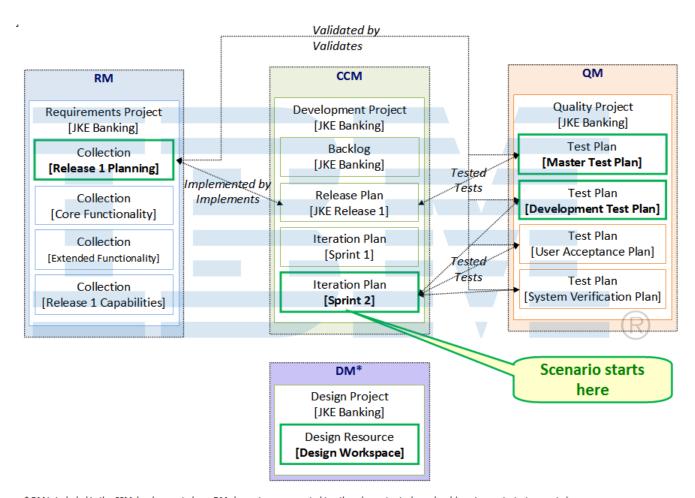


#### JKE Lifecycle Project





#### All Plans are linked



<sup>\*</sup> DM is included in the CCM development plans. DM elements are connected to other elements at a lower level (requirements, test case, etc.).



#### Scenario for Workshop

- You will play the role of various members on the JKE Banking project as they work through the definition, prioritization, implementation, testing and fixing of a new requirement:
  - Ursula: The product owner for the whole JKE Banking solution
  - **Bob**: The product owner for the Business Recovery Matters solution
  - AI: The architect
  - Marco: The development manager and Scrum Master
  - **Deb**: A developer
  - Rebecca: The release engineer
  - Tammy: The test manager
  - Tanuj: A tester
- The project follows the Scrum methodology.
  - The CLM Solution is process agnostic. Scrum/agile is just one way to implement the CLM solution. Traditional waterfall, iterative or hybrid approaches may be used as well.
- You will be using IBM Rational Requirements Composer, IBM Rational Team Concert, IBM Rational Quality Manager, and IBM Rational Software Architect Design Manager as the project's collaborative lifecycle management and software development environment.



#### **Quick Scrum Overview**

 "Scrum" is an agile process for software development. (Often spelled "SCRUM", although not an acronym.)

#### Scrum roles:

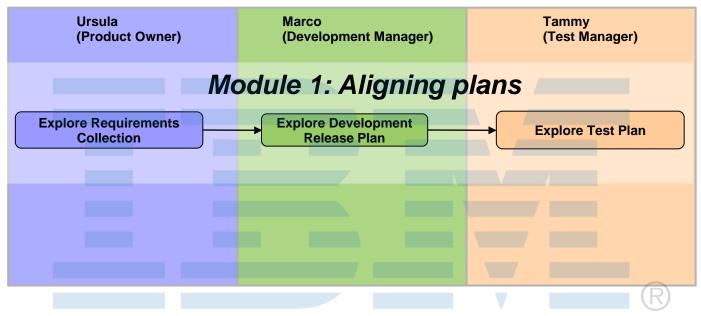
- Scrum Master: Individual who maintains the processes (essentially a project manager).
   Responsible for removing impediments to team progress.
- Product Owner: Represents the stakeholders
- **Team**: Cross-functional group of people who do the work

#### Scrum concepts:

- Story: A brief description of a user need. Each story has a relative priority and complexity (story points).
- Product backlog: A prioritized set of high-level requirements of work, usually described in stories.
- Sprint: A two-to-four week period in which the team creates a potentially shipping product.
   A Scrum project consists of several sprints.
- Sprint planning meeting: A meeting to determine which backlog items go into a sprint.
- **Scrum**: A short daily meeting where each team member shares what they accomplished yesterday, what they will work on today and what, if anything is blocking their progress.



