



IBM Software

# UK Innovate 2010

The Rational Software Conference

Smarter software for a smarter planet.



IBM Software

# UK Innovate2010

The Rational Software Conference

## Deploying Rational Jazz in a Large Scale Software Development Environment

John Owen & Nigel Lawrence

[johna\\_owen@uk.ibm.com](mailto:johna_owen@uk.ibm.com)

[n.lawrence@uk.ibm.com](mailto:n.lawrence@uk.ibm.com)

Smarter software for a smarter planet.



IBM Software

# UK Innovate 2010

The Rational Software Conference

## PART 1

John A. Owen

Smarter software for a smarter planet.



# About Me

Library Management and Rational  
Tools Lead for IBM Software  
Development in the UK



IBM Software Group

Background in library management  
and tooling, database technologies  
and management



# My Vision

A single integrated development environment which:

1. Supports the needs of the development team throughout the life of the project,
2. Removes developer costs associated with moving from project to project, and
3. Replaces bespoke solutions with best practise implementations available to all.



# IBM UK Development Teams have a diverse heritage

## CICS

40 years old... and still growing on multiple platforms



## WebSphere Application Server

Multiple locations worldwide, built using bespoke and open source solutions



## Java

Complex multi-platform development and test environment

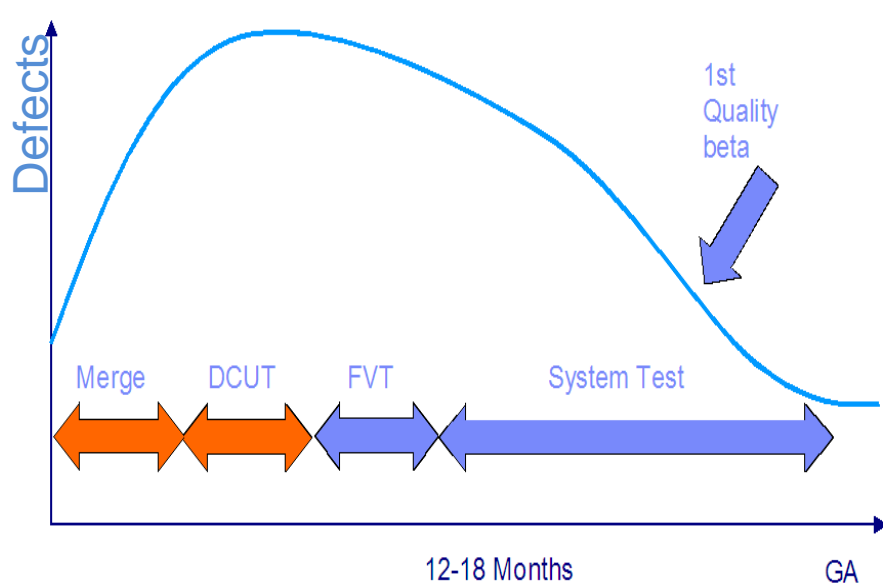


## Tivoli Netcool

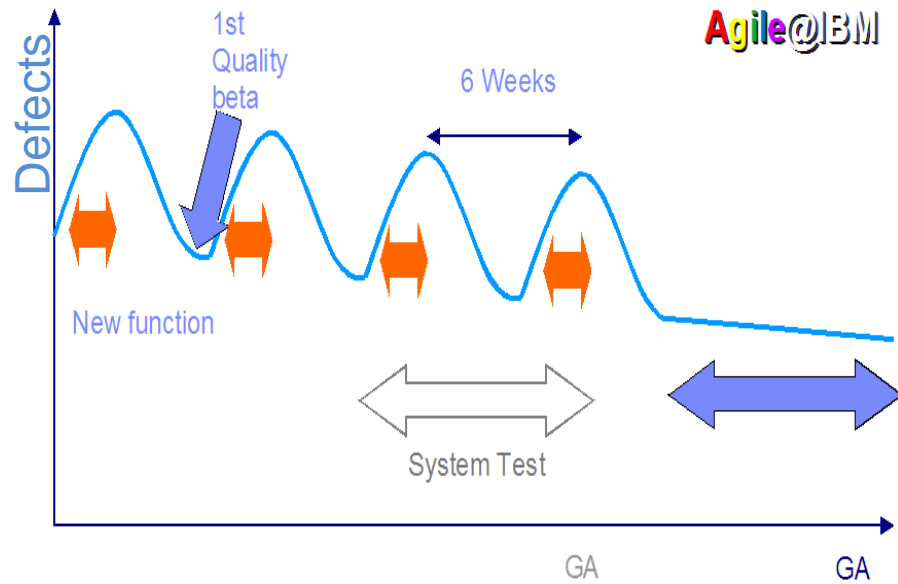
Best-of-breed Rational ClearCase & ClearQuest implementation



