Putting the Agility into software delivery with IBM Rational Team Concert

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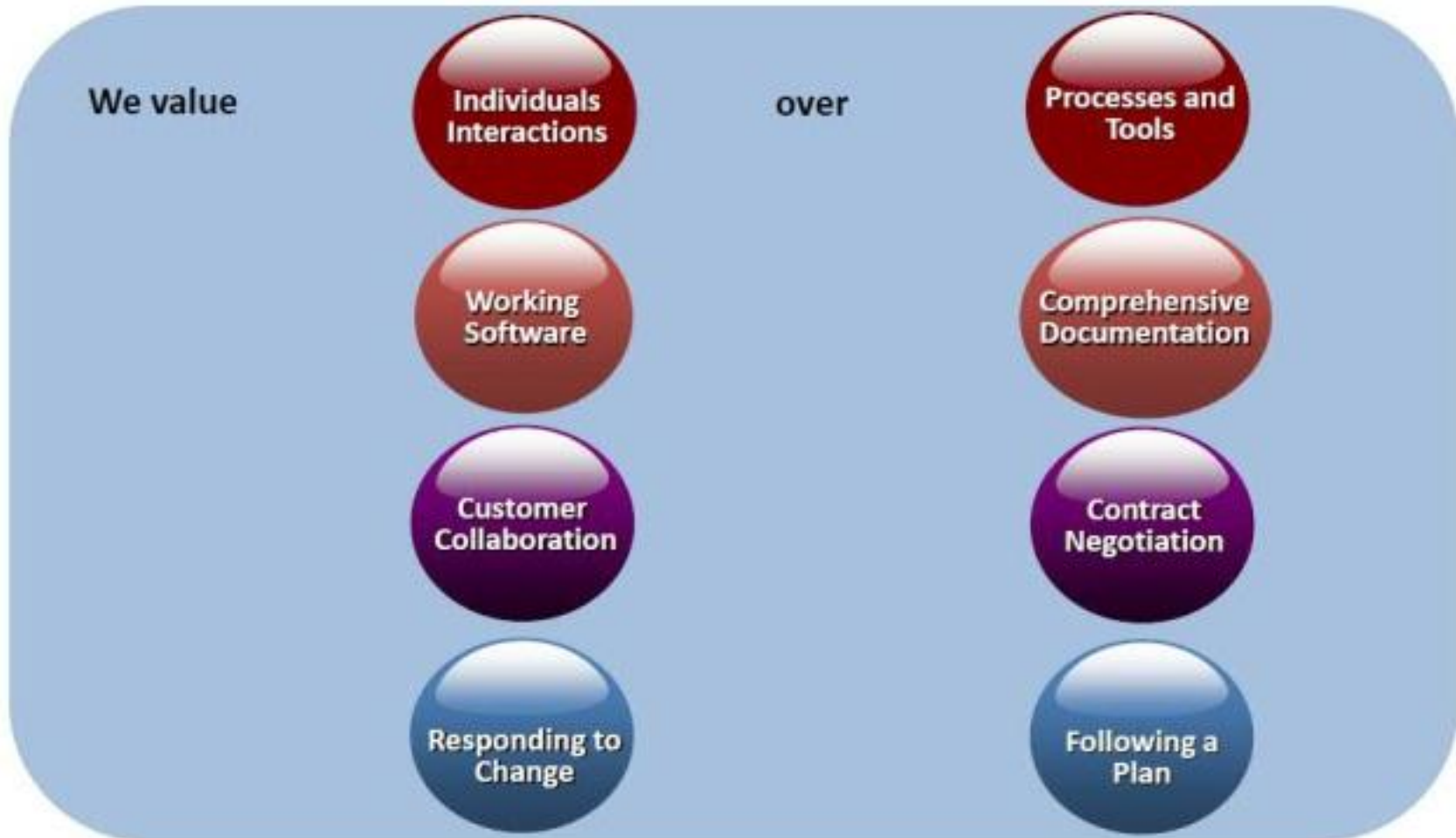
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Agile Values