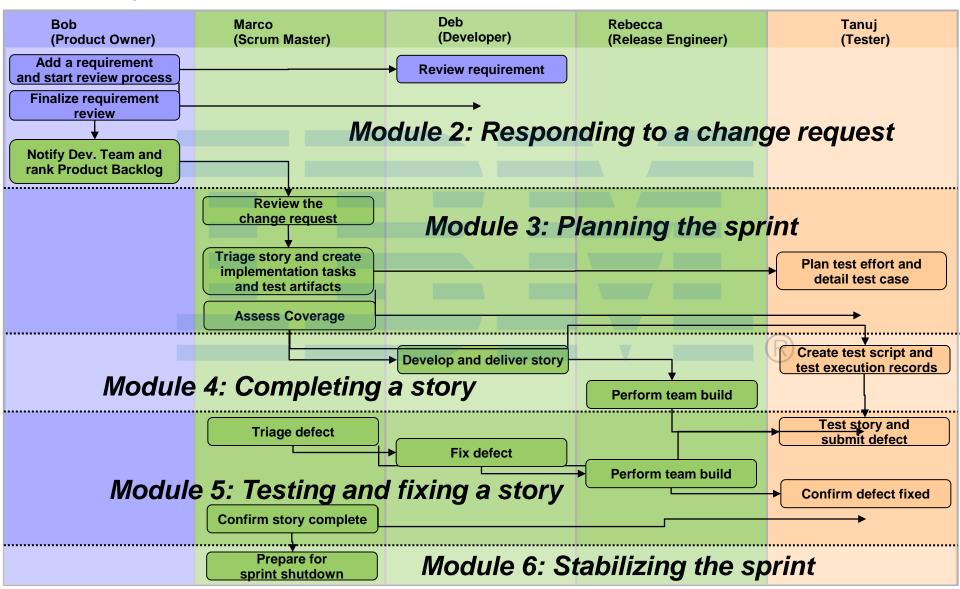
#### Lab Sequence of Events



- The sample application comes with a release plan already in place.
- In the first module, you will explore the existing collection, development release plan and test plan as well as the links between them.



#### Lab Sequence of Events





# Questions



#### Module 1 – Aligning Plans





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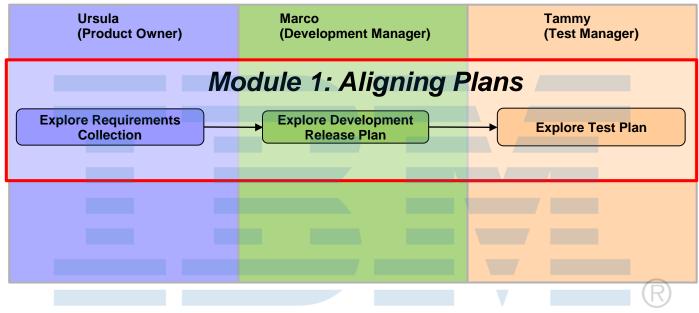
#### **Objective**

- Explore the IBM Rational Requirements Composer (RRC), IBM Rational Team Concert (RTC), and IBM Rational Quality Manager (RQM) Web interfaces.
- Explore how IBM Rational Requirements Composer can be used to capture and manage requirement artifacts and collections.
- Explore the IBM Rational Team Concert can manage release development plans.
- Explore how IBM Rational Quality Manager can manage test plans.
- Explore how all those three products seamlessly integrate to align the plans together.





#### Lab Sequence of Events



- The sample application comes with a release plan already in place.
- In the first module, you will explore the existing collection, development release plan and test plan as well as the links between them.



#### Lab 1 Scenario

- You will play the role of Ursula, the product owner, in this lab.
- You will explore how release plan have been created and are aligned from 3 different perspectives.
- As Ursula, the product owner, you will use the IBM Rational Team Concert Web interface to explore the stories and the release plan and see how they are linked to requirement collections and test plans.
- As Ursula, you will also use the IBM Rational Quality Manager Web interface to explore the test plans and see how they are linked to requirement collections and release plans.
- As Ursula, you will finally use the IBM Rational Requirement Composer Web interface to explore the requirement artifacts and collections and see how they are linked to release and test plans.



