



IBM Rational Software Conference 2009
As Real as It Gets!

Collaborative Software Development with Jazz and IBM Rational Team Concert

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Rational. software

Rational Technology Events

Agenda

- Today's Software Development Landscape
- All that Jazz
 - ▶ Introduction
 - ▶ Architecture
- Rational Team Concert
 - ▶ Overview
 - ▶ Getting Started with a new Team
 - ▶ Software Configuration Management
 - ▶ Build Management
 - ▶ Change and Traceability
- Wrap-up and Next Steps



Demos

- Throughout the event, you will see in-depth demonstrations of the products in action

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Today's reality: An intense focus on business outcomes



Align *IT* investments with rapidly evolving business priorities



Manage value and mitigate risks by improving project management



Control costs & improve global operational efficiencies



Ensure security and compliance in a changing global environment



Integrate value in organizationally diverse environments

The defining challenges in effective software delivery

Only 37% of stakeholders are satisfied with the speed of internal application development¹..
Only 42% are satisfied with the quality¹.
50% of outsourced projects are expected to underperform².

Silos of people, process, and projects

Geographic Barriers

- Poor communication
- Language, culture, time
- Process gaps resulting in rework
- High degree of friction

Organizational Barriers

- Lack of meaningful collaboration
- Weak project governance
- Lack of domain expertise
- Poor LOB oversight
- Security of IP when outsourcing

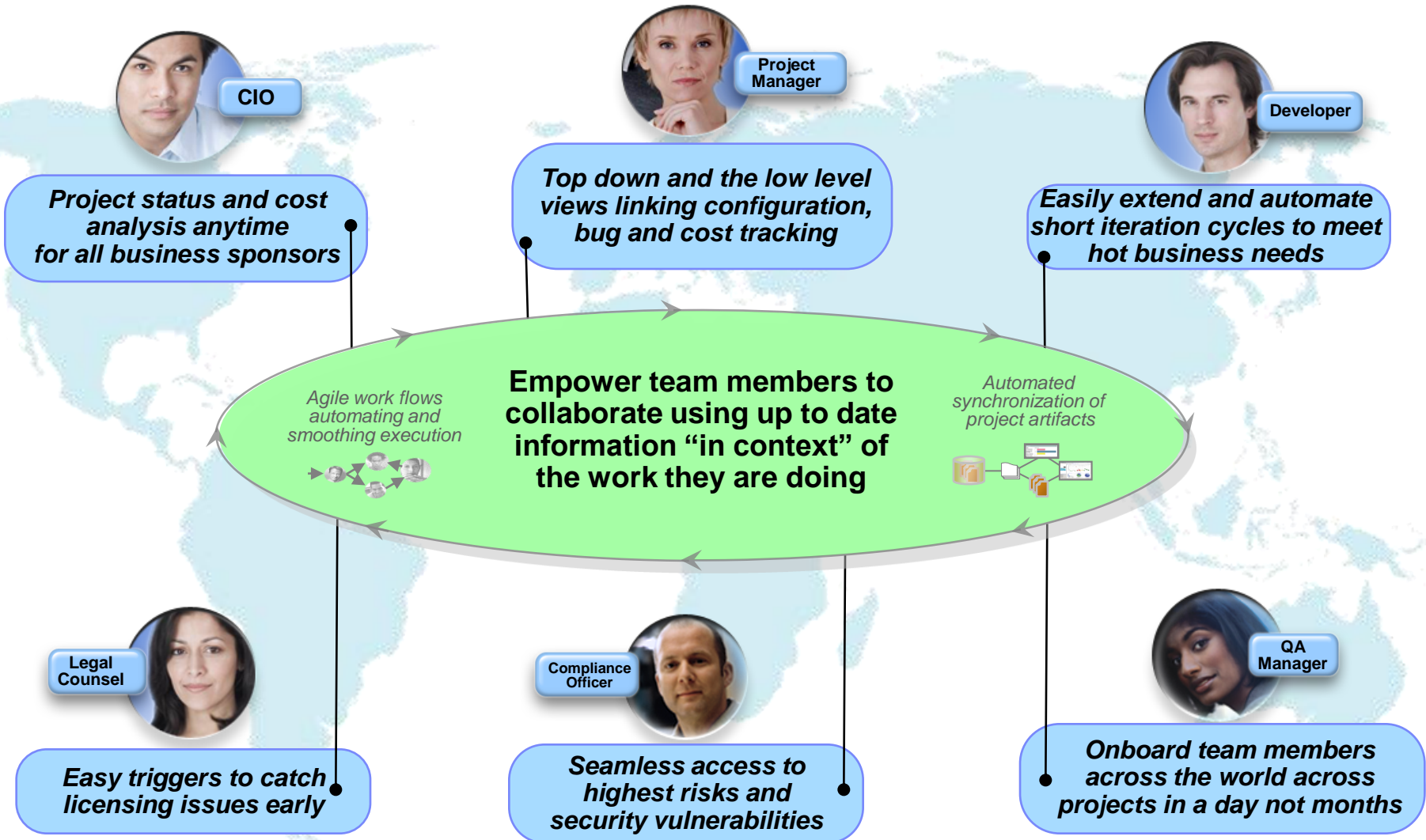
Infrastructure Barriers

- Incompatible tools / repositories
- Unreliable access artifacts
- Lengthy on-boarding
- Inflexible tooling integration

Source: ¹Forrester, ²Gartner



Customer Speak: What they would like to see possible



Envisioning a platform that can transform software delivery

A open technology initiative to *transform how people work together* to deliver greater value and performance from their software investments



- Robust, extensible and scaleable
- Globally distributed, fluid and dynamic
- Community-based and open at Jazz.net

Collaborate in Context

- Enable team transparency of “who, what, when, why”
- Build team cohesion and presence
- Automate hand-offs so nothing falls through the cracks

Right-size Governance

- Automate team workflow improving productivity
- Automate data collection eliminating administrative overhead
- Real time reporting and alerts reduces project risk

Day One Productivity

- Dynamic provisioning of projects and teams
- Real-time iteration planning and workload balancing
- Unify teams with tools choice

Real-time integration of people, process and projects across the lifecycle



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The Jazz project

People working together to deliver great software

Jazz is a **project** and **platform** for *transforming how people work together* to deliver greater value and performance from their software investments.

A major investment by IBM to create a **scalable architecture for lifecycle integration.**

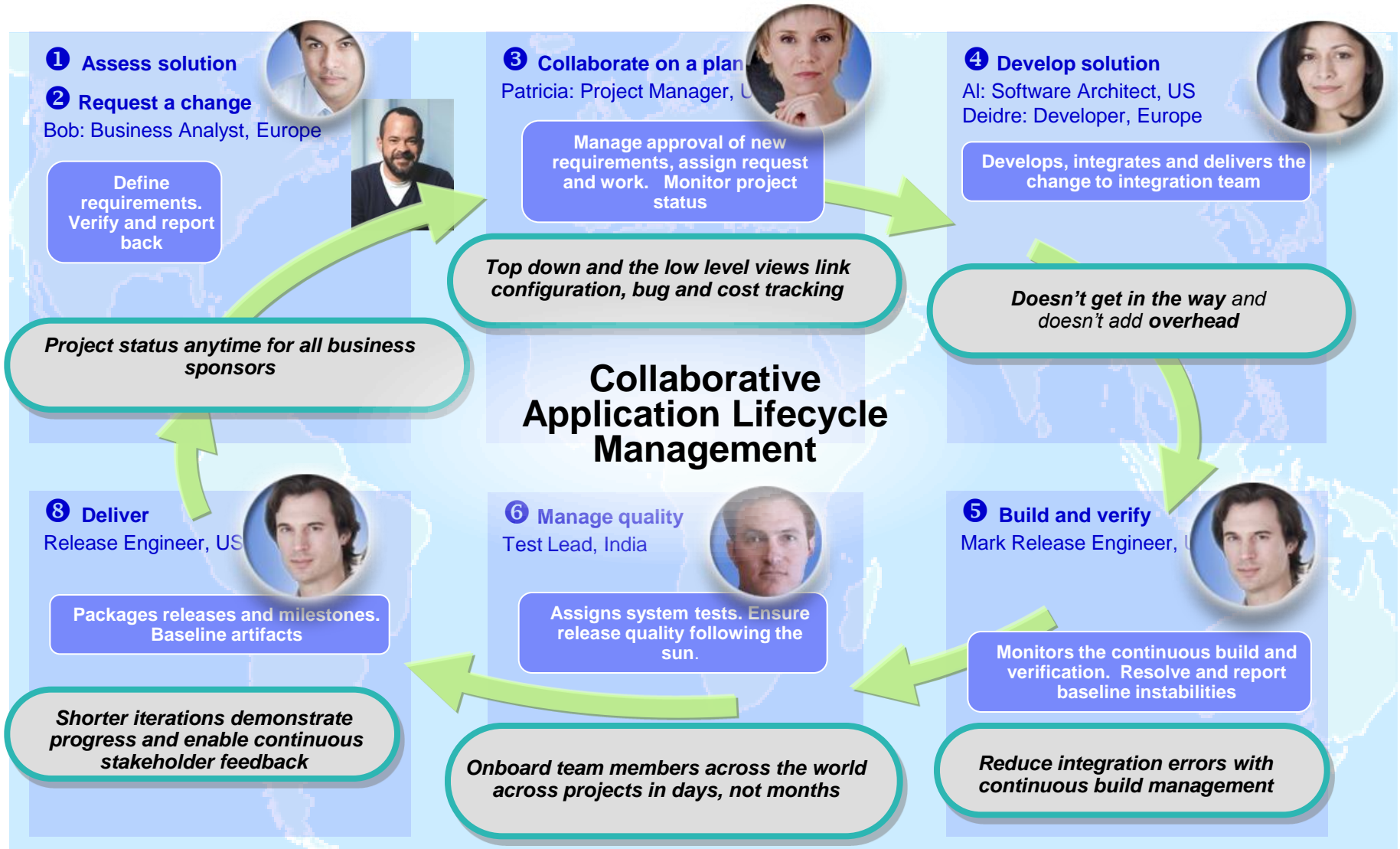
IBM's vision for the future of software delivery -- supporting a workforce that is increasingly organizationally and globally distributed, fluid and dynamic.