We value

| Individuals Interactions | over | Processes and Tools |

Working Software — Comprehensive Documentation

Customer Collaboration — Contract Negotiation

Responding to Change — Following a Plan

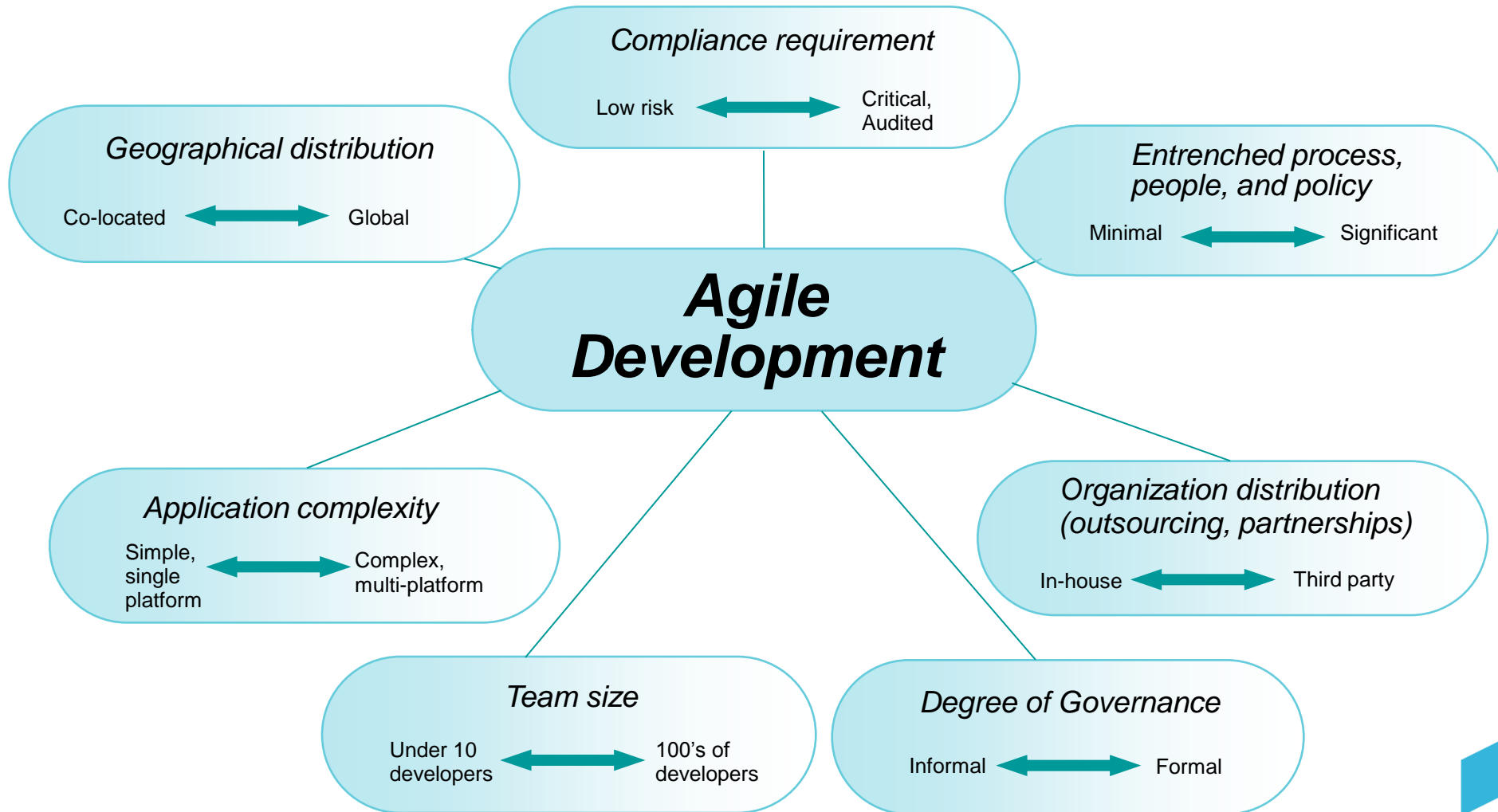**While there is value in the items on the right, we value the items on the left more.**

www.agilemanifesto.org

What *is* Agile?

- For every stable development methodology, there need to be checks and balances

What you aim for	How you get to it
➢ Software that works ➢ Is delivered on time ➢ Responds to changes	✓ Just enough design ✓ Iteration and Release Planning ✓ Evolving processes ✓ Continuous integration ✓ Test driven development ✓ Stakeholder collaboration throughout the cycle ✓ End of iteration demos ✓ Retrospectives

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Challenges with becoming more Agile

Compliance requirement

Low risk ⟷ Critical, Audited

Geographical distribution

Co-located ⟷ Global

Entrenched process, people, and policy

Minimal ⟷ Significant

Agile Development

Application complexity

Simple, single platform ⟷ Complex, multi-platform

Organization distribution (outsourcing, partnerships)

In-house ⟷ Third party

Team size

Under 10 developers ⟷ 100's of developers

Degree of Governance

Informal ⟷ Formal

There are diverse set of tools...