#### Lab 1 Concepts Learned

- IBM Rational Requirements Composer (RRC) can be used to define and describe high level requirements and to organize them in collections.
- The IBM Rational Team Concert (RTC) can be used to plan a release, and organize the development in multiple iterations or sprints.
- IBM Rational Quality Manager (RQM) can be used to can be used to capture test plans and test cases.
- IBM Rational Requirements Composer, IBM Rational Team Concert, and IBM Rational Quality Manager:
  - Work together to help all team members stay in sync with the development plan.
  - Give users of each tool visibility into data from the other tools, and link items from each of the tools together.
  - In all three products, dashboards contain interactive viewlets that provide each team member with the information they require. Projects, teams and individuals can have their own dashboards customized to their needs.



## Module 2 – Responding to a change request





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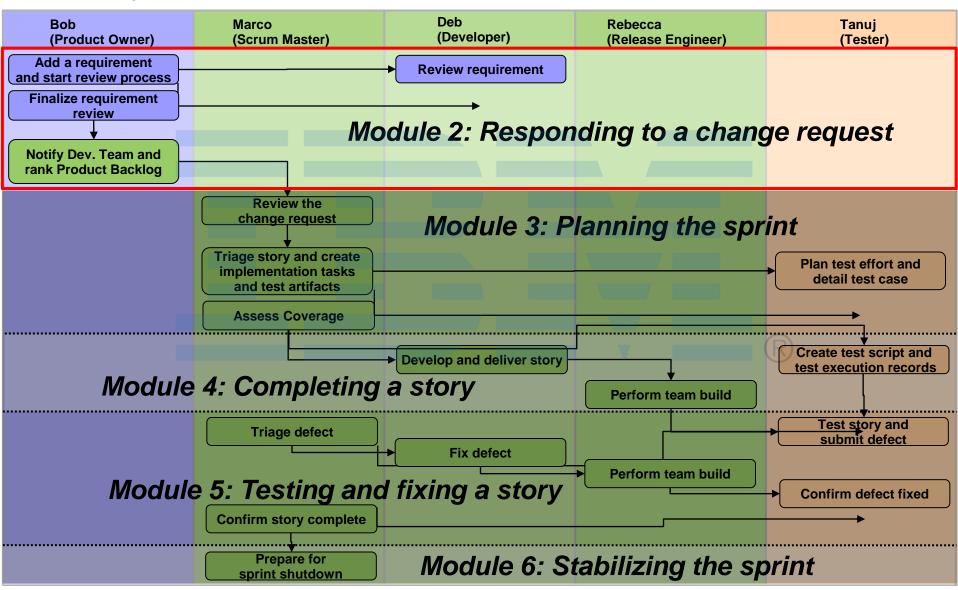


#### **Objectives**

- Further explore the IBM Rational Requirements Composer (RRC) Web interface.
- Explore the integration between IBM Rational Requirements Composer and IBM Rational Team Concert (RTC) that enables creating and linking to new or existing RTC work items from RRC requirements that help ensure and track story to development work item coverage.
- Explore how IBM Rational Requirements Composer directly supports requirements review and approval process.
- Explore the Rational Team Concert Web interface from an product owner's point of view.
- Explore how Rational Team Concert can manage SCRUM story and product work item backlogs.
- Explore how to use Rational Software Architect Design Manager to collaborate around the design of the product you are developing.



### Lab Sequence of Events





### Lab 2 Scenario

- You will play two different roles in this lab!
- As Bob, the product owner, you will take into account a new stakeholder change request and make sure appropriate requirement artifacts in IBM Rational Requirements Composer for this new story and then start the review process.
- As Curtis, a customer, you will review the new requirement, and approve it using IBM Rational Requirements Composer Web interface.
- As Bob, the product owner again, you will prioritize the current sprint's story work item backlog in IBM Rational Team Concert to ensure that the new story is considered for the coming sprint, and notify the development team about that change request so they can analyze the impact. You will also review the design of the application models against the corporate policies.

