

Change and Configuration Management Keynote

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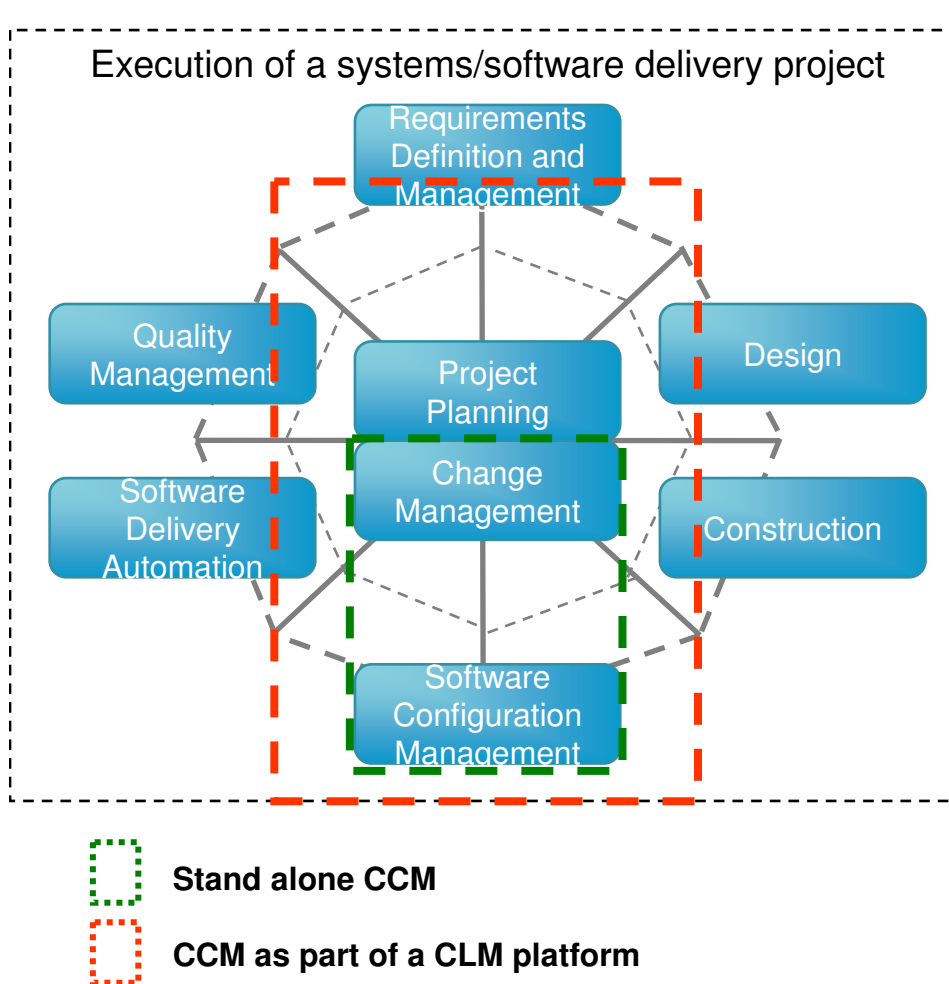


Agenda

- What is Change and Configuration Management?
- Market Trends in IT and Systems
- Open Jazz Platform with OSLC Delivers our ALM Vision
- How do I add RTC or CLM to my existing Rational CCM tools?
 - Real life customer examples
- IBM Rational Cloud Strategy
 - Bring your own license or pay as you go



What is Change and Configuration Management (CCM)?



Capability	Definition	Customer may refer to this as...
Change Management (CM)	Provides flexible defect and change tracking, process automation, reporting, and lifecycle traceability for better visibility and control of change and the development lifecycle	<ul style="list-style-type: none"> Defect/bug tracking Enhancement management Issue/ticket management Change request management Workflow/process automation Traceability and reporting
Software Configuration Management (SCM)	Provides sophisticated version control, workspace management, reuse and parallel development support to improve productivity	<ul style="list-style-type: none"> Source control File versioning Configuration management Software change and configuration management SCM
Software and Systems Lifecycle Management	Provides process and data integration of all the disciplines across the development lifecycle	<ul style="list-style-type: none"> Integrated development lifecycle solution Application lifecycle management (ALM) Systems Lifecycle management Lean/agile development



CCM Market trends (IT centric)

- CCM Market is undergoing change:
 - **Agile development** has gone mainstream. “We use Scrum but..” requires customization and need to adapt to new agile methods
 - Market is transitioning from buying standalone products (SCM, Planning/CM, RM, QM) toward buying an **integrated ALM platform**
 - **ALM 2.0+ Definition** is expanding to include deployment automation and maintenance of applications after they are deployed internally.
 - **IT outsourcing trend** is growing. Organizations depending on functions and contributors outside corporate boundaries, while preserving IP security
 - Desire for **Cloud deployments** (private and public) is increasing
 - **Data Center Consolidation Continues**: Centralized server farms leading to need for high availability and extreme uptime
 - Higher percentage **developer growth is in BRIC countries**
 - Emerging **Mobile Enterprise Application Platform** development trend

CCM Market trends (System centric)

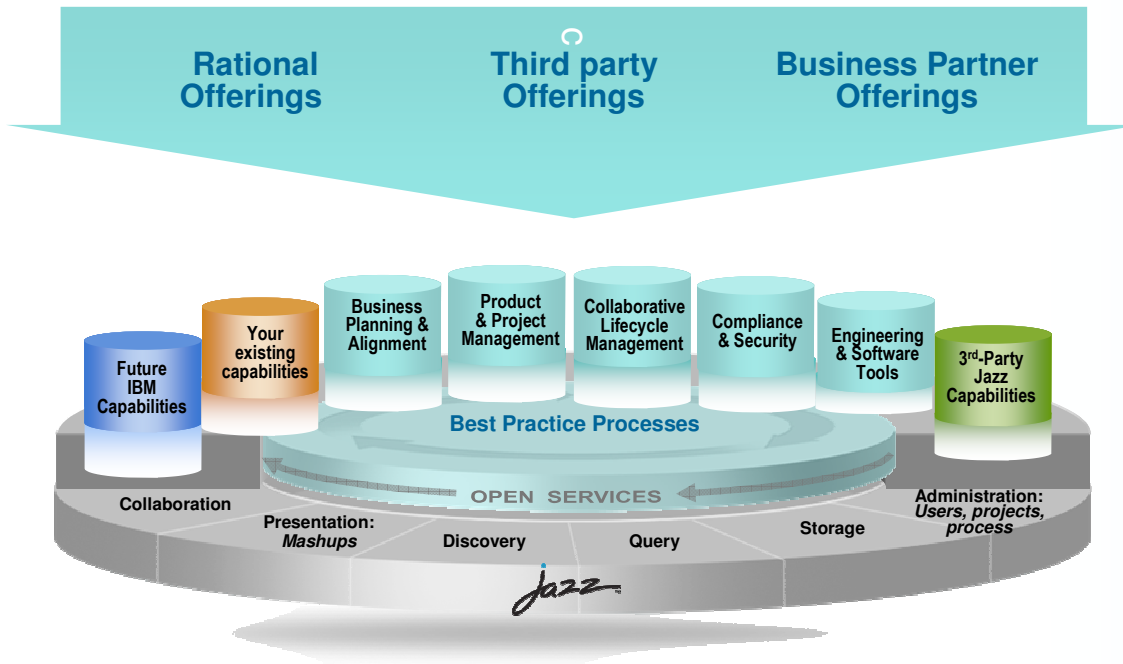
- CCM Market for Systems is undergoing change:
 - Market is slowly transitioning from buying standalone products (SCM, Planning/CM, RM, QM) toward buying an **integrated ALM platform**
 - **Interconnected Suppliers** is a growing trend. Organizations working with outside suppliers who may or may not be competitors on joint development projects. Contributors outside corporate boundaries, while preserving IP security.
 - **High security and isolation requirements across secure projects** – rules out SaaS models for some systems markets in A&D for example.
 - More complex **Systems of Systems** trend continuing and complexity
 - **ALM and PLM vendors** markets are showing some signs of converging
 - **Formal planning methods dominant but new hybrid agile methods** may emerge. That is agile may grow in systems but develop it's own “flavor”.
 - **Some developer growth is in BRIC countries** but some companies in A&D are not using these sources as aggressively due to security needs.