➢ Traditionally, each tool come with its own
  – UI -Web and desktop presentations of views and tasks
  – Logic –Workflow, process, search, query, scale, security and collaboration
  – Storage –Availability ,traceability
  – Privacy, backup/archive

➢ Resulting in...
  – Brittle integrations
  – Silos everywhere
  – High cost to maintain and administer
  – Proprietary API's
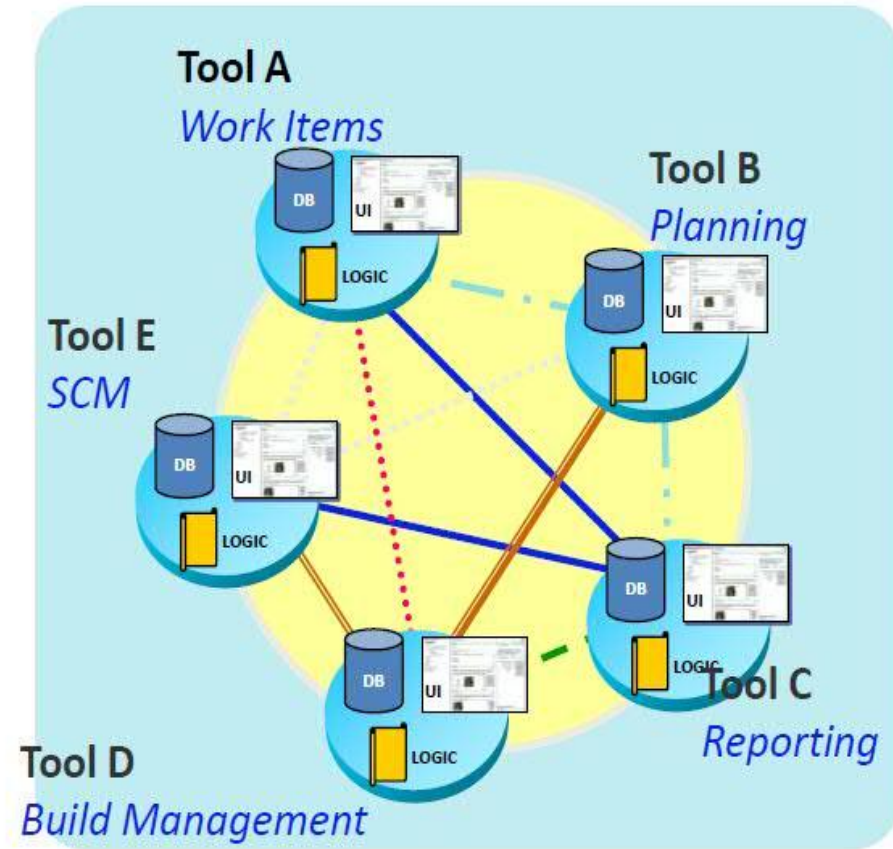
How do you Solve this ?

Team Concert enables teams to more easily adopt and support agile development with greater team productivity and results

Facilitates the principles of high-performance teams

Working Software
- Continuous integration
- Manage team assets
- Change driven
- Integrated / traceable

Individuals Interactions
- Starting ad-hoc teams
- Team awareness
- Process awareness
- Ad-hoc sharing

Respond to Change
- Process flexibility
- Iterative plan-execution
- Multiple releases
- JIT code reviews

Customer Collaborative
- Transparency
- Objective commonality
- Project health checks
- Context driven

Rational Team Concert : A Closer Look

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

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
- Use RTC SCM or SVN, Git, ClearCase or Synergy

Work Items
- Defects, enhancements and conversations
- View and share query results
- Support for approvals and discussions
- Query editor interface
- Connects to ClearQuest or Change

Build
- Automated Work item and change set traceability
- Build definitions for team and personal builds
- Local or remote build servers
- Multi-level continuous integration
- Can integrate 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

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Rational Team Concert – A single tool, many capabilities

- Process simplified
  - A living, breathing process: trained by you

- Track your tasks
  - Smartly linked work items that behave how you want them to

- Manage your sources
  - Create, undo, share, update, review, suspend, resume, patch

- Keep builds healthy
  - Build continuously, at multiple levels, with the technology of your choice

- Dashboards for status
  - Easy-to-create, web-based dashboards

- Runs anywhere
  - From Linux to Windows, Mac to mainframe, Eclipse to Visual Studio

- Open for Integration
  - OSLC

Process Rules and Enforcement

- Teams work on projects
  - each project follows a **process**
  - different processes for different
- Process determines:
  - how you organize your work
  - artifact types and their states
  - preconditions and follow-up actions on operations manipulating artifacts
  - roles and permissions
- Described with **Process templates**
- Process can evolve as project progresses
  - customized
  - Workitem categories
- **Automatic Process enforcement!**

Actions	Everyone (default)	Product Owner	ScrumMaster	Team Member
Dashboards	☑	☐	☐	☐
Save Personal Dashboard (server)	☑	☐	☐	☐
Save Project Dashboard (server)	☑	☐	☐	☐
Item Connectors	☑	☐	☐	☐
Delete Synchronization Rule Info (server)	☑	☐	☐	☐
Save Synchronization Rule Info (server)	☑	☐	☐	☐
Process	☐	☑	☑	☐
Save Project Area (server)	☐	☑	☑	☐
Work Items	☑	☐	☐	☐
Save Attachment (se...				
Save Category (serv...				
Save Release (serve...				