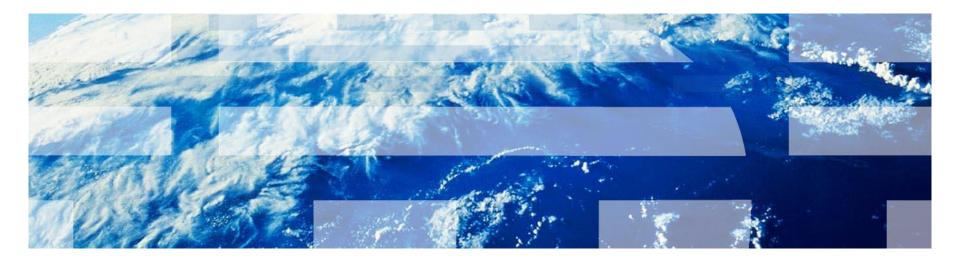


### Lab 2 Concepts Learned

- IBM Rational Requirements Composer (RRC) can be used to define and describe various requirement artifacts utilizing a variety of techniques and resource types including rich text (note cards), user interface sketches, storyboards, and flows.
- All RRC resource types can have attributes, be tagged, and linked to each other to create a broader "web of linked context" to facilitate better definition and understanding of what is required from development and test.
- IBM Rational Requirements Composer (RRC) directly supports requirements review and approval process.
- IBM Rational Team Concert provides direct support for Scrum. (Note: While this session uses Scrum, IBM Rational Team Concert provides excellent support for a variety of development methodologies.)
- Requirements artifacts defined in IBM Rational Requirements Composer can be linked to new or existing development stories and work items in IBM Rational Team Concert (RTC).
- IBM Rational Software Architect Design Manager (RSA/DM) supports collaboration between team members around the design of the product.



# Module 3 – Planning the sprint





### Agenda

- Introduction to Collaborative Lifecycle Management
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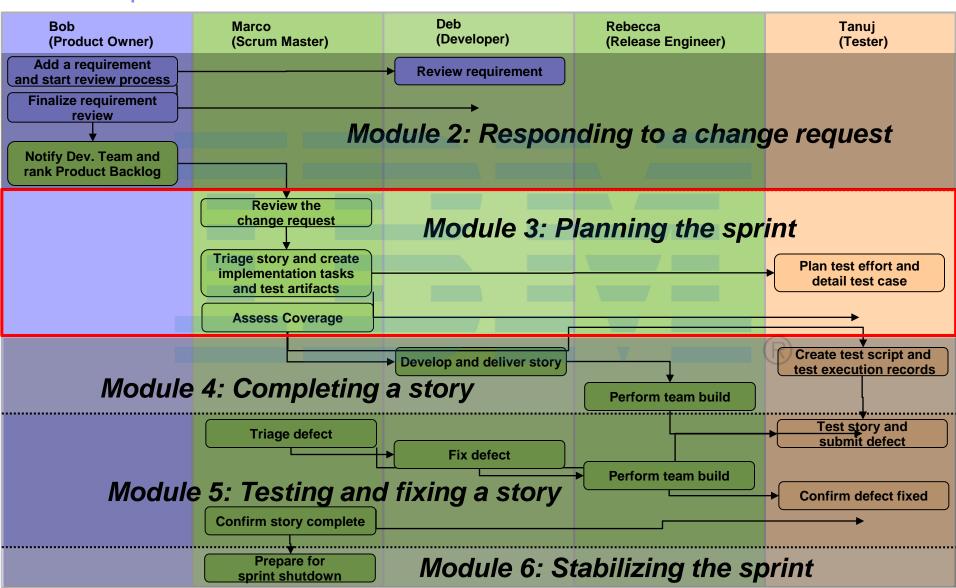


# **Objectives**

- Explore how IBM Rational Software Architect Design Manager helps you design just enough to prepare for sprint meetings.
- Further explore the IBM Rational Team Concert (RTC) Web interface as well as dashboards and viewlets.
- Explore how IBM Rational Team Concert enables agile teams to manage sprint/iteration plans and manage tasks.
- Explore how IBM Rational Team Concert can be used to facilitate a sprint planning meeting.
- Create a new test case directly from IBM Rational Team Concert associated with a story.
- Explore how IBM Rational Quality Manager can be used to detail and organize test cases and plan test effort.
- Explore how to assess plan coverage from with IBM Rational Team Concert.