An **evolution** of the Rational portfolio, which will evolve to support the Jazz technology platform over time.

A **community** at **Jazz.net** – the online venue for open commercial development of select Jazz-based products.




Dynamic processes streamline team communication and collaboration

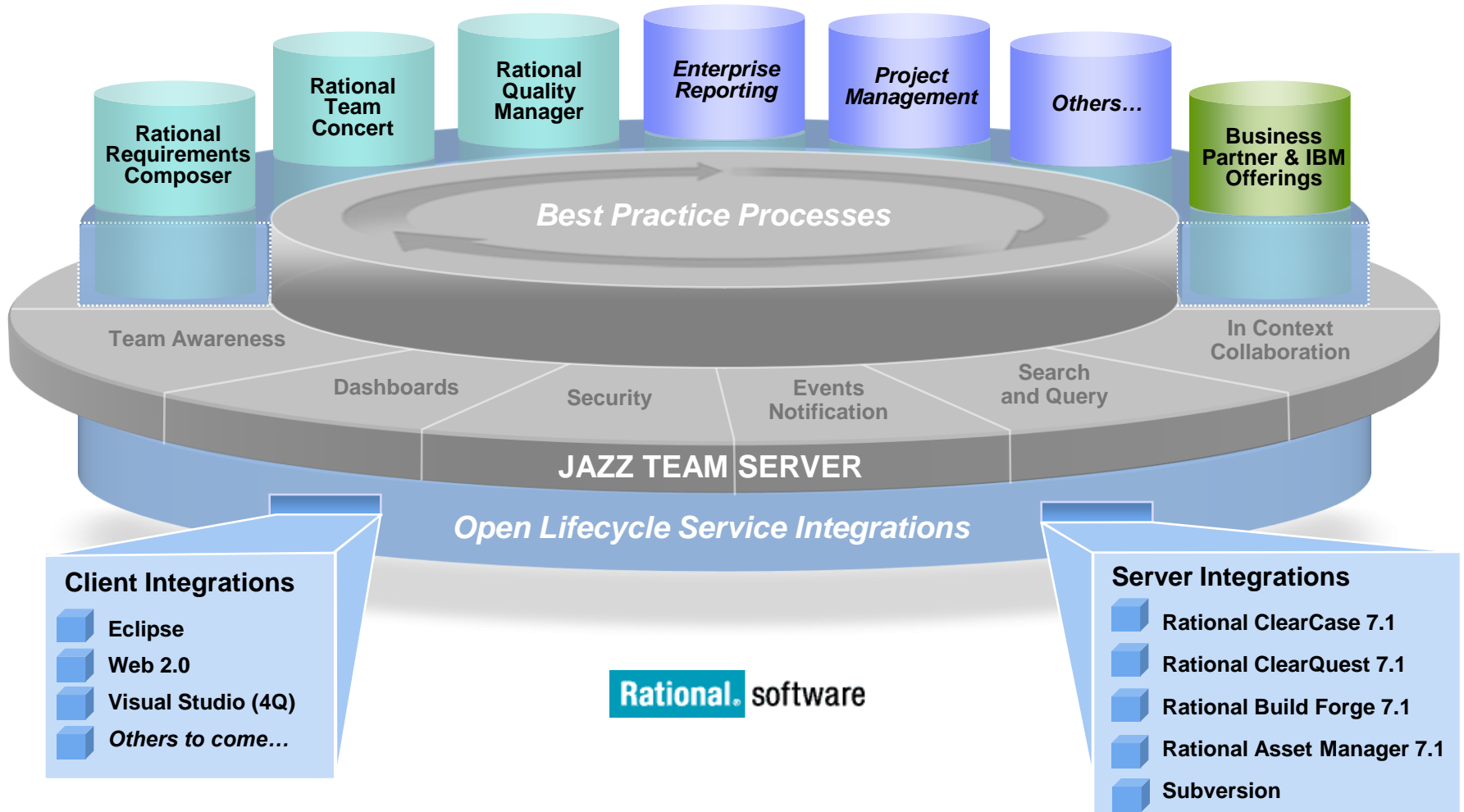


Agenda

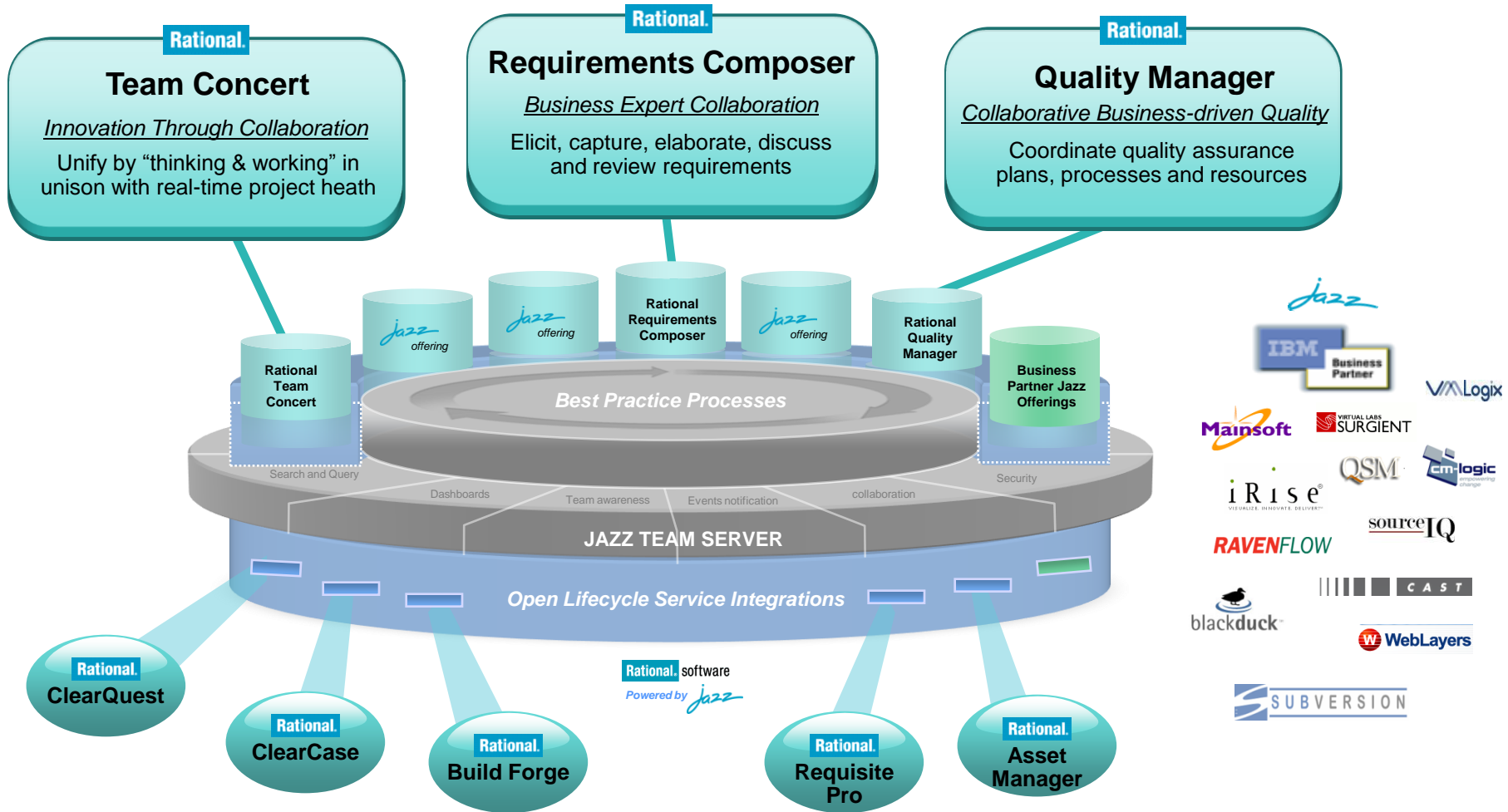
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Jazz Architecture