Create Project Area

Choose Process Template

Select the template for the process that should govern the project area.

Available Process Templates: ☑ Filter by locale: English (United States)

- Agile Process
- Eclipse Way Process
- Formal Project Manageme...
- Jazz Support (Private)
- Jazz Support v2
- OpenUP Process
- Scrum
- Scrum
- Simple Team Process
- Unconfigured Process

Description:
A process template for Scrum. Scrum is a popular approach to manage projects in an agile way.

Locale:
English (United States)

Deploy Templates

...o the repository.
...ed they will be updated.

...on Finish as specified in the process template.
...efore I manually initialize the project area.

Problem
A work item must be associated with the change set or a comment must be set.

Reason
All change sets should be associated with a work item which is planned for the current iteration.

This makes it easier for the team to track its progress through the iteration and allows other users to understand why your changes were made.

Solutions
- Associate Existing Work Item
- Associate New Work Item
- Associate and Try Again (experi...
- Overrule 'Descriptive Change Set...

Deliver (failed)
❌ Missing work item or comment

< Back   Next >   Finish   Cancel

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Tracking work in distributed teams

- **WorkItems**
  - Customizable
  - Workitem categories
  - In-context collaboration
  - Transparent
  - Execution items and Plan Items
  - Queries

- **Integration**
  - Link to your SCM
  - Get included in your builds
 - Link to
    - Each other
    - Test cases
    - Requirements

RTC SCM core concepts

- **Streams**

  - Stream captures a set of versions of files

    - Similar to the concept of a branch in other CM systems

    - The stream changes when people deliver new content

  - Streams contain components

  - Components contain directories and files

- **Workspaces**

  - Each developer has his own workspace

  - The developer's workspace "flows with" a stream

  - When the workspace is created, its contents match the contents of the stream at the time of the creation of the workspace

  - "Accept" operations transfer changes from the stream to the developer's workspace

  - "Deliver" operations transfer changes from the workspace to the stream
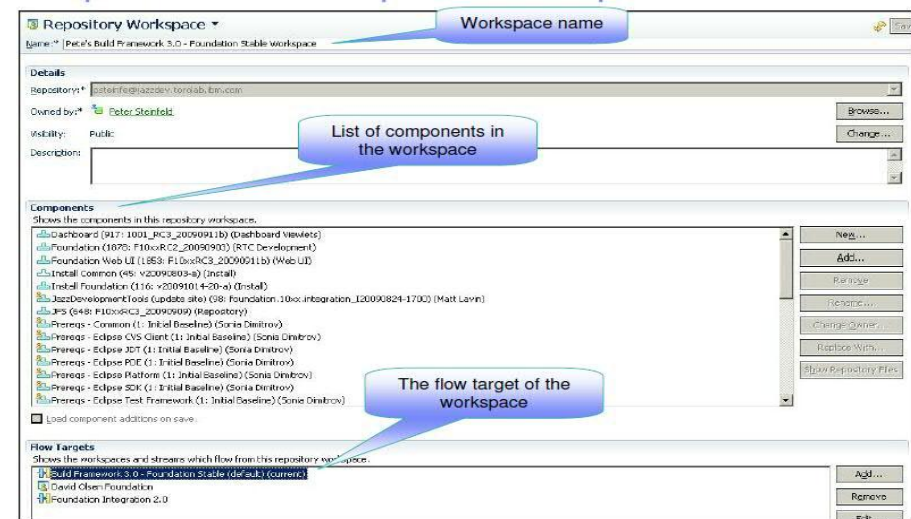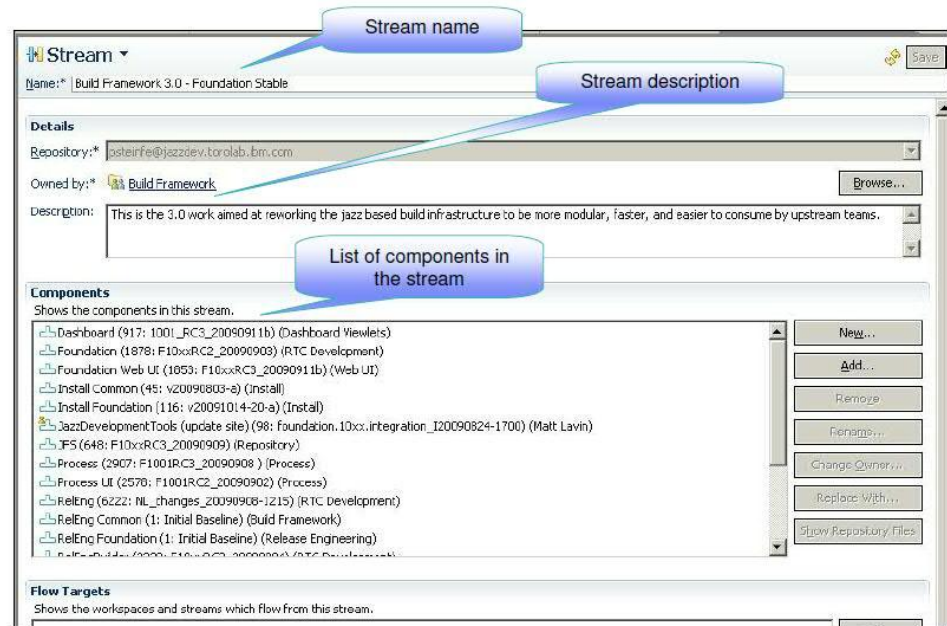
RTC SCM core concepts Contd.