# Delivering value sooner and receiving feedback earlier are key drivers for the development teams



Java 5.0 Waterfall Development Process

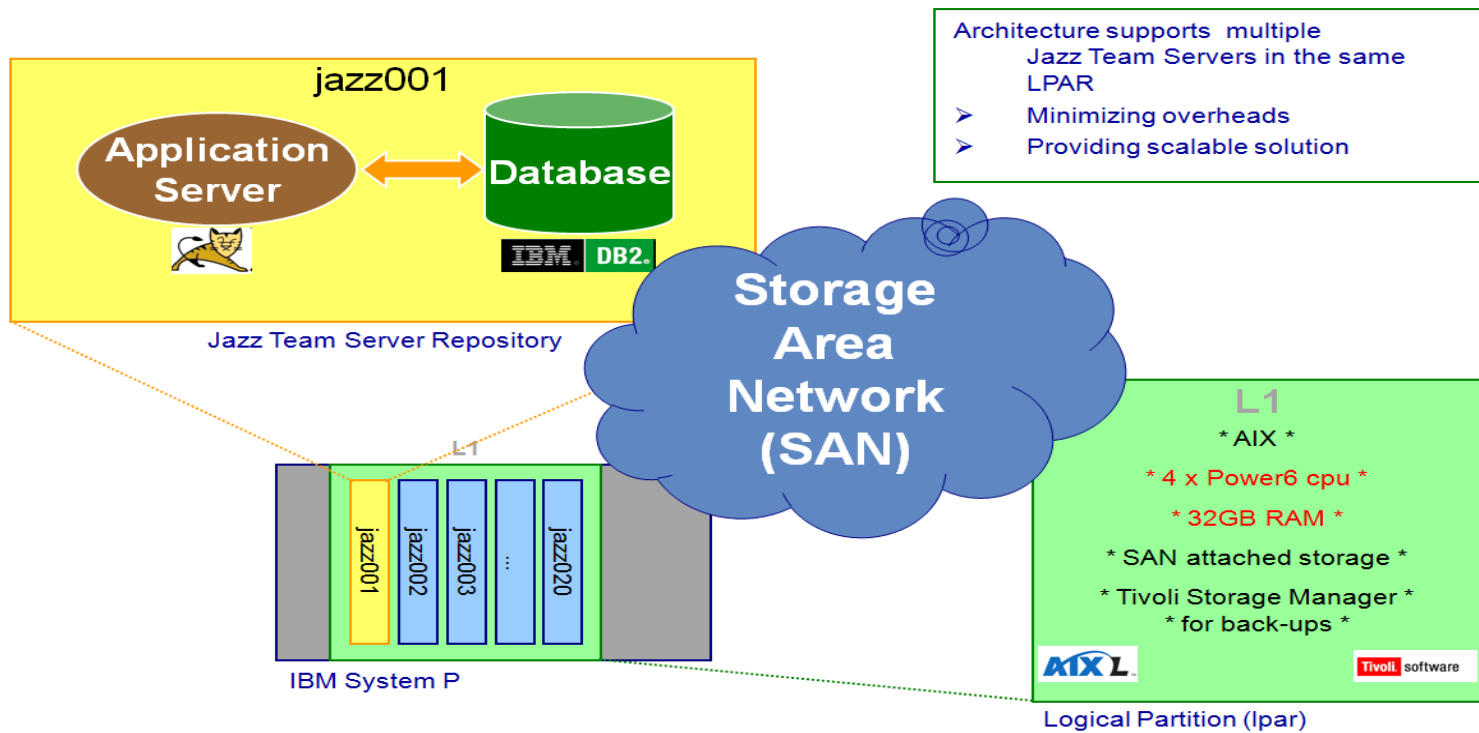


Java 6.0 Iterative Development Process

Slide courtesy of Java Development Team



# The need for tooling to support development agility resulted in the establishment of a central Jazz Service





# This service has been enhanced with additional features

- Multiple Jazz repositories hosted in a single logical partition
  - Reduces administration, easier maintenance, improved reliability
- Ldap authentication for easier authentication and administration
  - LdapNightlySyncTask had to be set to correct interval
  - Enhancement added to support nested ldap groups
- Repository specific temporary directories
  - Reduces I/O contention

com.ibm.team.repository.service.internal.userregistry.ldap.LDAPNightlySyncTask	
Property	Current Value
Enable LDAP Nightly Sync	true
LDAP Nightly Sync Fixed Delay	3600

