IBM Rational’s Jazz Vision

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Rational CTO for Northeast Europe
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Introduction - who am I and what’s my perspective on Jazz?

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- CTO for Rational in NE Europe
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- One of the leaders of the Jazz Project
  - Building tools for Agile
  - Leading a worldwide Agile team
Today’s Topics

- What is Jazz? Why did we do it?
  - Rational Team Concert – a Jazz-based product

- Team Concert Today
  - How we use it ourselves
  - Recent development focus areas:
    - Application Lifecycle Management – growing the Jazz family
    - Using Jazz and OSLC to integrate other tools
The New Normal! Do more with less! Work Smarter! Ugh…

Software Development Must Deliver:

- More business solutions
- More flexibility
- More quality
- More business value

-yet-

- Less risk
- Less costs
- Less or flat resources

In our experience, Agile practices and collaborative development tools can help solve this apparent conflict.
Five Years Ago: Our Pain Points…

✓ joining a team
✓ get my environment configured to be productive
✓ what is happening in my team
✓ collecting progress status
✓ following the team’s process
✓ ad hoc collaboration/sharing of changes
✓ starting an ad hoc team

✓ is the fix in the build?
✓ run a personal build
✓ tracking a broken build
✓ why is this change in the build?
✓ reconstructing a context for a bug/build failure

✓ interrupting development due to a high priority bug fix
✓ working on multiple releases concurrently
✓ tracking the code review of a fix
✓ referencing team artifacts in discussions
✓ how healthy is a component?
✓ collecting project data/metrics?
✓ keeping plans up to date

Team awareness
Build awareness
Project awareness

Boring and painful
Example Team: Rational Team Concert for Z/OS
Envisioning a platform that can transform software delivery

Jazz is…

- A scalable, extensible team collaboration platform
- A community at Jazz.net where you can see Jazz-based products being built
- Our vision of the future of systems and software delivery, supporting globally distributed teams
- An integration architecture enabling mashups and non-Jazz based products to participate
- An evolution of our portfolio which will evolve to leverage Jazz technology over time

Jazz is a project and platform for transforming how people work together to deliver greater value and performance from their software investments.
## Rational Team Concert: An Overview

### Agile Planning
- Integrated release/iteration planning
- Effort estimation & progress tracking taskboards
- Out of the box agile process templates

### SCM
- Integrated stream management
- Component level baselines
- Server-based sandboxes
- Identifies component in streams and available baselines
- SVN, Git, CC bridge, connector

### Work Items
- Defects, enhancements and conversations
- View and share query results
- Support for approvals and discussions
- Query editor interface
- ClearQuest bridge, connector

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

### 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
Agility @ scale at IBM

- Over 150 Rational development projects (~2800 users) using Rational Team Concert
  - Plus an additional 700+ projects around IBM -- hosting 8500+ users!
  - Boarding time for new projects - less than one day
  - Applicable to agile/iterative and waterfall projects

- Rational Development
- Rational Customer Support
- WebSphere Development
- Lotus Development
- Tivoli Development
- IBM Research Division
- IBM Global Business Services
- IBM Systems and Technology Group
The disciplined agile lifecycle: An extension of Scrum
Way of Working: Team Centric

Teams are self-tuned but share a common rhythm
Scaling up: Teams of Teams

Jazz Development

Process

Repository

Changes
Planning with the Agile “Planning Onion”

- The Planning Onion
  *(Mike Cohn Agile Estimating and Planning)*
  - Daily (my work view)
  - Iteration
  - Release
    - View by iteration
    - View by team

- All this is available in Eclipse or the Web

In-line creation/edit of work items on plan.
Backlog Plan Mode

*Easily rank work items to define priority*

- Ideal for managing SCRUM backlog
- Ranking is reflected in all planning views, e.g. iteration plans and release plans
- Supports separating size from effort estimation
Taskboards track Work in Progress