- **Changesets**

  – Collaboration based on changesets

  – Different versions of the same file can exist – On the developer's workstation , In the developer's workspace ,In the stream

  – At the moment a file is modified and saved, a new, different version exists on the workstation (unresolved).

  – When the file is checked in, that version is transferred to the workspace (outgoing).

  – When the change is delivered to the stream, that version will exist in the integration stream (incoming to other workspaces).

- **Traceability**

  – Change sets get attached to work items

  – Get included in builds
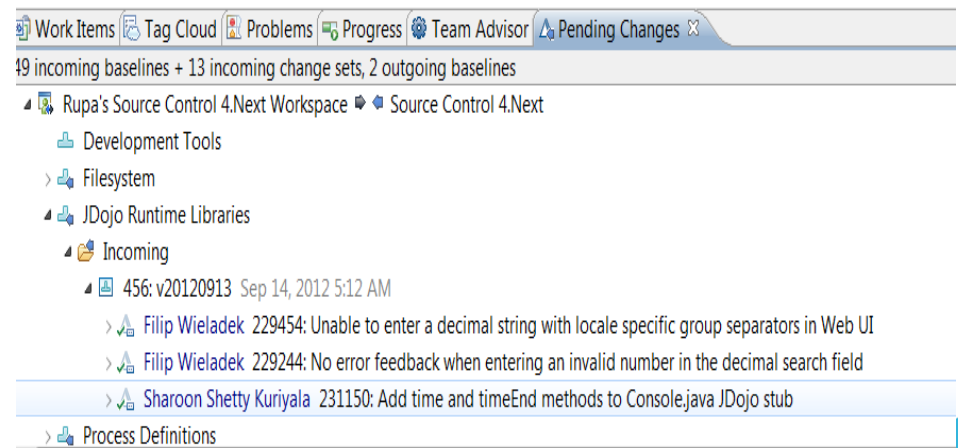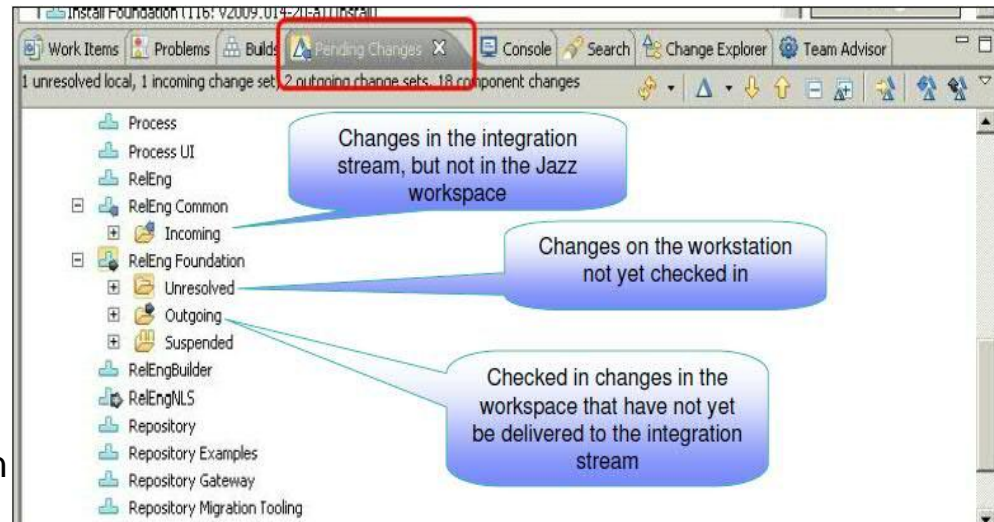
Isolation Levels – Parallel development with SCM

- Repository workspaces – Provides individual isolation

  –you don't have to make your changes visible to the team to:

  - backup or use the repository features.