Introducing the first wave of new *Jazz* offerings



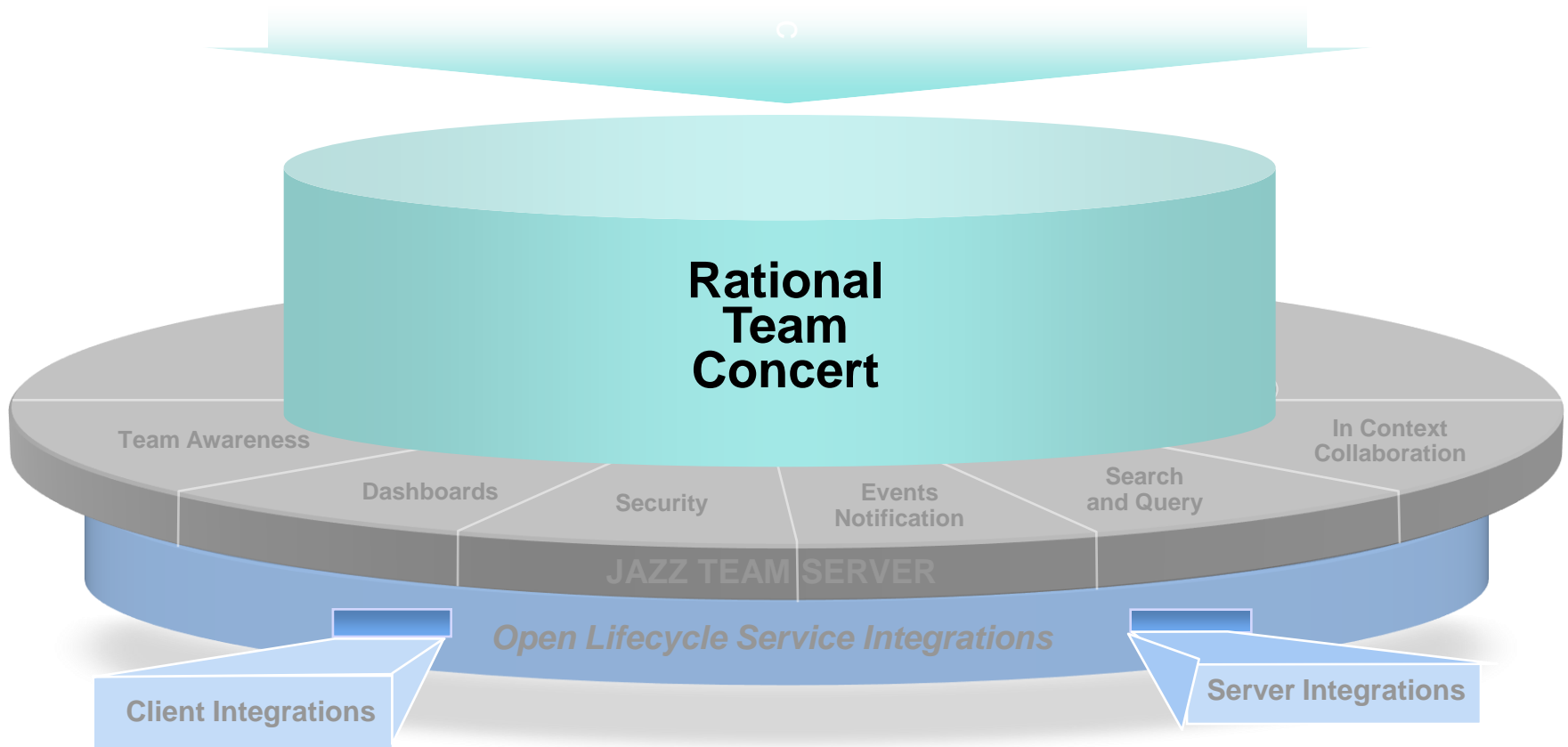
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Today's focus: Rational Team Concert

The first offering built on the Jazz technology platform



Rational. software

Software innovation through collaboration

- **Real time, in-context team collaboration**
 - ▶ Make software development more automated, transparent and predictive
- **"Think and work in unison"**
 - ▶ Integrated source control, work item and build management
- **Assess real-time project health**
 - ▶ Capture data automatically and unobtrusively
- **Automate best practices**
 - ▶ Dynamic processes accelerate team workflow
 - ▶ Out-of-the-box or custom processes
- **Unify software teams**
 - ▶ Integrate a broad array of tools and clients
 - ▶ Extend the value of ClearQuest and ClearCase
 - ▶ Visual Studio Client (4Q08)
 - ▶ Support for System z and System i servers (2H08)

Open and extensible on

Jazz

- ✓ Collaborate in context
- ✓ Right-size governance
- ✓ Day one productivity

IBM Rational Team Concert



transparent *integrated presence*
 wikis OPEN real-time reporting
 chat automated hand-offs Web 2.0
custom dashboards automated data gathering
EXTENSIBILITY Eclipse plug-ins services
 architecture **FREEDOM TO CREATE**

Rational Team Concert

Iteration Planning

- Integrated iteration planning and execution
- Task estimation linked to key milestones
- Out of the box agile process templates

Project Transparency

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

SCM

- Integrated stream management with flow relationships
- Component level baselines
- Server-based sandboxes
- Identifies component in streams and available baselines
- ClearCase connector

Work Items

- Defects, enhancements and conversations
- Query results view and share queries with team or member
- Support for approvals and discussions
- ClearQuest connector
- Query editor interface

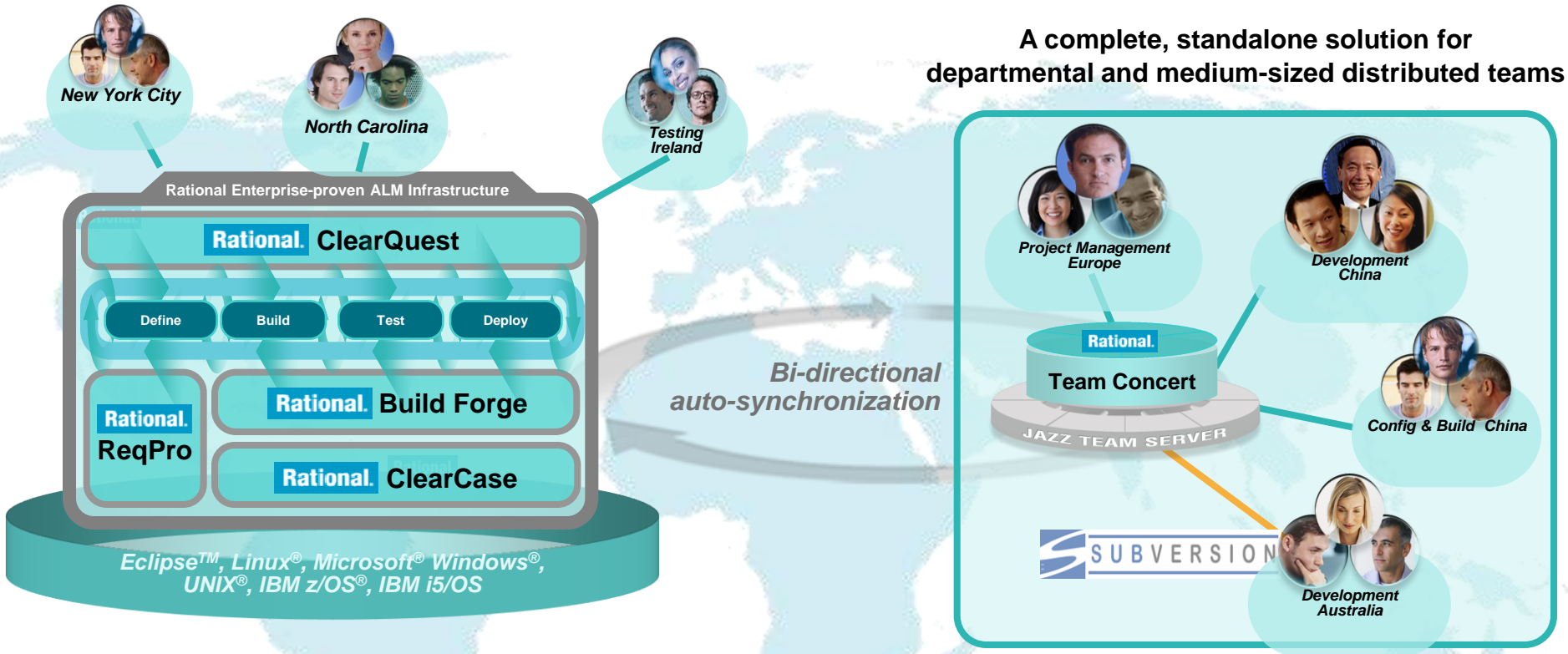
Build

- Work item and change set traceability
- Local or remote build servers
- Supports ant and command line tools
- Integration with build forge
- Build definitions for team and private builds

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 shows team members and status of their work

Unify distributed teams in mid-sized or enterprise settings



- Supports departmental “satellite” or “agile” projects optionally integrated with existing enterprise-proven Rational ALM infrastructure offerings
- Enhances existing ALM offerings with new collaborative & process capabilities

Improve business agility and project success rates



Agile Process Templates available in RTC

- Agile
 - ▶ Provides a mash-up of best practices of several existing agile processes. Incorporates the “XP” style methods.
- Eclipse Way
 - ▶ An agile, iteration-based process with a focus on consistent, on-time delivery of quality software.
- OpenUp
 - ▶ Preserves the essential characteristics of the Rational Unified Process, which includes iterative development, use cases and scenarios driving development, risk management, and an architecture-centric approach.
- Cloudburst
 - ▶ Designed to support the Cloudburst reference project, available with the Jazz platform
- Scrum
 - ▶ Supports a popular approach to managing projects in an Agile way.
- Simple Team
 - ▶ Enables teams to get started quickly. Team members have permissions to perform any modification in the project



Potential ROI using RTC*

- Team Productivity increases of up to 50%
 - ▶ Improved project management
 - ▶ Leveraging remote staff
 - ▶ Improved team utilization
- Team collaboration performance up 25%
 - ▶ Transparent knowledge sharing
 - ▶ Improved task coordination between team members
 - ▶ Seamless transfer of work
- Quality of releases improves 12%
 - ▶ Reduced customer issues
 - ▶ Reduced build issues
 - ▶ Reduced risk of project failures
- Project governance improvements of 12%
 - ▶ Automated process management
 - ▶ Enforcement of best practices
 - ▶ Alignment of quality/risk with lifecycle stages