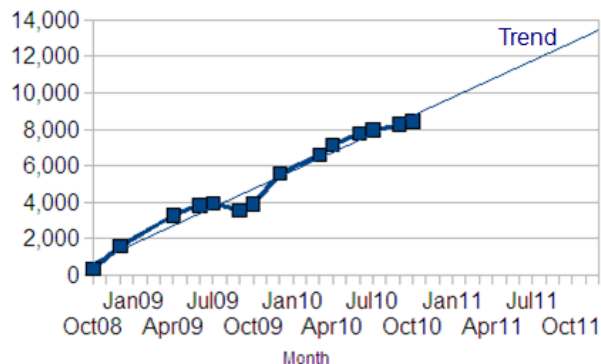
com.ibm.team.repository.service.internal.ContentService	
Property	Current Value
Content Temporary Directory	jazzhome/jazz001/jazz/server/TEMP
	Default Value
	/tmp/contentservice



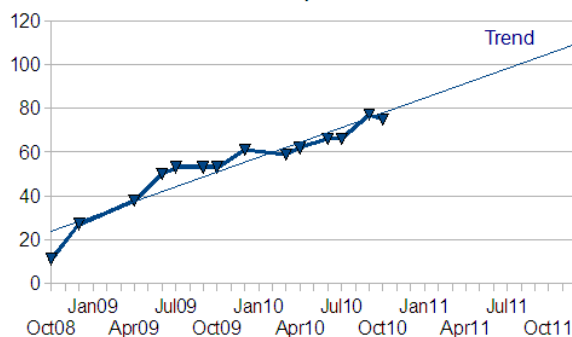
# The Jazz service has continued to grow

- ✓ Requests to host more repositories
- ✓ More users accessing existing projects
- ✓ Increased use of product functionality
- ✓ Requests to host more Jazz products
- ✓ Need to support more integrations
- ✓ Between jazz repositories
- ✓ With back-end, often bespoke, systems

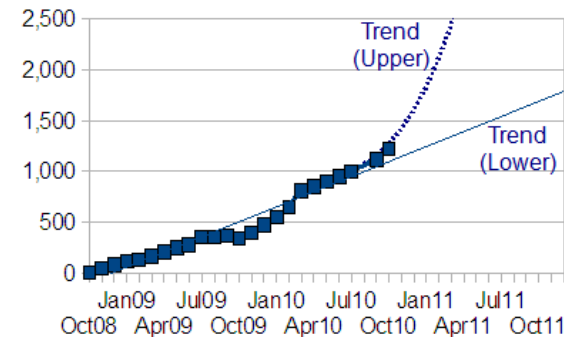
Number of Jazz Users



Number of Jazz Repositories Hosted

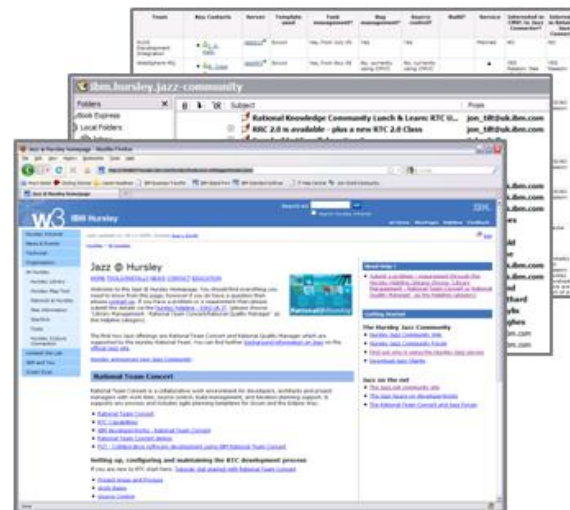


Jazz File System Size (GB)



# Most teams are now using RTC work items

Product	RTC	RTC	RQM	Other		
	Work items	SCM	Test Mgmt	FT/P	BF	Req
C1	Y	Plan	Y			
C2	Y	Plan	N			
M1	Y	P4P	Plan	Y	Pilot	
M2	Y	P4P	Plan	Y	Pilot	
W1	Y	Y	P4P	Y		
W2	Y	N	P4P			
W3	Y	N	P4P			
W4	Y	Y	Y			
WB1	Y	Y	P4P			
WB2	Y	Y	Y	Y		
WB3	P4P	P4P	P4P	Plan		
RR1	P4P	P4P	Plan			
RR2	Y	Y	N	Y		
IM1	Y	Plan	Y	Y		
Co1	Y	P4P	N			
J1	Y	Y	N	Y		Y
Ra1	Y	Synergy	Y			
T1	P4P	P4P	Y			
ST1	Y					
H	Y	Y	Y			