  - collaborate on a change with someone else

- Streams – Provides team isolation.

- Suspend and Resume – Provides task level isolation for personal work.

- Team areas – Provides process isolation.

Continuous Integration with builds

- Setting up a Jazz build

  - The build has its own workspace, just like a developer's workspace.

  - There is script to do the actual build

  - The build produces the artifacts and run the automated tests

  - The build runs on an build machine

  - Schedule the build

- Request build

  - Personal builds
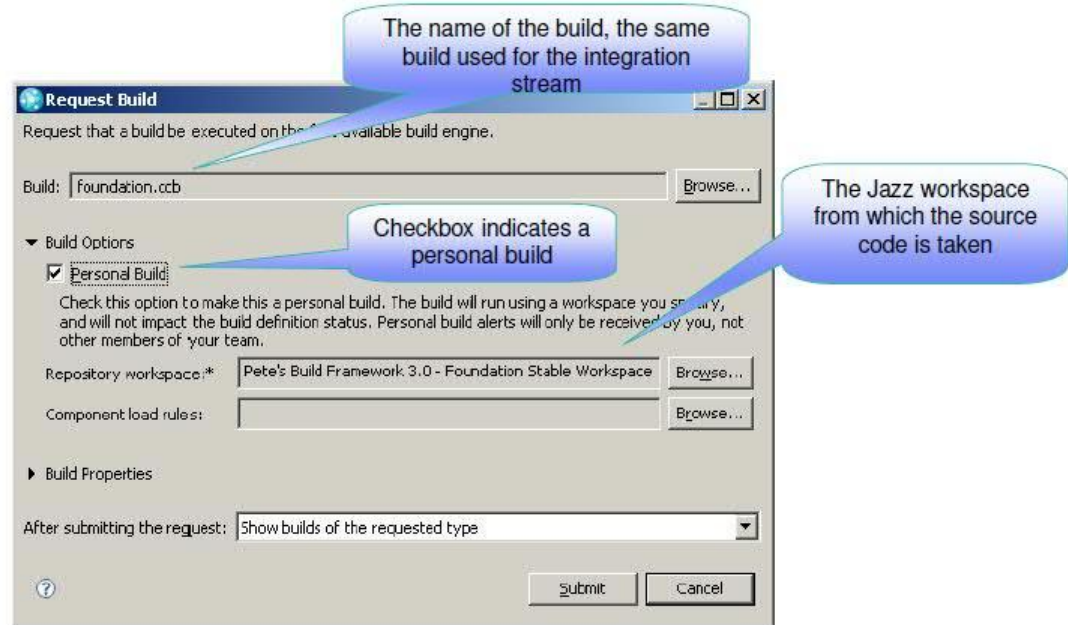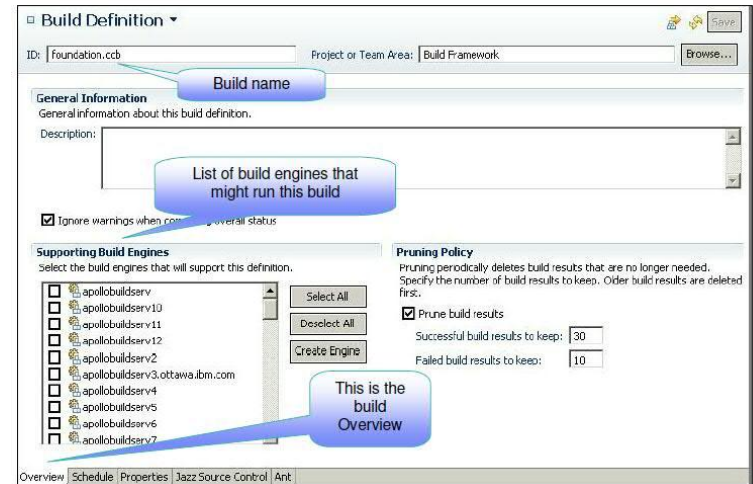
Continuous Integration with build