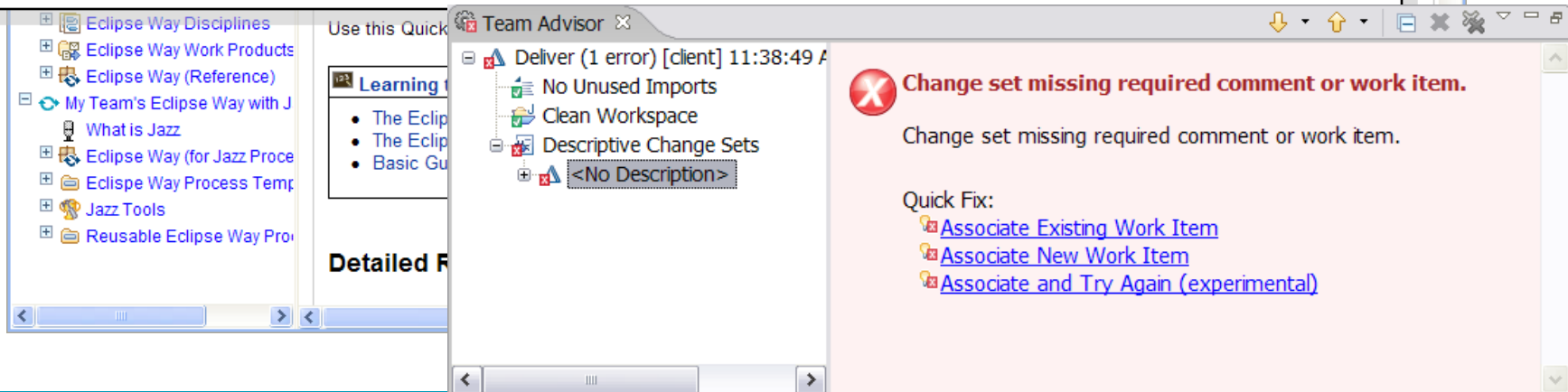
*Based on IBM customer surveys



Enables process awareness and guidance

■ Team Advisor

- Rules can be run when delivering changes to enforce team or organizational standards
- Helps ensure higher quality results through enforcement of agreed-upon standards
- Rules are configurable
- “Quick Fixes” can be specified to simplify corrective action
- Process rules can be defined, refined “on the fly”, enabling continual improvements
- Out of the box processes include OpenUP, Scrum, The Eclipse Way, etc



DEMO

- Introduction to Rational Team Concert



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Introducing IBM Rational Team Concert Integration

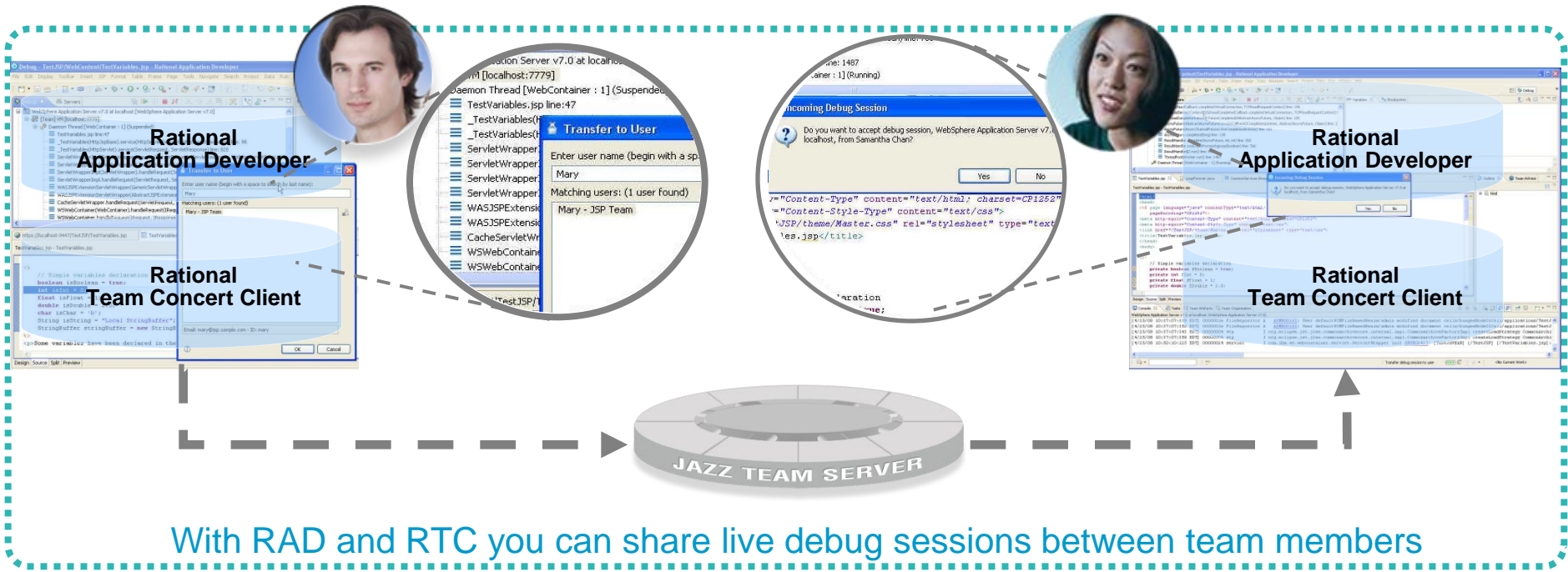
Software innovation through collaboration

- Rational Team Concert enables “real-time, in-context” collaboration for distributed project teams – making software development more automated, transparent and predictive
- Integrates source control, work item, reporting and build capabilities which “think and work in unison”

Open and extensible on



- ✓ Collaborate in context
- ✓ Right-size governance
- ✓ Day one productivity



With RAD and RTC you can share live debug sessions between team members

RTC Views Integrated into RAD / RSA

Develop in RAD and RSA perspectives (Modeling, Java EE, ...)

Manage your workload in the 'Team Central' and 'My Work' views

Work with your development artifacts in the 'Team Artifacts' view

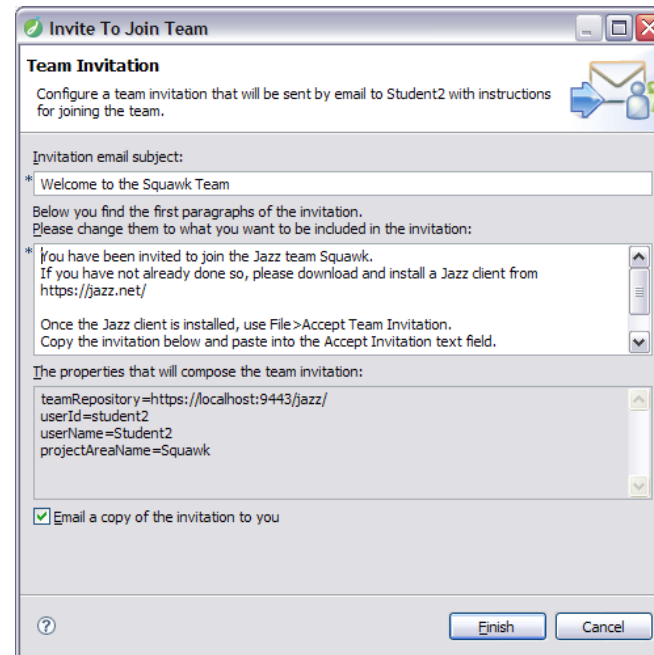
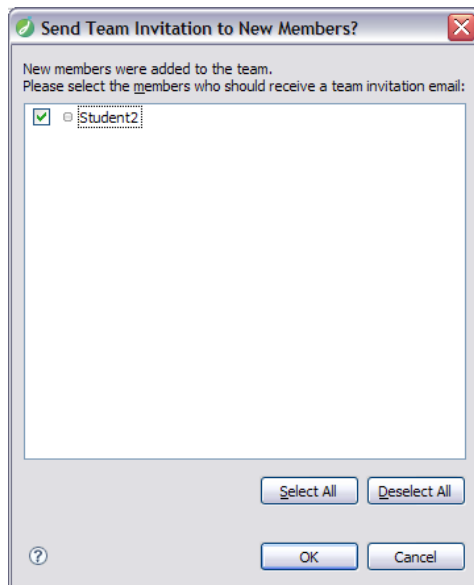
- code
- diagrams
- metadata
- ...

Use Jazz change management constructs and work flows

- change sets
- suspend/resume
- server workspaces, ...