### Lab Sequence of Events





### Lab 3 Scenario

- You will play three different roles in this lab!
- As AI, the architect, you will use the IBM Rational Team Concert Web interface and the IBM Rational Software Architect Design Manager to plan the development effort.
- As Marco, the Scrum Master and development lead, you will use the IBM Rational Team Concert Web interface to review the Product Backlog, triage the new story to the current sprint/iteration, and create the implementation tasks and associated test case.
- As Tanuj, a tester, you will use IBM Rational Quality Manager to review and detail the newly created test case and plan the test effort.
- As Marco again, you will assess plan coverage using IBM Rational Team Concert.

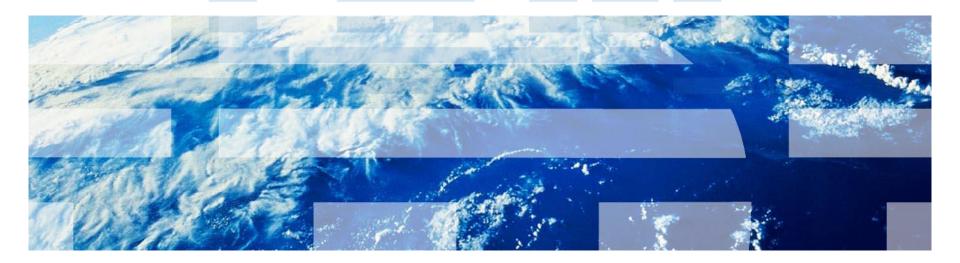


### Lab 3 Concepts Learned

- IBM Rational Team Concert and IBM Rational Software Architect Design Manager makes it easy to manage a project's development plan.
- Stories and related implementation tasks defined in IBM Rational Team Concert (RTC) can be used to create and link to new or existing test case in IBM Rational Quality Manager (RQM).
- IBM Rational Quality Manager helps create and manage test plan and test cases linked with development stories.
- IBM Rational Requirements Composer, IBM Rational Team Concert and IBM Rational Quality Manager provides full visibility of CLM relationships across requirements, development and test artifacts.



# Module 4 – Completing a story





# Agenda

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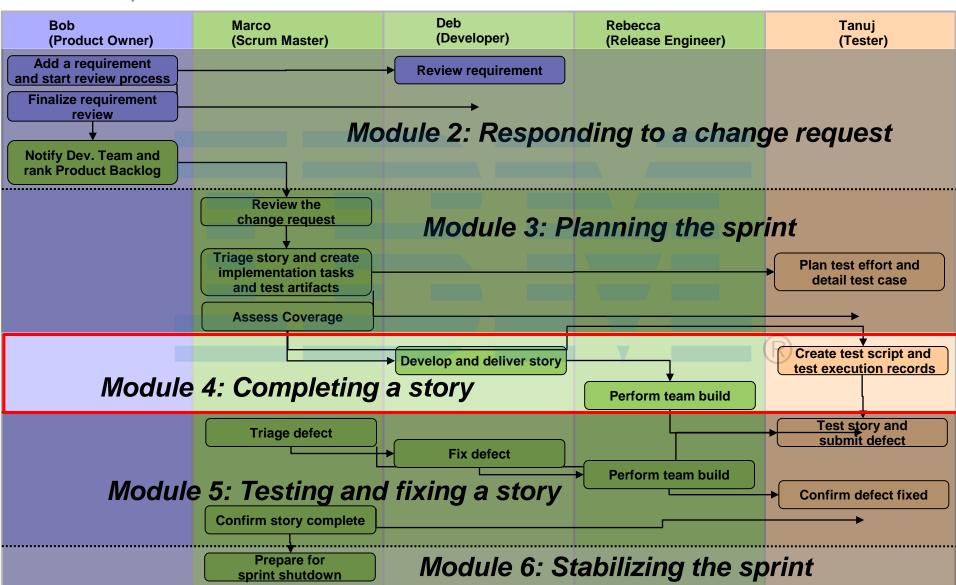
# **Objectives**

- Explore how IBM Rational Quality Manager can be used to create test implementations (scripts) and associate them with test cases.
- Explore the IBM Rational Team Concert Eclipse client from a developer's perspective.
- Understand how to use IBM Rational Team Concert to accept work, complete development tasks and deliver updated work to the team.
- Explore the team build features of IBM Rational Team Concert.
- Explore how all team members can monitor the status of team builds.