Silos create barriers to effective software delivery



Jazz is an open platform for transforming software delivery

A platform that can uniquely leverage customers' existing investments in IBM, open source and competitor products



Jazz is...

- Our vision of the future of systems and software delivery
- The technology foundation of our collaborative ALM solutions
- **An integration architecture enabling mashups and non-Jazz products to participate**
- A community at Jazz.net where Jazz products are built
- An evolution of our portfolio over time

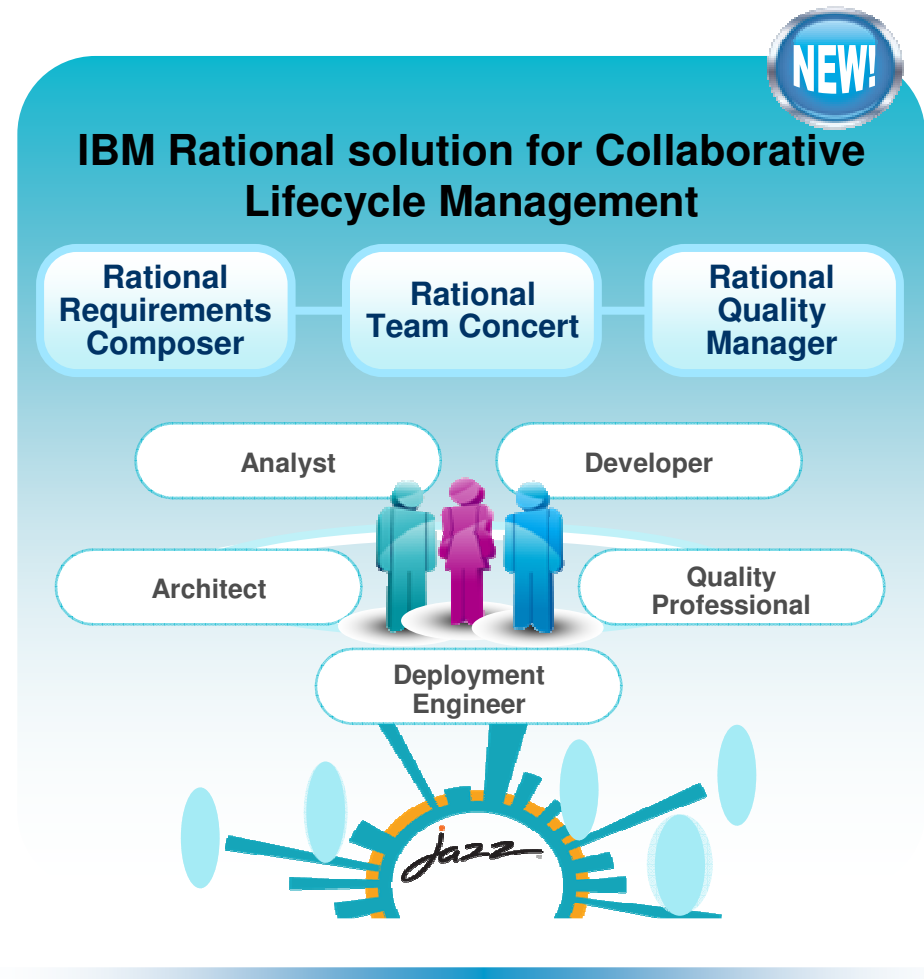
Rational collaborative ALM solutions *transform* how people work together to deliver greater value and performance from their software investments.



IBM Rational solution for Collaborative Lifecycle Management

Improve productivity with an integrated ALM solution

- **Optimize your team through support of the 5 ALM Imperatives**
 - Real-time planning
 - Lifecycle traceability
 - In-context collaboration
 - Development Intelligence
 - Continuous Improvement
- **Get up and running quickly**
- **Extend as your needs evolve**
- **Support heterogeneous development across multiple platforms and technologies**



Rational solution for Systems and Software Engineering

Best Practices, Tools and Services on an open platform

Best Practices and Integrated Process Guidance

REQUIREMENTS MANAGEMENT

Manage all system requirements with full traceability across the lifecycle

Rational DOORS

QUALITY MANAGEMENT

Achieve “quality by design” with an integrated, automated testing process

Rational Quality Manager

ARCHITECTURE & DESIGN

Use modeling to validate requirements, architecture and design throughout the development process

Rational Rhapsody & Rhapsody Design Manager

COLLABORATION, PLANNING & CHANGE MANAGEMENT

Collaborate across diverse engineering disciplines and development teams

Rational Team Concert



Open Services for Lifecycle Collaboration



Open Services for Lifecycle Collaboration (OSLC)

An initiative aimed at simplifying data linking and tool integration across the lifecycle



