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# Deploying Rational Jazz in a Large Scale Software Development Environment

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# PART 1

John A. Owen

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# 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

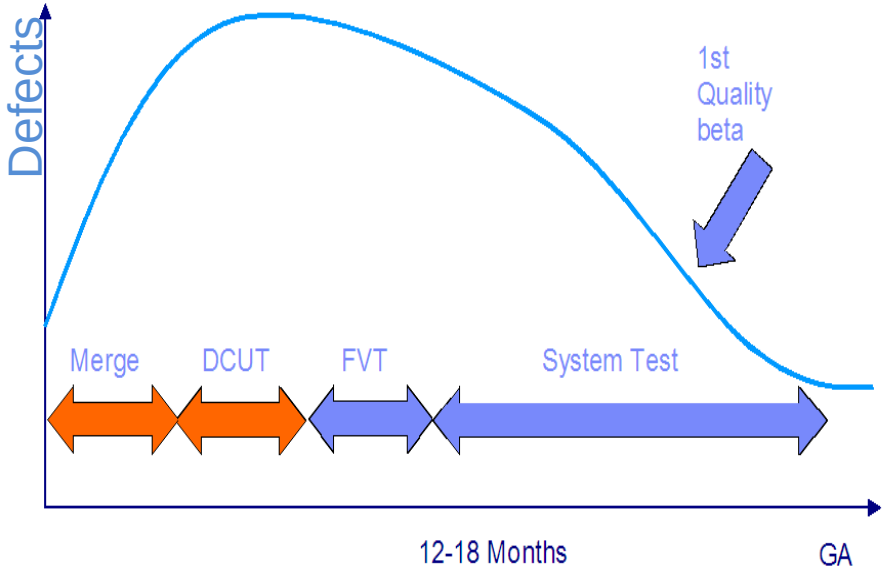
## Java

Complex multi-platform development and test environment