### Lab Sequence of Events





### Lab 4 Scenario

- You will play four different roles in this lab!
- As Tanuj, a tester, you will use IBM Rational Quality Manager to create and edit new test scripts and test execution records for the test case you added in the previous lab.
- As AI, the architect, you will review the design models and create a logical topology and a deployment model to help Deb understand the target application server environment and the assumptions he made while generating the initial implementation code from the service design model.
- As Deb, a developer, you will use the IBM Rational Team Concert Eclipse client to plan your work, complete your development tasks, execute an personal build, and deliver your updates to the team.
- As Rebecca, the release engineer, you will use the IBM Rational Team Concert Eclipse client to execute an integration build on the team's build server.



### Lab 4 Concepts Learned

- IBM Rational Quality Manager provides a highly descriptive manual testing facility that provides the tester with the right level of detail required to execute the test correctly.
- IBM Rational Quality Manager test scripts implement test cases that can be linked to the drivers for those test cases (in this case, stories).
- Jazz Source Control provides private repository workspaces to track and back up your changes before you share them with the team using a stream for integration.
- A change set is the fundamental unit of change and collaboration in your team environment. Change sets are migrated between streams via two operations: accepting and delivering.
- Developers can run "personal builds" on the team's build server to ensure that the code they see in their workspace successfully builds using the team's build process. Ensuring compilation in the integrated development environment (IDE) isn't always enough.
- Team members can request a "team build" that will grab the latest code on the team's integration stream and build it on the team build server.
- Every team member has access to build data from team builds. This promotes communication and collaboration among the contributors – on local or remote sites.



# Module 5: Testing and fixing a story





# Agenda

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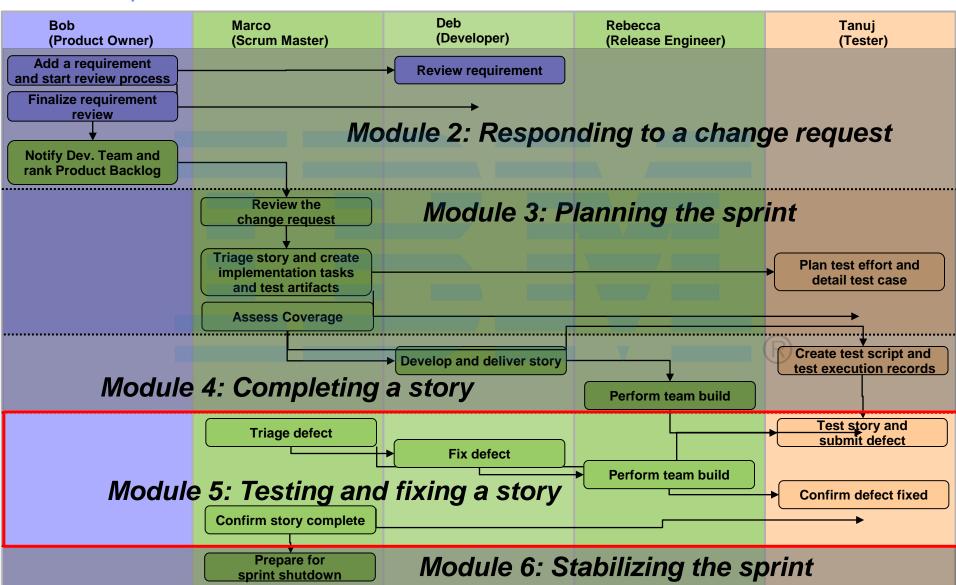


# **Objectives**

- Explore how IBM Rational Quality Manager can be used to execute manual tests, log test results and generate defects for the development team to fix.
- Explore how IBM Rational Team Concert can be used to triage defects and help determine who should be assigned new work.
- Further explore how a developer uses IBM Rational Team Concert to discover new work assigned to them, fix defects, deliver fixes to the team and work with team builds.
- Explore how a tester can use IBM Rational Quality Manager to monitor the team build status, determine what work is included in a new build and verify that defects have been fixed.