Accelerate stand-up meetings, increased transparency

<table>
<thead>
<tr>
<th>Task</th>
<th>Current Status</th>
<th>Progress</th>
<th>Estimated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve documentation for 4.4</td>
<td>To Do</td>
<td>55</td>
<td>30</td>
</tr>
<tr>
<td>Provide improved Assertion syntax</td>
<td>To Do</td>
<td>60</td>
<td>58</td>
</tr>
<tr>
<td>javadoc updates for @ignore in 4.3</td>
<td>In Progress</td>
<td>7</td>
<td>27</td>
</tr>
<tr>
<td>Based on the assertThat syntax we should provide assumptions and theories support</td>
<td>In Progress</td>
<td>14</td>
<td>10</td>
</tr>
<tr>
<td>assertArraysEqual misses differences</td>
<td>In Progress</td>
<td>10</td>
<td>44</td>
</tr>
<tr>
<td>TestCount hard-coded to 1 for childless Description</td>
<td>In Progress</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>Tests on protected methods fail</td>
<td>In Progress</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td>assertThat fails with Class tests (documentation problem)</td>
<td>In Progress</td>
<td>46</td>
<td></td>
</tr>
</tbody>
</table>

See the work currently in progress

Drag and drop work items to change their state.
Planning/Execution: Feature Teams

A feature team is a cross functional team owning a plan item

- Feature team
- Feature status
- Roadmap
- Feature home page
Building

- **Team of Teams**
  - Scheduled weekly integration build
    - Stabilized until green
  - Continuous integration stream
    - Share changes, rarely green

- **Each Team**
  - Continuous builds
    - Always green

- **A Developer**
  - Personal builds
Build Tracking Work Item

Build Result

Work Item

Dashboard
The MethodSphere Daily is out! http://bit.ly/bcDp5t  ▶ Top stories today by @JazzDotNet @janole @WELT_Webwelt @andypiper  5 hours ago

Nice video by resident expert @JazzDotNet: See Tasktop's IBM Rational Team Concert Connector in action http://bit.ly/bMh109

Yesterday

RT @JazzDotNet: See Tasktop's IBM Rational Team Concert Connector in action http://bit.ly/bMh109  Yesterday

http://bit.ly/TcL0Nh ➔ Download  Yesterday

7 days remaining

3.0_iwm | wo accessibility advisors approvals avp@stg
avvoc c_alm calm cust_412 duplicate_handling
ibm_internal_deployment iga nis ns_rtc30 polish queryeditor
quickie quickquery refactor rfe style svl testcase tvt testcase
usability UX voicenov2010 workitemtooling

138911: The agile scheduler does not respect iteration starts
138822: Reverting a demoted work item doesn't promote it
138798: Problems to display Plans via web ui on jazz07 self host
138392: Cannot rearrange Work item list - “assertion failed” message
137333: Changing complexity attribute causes error to appear in Process Configuration
Source editor
82558: Navigating away from project prompts about losing “unsaved work”
105862: Internal Error occurs after a second Task was added under an Epic
100096: Work items don't appear in the query for specific team area
139431: Compact renderer code to fetch binary images is broken
85454: Progress bar information not accurate for Story and Use Case WIs

continuous_workitem.jcb
rtc_300k.jcb
rtc.jcb

Number of Items

3642
Endgame Focused and Disciplined

- Warm-up:
  - Decompression
  - Retrospective
  - Initial release plan

- M1a:
  - Plan
  - Develop
  - Stabilize

- M1:
  - Plan
  - Develop
  - Stabilize

- ...:
  - Plan
  - Develop
  - Stabilize

- Endgame:
  - Fix - spit & polish
  - Test
  - Fix
  - Test

6 weeks 6 weeks 6 weeks
Endgame Convergence

velocity

process rules

May 21  May 28  June 11  June 20  June 25

578

604

210

60

fix pass

test pass

# bugs fixed

604
210
60
Raising the Bar: Approvals

<table>
<thead>
<tr>
<th>Operation Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations</td>
</tr>
<tr>
<td>Save Team Area (server)</td>
</tr>
<tr>
<td>Reports</td>
</tr>
<tr>
<td>Deploy Report (server)</td>
</tr>
<tr>
<td>Deploy Report Template (server)</td>
</tr>
<tr>
<td>Display Report (server)</td>
</tr>
<tr>
<td>Manage Report Folder (server)</td>
</tr>
<tr>
<td>Source Control</td>
</tr>
<tr>
<td>Deliver (client)</td>
</tr>
<tr>
<td>Deliver (server)</td>
</tr>
<tr>
<td>Work Items</td>
</tr>
<tr>
<td>Save Work Item (server)</td>
</tr>
</tbody>
</table>

The deliver operation is performed when changes or baselines are delivered from a workspace to a stream.