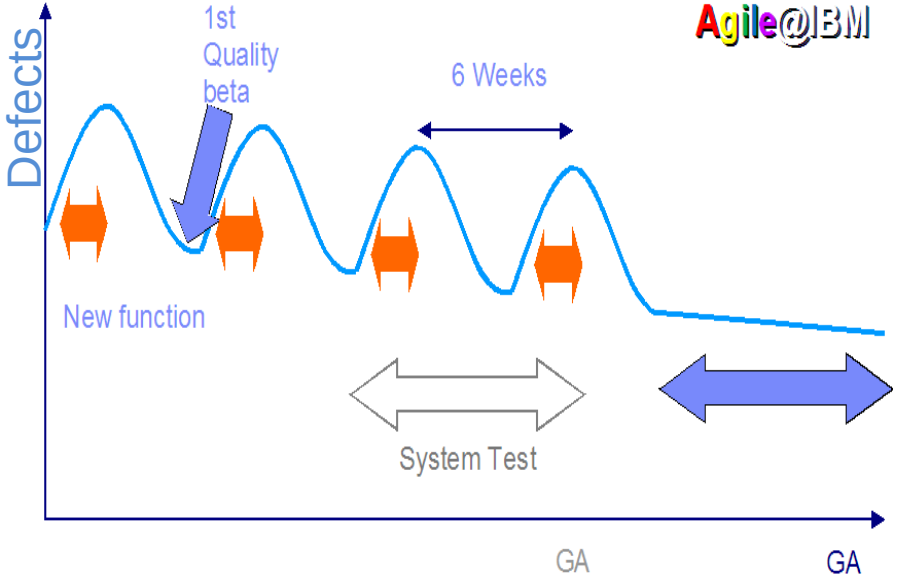
## Tivoli Netcool

Best-of-breed Rational ClearCase & ClearQuest implementation

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



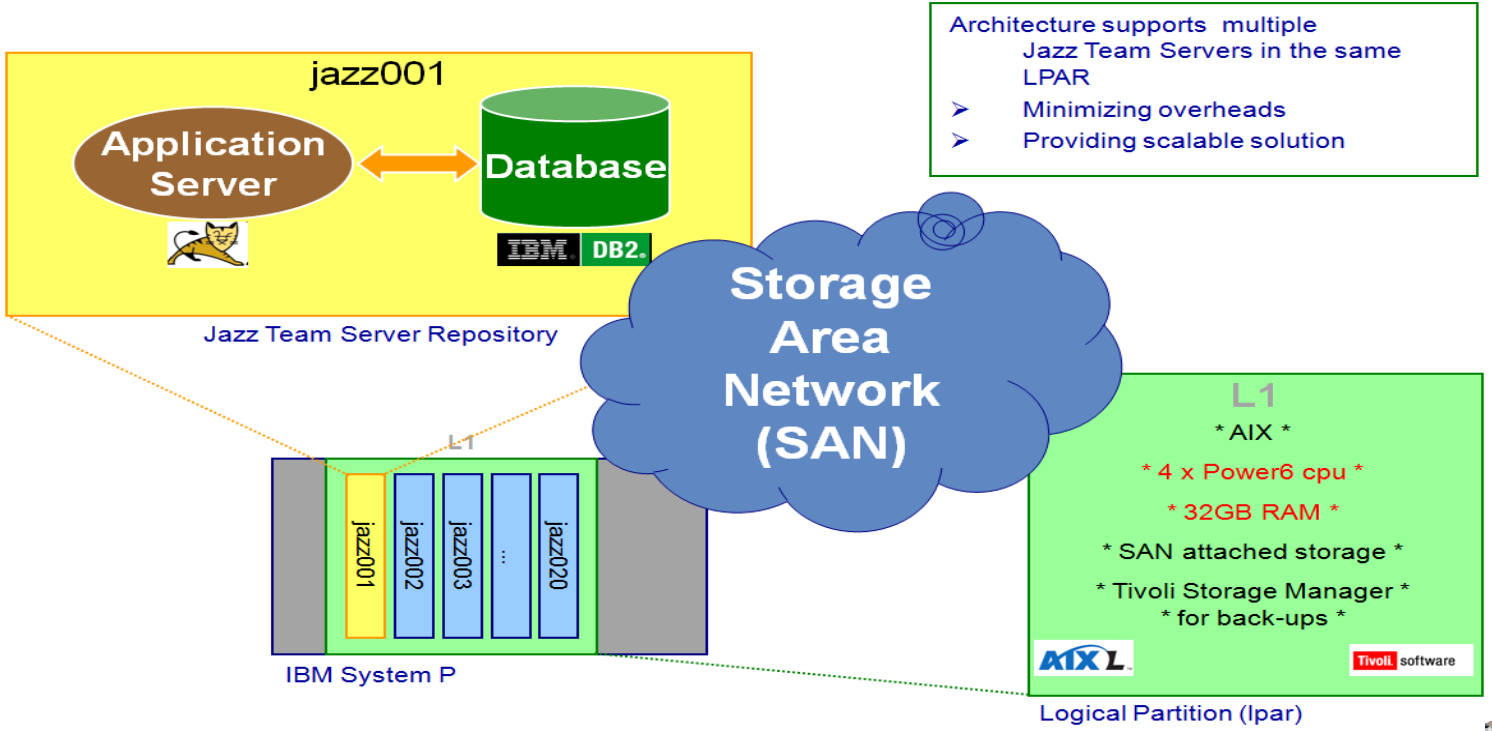

Java 5.0 Waterfall Development Process




Java 6.0 Iterative Development Process

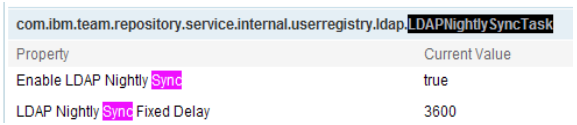
*Slide courtesy of Java Development Team*