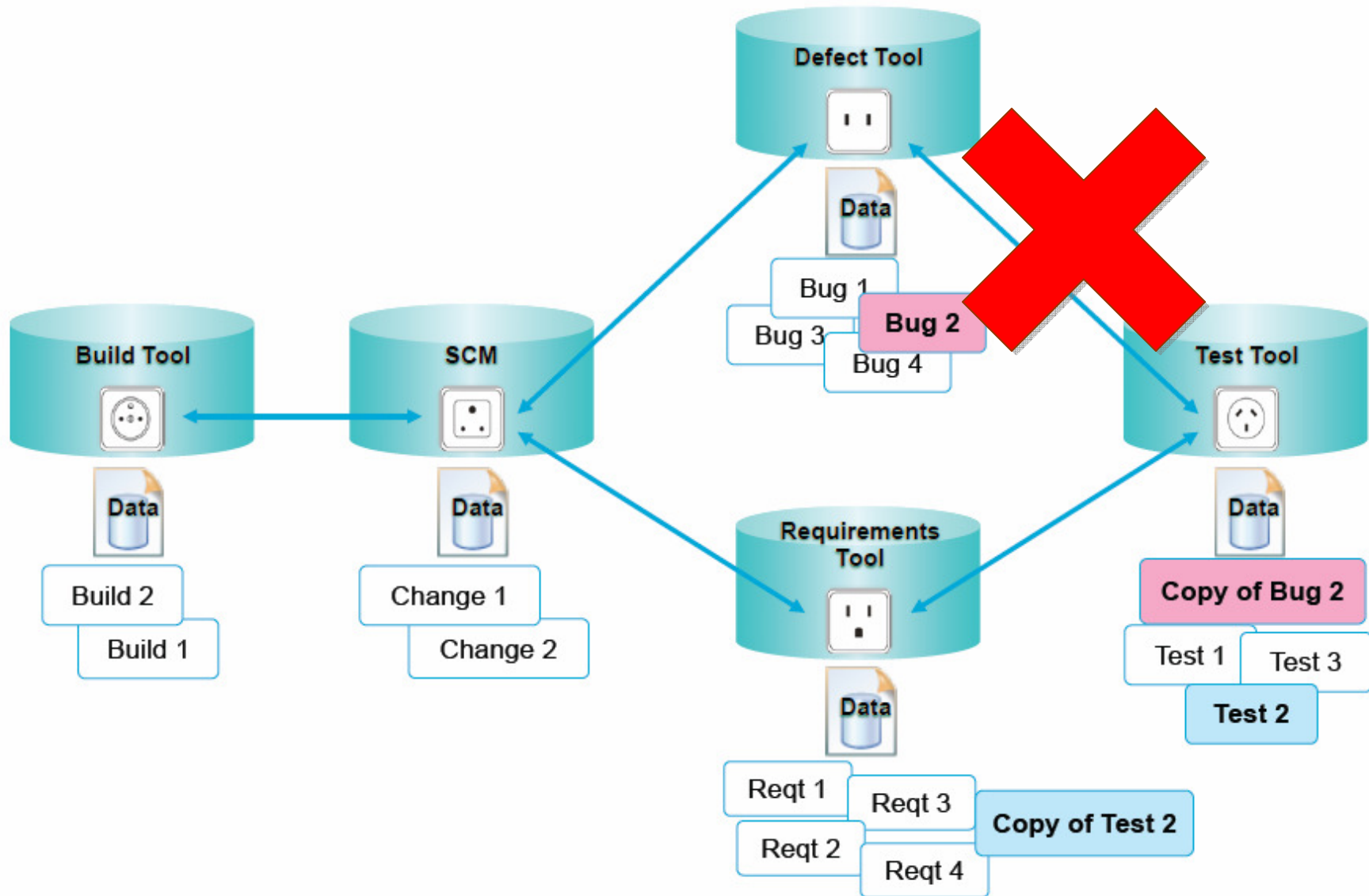
Open Services for Lifecycle Collaboration

Barriers to sharing resources and assets among tools

- ▶ Multiple vendors, open source projects, and in-house tools
- ▶ Private vocabularies, formats and stores
- ▶ Entanglement of tools with their data

- ▶ Community Driven – specified at **open-services.net**
- ▶ Specifications for ALM, PLM and DevOps Interoperability
- ▶ Inspired by Internet architecture
 - Loosely coupled integration with “just enough” standardization
 - Common resource formats and services
- ▶ A different approach to industry-wide proliferation

