IBM Innovate 2010

Using Rational Team Concert for Agility@Scale



Innovate2010

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Agenda

- **Agile Planning Introduction**
- A Scrum Planning Episode
- Scale my Project
- How we use Agile Planning for **Developing RTC**
- RTC Q4.10 Outlook





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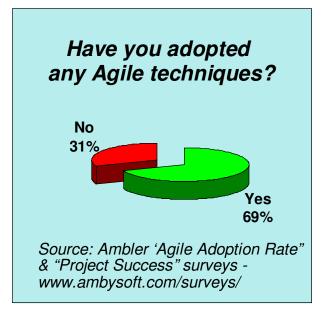
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What is Agile

An iterative and incremental (evolutionary) approach performed in a highly collaborative manner with just the right amount of ceremony to produce high quality software in a cost effective and timely manner which meets the changing needs of its stakeholders.

So Agile is not a method. Its more like a conceptual framework (abstract class) with concrete implementations like, Eclipse Way, OpenUp, Scrum....

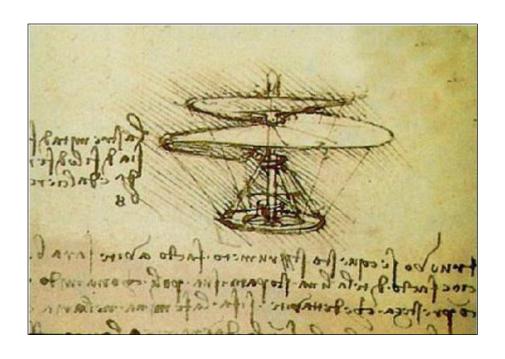






Agile is **Not**

- Low ceremony
 - It is (very) formal and has (very) specific practices
- Do what you want (cowboy coding)
 - Requires lots of discipline
- Easy to do
 - ▶ See above ☺
 - Needs cultural changes
- A silver bullet







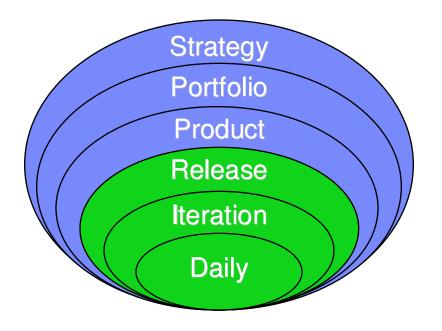
Agile Methods

There are several Agile Methods available, however from a bird's eye view they share a common set of tooling relevant properties:

- Short development cycles (1 6 weeks)
- Self organizing development teams
 - Joint planning meetings
 - Stand-up meetings
- High personal responsibility of team members
 - Developers "manage" their work
 - Developers / Teams estimate
- Progress tracking
- Ongoing customer involvement
- Retrospectives
- Use of historical data to improve planning



The Planning Onion*



Agile team plans at the innermost three levels

RTC offers support for all these levels plus support for a product wide backlog



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Team Concert's Agile Planning Support

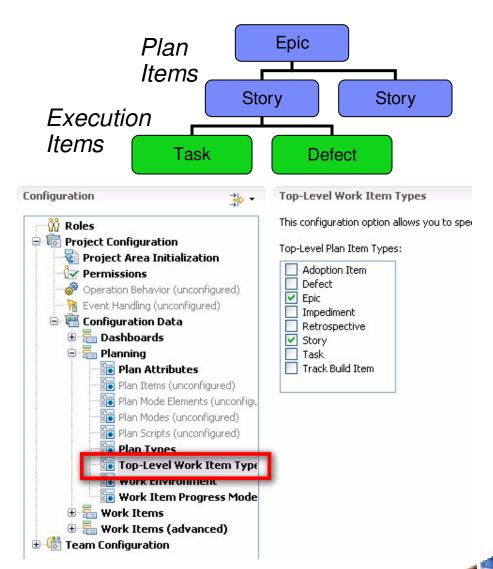
- Team Concert's Agile Planning support has the following key characteristics:
- Process neutral (works with Scrum, OpenUp ...), but assumes
 - ▶ short (1 6 weeks) development cycles
 - supports two level planning: release, iteration
 - supports monitoring releases, iterations
- No separation between planning/implementing of features and bug fixing
 - Both planning and defect management share a common data model
 - They are supported in the same tool and are highly integrated
 - Plans are in fact a query for work items
- Supports:
 - ▶ Top down planning (product owner, team lead, ...) **AND**
 - Bottom Up (team members) AND
 - Plan consolidation (Sprint planning meetings, stand-ups, ...)