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

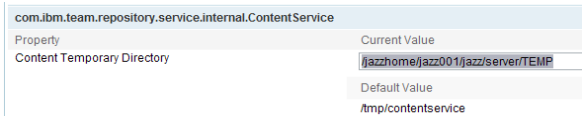


# This service has been enhanced with additional features

- 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



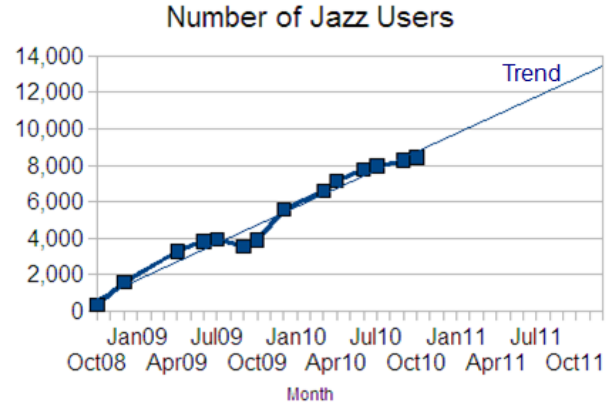

- Repository specific temporary directories
  - Reduces I/O contention

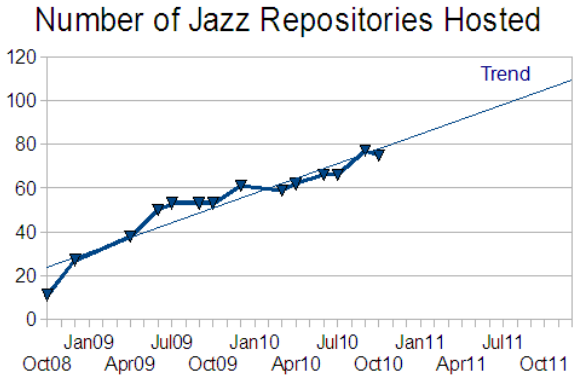


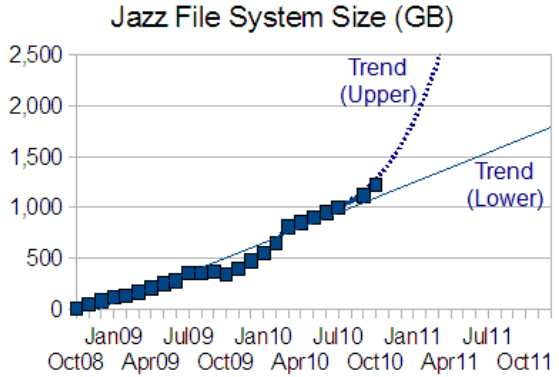
# The Jazz service has continued to grow

- ✓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

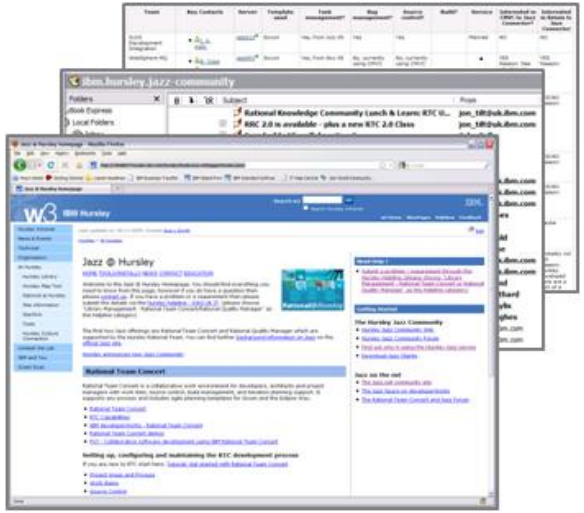


# Most teams are now using RTC work items

| | RTC | RTC | RQM | | Other | |
|---|---|---|---|---|---|---|
| Product | Work items | SCM | Test Mgmt | FT/P | BF | Reqs |
| | | | | | | |
| 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

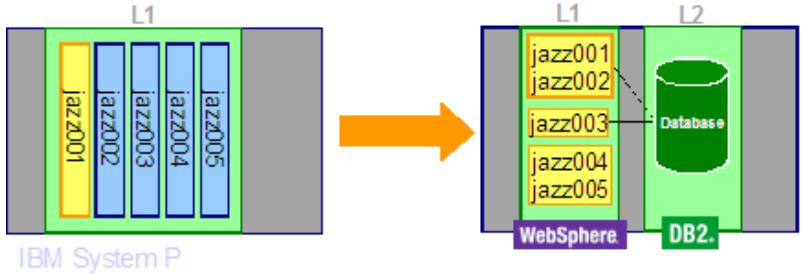
- RTC is a catalyst for change resulting from the willingness of people to make it happen
  - Evangelists and the support of senior management are key
  - Helped teams to understand the meaning of "agile" to their organization
  - Identified holes and errors in team processes
- Collaboration has been 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)

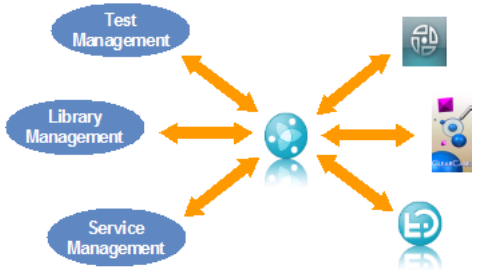
- RTC has encouraged much more transparency and control in real time
  - You can see your defect backlog… and everyone else's in your team
- RTC promotes traceable collaboration within the development team
  - There has been a reduction in emails
- Scales to meet the needs of small and large projects 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)