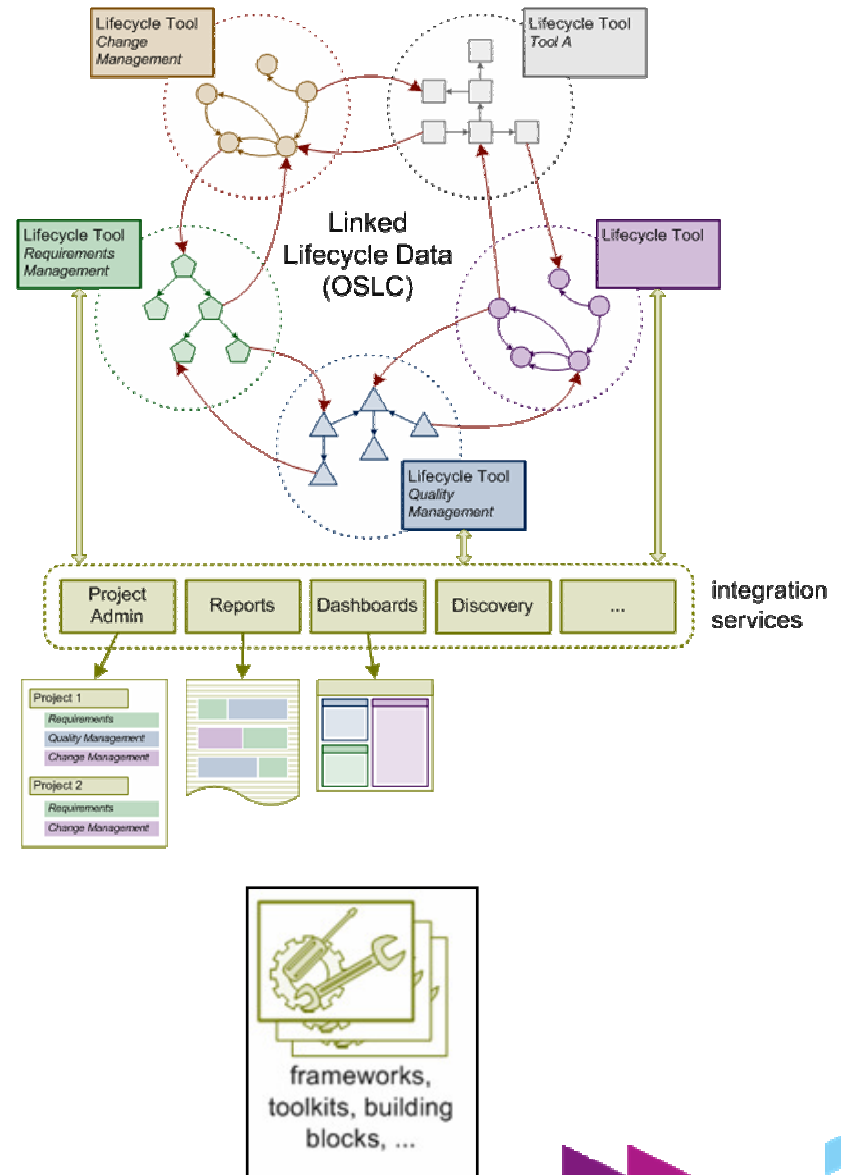
Traditional Tools Integration



The Jazz platform uses OSLC to link data

Jazz architecture

Application frameworks and toolkits

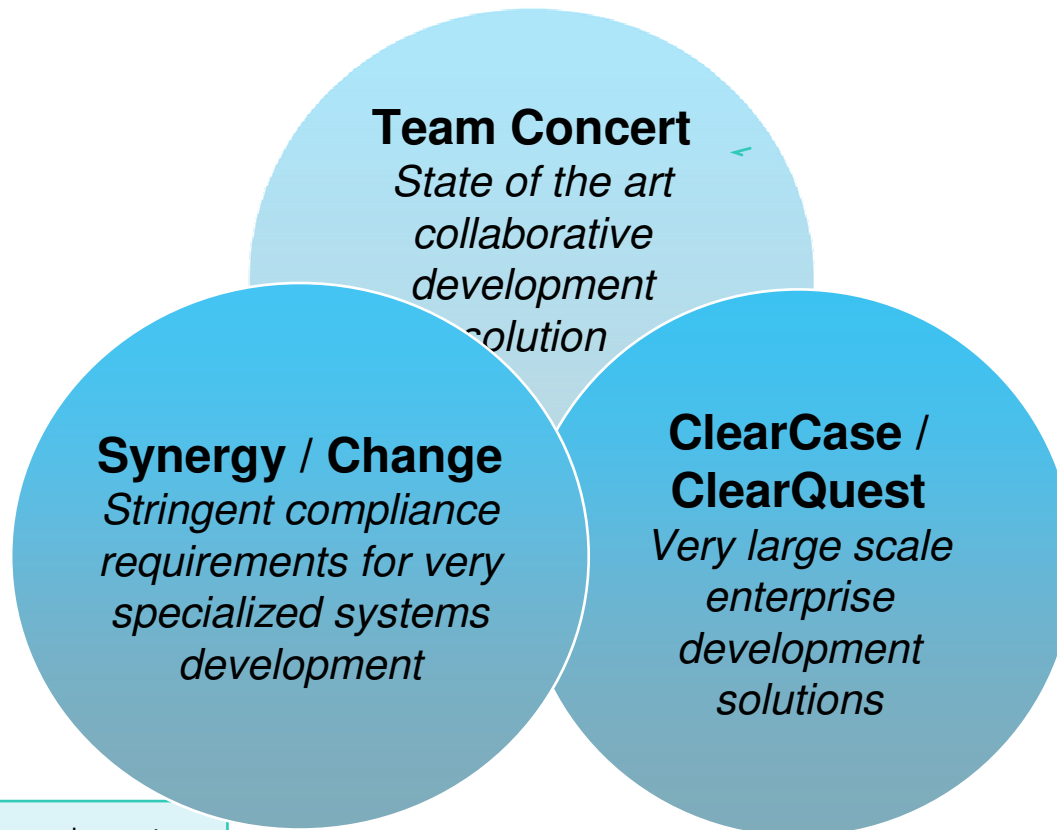


OSLC in Action: e.g. Tivoli TSRM, HPQC, MS Project

Who	What	Description
	Siemens Teamcenter & Rational Team Concert	Coordinate product (PLM) and software (ALM) change management. Siemens is integrating change management processes for mechanical, electrical and software systems by creating and linking Rational Team Concert and Siemens Teamcenter change requests.
	Tivoli Service Request Manager and Rational Team Concert	Trace and track problems from operations into development. Using OSLC IT Operations can create and track work items within the development organization. Brings awareness to development team on business impacts, resulting faster response. Visibility to support staff on fix release schedule, enabling agents to manage customer expectations
	Oracle jDeveloper & Rational Team Concert	Oracle developers boost productivity with ALM integration. Oracle's Team Productivity Center provides a task-oriented interface for developers by connecting with ALM products like Rational Team Concert, bringing work items into the JDeveloper IDE.
	Eclipse Mylyn, Tasktop Pro & Rational Team Concert. ClearQuest and HP Quality Center	Task-focused collaboration for Eclipse developers through ALM integration. Tasktop Pro and Eclipse Mylyn provide developers with a revolutionary task-focused interface that supports one-click multitasking, workspace focusing, and time tracking for Rational Team Concert work items and ClearQuest change requests. Also links HP Quality Center and Rational Team Concert to synchronize defect status across development and test.
	HP Quality Center & Rational Team Concert	Improve collaboration between development and test teams. BSD Group is connecting development and test processes by linking Rational Team Concert work items with HP Quality Center test requirements and plans.
	PLM/ALM traceability scenarios	Break down barriers between PLM and ALM. General Motors is driving integration scenarios to achieve better performance and traceability across the product and software lifecycles.
	Microsoft Project & Rational Team Concert	Better collaboration between product managers and agile teams. Ascendant's Atech Team Connector synchronizes Microsoft project plans with Rational Team Concert release and iteration plans.
	iTKO LISA & Rational Team Concert, Rational ClearQuest	Reduce time to defect resolution. iTKO LISA creates Rational Team Concert work items or ClearQuest defects that include detailed, multi-tier trace information from any test executed with LISA Pathfinder.
	dbMaestro Teamwork & Rational Team Concert	Manage change to your database system. dbMaestro TeamWork enables teams to manage database and schema evolution by utilizing Rational Team Concert change management -- linking dbMaestro database change sets with Team Concert work items.
	Rally & ClearQuest	Connect agile teams with enterprise processes and change management. Rally is enhancing the bi-directional synchronization between change requests in ClearQuest and artifacts in Rally, providing visibility into the total lifecycle in both systems.



How do you get the most out of your existing CCM investment?



- ✓ Goes beyond traditional CCM
 - ✓ State-of-the-art collaborative development platform
 - ✓ Integration hub with Jazz OSLC
 - ✓ One product with integrated CM and SCM + planning, build and reporting
- ✓ Designed for web and high performance over WAN's
- ✓ Easier to use and low administration
- ✓ Ideal for Agile development
- ✓ Scalable from small to large globally distributed teams
- ✓ Can also "surround" other SCM's: Subversion, Git, ClearCase, Synergy
- ✓ CM functionality available separately

- ✓ Very large development projects
- ✓ Very complex and customized workflows
- ✓ Heavy auditing and optimized build avoidance
- ✓ 2 products: ClearCase (SCM), ClearQuest (CM)

- ✓ Stringent compliance requirements (eg CMMi, SPICE)
- ✓ Complex requirements management through DOORS integration
- ✓ Very specialized systems software development
- ✓ 2 products: Synergy (SCM), Change (CM)

Build on your current investments to realize collaborative change and configuration management solution



Add Collaborative Change Management Value Using Rational Team Concert as a hub

Planning

- Integrated release/iteration planning
- Effort estimation & progress tracking taskboards
- Out of the box agile and formal process templates

Project Transparency

- Customizable web based dashboards
- Real time metrics and reports
- Project milestone tracking and status

SCM

- Component based SCM enables reuse across projects
- Change set based for easy addition or removal of features
- Server-based sandboxes
- Supports SVN, Git, **ClearCase**, **Synergy**

Work Items

- Defects, enhancements and conversations
- View and share query results
- Support for approvals and discussions
- Query editor interface
- Supports **ClearQuest**, **Change**