Plan and Execution items

- Work items have two flavors:
 - Execution Items: work items which have work assigned. In Scrum these are task, defects, ...
 - Plan Items: work items that are relevant. for the planning. In Scrum these are **Epics and Stories**
- RTC allows to customize which work item types are plan items and which types are execution items.



Background: Estimation and Sizing

- Agile planning separates estimating the size from estimating the effort
- The size is often estimated in relative values. Scrum uses **Story Points**
- The effort is typically estimated in Ideal Hours/Days
- Velocity measures a teams rate of progress
 - Completing 2 Stories of 5 story points in one iteration gives a velocity of 10
 - Good guess is to assume the same velocity for the next iteration.
 - team velocity is what matters

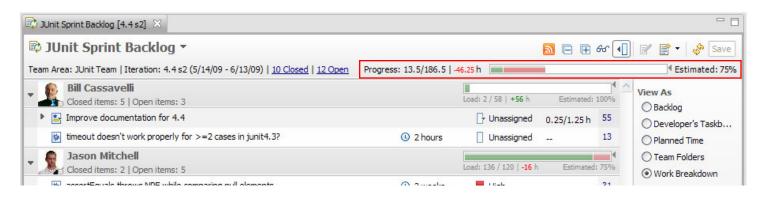




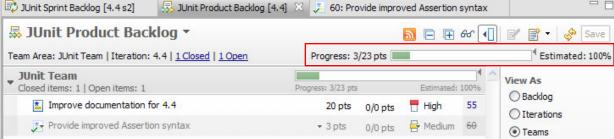
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Estimation and Sizing in RTC

Effort: Execution items are estimated in ideal hours.

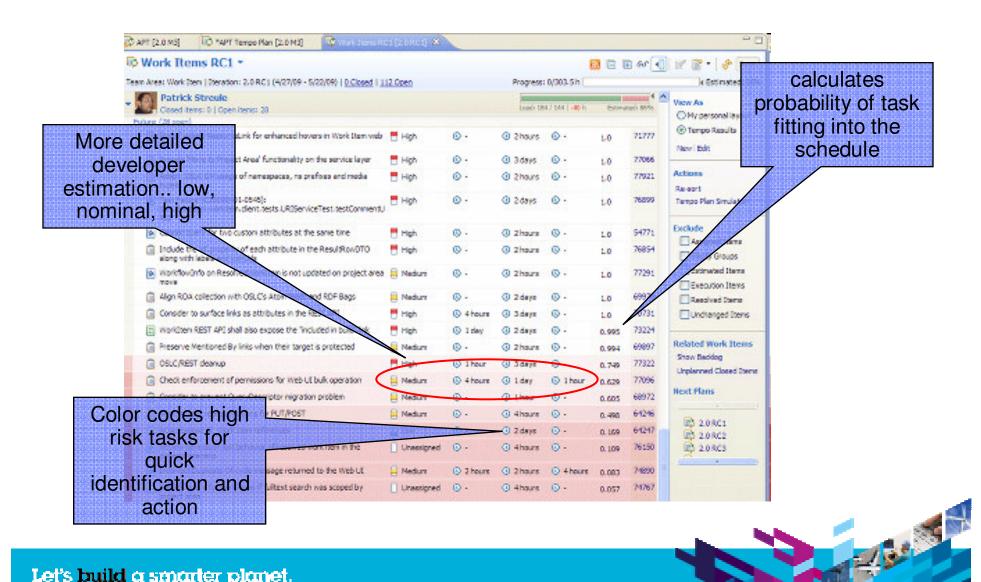


- Size: Plan items are estimated using a configurable numerical sizing attribute
 - Scrum uses Story points. Other sizing attributes could be: lines of code, function points, ...