**Preconditions and follow-up actions are configured for this operation**

**Final (ignore customization of this operation in child team areas)**

**Preconditions (7 available):**
- IBM Copyright
- No Compile Errors
- Require Work Item
- Approved Changes
- Name: Approved Changes
- Description:
  All changes you release in RC4 need two separate approvals and one review. The first approval needs to list your component lead as approver. The second approval needs to list two members of the PMC as approvers. The Review needs to list two team members as reviewers.
- Required approvals:
  - Approval: 1 component lead
  - Approval: 2 PMC
  - Review: 2 contributor
Endgame Tracking

RC4 Candidates

- Work items which are candidates for RC4 are tagged with *rc4candidate*. Work item needs to stay at least 4 hours in this state.

RC4 Candidates Agile Planning (1/3)
- 67331: Same time 8.0 opens team chat when executing chat in context
- 57158: Chat in context doesn’t work after connecting via VPN from Home
- 57448: Personal Plan Mode shows all non-personal items as out-of-place item
- 51673: NPE in WorkItem/WorkingCopyManager.disconnect
- 56846: Filter estimated item filters too much
- 56750: Provide tooltips in the SameTime update site

RC4 Candidates ClearGuest Connector (0)

No work items found.

RC4 Candidates Process (6)
- 56482: Import users does not handle invalid LDAP entries
- 57013: Take advantage of ‘functional’ attribute on CALs to improve usability in the web user editor
- 56477: User editor marked as dirty, but save button disabled
- 56970: Uninitialized project areas are shown on Project Area tab
- 57008: SetUpStashDirProjectParticipant should also call WorkItemCommon.setDefaulTeamArea() as SetUpProjectParticipant does

RC4 Candidates X-Team Web UI (1)
- 56892: HoverPopup should fail silently on open errors

RC4 Candidates Build (1)
- 57220: Updated versions to 0.6.0.qualifier [Build]

RC4 Candidates Repository (19)
- 57494: Copyright comments are being echoed on the screen when running report tools
- 56231: Jazz getClientLibrary(WorkItem/Client class) API Call Exception
- 50467: Reprotests should not be allowed to run when the server is still running
- 56633: DB2z provider should implement collectStatistics
- 57012: Response already committed error from ReusableService
- 57125: More improvements of feedback from provisioning failures

Add Viewers
What next? ALM, CLM and Jazz

The Rational Collaborative Lifecycle Management solution provides turnkey ALM for project teams of any size or configuration. Built on the latest Jazz technology, the solution helps organizations transform software delivery so it is more collaborative, transparent and productive.

- Real-time planning
- End-to-end traceability
- Continuous process improvement
- Development intelligence
- Active collaboration
Plan Collaboration improves value & time to delivery

- Creating a shared vision delivers what the stakeholders want
- Ensuring coverage improves quality for the release and each sprint
- Whole team buy-in improves team trust, efficiency and focus

Developers understand the business needs and test effort

Testers understand Sprint Plans and business expectations

Product owners clarify the business needs in a collection
Plan Item collaboration improves quality

✓ Story points include test effort
✓ Everyone knows what’s being developed when and by whom.
✓ A Story is ‘done’ when associated tests have passed

Product owners clarify the details of a user story

Developers understand user story, test effort and done criteria

Testers define and execute test cases with a clear definition of the ‘done’ criteria
Lifecycle Queries reveal traceability gaps

- Show which RTC plan items implement which RRC requirements

<table>
<thead>
<tr>
<th>Type</th>
<th>Id</th>
<th>Summary</th>
<th>Status</th>
<th>Priority</th>
<th>Severity</th>
<th>Modified Date</th>
<th>Implements Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>29</td>
<td>Common User Access (CUA)</td>
<td>New</td>
<td></td>
<td></td>
<td>1 minute ago</td>
<td>Common User Access (CUA) (122)</td>
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<tr>
<td></td>
<td>28</td>
<td>View CD Details</td>
<td>New</td>
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<td></td>
<td>2 minutes ago</td>
<td>View CD Details (133)</td>
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<tr>
<td></td>
<td>27</td>
<td>Scalability</td>
<td>New</td>
<td></td>
<td></td>
<td>2 minutes ago</td>
<td>Scalability (151)</td>
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<tr>
<td></td>
<td>26</td>
<td>Response Time</td>
<td>New</td>
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<td></td>
<td>2 minutes ago</td>
<td>Response Time (142)</td>
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<td>Localization (L10n) (123)</td>
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<td>23</td>
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<td>New</td>
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<td></td>
<td></td>
<td>Globalization (G11n) (126)</td>
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<tr>
<td></td>
<td>22</td>
<td>Easy browsing for available titles</td>
<td>New</td>
<td></td>
<td></td>
<td></td>
<td>Easy browsing for available titles (143)</td>
</tr>
</tbody>
</table>
Back in the real world: Customer Tool Landscape

What’s wrong with this picture?