Joining a Team

- For most environments, joining a project can be complicated
- Team Concert makes this as easy as possible
- Adding a new team member to a project generates a Team Invitation email
- Contents of the email can be used to set up the new team member's access to the project resources in Team Concert



Communication

- Users of Team Concert can use a variety of tools to communicate with team members
 - ▶ E-mail
 - ▶ Instant Messaging/Chat
 - ▶ RSS feeds
 - ▶ Web UI
 - ▶ Team Concert client
- Team members can use all the typical communication mechanisms to keep working together as a team, regardless of where they are physically located. This collaboration allows for a single view of project data
 - ▶ Integrated Instant Messaging/Chat for immediate feedback
 - ▶ RSS feeds to notify you of significant events on the project in real time
 - ▶ The Web UI used for anyone on the team, or who has an interest in the project



DEMO

- Joining a new project
 - ▶ Connect to project
 - ▶ Network with new team



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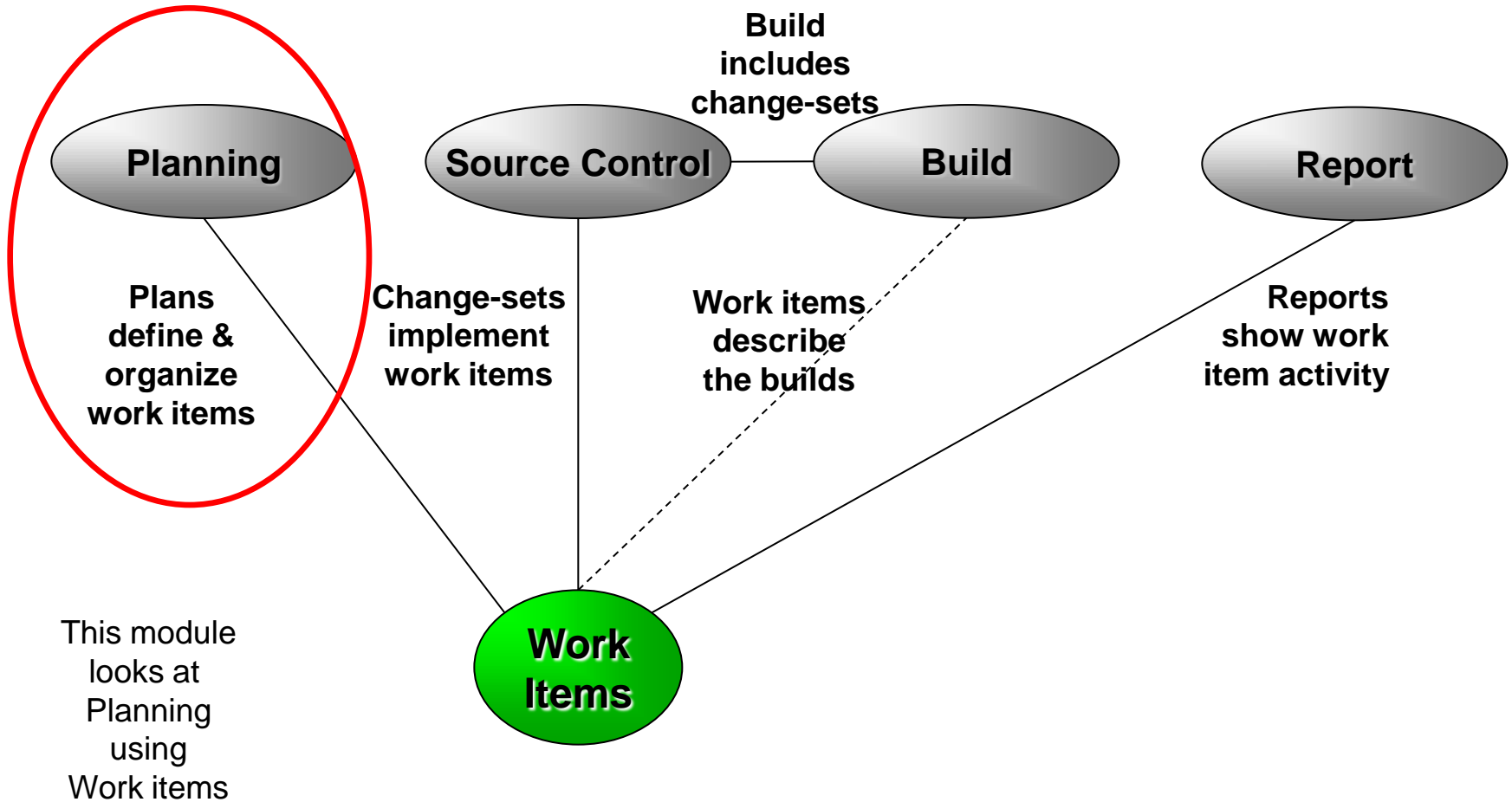
Units of work

- Rational Team Concert allows you to divide your work into **work items**
- The set of work item types is **open-ended**
- Standard types: **Task, Enhancement, Defect**
- The set is **defined by each team**
- The work item **life cycle** is **configurable**
- All work items are **stored** in the **repository**

- The way that Rational Team Concert uses **Work items** means that all your work can be planned, tracked and stored under configuration management. Allowing for both the top down view and the low level view of data and project status.



Work Items are central to Rational Team Concert



Work Item details

37: Create a Lion Squawker

Enhancement 37

Summary: * Create a Lion Squawker

New

Details

Type: Enhancement

Severity: Normal

Found In: Unassigned

Created: 04-Apr-2008 17:20

Created By: student1

Team Area: Core Library / Squawk

Filed Against: * Squawk/Core

Tags:

Owned By: student1

Priority: High

Planned For: -> 1.0 M2

Estimate: 20 m Correction:

Time Spent:

Due: None

Quick Information

<No information>

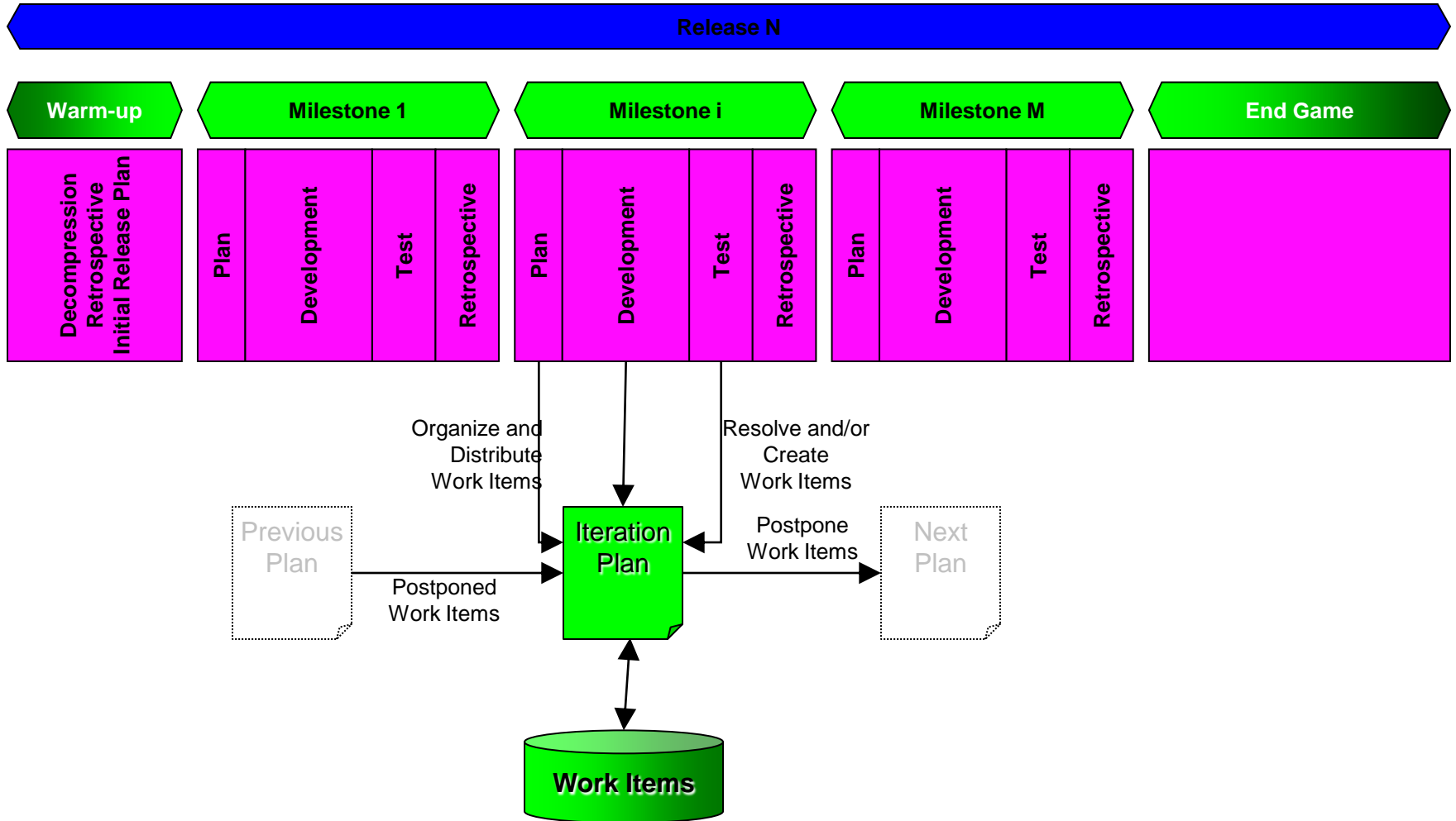
Description

Create a Lion Squawker

Discussion [Add Comment](#)

Overview Links Approvals History

Iteration planning in Rational Team Concert



The Iteration Plan

- A collection of work items...
 - ▶ Assigned to a given milestone
 - ▶ For a given team
- Plans are live
 - ▶ Changing work items changes the plan
 - ▶ Changing the plan directly changes the work items
 - ▶ Create new work items from the plan
- Plan structure is dynamic
 - ▶ Easily be grouped by owner, category, duration, priority, etc.
- Plans are visible
 - ▶ Available to everybody on the team
 - ▶ Observable by interested outsiders

Work Item Queries

- Provides real-time project health information and transparency of status through automated data gathering.
- Rational Team Concert provides a query mechanism to find work items in a Project Area allowing for more project transparency.
 - ▶ The query scope for work items is the project area.
- The user interface includes
 - ▶ an editor for building structured work item queries
 - ▶ an end-user configurable work item view to browse the query results.



DEMO

- Planning your work
 - ▶ Create a new Enhancement
 - ▶ Create a new Iteration



Real time collaboration

- The modules before showed how the project team plans the work for an iteration.
 - ▶ But how does the project keep track of all the planned work items?
 - ▶ How do I see who may help me with my actual problem?
 - ▶ How do I get the most recent status of the project?

What if your tool knows the actual status of your team's work?

Rational Team Concert stores all artifacts for the development project in one repository and provides powerful query capabilities to retrieve and display data.