- **Validate**
  - Automated builds
  - Unit tests

- **Each Team**
  - Owns their builds
  - Monitor the status of the builds

- **A Developer**
  - Personal builds

Build results view

The build result for the highlighted build is displayed in its own view

A check mark means the build succeeded

A red "X" means the build failed

Link to the artifacts produced by the build

Log files produced by the build

The snapshot captures the exact file versions used in the build

Test results

The name of the build's Jazz workspace

Changes delivered since the last build

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Multi-level Continuous Integration
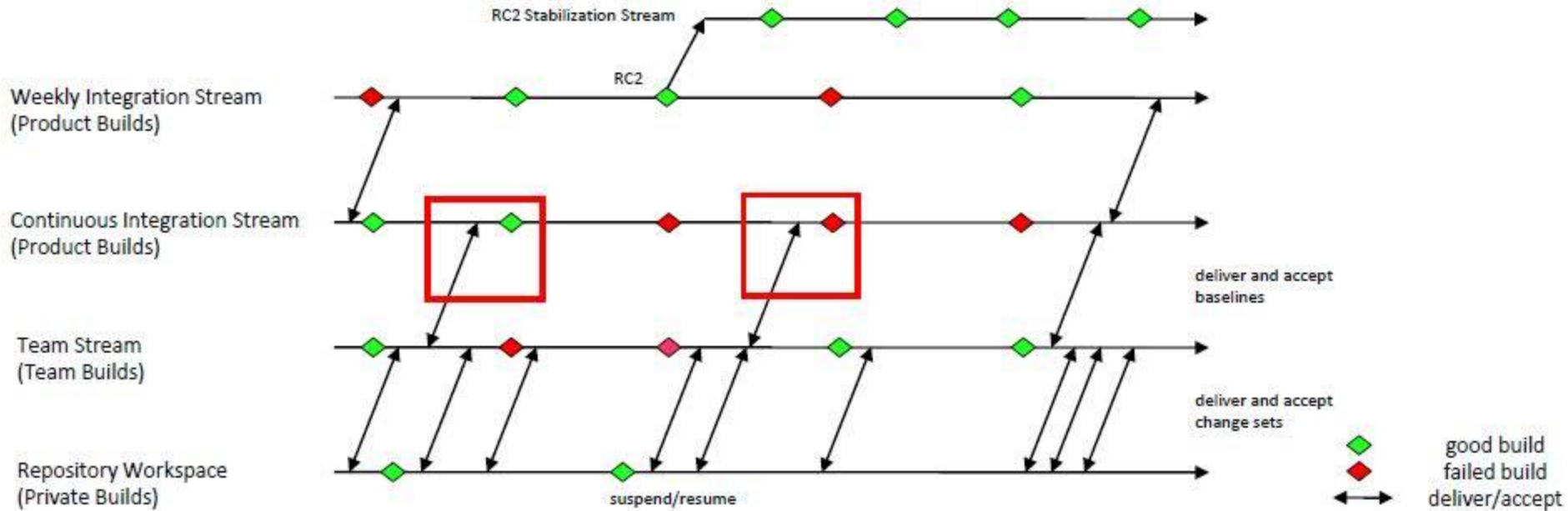
Transparency with Feeds, Dashboards, Reports

- **Transparency**
  - self-organized teams
  - monitor real time progress
  - stakeholder input

- **Feeds**
  - Event notifications
  - Associate with teams
  - Up to date

- **Dashboards**
  - Live project status
  - For all stakeholders

- **Reports**

Agile Planning

- Type of plans determined by process
  - Product backlog
  - Release Plan
  - Iteration Plan
- Real time planning
  - Plans reflect your team's progress

Agile Planning Contd

- **Planning for teams**
  - Release plan
  - Iteration Plan
  - Plan editor
- **Planning for individual**
  - My work view