Build

- Work item and change set traceability
- Build definitions for team and private builds
- Local or remote build servers
- Supports Ant and command line tools
- Integration with Build Forge

Jazz Team Server

- Single structure for project related artifacts
- World-class team on-boarding / offboarding including team membership, sub-teams and project inheritance
- Role-based operational control for flexible definition of process and capabilities
- Team advisor for defining / refining “rules” and enabling continuous improvement
- Process enactment and enforcement
- In-context collaboration enables team members to communicate in context of their work



Add Dynamic Planning to your existing CCM tools

- Provide both traditional and agile views on a plan

The screenshot displays the 'Phase Plan' interface. At the top, it shows 'Plan Details' and navigation tabs for 'Planned Items', 'Links', 'Snapshots', 'Resources', and 'Notes'. The view is set to 'Work Breakdown and Schedule'. Below this, a taskboard view is shown for three team members: Andrew Hoo, Heather Fraser-Dube, and Jean-Michel Lemieux. Each team member's view is divided into 'Open', 'In Progress', and 'Resolved' columns, containing various tasks with their durations and estimated completion times.

To the right of the taskboard, a Gantt/Roadmap view is visible, showing a timeline from October 10 to January 10. It features a table with columns for 'Predecessor' and 'Id', and a corresponding Gantt chart with colored bars representing task durations and dependencies. The Gantt chart shows tasks 21, 22, 23, 24, 26, and 27, with task 24 highlighted in red.

Gantt/Roadmaps

*Support any planning method
Enable success w/ transparency*

Taskboard

Add process improvement – Scrum, waterfall, ... *Making process executable and repeatable*



Process Architect

Step 1: Customize



Project Manager

Step 2: Enact

Variant #1

Scrum

Variant #2

Iterative

Variant #3

Waterfall

Project A

Agile

Product Owner

Scrum Master

Team Member

Project B

Iterative

Analyst

Developer

Quality Professional

Release Engineer

Project C

Waterfall

Analyst

Developer

Quality Professional

Release Engineer

Work Items Plans Source Control Build

- Welcome to Work Items
- Queries
 - My Queries
 - Shared Queries
- Create Query
 - New Query
- Create Work Item
 - Defect
 - Task
 - Story
 - Epic
 - Track Build Item
 - Impediment
 - Adoption Item
 - Retrospective
- Create Work Item Set
 - Create from Template

Scrum Template

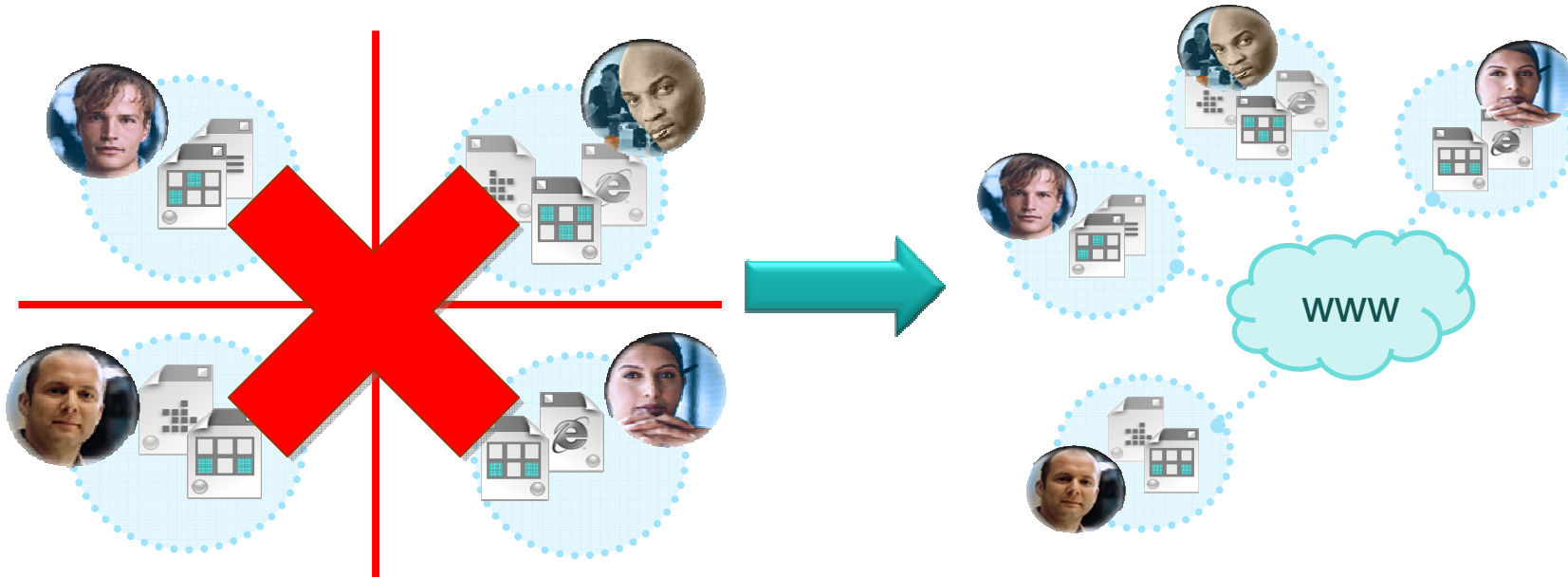
Work Items Plans Source Control Builds

- Welcome to Work Items
- Queries
 - My Queries
 - Shared Queries
- Create Query
 - Create Query
- Create Work Item
 - Defect
 - Task
 - Project Change Request
 - Issue
 - Business Need
 - Risk
 - Risk Action
 - Milestone
- Create Work Item Set
 - Create From Template...

Formal Project Mgt Template



Add Collaboration across silos



- Silo'd teams; disconnected data
- Important discussions are lost to email - project records are missing the "real reason" for decisions
- Unified team shares linked data
- ALM environment tracks what is important for delivering
- "Am I blocking others"
- "Are others waiting for my approval"

Every artifact is a web link. Traceability is automated as you perform work. Empower teams AND provide flexibility to utilize resources from anywhere.



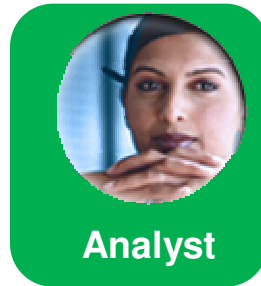
Add automated end-to-end traceability across ALM

Which requirements are addressed in this iteration?

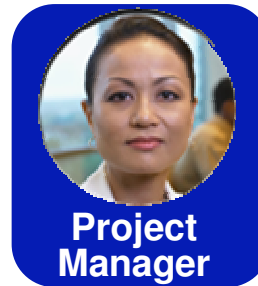
Are all of the requirements tested?

What's the quality of the high priority requirements?

What defects are reported against which requirements?



Can we pass an audit?



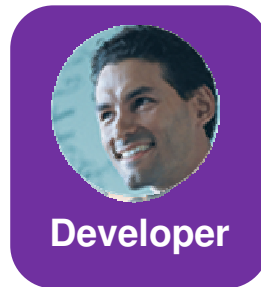
Are we ready to release?