Real time collaboration

- Query and Reporting capabilities are available in the Eclipse Client and the Web UI.
 - ▶ Define queries on Work Items to find your work and the work of others.
 - ▶ See who is online and ready to collaborate with you.
 - ▶ See the event log for build or work item events that are interesting to you and follow RSS feeds for News.
 - ▶ Generate, display and export reports on the status and health of the project.
- Rational Team Concert displays the information in automatically refreshed views that are configurable, so that you are up to date with the information you need in real time.



Reports – Displaying the project status

- Rational Team Concert uses the BIRT* reporting engine
- A huge variety of report formats are designed and available to display an actual overview of your projects:
 - ▶ Reports for the health of your builds
 - ▶ Reports for viewing the team load and the distribution of work items
 - ▶ Reports for your code
 - ▶ Etc.
- Reports can be arranged in the Web UI to Dashboards
- Reports can be exported to: .pdf, .xls, .doc, .ppt Formats

*BIRT is an open source Eclipse-based reporting system that integrates with your Java/J2EE application to produce compelling reports.



Reports – Displaying the project status

You are logged in as Robin Bater | [Logout](#)
The Jazz Project

Home | **Dashboards** | Work Items | Iteration Plans | Reports

Jazz Project Dashboard

Home | Trend Reports | Feeds

M6 Started
Current iteration changed to M6.

1 2

Welcome
Welcome to the Jazz Project dashboard. You can visit this space often to monitor all the vital signs of the Jazz Project at a glance, fed by the live data from the repository.

Jazz Project Description
Process enabled team collaboration platform

The goal of the Jazz project is to build a scalable, extensible team collaboration platform for seamlessly integrating tasks across the software lifecycle. The new technology is called the Jazz Platform. The Jazz project is defining the overall architecture of the Jazz Platform, and building an initial set of Jazz components that plug in to the Jazz Platform.

The work in the Jazz project is divided into development work and maintenance work. Development work produces a consecutive line of releases. Maintenance work produces bug fix releases of the released produced by the development work.

Development as well as maintenance work is overseen by the PMC. The team members listed in this project area constitute the PMC.

Server Status

Database: **Connected**
Services: **Ok**
Memory: 28% free of 982MB allocated / 1000MB Max
Version: 0.6.0.I20080307-1427
Uptime: 2 days, 2 hours

Jazz Project Teams (44)

- Jazz Development
- Jazz Maintenance

Useful Links

Wiki

- Planning
- Release Engineering
- Developer Setup
- Project Documents

Jazz Team Blog (10, 9 new)

See you at EclipseCon 2008 11 days ago
[The Team Concert User Workshop: behind the scenes](#) 14 days ago
[Refining the Jazz user interface](#) 18 days ago
[A brief history of the Jazz Team Server interface: Our journey from a J2EE server towards a RESTful server](#) 24 days ago
 Page 1 of 3

Reports – Displaying the project status

The screenshot displays the 'Jazz Project Dashboard' with the following components:

- Navigation:** Home | Dashboards | Work Items | Iteration Plans | Reports
- User Info:** You are logged in as Robin Bater | Logout | The Jazz Project
- Left Sidebar:**
 - Create New Dashboard
 - Find Dashboard
 - Shared Dashboards: My Profile, Jazz Project
- Main Dashboard Content:**
 - Recently modified (129) Tags:** A list of tags such as 'actionbuttons(2)', 'admin(1)', 'blank(1)', 'globalization(6)', etc.
 - Open Work Items by Type (All):** A stacked area chart showing work items from 2/1/07 to 2/1/08, categorized by Task, Enhancement, Plan Item, and com.ibm.team.appt.common.wo...
 - Open vs Closed Work Items (All):** A stacked area chart showing the number of open and closed work items from 2/1/07 to 2/1/09.
 - Open Work Items by Priority (All):** A stacked area chart showing work items by priority (High, Medium, Low, Unassigned) from 2/1/07 to 2/1/08.
 - Blocking Work Items (All):** A line chart showing the number of blocking work items from 2/1/07 to 2/1/08.
 - Closed Work Items by Priority (All):** A chart showing closed work items by priority.
 - New Work Items by Severity (All):** A bar chart showing new work items by severity (Unknown, Major, Critical, Minor, Blocker, Normal) from 6/6/06 to 11/1/07.

Display your choice of reports and queries in your own dashboard, e.g. to control the flow of work items.

Reports – Displaying the project status

You are logged in as Robin Bater | [Logout](#)
The Jazz Project

Home | Dashboards | Work Items | Iteration Plans | **Reports**

My Reports

Shared Reports

- Build
 - Build Health (Continuous)
 - Build Health (Weekly)
 - Code Coverage
 - Code Health
 - Frequent Test Failures
 - Frequent Test Regressions
- Data Warehouse
 - Data Warehouse Metrics
- Repository
 - Integral Range Statistics
 - Latest Metrics
 - Latest Metrics by Namespace
 - Metrics
 - Metrics by Namespace
 - Range Statistics
 - Scalar Statistics
- Source Control
 - Project Activity
 - Stream Size Counts
- Work Items
 - Blocking
 - By Owner (Live)
 - By Priority
 - By Team Area (Live)
 - Closed Daily by Severity
 - Comparison
 - Defect Backlog
 - Defect Discovery Rate
 - Deferred Work Items
 - New by Severity
 - Open by Type
 - Open vs Closed

Build Health (Weekly) Save As... Save

Parameters

| | | |
|------------------------------|---|----------------------|
| Team Area: /Jazz Development | Build Definition: weekly.integration.jazz | Duration: Last Month |
|------------------------------|---|----------------------|

Include Incomplete Builds: No

Build health

Latest Build is Clean (Mar 4, 2008 3:41:30 PM)

Number of Tests

2/10/08 2/17/08 2/24/08 3/2/08 3/9/08

- Build
- Number of Tests
- Clean Build Range
- Failed Build Range

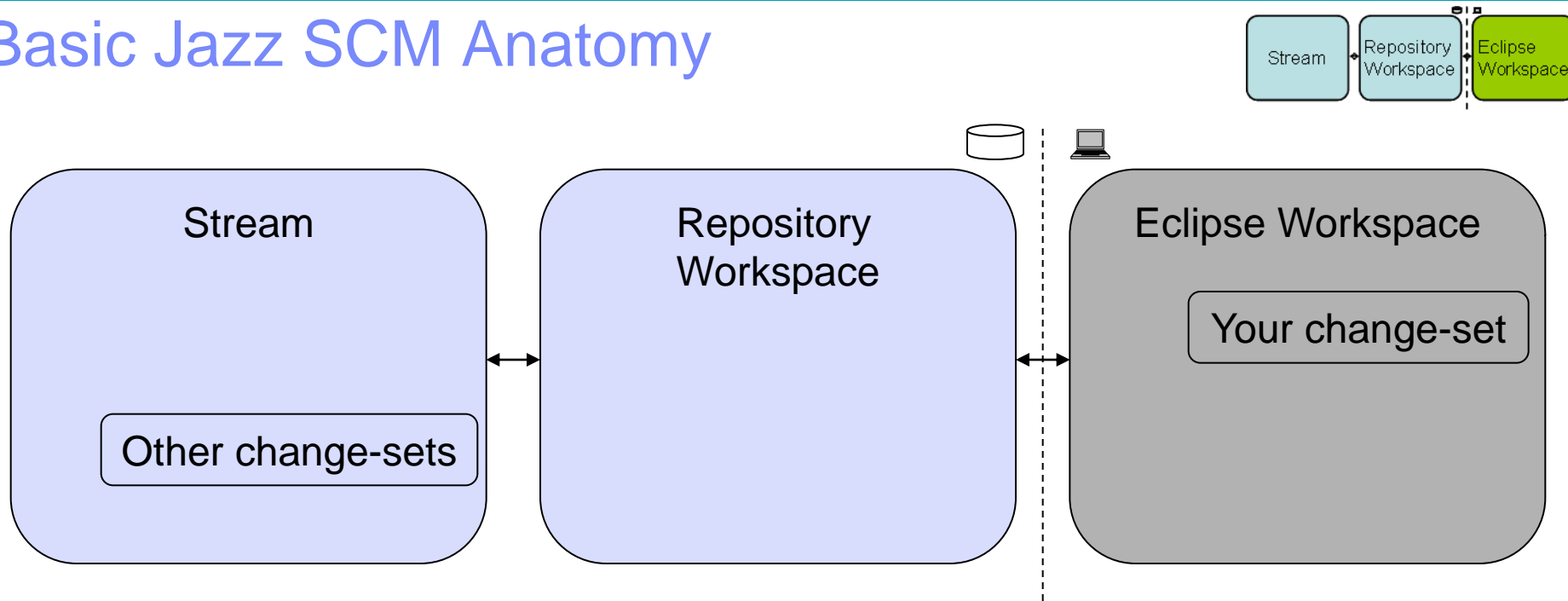
The build was clean during 67% of this time.
34% of builds (13 of 38) were clean in the specified time.