Plan Risk Assessment



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Scaling Factors



Team size

Under 10 1000's of developers developers

Compliance requirement

Low risk

Critical. audited





Geographical distribution

Co-located Global

Agility @ Scale

Domain Complexity

-forward

intricate. emeraina



Enterprise discipline

Project

Enterprise focus

Organization distribution (outsourcing, partnerships)

Collaborative



Organizational complexity

Flexible -Rigid

Technical complexity

Homogenous -

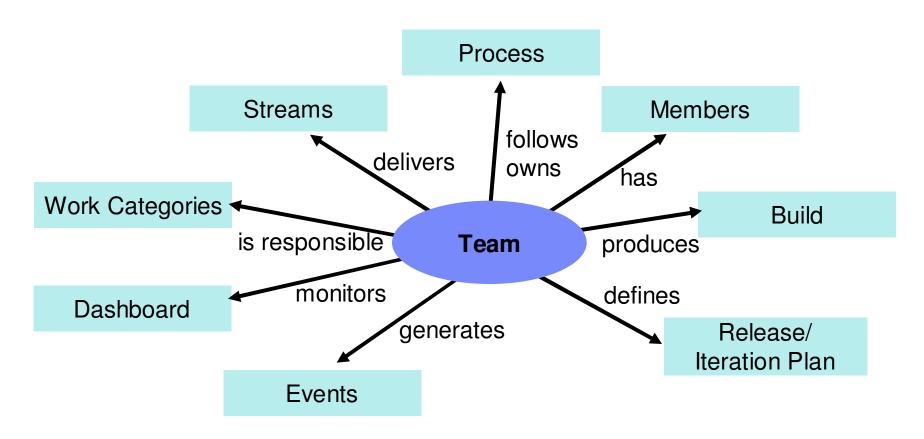


Contractual





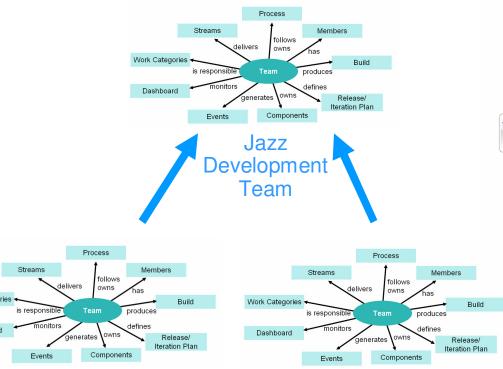
Way of Working: Team Centric



Teams are self-tuned but share a common rhythm



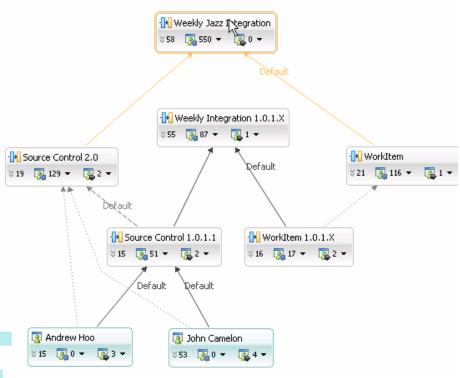
Scaling up: Teams of Teams



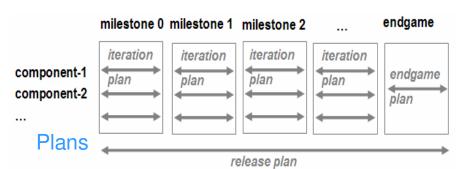
Process Team

Repository Team

- Sandboxes for each team with "Integration points":
 - ▶ Integration stream
 - ▶ Integration build
 - ▶ Release plan