# We've learned a number of lessons along the way

- RTC is a catalyst for change resulting from the willingness of people to make it happen
  - Evangelists and the support of senior management are key
  - Helped teams to understand the meaning of “agile” to their organization
  - Identified holes and errors in team processes
- Collaboration has been key to Jazz adoption
  - Not forced upon teams
  - Encouraging teams to try it out, learn from it and share their experience
  - Central service lowers costs... without imposing restrictive processes on teams
- One size doesn't fit all
  - Process customization may be a lure, but try RTC without customization first!



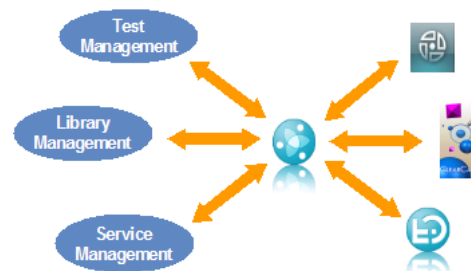
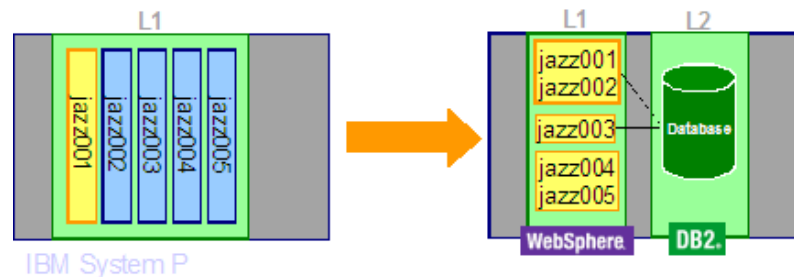
# We've learned a number of lessons along the way (cont'd)

- RTC has encouraged much more transparency and control in real time
  - You can see your defect backlog... and everyone else's in your team
- RTC promotes traceable collaboration within the development team
  - There has been a reduction in emails
- Scales to meet the needs of small and large projects alike... from 5 to 1,000 people
- Provides a common front-end
  - Enables project teams to identify strategies for moving off back-end systems
- Deploy RTC by using it!
  - Don't be afraid to get it wrong... that's what agile, iterative development is all about



# Our next steps focus on improved service and integrations

- Further enterprise hardening
  - Using WebSphere instead of Tomcat
  - Database Server for multiple repositories
  - Project consolidation
  - CPU, RAM and storage requirements
    - Jazz Team Server V3
  - “Live” back-ups
- Integrations with our existing infrastructure
- Integrations with Rational applications
  - Rational ClearCase
  - Rational ClearQuest
  - Other Jazz Team Servers (e.g. RQM)



IBM Software

# UK Innovate 2010

The Rational Software Conference

## PART 2

Nigel Lawrence

Smarter software for a smarter planet.