Build duration

Hours

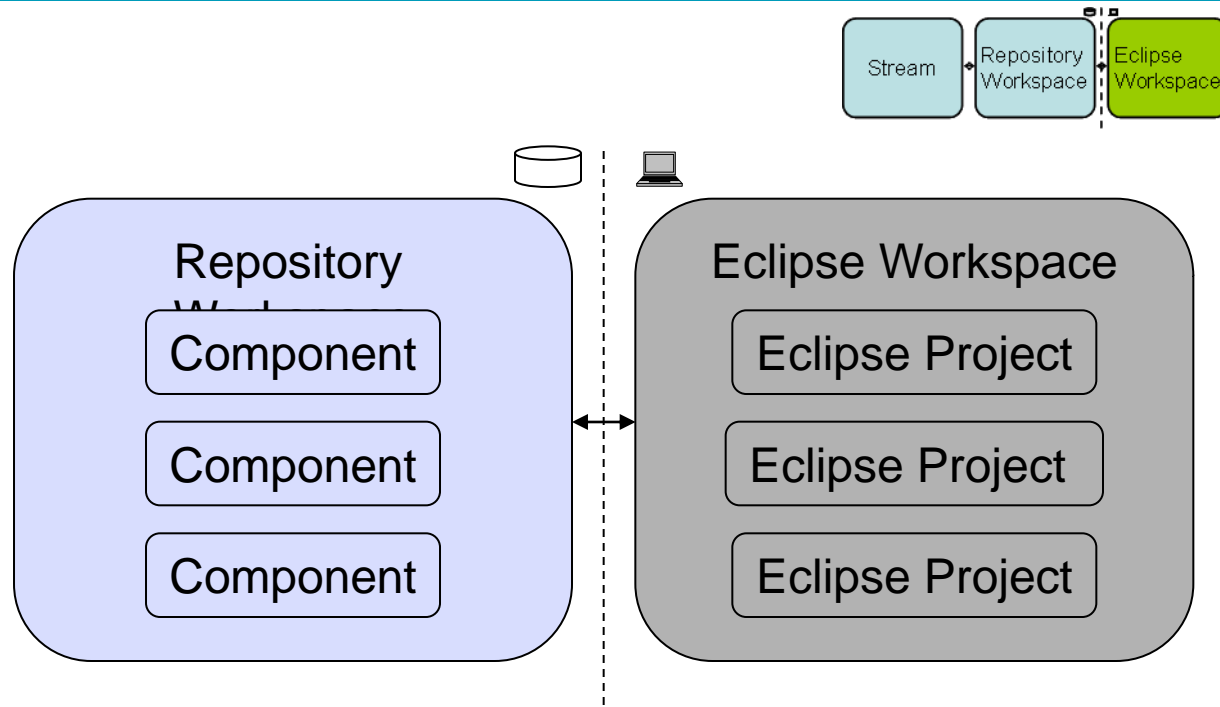
For a detailed Report open the Reports page and choose from a variety of available reports

Basic Jazz SCM Anatomy



- Streams are for sharing
- Repository workspaces are your personal space
- Eclipse workspaces are where you work
- Change-sets flow back and forth
- Subsequent modules will cover each of these

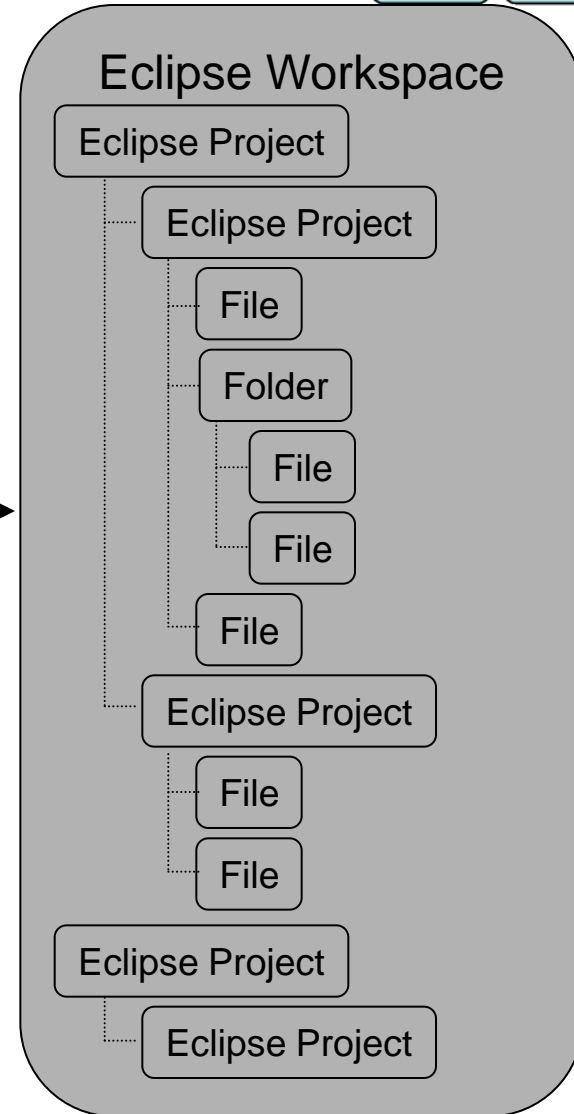
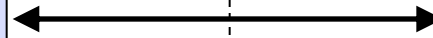
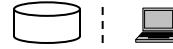
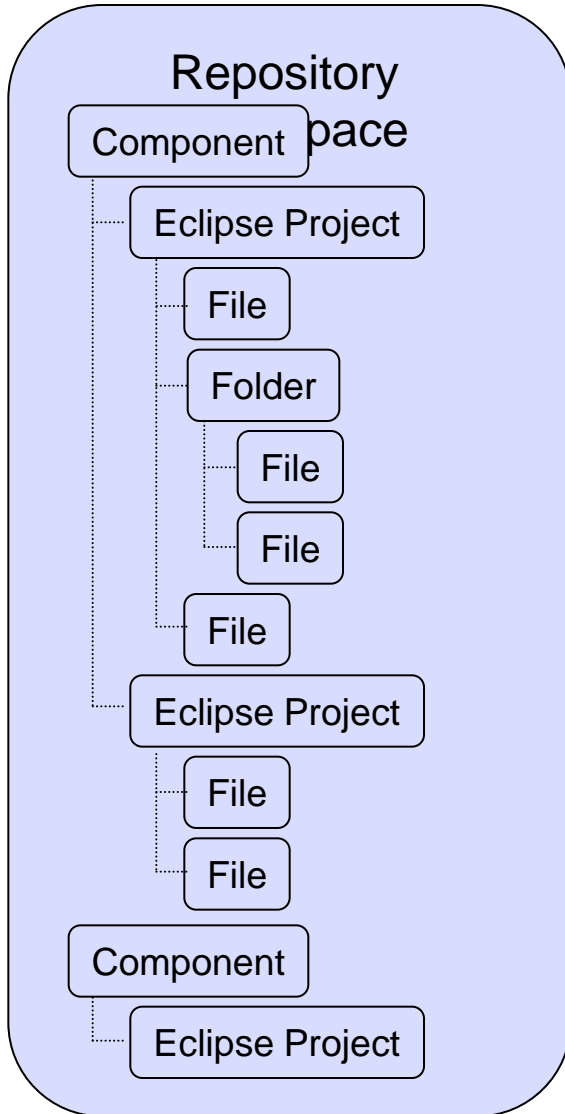
Components...



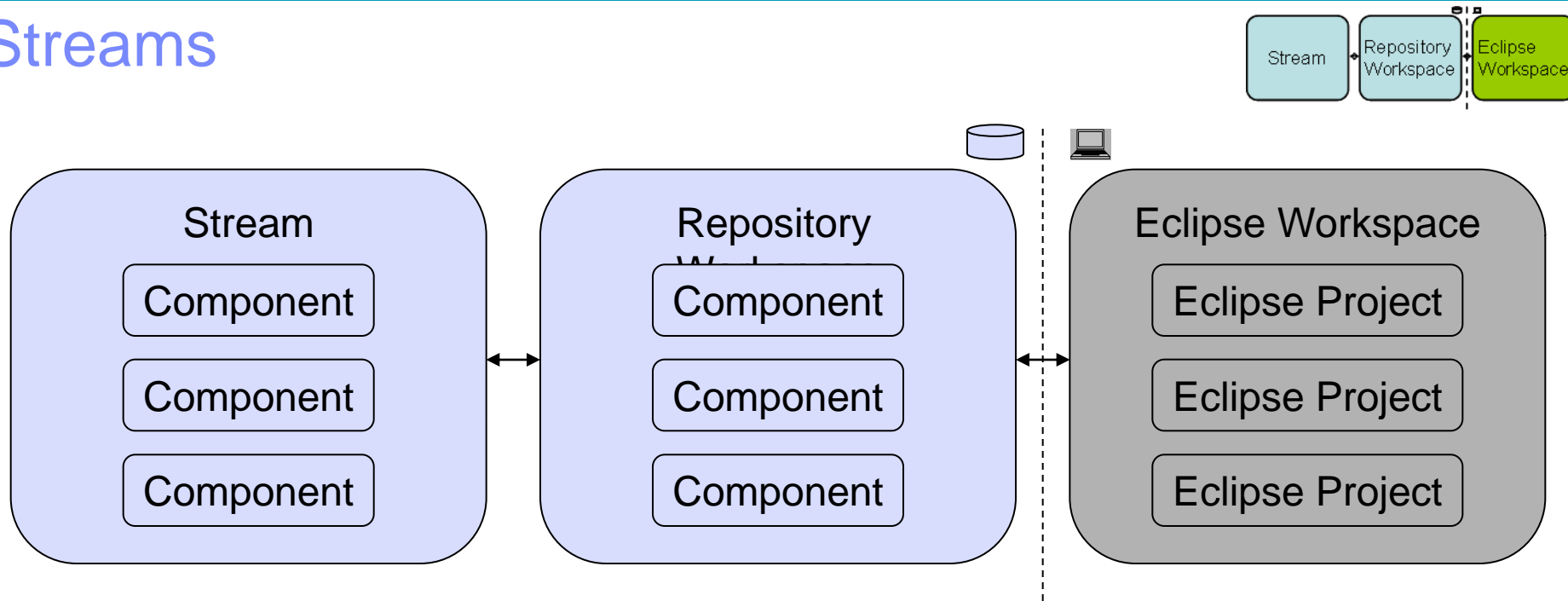
- Repository Workspaces

- ▶ Contain components
- ▶ Jazz understands the structure of your project
- ▶ Components map to Eclipse Projects in an Eclipse Workspace
 - Jazz will create these Eclipse Projects for you