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# PART 2

Nigel Lawrence

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# Introduction & Background

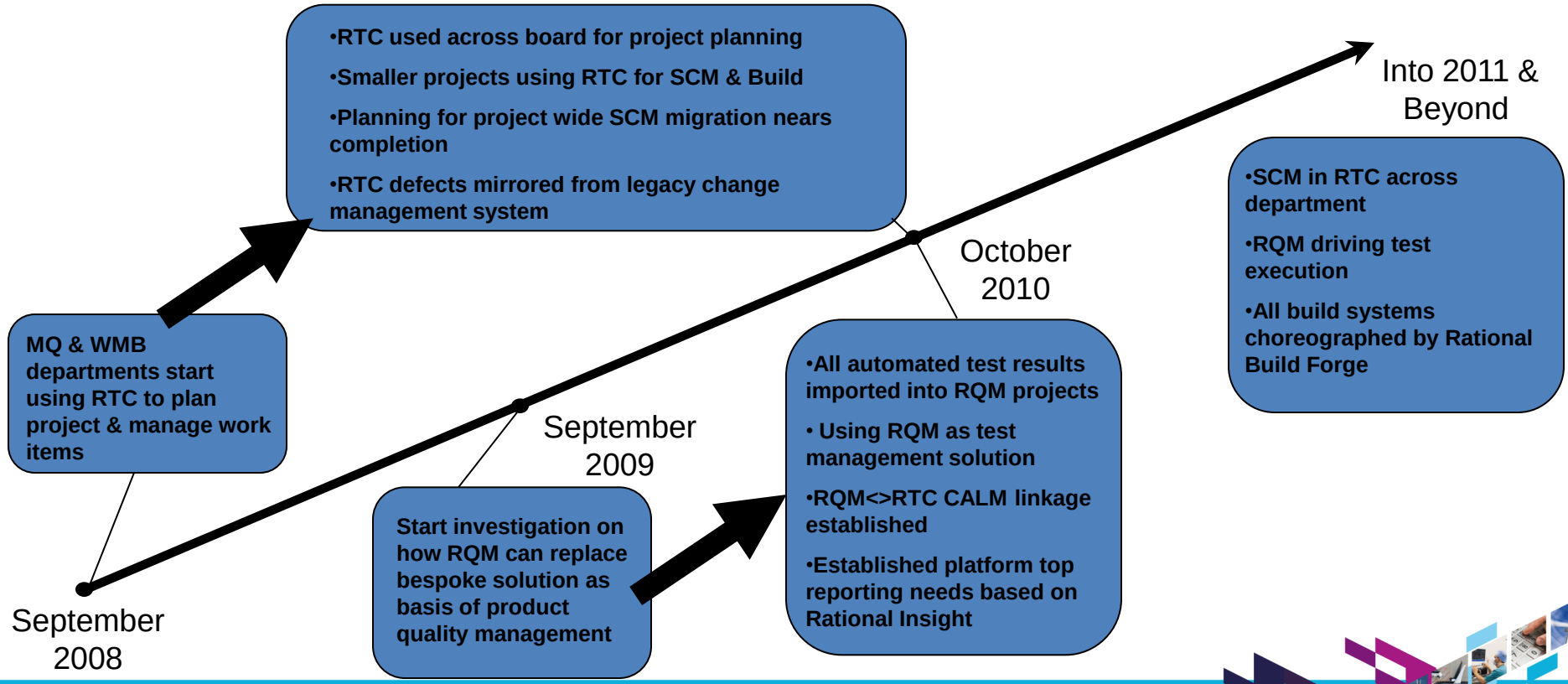
Intensive Project management

Move towards agile methodologies

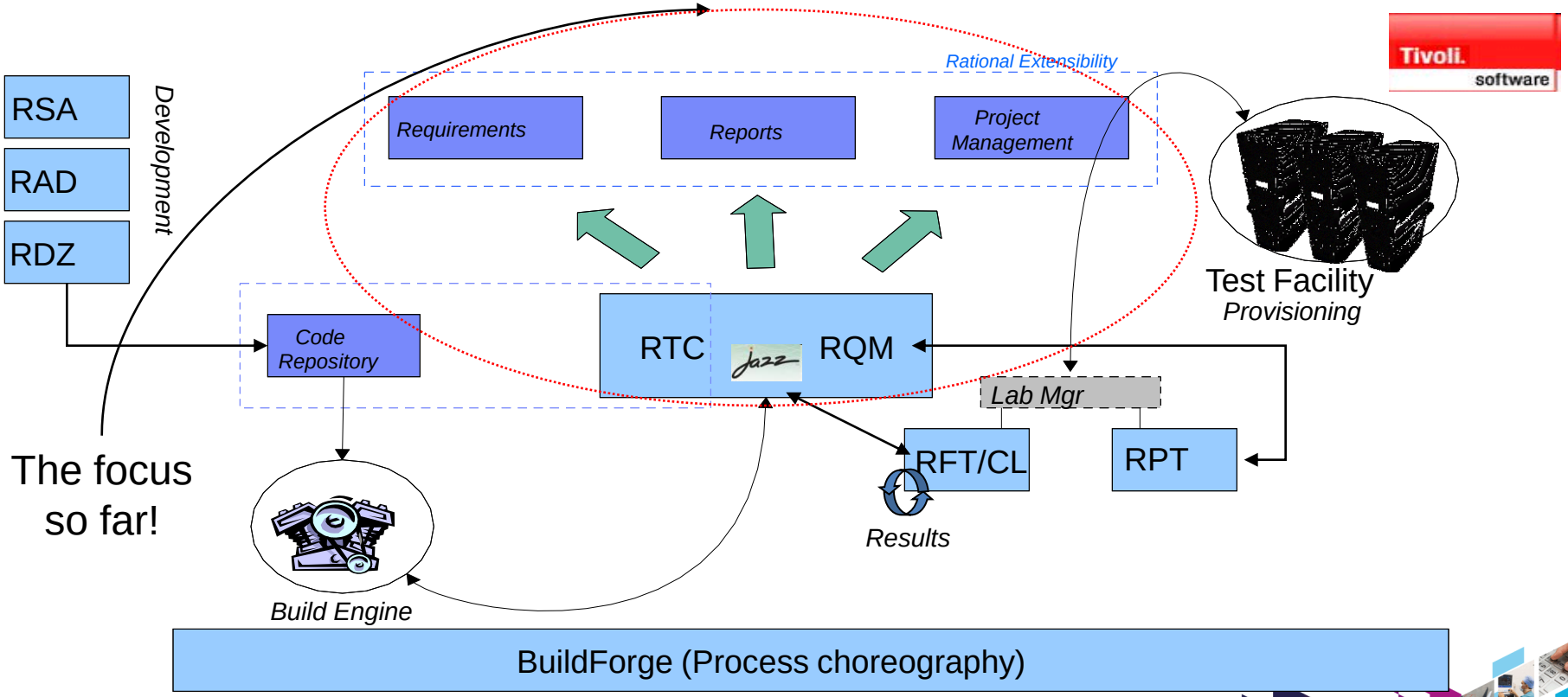
Development and test process

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

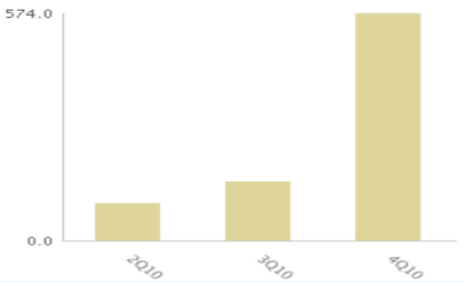
**Current WMQ and WMB Infrastructu... (3)**

Current Iteration: **wk41**

ATE - Week 41
4Q 2010 Release Plan
4Q10

**Story Points By Iteration**

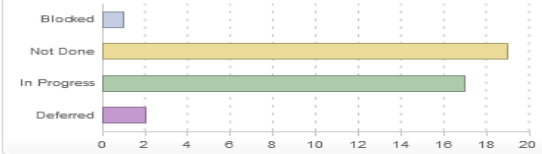
Show Parameters




**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**

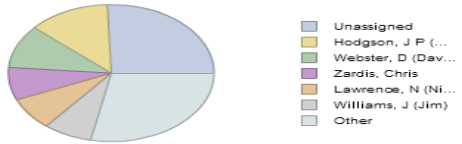



**Quarterly high level requir... (39) Tags**

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**



# RTC plan to deliver!

**ATE - Week 41** Problems detected — Save

Owner: ATE Team | Iteration: wk41 (06/10/10 - 13/10/10) | 1 Closed | 16 Open Progress: 24.25/166.25 | -9.25 h Estimated: 81%