### Lab Sequence of Events





### Lab 5 Scenario

- You will play four different roles in this lab!
- As Tanuj, a tester, you will use IBM Rational Quality Manager to execute a manual test, denote that the test failed and generate a new defect related to the test result.
- As Marco, the development lead, you will use the IBM Rational Team Concert Web interface to analyze the new defect, determine who should fix the defect and assign the defect.
- As Deb, a developer, you will use the IBM Rational Team Concert Eclipse client to determine that there is a new defect assigned to you, analyze the test result related to that defect, resolve the defect and request a new team build.
- As Rebecca, the release engineer, you will use the IBM Rational Team Concert Eclipse client to execute an integration build on the team's build server.
- As Tanuj again, you will notice the new build result, determine what is fixed in that build, deploy the new build and verify that the defect you created is indeed fixed.
- As Marco again, you will use IBM Rational Team Concert to confirm that story is complete.

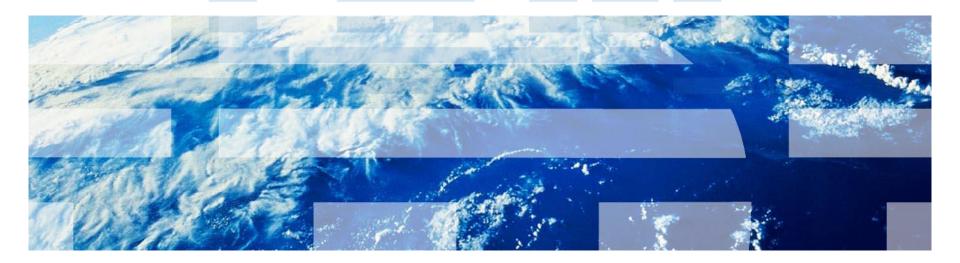


### Lab 5 Concepts Learned

- The IBM Rational Quality Manager manual test facility allows the test to document step-bystep test results as the test is being executed, including grabbing helpful screen snapshots that may be useful in debugging.
- Test results can document the build that was used for the test, to aid in debugging.
- Defects can be created from test results and routed to the development team. Defects created from test results are automatically linked back to the test result, to aid in debugging.
- Testers can denote which defects are preventing (blocking) test cases from succeeding ensuring they don't waste time executing the same test and generating duplicate defects. This also helps testers monitor the defects they've generated so they know when it's worthwhile to run the test again.
- IBM Rational Team Concert queries make it easy for team leads to find new work and determine the appropriate person for assignment.
- Change sets can be associated with work items to denote which artifacts were modified to implement a work item.



# Module 6: Stabilizing the sprint





# Agenda

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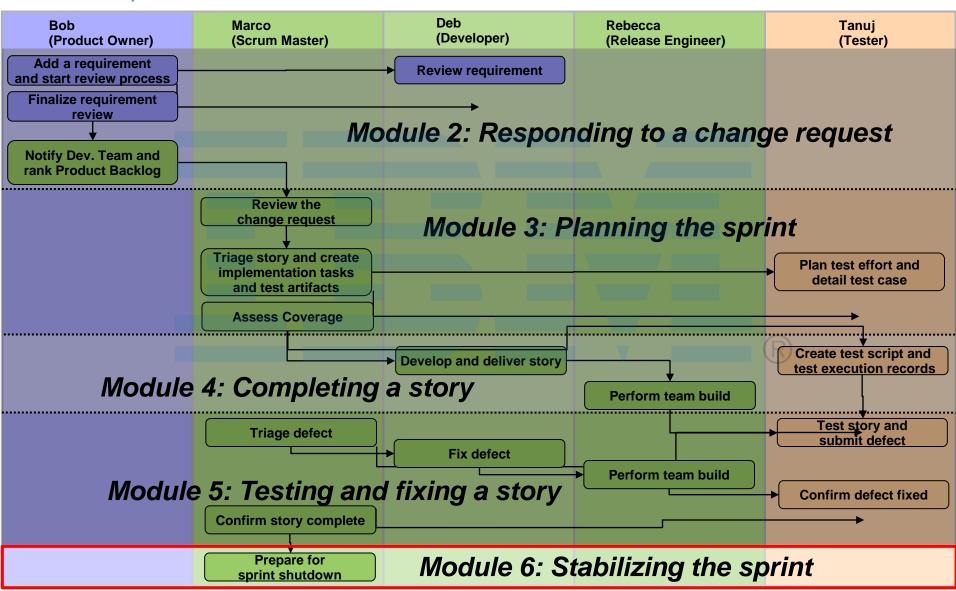