Changes



Collaboration

- Collaborate on software artifacts
 - Changes, defects, tasks, plans, builds
 - Approvals
- Collaborate in context
 - Artifact relationships/links
- Collaborations follow rules and patterns
 - **Artifacts** are in the center
 - **⇒**Process



Transparency

- Easy access to the projects artifacts from anywhere
 - ▶ Plans
 - Build results
 - Dashboards
- Notification about changes in the project
 - Event feeds
 - Change histories
- See where the project is
 - "Knowing what is going on without having to ask"
- Transparency in process
 - ▶ Team structure, team roles



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Our Artifacts

Plans

- Product Backlog
- Release Plan
- Iteration Plan

Items

- Plan items, Stories, Tasks
- Tracking
 - Build status
 - Adoptions
- Defects
- Enhancement
- Retrospectives

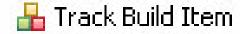


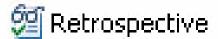










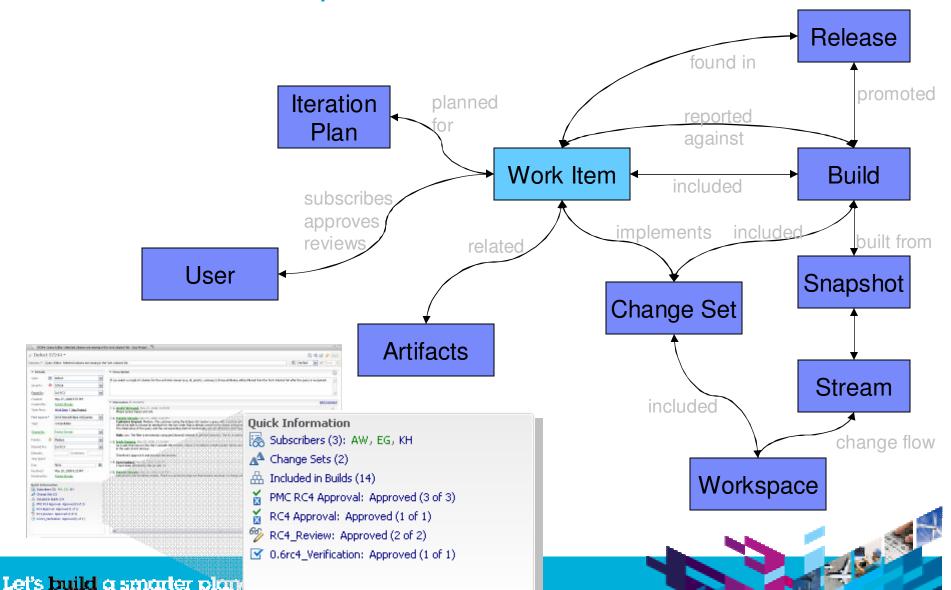




🔳 Adoption Item

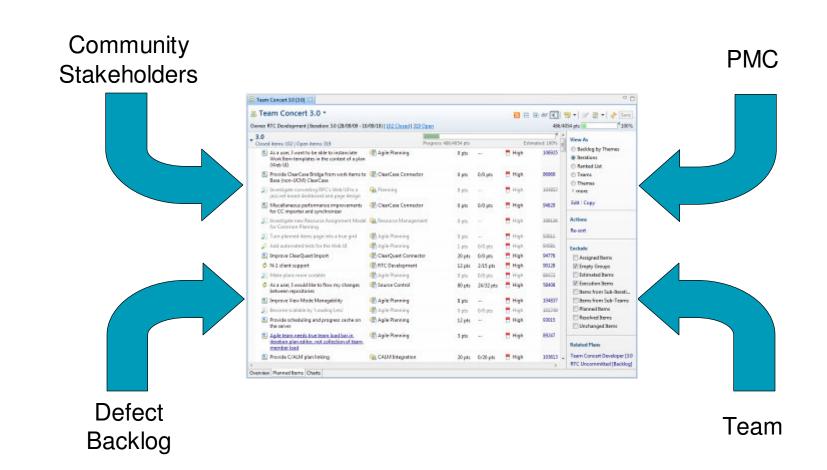


Artifact Relationships