| | | | | | | |
|---|---|---|---|---|---|---|
| **Anantharajan, Mayuran** — Closed items: 0 \| Open items: 2 — Load: 24 / 20 \| -4 h — Estimated: 100% | | | | | | |
| Support relocated MQ installations on HP | | Normal | Medium | Blocked | | 25127 |
| mqinst needs to be updated to handle non-default install location on AIX | 3 days | Normal | Medium | In Progress | - | 23015 |
| **Finn, R (Russell)** — Closed items: 0 \| Open items: 1 — Load: 4 / 22 \| +18 h — Estimated: 100% | | | | | | |
| mqsiprofile hard-codes /opt/mqm/java/lib | 4 hours | Major | Unassigned | New | - | 29818 |
| **Groves, Adam** — Closed items: 0 \| Open items: 2 — Load: 56 / 22 \| -34 h — Estimated: 100% | | | | | | |
| Merge L3 copy of autorun with ATE copy | 1 week | Normal | High | Ready For Review | 3 days | 27462 |
| Improve Partnerlock Queue Distribution | 1 week | Normal | Unassigned | New | - | 27522 |
| **Isted, J (James)** — Closed items: 0 \| Open items: 5 — Load: 32 / 22 \| -10 h — Estimated: 80% | | | | | | |
| Dreadnought ATE Linux System z Machine updates - Machine winlnx9e | 1 day | Normal | Medium | New | - | 26233 |
| Dreadnought ATE Linux x86-64 Machine updates - Machine etorki | 1 day | Normal | Medium | New | - | 26232 |
| Dreadnought ATE AIX Machine update - Machine calcium | 1 day | Normal | Medium | In Progress | - | 26225 |
| Dreadnought ATE AIX Machine update - Machine actinium | 1 day | Normal | Medium | New | - | 23839 |
| Net.exe pop-up causes shutdown to hang on smoked. | - | Normal | Unassigned | In Progress | - | 29086 |

# Manage quality with RQM

REST API

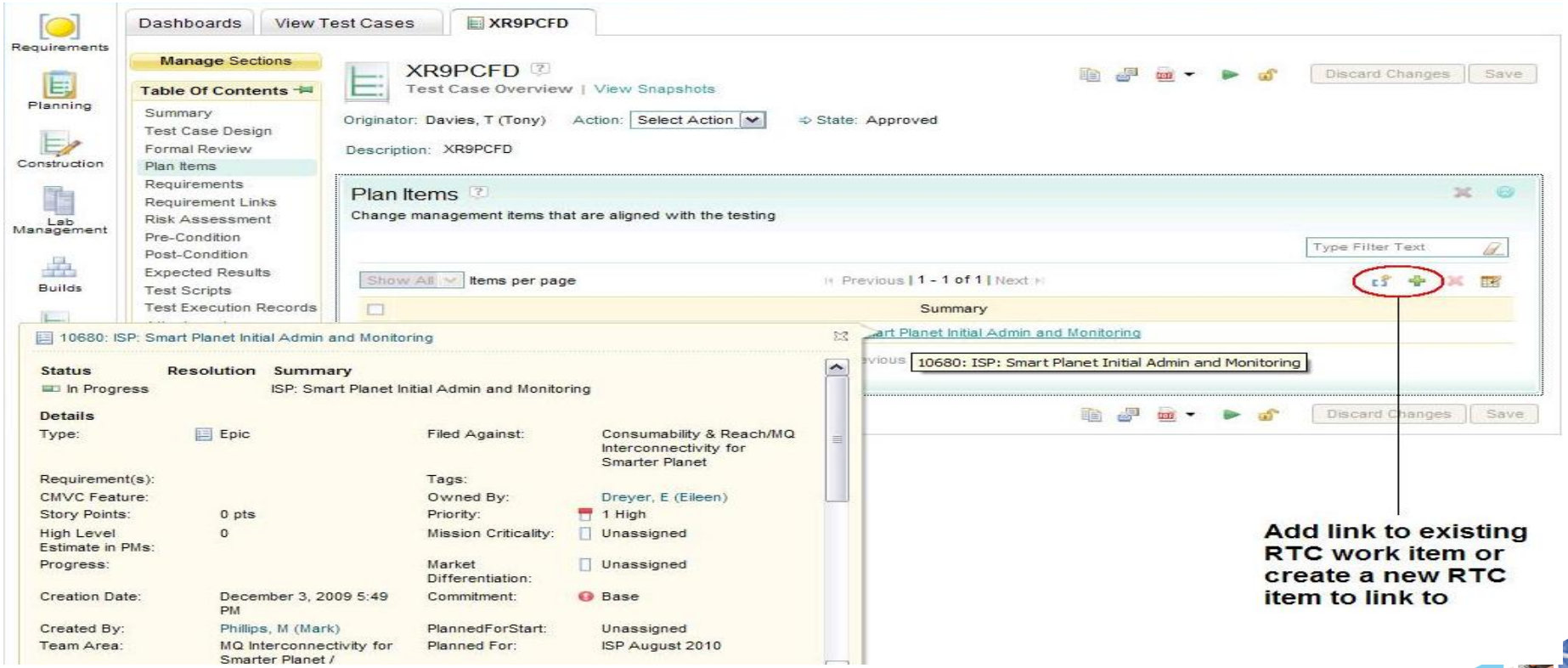
Test plans, test cases, suites, environments and TERs