# **Objectives**

- Explore how IBM Rational Requirements Composer, IBM Rational Team Concert and IBM Rational Quality Manager can be used by various team roles to gain insight into the aspects of project status that are important to them.
- Further explore dashboards, viewlets and queries in all three solutions.
- Learn how to customize dashboards for your personal needs.
- Learn how to export information to various formats.



### Lab Sequence of Events





### Lab 6 Scenario

You will play the role of various team members as they use IBM Rational Requirements Composer, IBM Rational Team Concert or IBM Rational Quality Manager to gain access to the data they need to monitor project status.





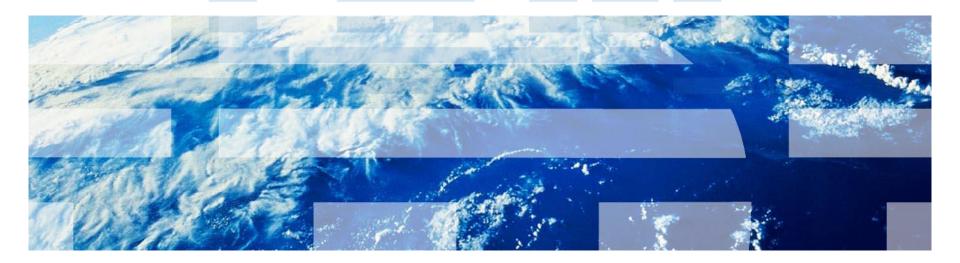
# Lab 6 Concepts Learned

■ IBM Rational Requirements Composer, IBM Rational Team Concert and IBM Rational Quality Manager provide excellent reporting facilities within and across the solutions.





# Session Summary





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# Session summary

- We have described current collaboration challenges with distributed teams
- We have explored how Rational Requirements Composer, Rational Team Concert, Rational Quality Manager, and Rational Software Architect Design Manager can:
  - Enable teams to collaborate in real time in the context of the work they are doing, especially in globally diverse environments
  - Enable projects to be managed more effectively by providing visibility into accurate project information drawn directly from actual work
  - Automate traceability and auditability by managing artifacts and their interrelationships across the life cycle, empowering teams to deliver more value
- We have provided a hands-on experience using these products to automate the software delivery process



# **Next Steps**

- Engage your local Rational team
- Provide a customized demo for your team
- Conduct a targeted proof of concept
- Register on jazz.net and explore learning tutorials and videos
  - http://jazz.net
  - http://www.ibm.com/developerworks/



### Additional resources

 Learn more about and download free trials of Rational Requirements Composer, Rational Team Concert and Rational Quality Manager

https://jazz.net/downloads

- Explore tutorials, demos and other developer learning resources http://jazz.net
- Participate in the open commercial development of Jazz by joining the community <a href="http://jazz.net">http://jazz.net</a>
- Learn more about the Jazz technology and the future IBM Rational product roadmap http://ibm.com/rational/jazz/roadmap



# Questions





- Learn more at:
- IBM Rational software
- IBM Rational Software Delivery Platform
- Process and portfolio management
- Change and release management
- Quality management
- Architecture management

- Rational trial downloads
- Leading Innovation Web site
- developerWorks Rational
- IBM Rational TV
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- IBM Rational Case Studies

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