Plan Input





Plan Input - continued

PMC

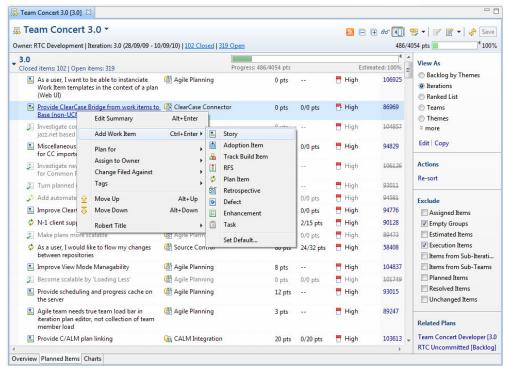
- Requirements (release plan): traceability, ...
- ▶ Themes: *improve performance*, ...
- Concrete tasks: externalize strings

Community / Stakeholders

- Requirements
- Enhancements
- Defect reports

Team

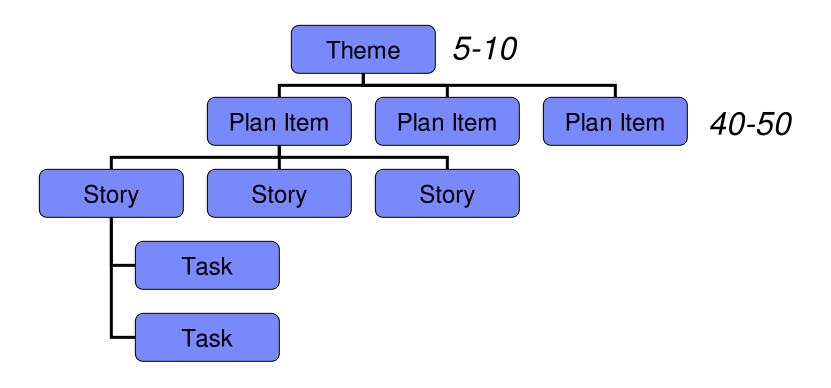
- Architectural issues
- Redesigns
- Product ideas
- Defect Backlog
 - Previous test passes
 - Self hosting







Our Plan Structure





Product Planning

- Creates a high-level plan that contains stories not planned for any release/iteration yet
 - a prioritized backlog of sized plan items (e.g. stories)
 - created by the product manager
- Update with regular frequency



Release Planning

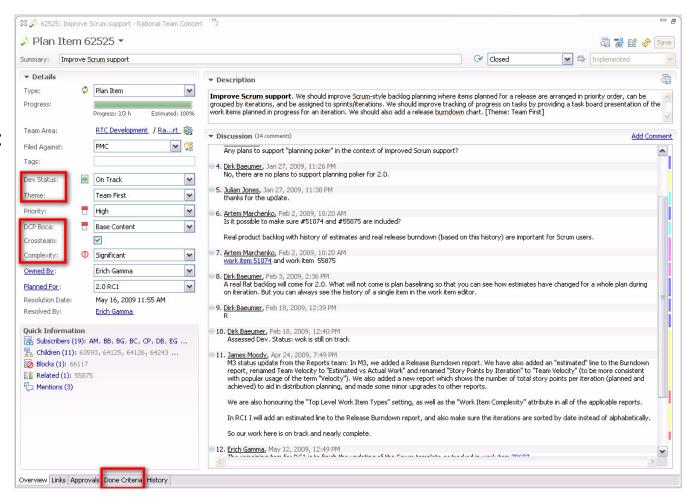
- Create a high-level plan that covers more than one iteration
 - a prioritized backlog of sized stories & plan items organized in themes
 - created by the team lead / product manager
 - has a release date
- Define the iterations/iteration length
- Updated with regular frequency