Synchronous C/ALM Linkage

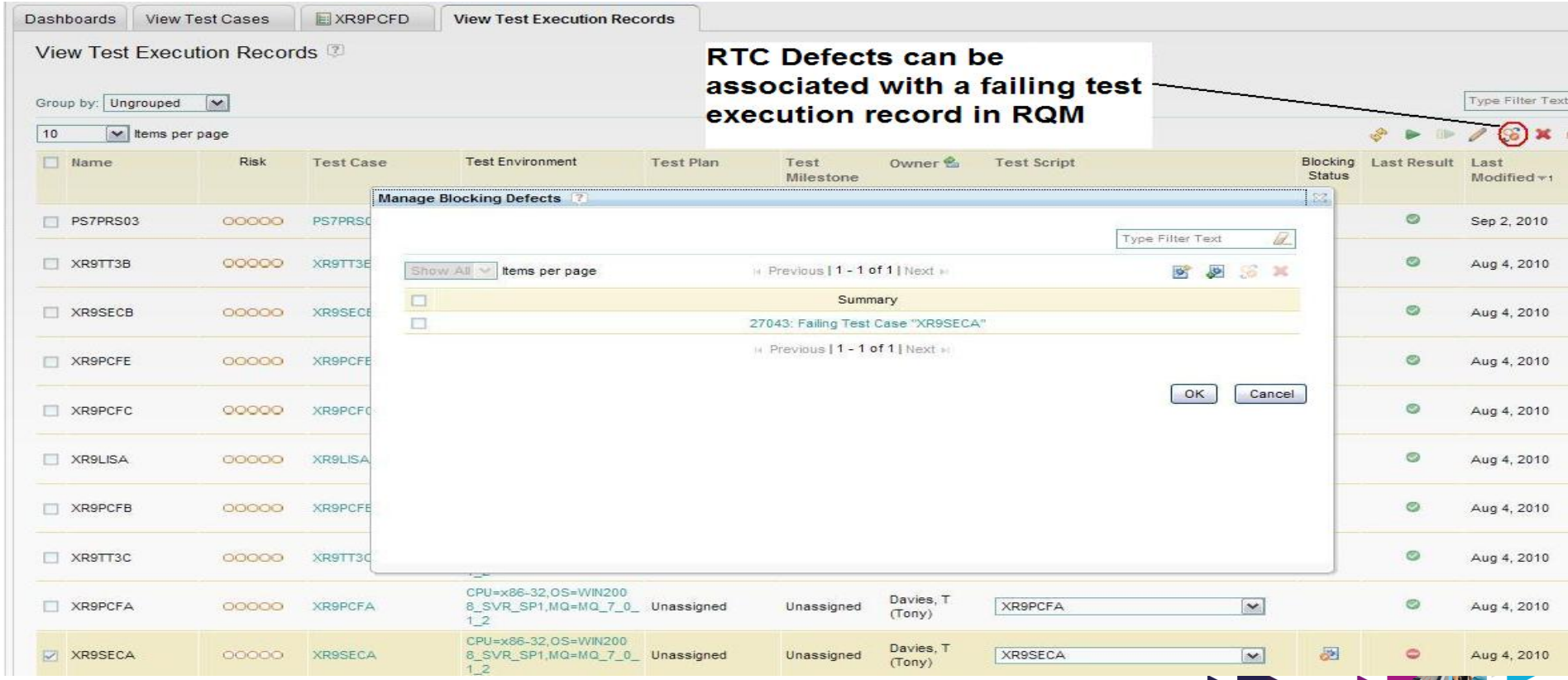
- Test case to RTC development item
- Test execution failure to RTC defect