What defects were resolved in this release?

What tradeoffs can we make to release on time?

What requirements am I implementing?

How can I recreate the last version to do a patch?



What is the quality of the build?

What has changed that I need to test?

What defects have been addressed since the last build?

What test uncovered this defect, on which environment and what build?

What changes occurred overnight?

How can I standardize when teams use different tools?

Are build times getting longer or shorter?

Where are the bottlenecks in our processes?

How can I speed up my builds?



Add Transparency and Project Status for Everyone

“Every stakeholder knows project status without having to ask”

Jazz Project Description

Process enabled team collaboration platform

The goal of the Jazz project is to build a scalable, extensible team collaboration platform for seamlessly integrating tasks across the software lifecycle. The new technology is called the Jazz Platform. The Jazz project is defining the overall architecture of the Jazz Platform, and building an initial set of Jazz components that plug in to the Jazz Platform.

The work in the Jazz project is divided into development work and maintenance work. Development work produces a consecutive line of releases. Maintenance work produces bug fix releases of the released produced by the development work.

Development as well as maintenance work is overseen by the PMC. The team members listed in this project area constitute the PMC.

Jazz Project Members (11)

- CQ Connector Account connector
- Dejan Glozic dashboardadmin
- Erich Gamma dashboardadmin, projectadmin, PMC, contributor
- Jean-Michel Lemieux dashboardadmin, projectadmin, PMC, contributor
- John Vasta connectoradmin
- Kai-Uwe Maetzel PMC, contributor
- Kevin Haaland PMC, contributor
- Kim Moir projectadmin
- Peter Klenk PMC, contributor
- Scott Rich PMC, contributor

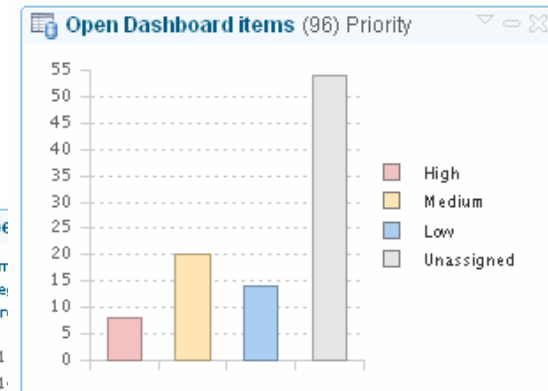
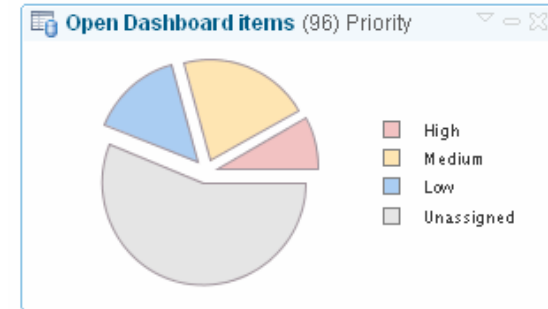
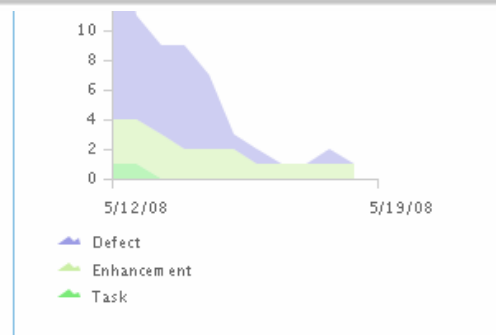
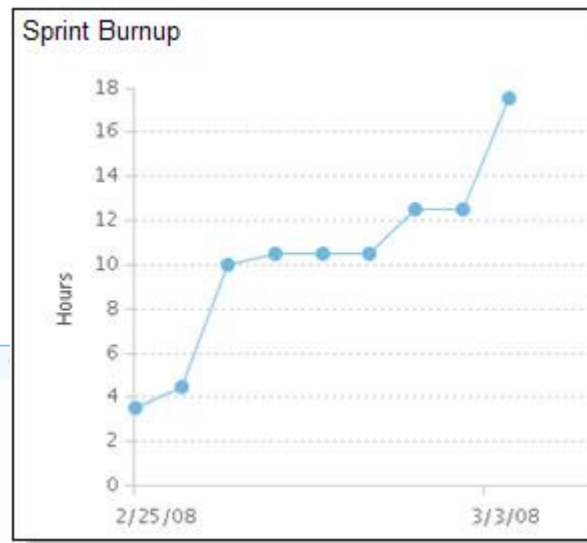
Page 1 of 2

Open vs Closed Work Items

Team Area: /Jazz Development/Dashboard
 Category: Dashboards
 Interval: 0.6 RC3

5/12/08 5/19/08

Legend: Open (Yellow), Closed (Purple)



Open Dashboard items (96) Priority

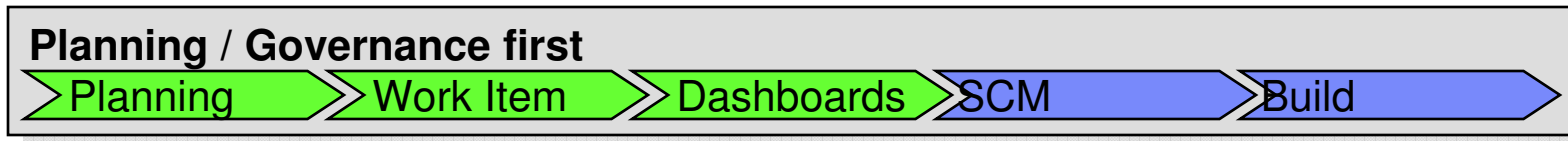
High(8) Medium(20) Low(14)
Unassigned(54)

Open Dashboard items (96) Priority

Priority	Count
High	8
Medium	20
Low	14
Unassigned	54



Incremental RTC Adoption Pattern – Planning / Change Mgmt.



- Many of our customers are using RTC to address task coordination/planning
- A Major Insurance company has 500 agile planners who use RTC to plan and collaborate their daily plans, iterations and teams. They don't care what scm or build tools their teams use. But they wanted a platform to encourage collaboration and transparency and consistency (process).
- Major Electronics Co.– Uses Rational Team Concert for 400 globally distributed developers to coordinate (plan) and collaborate (communicate) and encourage re-use of common components (using team structure)



Example: Agile or Formal Planning with ClearCase

Linkage between plan items, work items and ClearCase

The screenshot shows the 'ClearCase Connector' window with a list of work items. The items are organized by team area and iteration. The list includes items like 'Broken externalized strings in connector.scm.ide.*', 'Do a license check before deleting sync streams', and 'Refactor 3 tableviewers[label providers/content providers in GUI into a set of one each of those classes'. Each item has a priority, duration, and estimated time.