Plan Item

- Custom Attributes
 - Complexity
 - Development status:
 - on track
 - at risk
 - behind
 - Done criteria
- Workflow
 - Proposed
 - Committed
 - Done

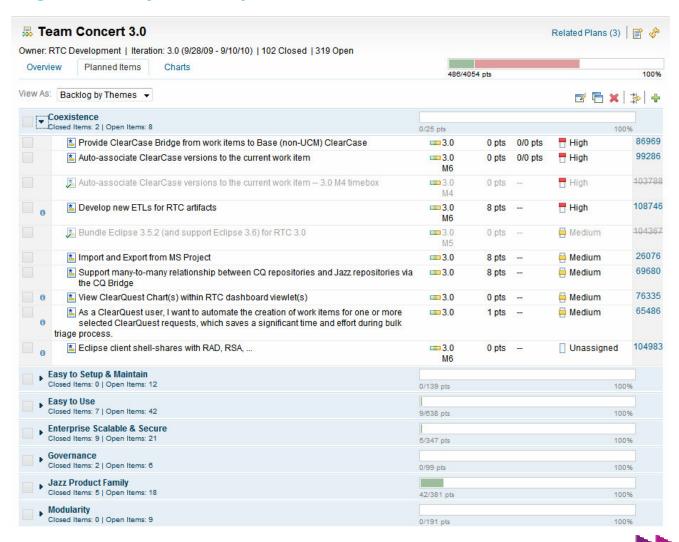






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Backlog Grouped by Themes



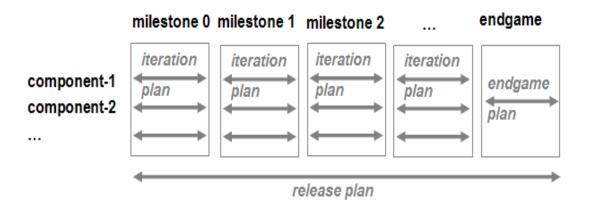


Planning and Tracking Iterations

- Same rhythm across teams
- Two level planning
- Release plan defines
 - rhythm
 - themes and features
 - ⇒ coarse grained