# Introduction & Background

Intensive Project management

Move towards agile methodologies

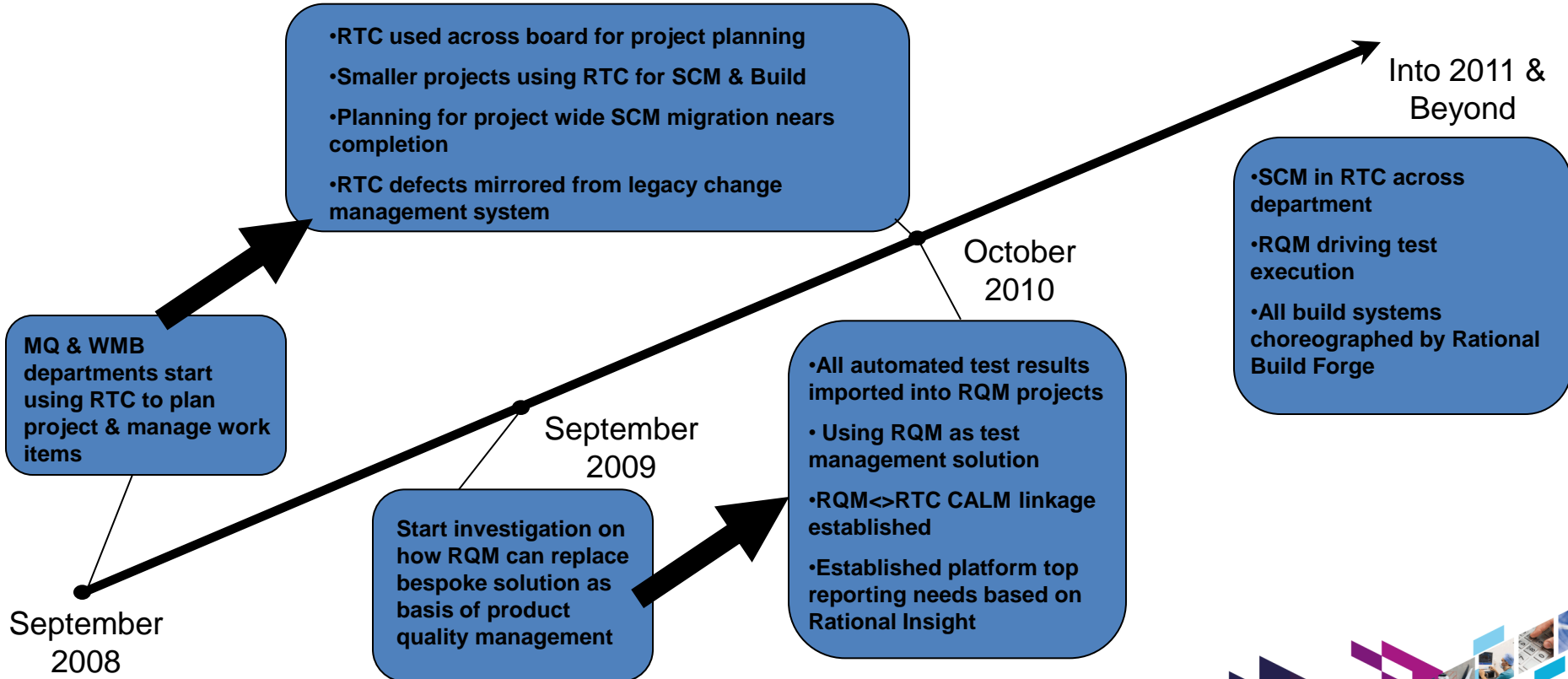
Development and test process

Large scale complex quality tracking

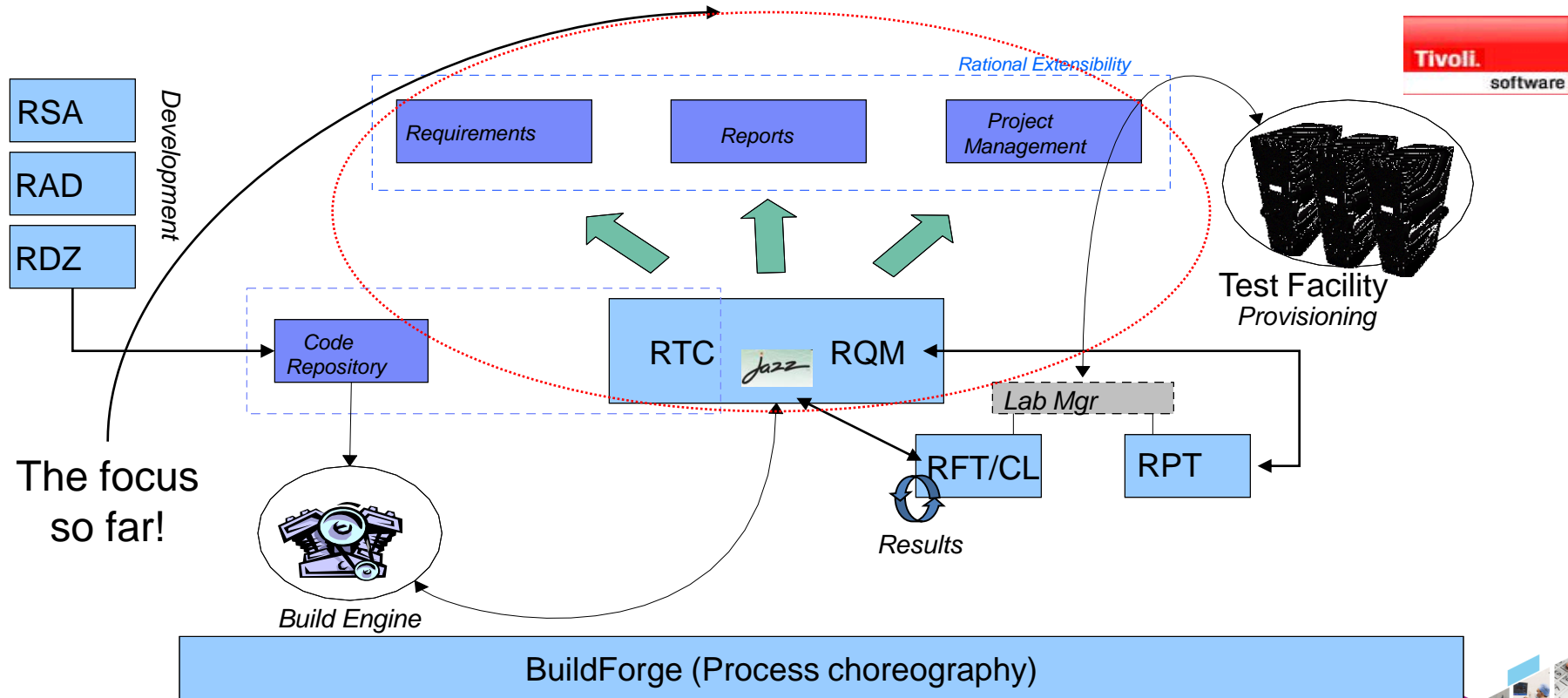




# Rational Tooling Adoption Roadmap – MQ & WMB



# Rational/Tivoli – The IBM Infrastructure Strategy



# Collaborate with RTC

## Rich tooling

Planning, work item and development environment integrated  
Instant messaging & Feeds

## Web UI

Cross project linkage

Cross geography usage

Configurable process

Jazz.net



# RTC dashboards to monitor the health of your project!

General | Operational Status | Defect Backlog | Machine Defects | New Function Plan | **4Q10 Plan** | New function by theme | Work Item Trends

### Headlines

Welcome to the new quarter!  
Well done on all the 3Q10 deliverables ... now get back to work!

1 2

### Bookmarks

- ATE Homepage
- Build Team Homepage
- MQ SOE

### Current WMQ and WMB Infrastructu... (3)

Current Iteration: **wk41**

ATE - Week 41

4Q 2010 Release Plan

4Q10

### Story Points By Iteration

Show Parameters

Iteration	Story Points
2010	~100
3Q10	~200
4Q10	574.0

### Quarterly high level requirements (39)

- 8171: Provide an MQ "remote sandbox build" system for development
- 15440: A business recovery plan for WMQ and WMB service builds needs to be created
- 16765: Support relocation of a single MQ installation
- 21268: Infrastructure team to support L3 'infrastructure'
- 21658: Hand over of Cruise and related APAR/PMR harvesting & reporting technologies