Agile or Formal Plan links to Work Items

The screenshot shows the details for 'Defect 35465'. It includes a summary, attachments, subscribers (Brian Nelson, Carol Yutkowitz, Geoffrey Clemm), and a list of links. The links section shows 'Change Sets' and 'ClearCase Activities' associated with the defect.

The screenshot shows the 'Properties' dialog for a 'Bug_Fix' activity. The 'Activity' tab is selected, showing details such as 'Headline: Fix name problem', 'Id: Bug_Fix', 'Kind: UCM activity', 'Integration state: Not integrated with ClearQuest record', 'Project: Project1', 'Stream: Int1', 'Created on: Thursday, May 28, 2009 8:27:39 PM ET', 'Created by: caroly.user(null)', and 'Owner: RATIONALSWG\caroly'. A 'Show Change Set' button is visible at the bottom.

Work Items link to ClearCase activities

The screenshot shows the 'ClearCase Change Set' details for the 'Bug_Fix' activity. It displays a table of activities with columns for Name, Version, and Created On.

Name	Version	Created On
carol_ucm_vob/C1	/main/Int1/3	May 31, 2009 3:02:28 PM...
carol_ucm_vob/C1/New...	/main/Int1/2	May 30, 2009 10:45:19 P...
carol_ucm_vob/C1/New...	/main/Int1/2	May 30, 2009 10:29:58 P...
carol_ucm_vob/C1/New...	/main/Int1/1	May 30, 2009 10:26:40 P...
carol_ucm_vob/C1/New...	/main/Int1/2	May 30, 2009 10:29:54 P...
carol_ucm_vob/C1/New...	/main/Int1/1	May 30, 2009 10:27:57 P...
carol_ucm_vob/C1/New...	/main/Int1/1	May 30, 2009 10:29:49 P...

ClearCase activities link to change-sets

Example: Incremental Change Management Evolution

Background: Customer had an existing centrally managed ClearQuest deployment linked to call center/support operations for issue resolution. Development teams wanted to adopt RTC with planning/work items and SCM

Business Problem:

- “Some teams were looking to adopt agile planning and estimation to improve measurement and scoping using team velocity”
- “We had to think beyond development to the rest of the linkages to our support teams and call center applications”
- **Solution:** A two-tier change management model with ClearQuest managing defects and call center escalations, linked to development teams using agile methods on a centralized, platform approach to reporting, change management and SCM/build.
- **Applies to:** Rational ClearQuest, Rational Change or combinations of CC/CQ and Synergy/Change for some teams.

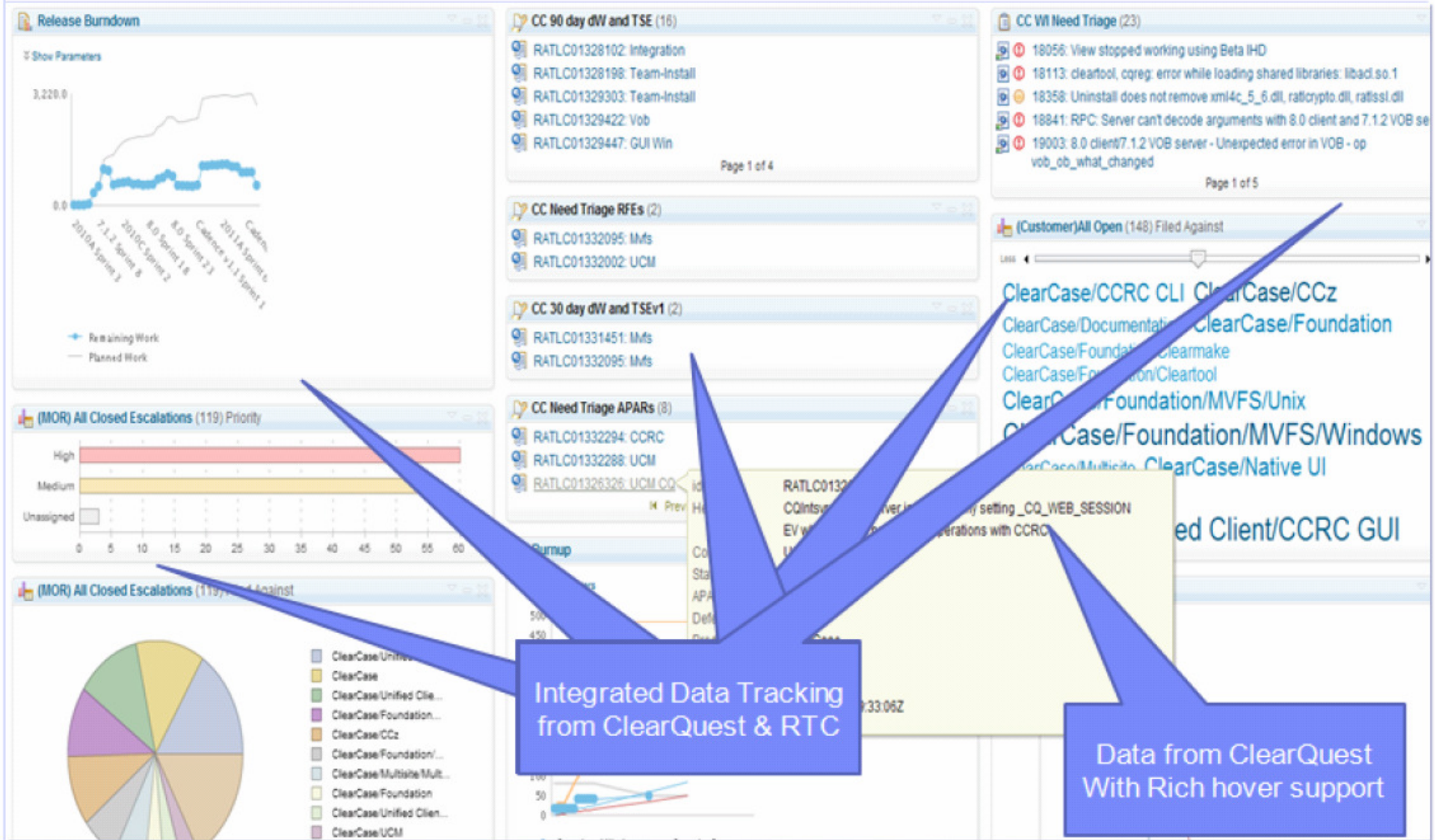
New feature development in RTC – defects and call center in ClearQuest

▶ Planning ▶ Work Item ▶ Dashboards ▶ SCM ▶ Build



Dashboard with Integrated Information from ClearQuest

example usage by IBM Rational ClearCase Engineering teams



Best practices for adopting Jazz/RTC in Synergy/Change and/or ClearCase/ClearQuest environments

- An **incremental approach** is best
 - ▶ A **team-by-team approach** is most successful
 - Because teams have different needs, and different constraints on when they can adopt new tooling
 - ▶ Introduce **incremental value first**
 - For example, in a ClearCase environment, introduce the work item management and agile planning capabilities (before the RTC SCM capabilities)
- Simplify existing **stream structures**
 - When introducing RTC SCM capabilities, this is a good time to simplify the existing stream structure, since it is easy to incrementally extend RTC stream structures.
- **Lightweight task management system**
 - Introduce RTC work item capabilities using the pre-defined process templates.
- Try to use **existing process mechanisms**
 - When customizing RTC process, experiment with the existing declarative process mechanisms before writing custom process.