Iteration plan

- per team/component
 - stories, tasks, enhancements, defects
- ⇒ fine grained

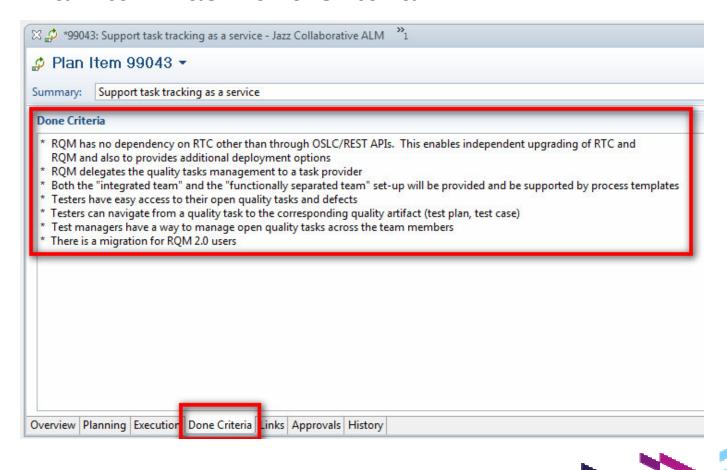






Definition of Done

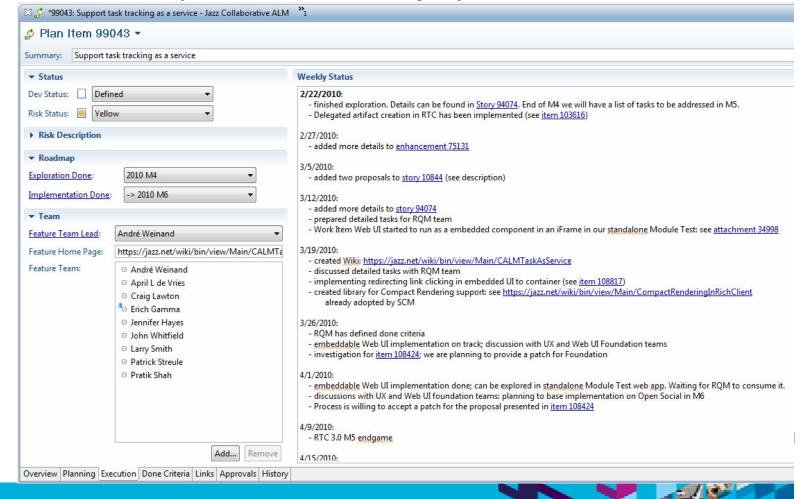
Each Plan Item has Done Criteria





Planning/Execution: Feature Teams

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





Cross Team Dependencies/Adoptions

Adoptions:

- Changes from lower layers that need to be adopted by other teams
 - Require approval from the project management team
- "Lookahead planning"
 - New API delivered in M2 by team A
 - Adopted during M3 by team B, C, D

Expectations

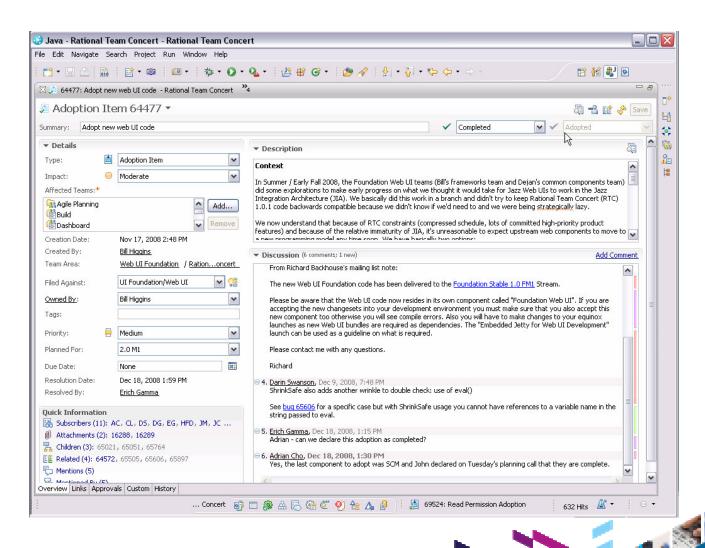
- Dependencies among teams
 - Tracked using work item links





Adoption Work Item Type

- Attributes
 - Affected teams
 - Impact
- Workflow
 - Proposed
 - Approved
 - Done



More support for Agility@Scale

- RTC Build
 - personal builds
 - build snapshots
- Buildforge Integration
- Jazz SCM
 - isolation/integration using stream flow hierarchies => show our flow structure
 - private versions for code exploration
 - suspend resume for task isolation
- Dashboards
 - for transparency



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RTC Q4.10 Outlook

- Plan linking for Collaborative Lifecycle Management (CLM)
- Plan Snapshots
- Hybrid Planning

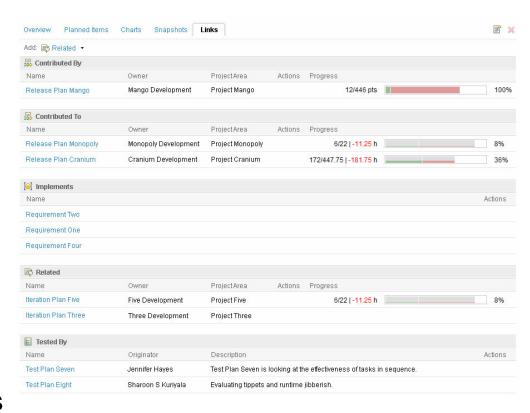
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CLM Integration