- 23108: Support new WMB environment updates for WMBv7 FP2 based on LID Team requirements
- 23227: Help develop and Support WMB Industry Patterns project (Healthcare Pack)
- 23304: WMQ Telemetry service transfer and integration into the Dreadnought product
- 23622: Build infrastructure needs to be updated to reflect new names for triffid replacement LPARs
- 26210: Support delivery of Websphere Message Broker with Rules and Formats extension (v7)
- 27572: Prepare infrastructure group for 4Q10 audits by reviewing and revising QMX process Docs
- 27646: LCR Work for 3Q10 - DB2 8.1 for WMB v7.0.0.1 on z/OS
- 28933: MQ Regression runs against development drivers using previous releases of test material
- 29305: MQTT 'needs' to be built and tested on AIX
- 10849: Ability to list apars in jar file manifests in MQ Java service builds
- 13527: Improving the end to end build for WebSphere Message Broker product components
- 16665: Capture departmental requirements and move MQ and WMB towards RQM in 'production'
- 16667: MQ automated testing needs to support dynamic WAS installation/config
- 16679: Provide proposal for 'large scale' MQ test scenarios
- 19870: Support transaction management testing against databases other than DB2
- 21024: MQ v7.1 Dreadnought SOE Changes

### Quarterly high level requir... (39) Status

Status	Count
Blocked	1
Not Done	19
In Progress	16
Deferred	3

### Quarterly high level requir... (39) Tags

Less  More

agent **ate** bcp build **buildteam**  
 cruiseapar **dev** hlr ibmframework iwmbbp  
 lcr machines **mq** projectrequirement  
 rqm rtc scm **service** smartermachines soe  
 triffidsplit **wmb** wmq