- Data is locked inside of tools
- Difficult to view the “big picture”
- Tools don’t follow the workflow…
- Reporting is limited
- Traceability is poor
- Too many tools?
- Infrastructure complexity++
- How do I build/integrate another tool?
What’s new in OSLC?

- Ten workgroups operating
  - 1.0 spec for Change, Quality and Requirements Management complete
  - Architecture, Asset, Reporting, SCM, Estimation specs anticipated in 1Q10
  - 2.0 specs for Change, Quality, Requirements, building on a common core OSLC V2 spec

- Community
  - 230+ registered community members
  - Workgroups have individuals from 25+ different companies
  - Integrators, ISVs, industrial, open source, higher education, consultants
  - Mix of IT and Systems participants

Accenture
APG
BigLever
Black Duck
Boeing
BSD Group
Citigroup
EADS
Emphasys Group
Galarath
General Motors
IBM
Institut TELECOM
Integrate Systems
Lender Processing Services
Northrop Grumman
Oracle
QSM
Rally Software
Ravenflow
Shell
Siemens
Sogeti
SourceGear
State Street
Tasktop (Eclipse Mylyn)
Tieto
TOPIC Embedded Systems
UrbanCode
WebLayers
Unlocking Tool Data with OSLC

Security, identity, collaboration, search, traceability, reporting, publishing, dashboards, license mgmt, ...
IBM’s vision for systems engineering and software development

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

- Systems Modeling
- Requirements Engineering
- Quality Management
- Collaboration and Management

Manage all system requirements with full traceability across the lifecycle

Collaborate across diverse engineering disciplines and development teams

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

DESIGN  DELIVER  MANAGE

Mechanical, electronic and software processes
DOORS 9.3 with Generic CM integration

Integrations to Change, ClearQuest and RTC

Requirement / Change Request traceability

- **Stakeholder requirements submission**: Generate draft requirements from enhancements submitted to Change Management system
- **Requirements driven development**: Create implementation requests from requirements and monitor development progress alongside the requirements
- **Requirement defect tracking**: Associate a defect with a requirement to investigate a possible change to the requirement

OSLC-style linking and rich hovers
Integration-centric Product Reviews

**Cloud**
Smart Business Development and Test
IBM Cloudburst

**Collaborative Design & Development**
Jazz (2011)

**Deployment Planning & Automation**
Rational BuildForge and RAFW
Tivoli Provisioning Manager

**Configuration Management**
Rational ClearCase
Rational Team Concert

**Requirements Tools**
Rational Requisite Pro
Rational DOORS (Sodius)
Rational Requirements Composer / Manager

**Business to IT**
Rational Systems Architect
WebSphere Business Modeler
InfoSphere Business Glossary

**Application Runtimes**
WebSphere Application Server
WebSphere Portal
WebSphere Commerce
InfoSphere MashupHub

**Integrate Solution Sub-Architectures**
InfoSphere Data Architect

**3rd Party Integrations**
Spring (Skyway)
Model Estimation and Metrics (Galorath)
DSL component based dev. (Zeligsoft)

**ADC IT**
Rational Software Architect

**Rational Asset Manager**

**Tivoli TADDM / CCMDB**

**STATUS:**
- Released
- Planned
- Concept
“Organizations are under pressure to accelerate the speed of delivery of increasingly complex applications, while improving overall productivity and quality. “

“IBM is one of the few vendors with credible offerings in almost all the requirements of ALM”

“Jazz is a solid architectural foundation for further innovation”->” This vision is only partially realized. ....still two to three years away.”

“We rate IBM as a Strong Positive because of its current market strengths and breadth of portfolio”
Suppose we did our development out on the Internet?

A transparent software delivery laboratory where you can...

- Get answers and insights directly from engineering
- Communicate with the development team
- Track the progress of builds and milestones
- Get the latest product trials and betas
- Join developers and product managers in discussion groups
- Submit defect and enhancement requests