- Links between requirement sets, development plans and test plans
- Linking between development plans to create program / project structures
- Pickers and Hovers
- Plans records are available as REST resources

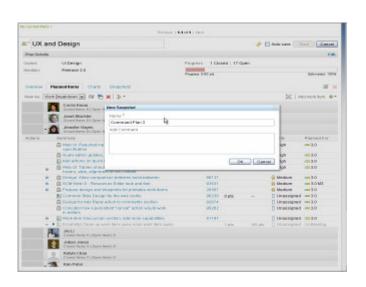


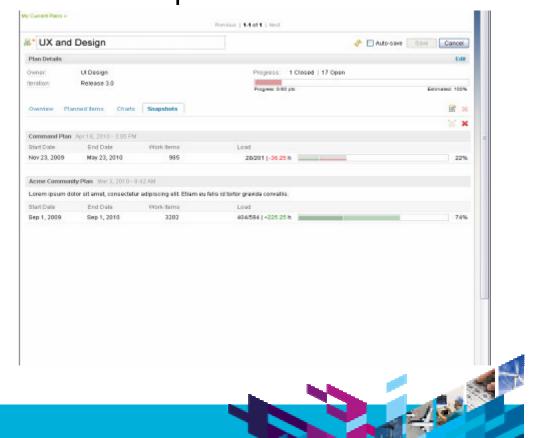




Plan Snapshots

 Support to snapshot a plan containing the states of all work items, references iterations, process areas and roll-up information about effort, size and time spent.



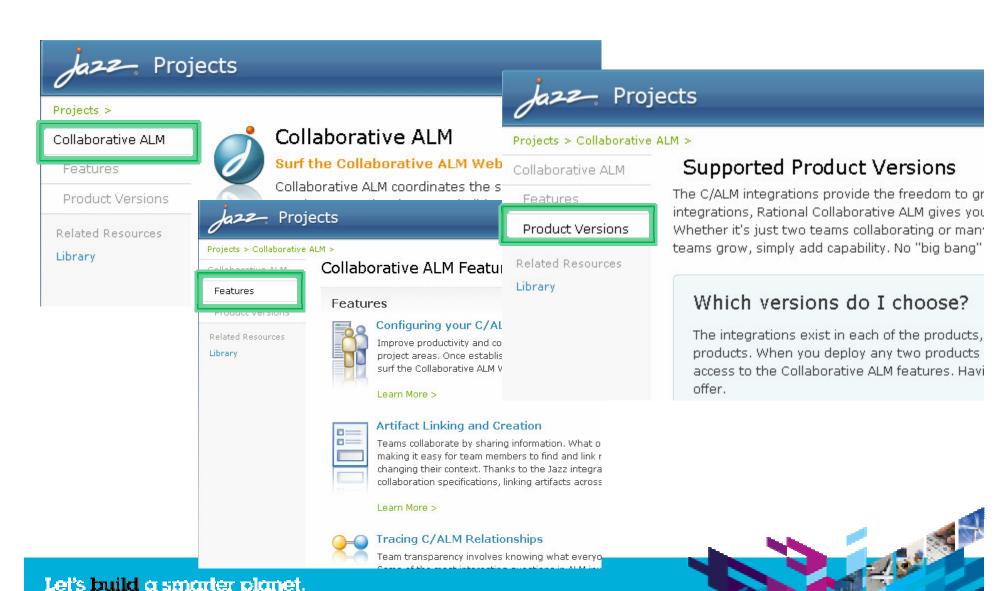


Hybrid Planning

- Most of the RTC customers are neither 100% agile nor 100% traditional (even IBM isn't ⁽²⁾)
- Goal is to support projects that mix agile and traditional concepts.
- The overall process is traditional the development execution happens agile.
 - Need for an overview Gantt which feature is delivered in which iteration.
 - Visualization of the dependencies between features
- The overall process is agile but the execution of a single iteration happens traditional
 - Need for a traditional scheduler (schedule dependencies & constraints)
 - Need for traditional resource management



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