### Quarterly high level re... (39) Owned By

Owner	Count
Unassigned	1
Hodgson, J P (...)	1
Webster, D (Dav...)	1
Zardis, Chris	1
Lawrence, N (Ni...)	1
Williams, J (Jim)	1
Other	34

# RTC plan to deliver!

<span>⚠</span> <b>ATE - Week 41</b> <span>▼</span> <span>Problems detected</span> <span style="float: right;"> </span>									
Owner: ATE Team   Iteration: wk41 (06/10/10 - 13/10/10)   <a href="#">1 Closed</a>   <a href="#">16 Open</a>   Progress: 24.25/166.25   -9.25 h   <span style="float: right;">Estimated: 81%</span>									
<b>Anantharajan, Mayuran</b> <span>▼</span> <span>Closed items: 0   Open items: 2</span> <span style="float: right;">Load: 24 / 20   -4 h   Estimated: 100%</span>									
	Support relocated MQ installations on HP		<span>○</span> Normal	<span>📁</span> Medium	<span>🔒</span> Blocked				25127
	mqinst needs to be updated to handle non-default install location on AIX	<span>🕒</span> 3 days	<span>○</span> Normal	<span>📁</span> Medium	<span>🟢</span> In Progress	<span>🕒</span> -			23015
<b>Finn, R (Russell)</b> <span>▼</span> <span>Closed items: 0   Open items: 1</span> <span style="float: right;">Load: 4 / 22   +18 h   Estimated: 100%</span>									
	mqsipprofile hard-codes /opt/mqm/java/lib	<span>🕒</span> 4 hours	<span>🚫</span> Major	<span>📁</span> Unassigned	<span>➡</span> New	<span>🕒</span> -			29818
<b>Groves, Adam</b> <span>▼</span> <span>Closed items: 0   Open items: 2</span> <span style="float: right;">Load: 56 / 22   -34 h   Estimated: 100%</span>									
	Merge L3 copy of autorun with ATE copy	<span>🕒</span> 1 week	<span>○</span> Normal	<span>📁</span> High	<span>🟢</span> Ready For Review	<span>🕒</span> 3 days			27462
<span>⚠</span>	Improve Partnerlock Queue Distribution	<span>🕒</span> 1 week	<span>○</span> Normal	<span>📁</span> Unassigned	<span>➡</span> New	<span>🕒</span> -			27522
<b>Isted, J (James)</b> <span>▼</span> <span>Closed items: 0   Open items: 5</span> <span style="float: right;">Load: 32 / 22   -10 h   Estimated: 80%</span>									
	Dreadnought ATE Linux System z Machine updates - Machine winlnx9e	<span>🕒</span> 1 day	<span>○</span> Normal	<span>📁</span> Medium	<span>➡</span> New	<span>🕒</span> -			26233
	Dreadnought ATE Linux x86-64 Machine updates - Machine etorki	<span>🕒</span> 1 day	<span>○</span> Normal	<span>📁</span> Medium	<span>➡</span> New	<span>🕒</span> -			26232
<span>⚠</span>	Dreadnought ATE AIX Machine update - Machine calcium	<span>🕒</span> 1 day	<span>○</span> Normal	<span>📁</span> Medium	<span>🟢</span> In Progress	<span>🕒</span> -			26225
	Dreadnought ATE AIX Machine update - Machine actinium	<span>🕒</span> 1 day	<span>○</span> Normal	<span>📁</span> Medium	<span>➡</span> New	<span>🕒</span> -			23839
<span>⚠</span>	Net.exe pop-up causes shutdown to hang on smoked.	<span>🕒</span> -	<span>○</span> Normal	<span>📁</span> Unassigned	<span>🟢</span> In Progress	<span>🕒</span> -			29086



# Manage quality with RQM

REST API

Test plans, test cases, suites, environments and TERs

Synchronous C/ALM Linkage

- Test case to RTC development item

- Test execution failure to RTC defect

C/ALM traceability exposed in RTC queries



# Manage quality with RQM

The screenshot displays the RQM interface for a test case named 'XR9PCFD'. The left sidebar shows project phases: Requirements, Planning, Construction, Lab Management, Builds, and Test. The main area shows the 'Plan Items' section with a table of items. A specific item is highlighted, showing its details.