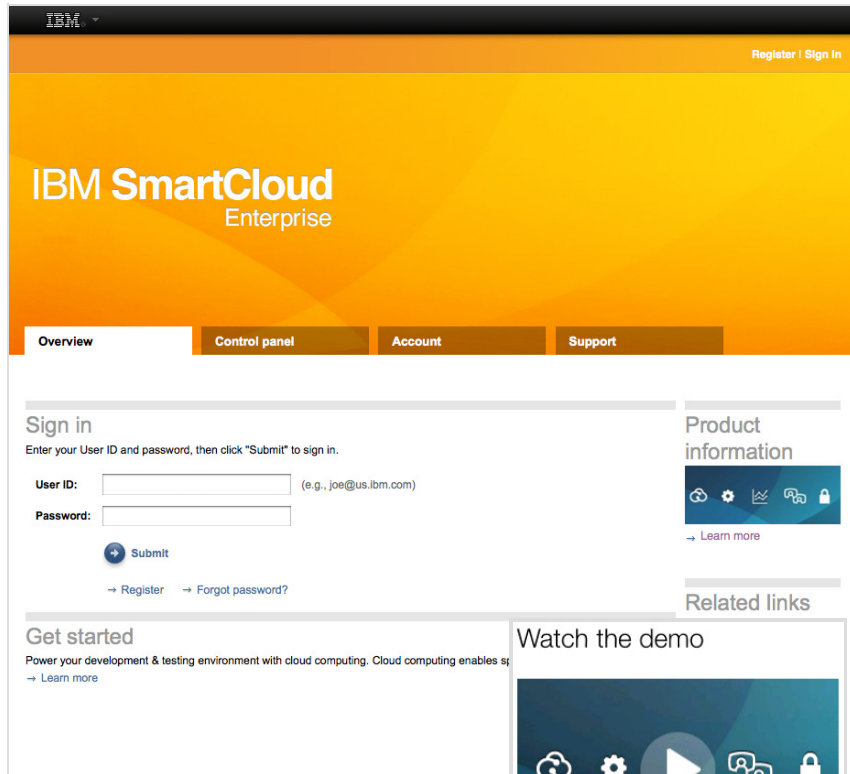


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 - ▶ Real life customer examples
- IBM Rational Cloud Strategy
 - ▶ Bring your own license or pay as you go



IBM SmartCloud Enterprise provides enterprises access to an agile cloud environment well suited for development and test and a multitude of other dynamic workloads.



The production site is at ibm.com/cloud/enterprise

More information on the offering at ibm.com/cloud/solutions/enterprise

The solution provides the following:

- Choice of nine virtual server configurations
- Choice of Microsoft® Windows® Server and Linux® operating systems
- Choice of preconfigured software from which to build private image libraries
- Option to add multiple blocks of persistent storage
- Network isolation options (such as VPN/VLAN)
- Premium support options as a supplement to forums
- Choice of six sites (US – two sites, Canada, Germany, Japan and Singapore)

Payment options:

- Pay-as-you-go
 - Per hour usage charges for virtual servers, software images, persistent storage and static Internet Protocol addresses
 - Per gigabyte charge for Internet data transfer
- Reserved capacity packages with preferred server pricing

You can have your server environment running in minutes on the IBM Cloud.

The self-service portal, designed for ease of use, guides you through setting up what you need and triggers the automated provisioning of your servers.



Click and choose the service you need

Step 1

Choose the hardware and usage configuration

Step 2

Application provisioned and ready to run

Step 3

CloudOne

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IBM Rational Team Concert <i>The collaboration hub</i>	<input type="checkbox"/> Developer \$559 per user per month	<input type="checkbox"/> Contributor \$179 per user per month
IBM Rational Quality Manager <i>The quality management control center</i>	<input type="checkbox"/> User \$739 per user per month	<input type="checkbox"/> Viewer \$279 per user per month
IBM Rational Requirements Composer <i>The whole-company need gatherer & organizer</i>	Includes RAVENFLOW Visual Analyzer built-in <input type="checkbox"/> Author \$679 per user per month	<input type="checkbox"/> Reviewer \$379 per user per month
IBM Rational DOORS <i>The iron-strength requirements engine</i>	<input type="checkbox"/> User \$729 per user per month	<input type="checkbox"/> Web Editor \$609 per user per month
IBM Rational Focal Point <i>Weigh inputs and decide on project plans</i>	<input type="checkbox"/> User \$639 per user per month	<input type="checkbox"/> Web Reviewer \$449 per user per month
IBM Rational Software Architect <i>The worldwide standard in Java development</i>	<input type="checkbox"/> Team Member \$349 per user per month	<input type="checkbox"/> Stakeholder \$129 per user per month
IBM Rational Tester <i>The market-leading software quality tools</i>	<input type="checkbox"/> for WebSphere \$829 per user per month	<input type="checkbox"/> Standard \$349 per user per month
IBM Rational ClearCase <i>The industry-standard, highly configurable code lockbox</i>	<input type="checkbox"/> Functional \$849 per user per month	<input type="checkbox"/> Performance \$259 per user per month
IBM Rational ClearQuest <i>The industry-standard bug tracking and process automation engine</i>	<input type="checkbox"/> Change Manage \$569 per user per month	<input type="checkbox"/> User \$359 per user per month
IBM Rational RequisitePro <i>The easy-to-use, industry standard in requirements management</i>		<input type="checkbox"/> User \$389 per user per month
		<input type="checkbox"/> User \$359 per user per month

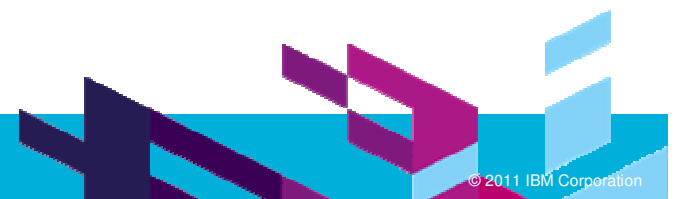
- Business partner owned and operated
- Pay as you go (monthly subscription)

Summary

- Jazz provides an open platform approach to ALM
 - ▶ Platform approach provides lowest cost of ownership and common security, common process and administration.
- IBM Rational has tailored collaborative ALM solutions for IT and Systems
- OSLC's open linked data approach is a unifying strategy for CCM and other tools (HPQC, Tivoli TSRM, etc....)
 - ▶ Enables incremental adoption of Jazz ALM solutions into ClearCase, DOORS, ClearQuest or Synergy/Change environments
- IBM's cloud strategy delivers faster time to value for RTC and CLM

QUESTIONS

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