- **Plans are visible to stakeholders**
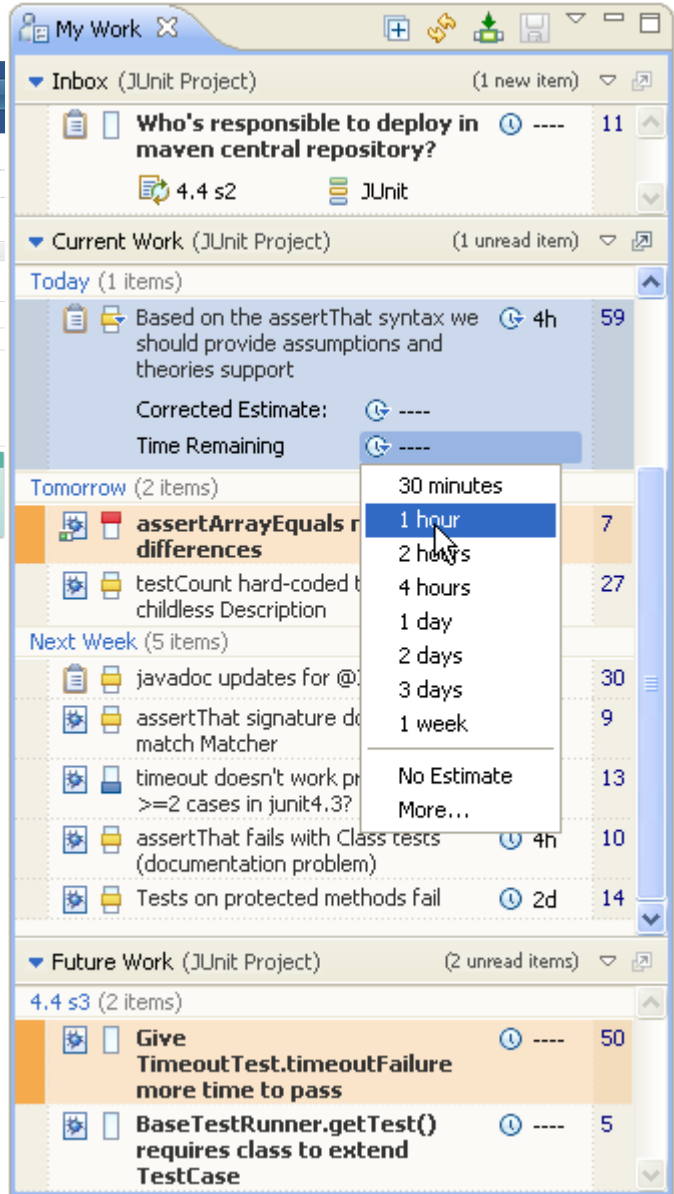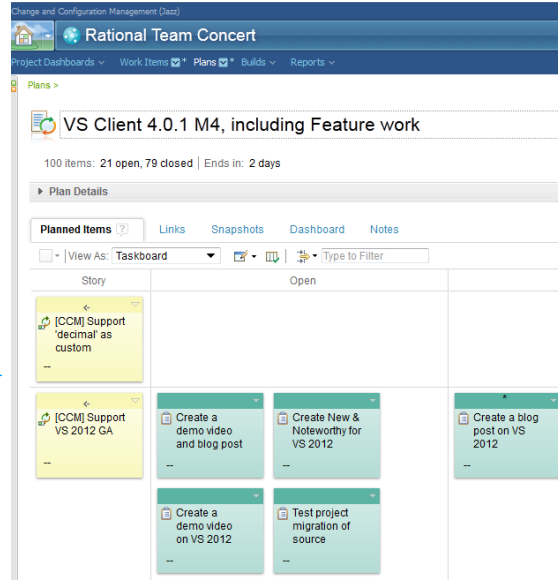
Retrospectives

- Teams reflect on what worked and what didn't

- How to tune the process

- PMC retrospective summarizes team retrospectives

  – Defines actions for the PMC

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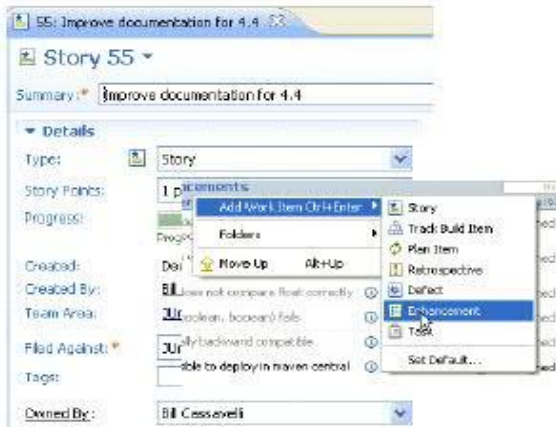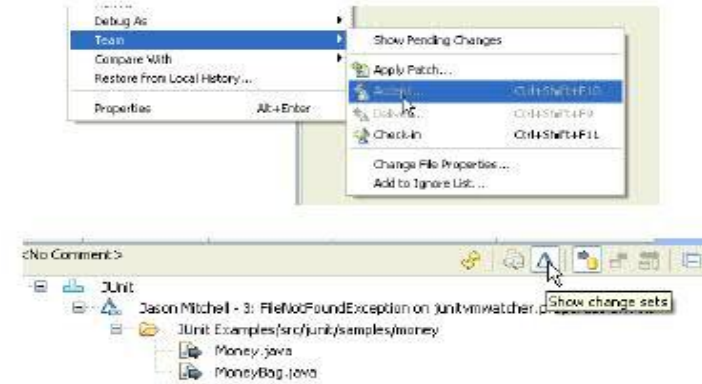

Work Items
Planning
Source Control
Builds – Continuous Integration
Dashboards & Reporting
Method Enforcement and Automation

- Quality of releases improves 12%*
- Project governance improvements of 12%
- Team productivity increases of up to 50%
- Team collaboration performance up 25%*

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www.ibm.com/software/rational

For more information on Rational Team Concert visit jazz.net.

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