**Plan Items**  
Change management items that are aligned with the testing

Summary  
Smart Planet Initial Admin and Monitoring

10680: ISP: Smart Planet Initial Admin and Monitoring

Status	Resolution	Summary
In Progress		ISP: Smart Planet Initial Admin and Monitoring

**Details**

Type:	Epic	Filed Against:	Consumability & Reach/MQ Interconnectivity for Smarter Planet
Requirement(s):		Tags:	
CMVC Feature:		Owned By:	Dreyer, E (Eileen)
Story Points:	0 pts	Priority:	1 High
High Level Estimate in PMS:	0	Mission Criticality:	Unassigned
Progress:		Market Differentiation:	Unassigned
Creation Date:	December 3, 2009 5:49 PM	Commitment:	Base
Created By:	Phillips, M (Mark)	PlannedForStart:	Unassigned
Team Area:	MQ Interconnectivity for Smarter Planet /	Planned For:	ISP August 2010

**Add link to existing RTC work item or create a new RTC item to link to**



# Manage quality with RQM

Dashboards View Test Cases XR9PCFD View Test Execution Records

View Test Execution Records ?

Group by: Ungrouped

10 Items per page

**RTC Defects can be associated with a failing test execution record in RQM**

Name	Risk	Test Case	Test Environment	Test Plan	Test Milestone	Owner	Test Script	Blocking Status	Last Result	Last Modified
<input type="checkbox"/> PS7PRS03	○○○○○	PS7PRSC							✓	Sep 2, 2010
<input type="checkbox"/> XR9TT3B	○○○○○	XR9TT3E							✓	Aug 4, 2010
<input type="checkbox"/> XR9SECB	○○○○○	XR9SECE							✓	Aug 4, 2010
<input type="checkbox"/> XR9PCFE	○○○○○	XR9PCFE							✓	Aug 4, 2010
<input type="checkbox"/> XR9PCFC	○○○○○	XR9PCFC							✓	Aug 4, 2010
<input type="checkbox"/> XR9LISA	○○○○○	XR9LISA							✓	Aug 4, 2010
<input type="checkbox"/> XR9PCFB	○○○○○	XR9PCFE							✓	Aug 4, 2010
<input type="checkbox"/> XR9TT3C	○○○○○	XR9TT3C							✓	Aug 4, 2010
<input type="checkbox"/> XR9PCFA	○○○○○	XR9PCFA	CPU=x86-32, OS=WIN2008_SVR_SP1, MQ=MQ_7_0_1_2	Unassigned	Unassigned	Davies, T (Tony)	XR9PCFA		✓	Aug 4, 2010
<input checked="" type="checkbox"/> XR9SECA	○○○○○	XR9SECA	CPU=x86-32, OS=WIN2008_SVR_SP1, MQ=MQ_7_0_1_2	Unassigned	Unassigned	Davies, T (Tony)	XR9SECA		✗	Aug 4, 2010

**Manage Blocking Defects** ?

Show All Items per page

Previous | 1 - 1 of 1 | Next

**Summary**

27043: Failing Test Case "XR9SECA"

Previous | 1 - 1 of 1 | Next

OK Cancel





# Manage quality with RQM

☰ Epic 10680

Summary: ISP: Smart Planet Initial Admin and Monitoring

Overview **Links** Approvals Acceptance Test History

**With the linkage established between RTC and RQM you can see the test cases associated with an RTC work item under the Links tab**

**Attachments**

Add File:

ID	Name
1501	GUI Test
857	PCFFVTe

☰ 2,166: XR9PCFC ✖

<b>Name</b>	<b>State</b>
2166: XR9PCFC	Approved

**Description**  
XR9PCFC

**Details**

Weight:	100	Updated:	2010-07-13T13:26:37.975Z
Originator:	tonydavies@uk.ibm.com	Trigger:	
Calculated Risk:	○○○○○	Activity:	
Community Risk:	○○○○○	Project Area:	MQTT

↕

Date
Tuesday, Aug 3
Wednesday, May

**Links**

Add: Related ▾

**Copies**  
↳ 17819: ISP: Smart

**Mentions**  
↳ GUI Test Plan.odt

↳ 24959: GUI Test Re

**Tested By Test Case**

↳ 2,166: XR9PCFC

↳ 2,168: XR9PCFA



# Thank-you



John Owen  
Library Management and Rational Tools Lead  
IBM UK Ltd.

[johna\\_owen@uk.ibm.com](mailto:johna_owen@uk.ibm.com)



Nigel Lawrence  
WebSphere MQ and Message Broker Infrastructure Architect  
IBM UK Ltd.

[n.lawrence@uk.ibm.com](mailto:n.lawrence@uk.ibm.com)





IBM Software

# UK Innovate 2010

The Rational Software Conference

Smarter software for a smarter planet.