C/ALM traceability exposed in RTC queries

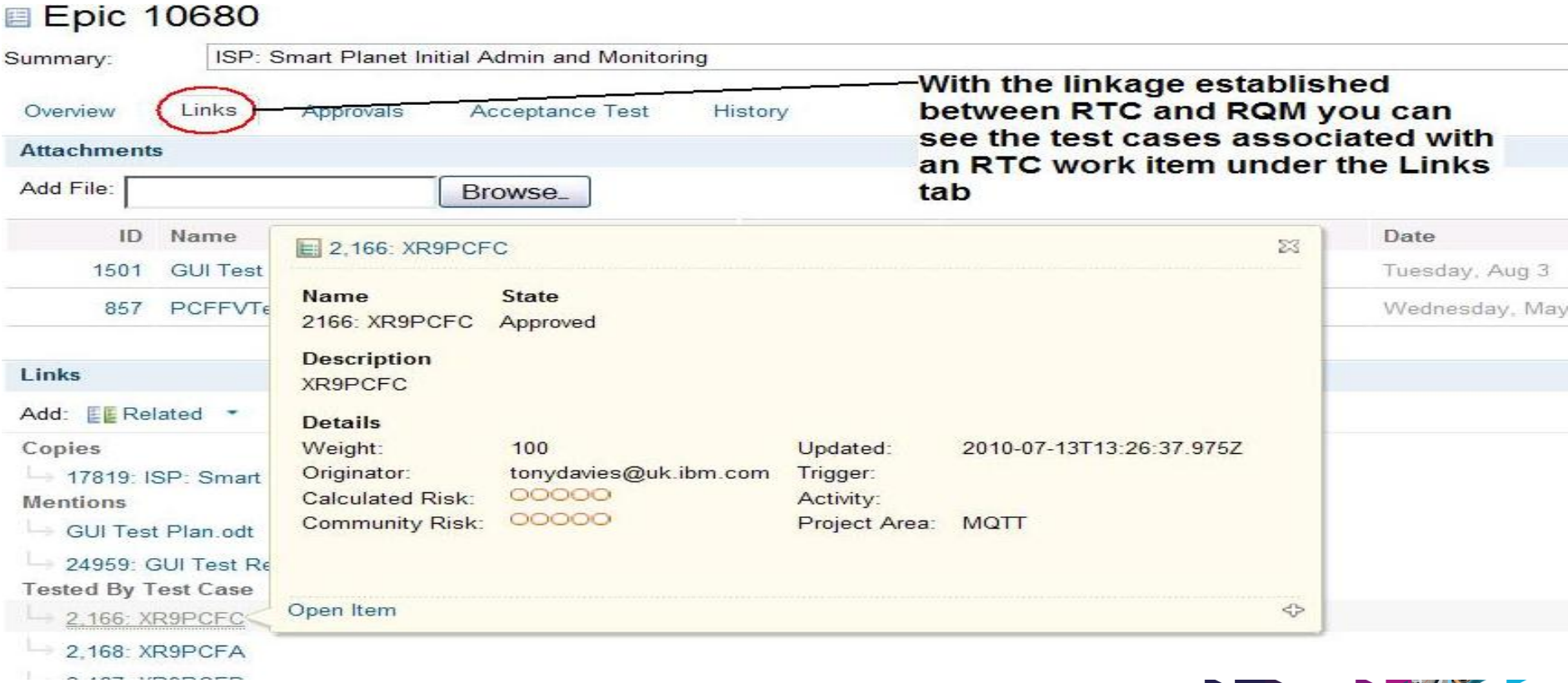
# Manage quality with RQM



# Manage quality with RQM



# Manage quality with RQM



# Thank-you

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