Components

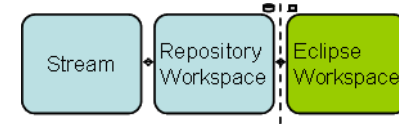
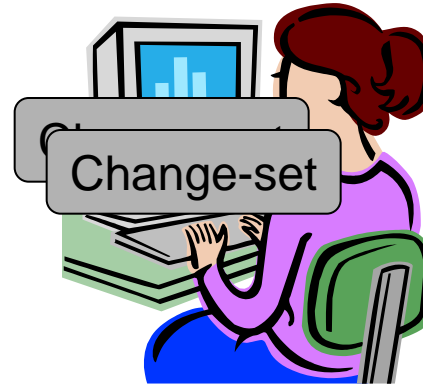
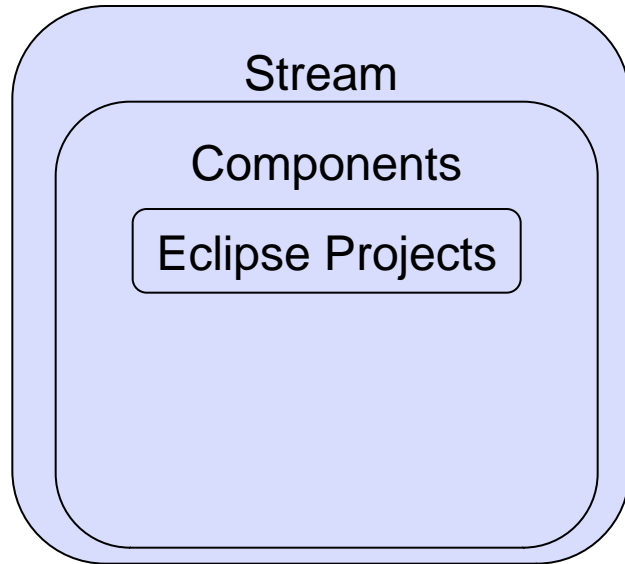


Streams



- Eclipse Workspace
 - ▶ Where a developer actively adds and changes source
- Repository Workspace
 - ▶ A developer's private space in the repository
- Stream
 - ▶ A place to share source with your team

Change-sets

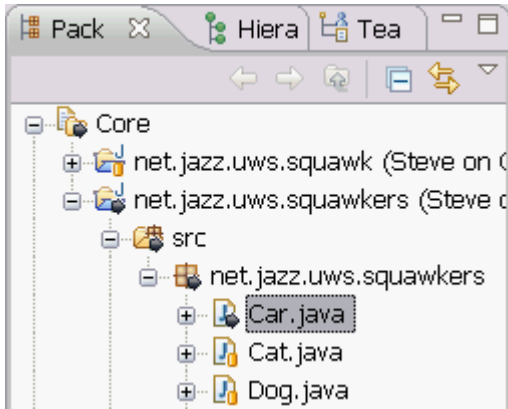
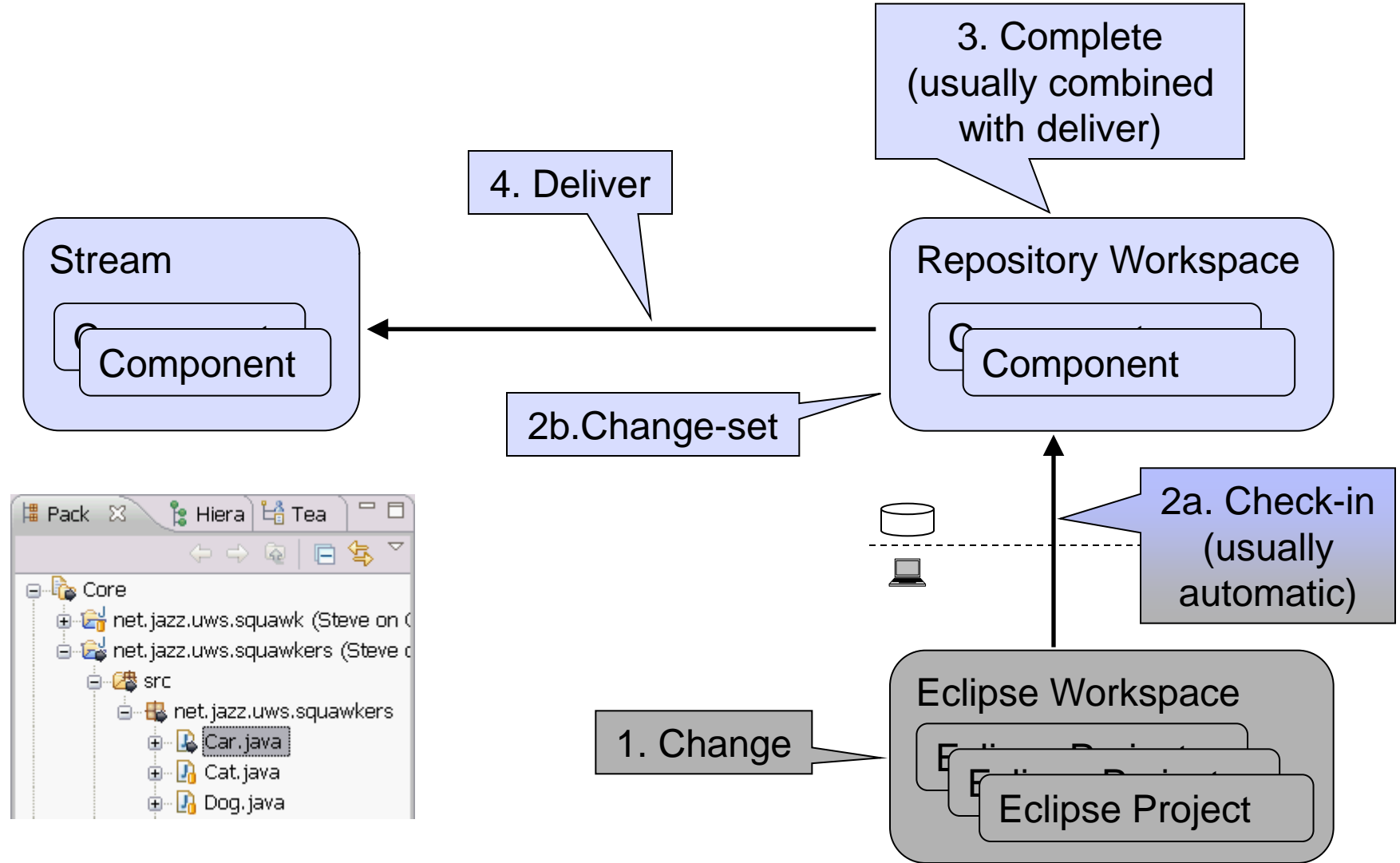
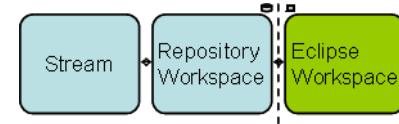


- Components Track Changes
 - ▶ Collection of files and folders is built up from the steady build up of change-sets
 - ▶ Each change-set builds on what came before
- Change History
 - ▶ A time-ordered sequence of change-sets
 - ▶ Describes how the component's content was built from nothing

Change-set Details

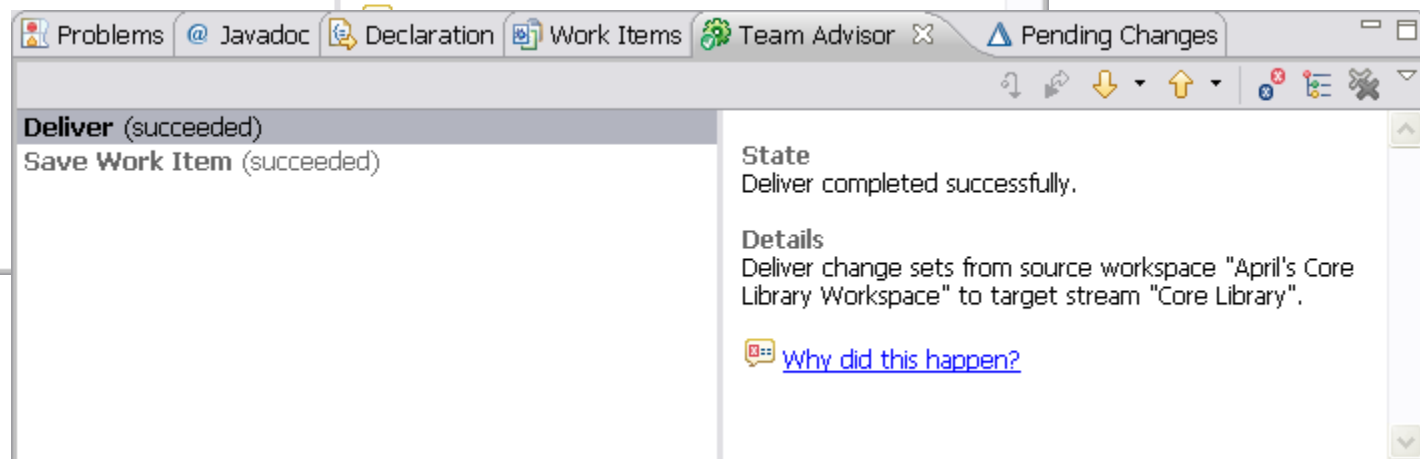
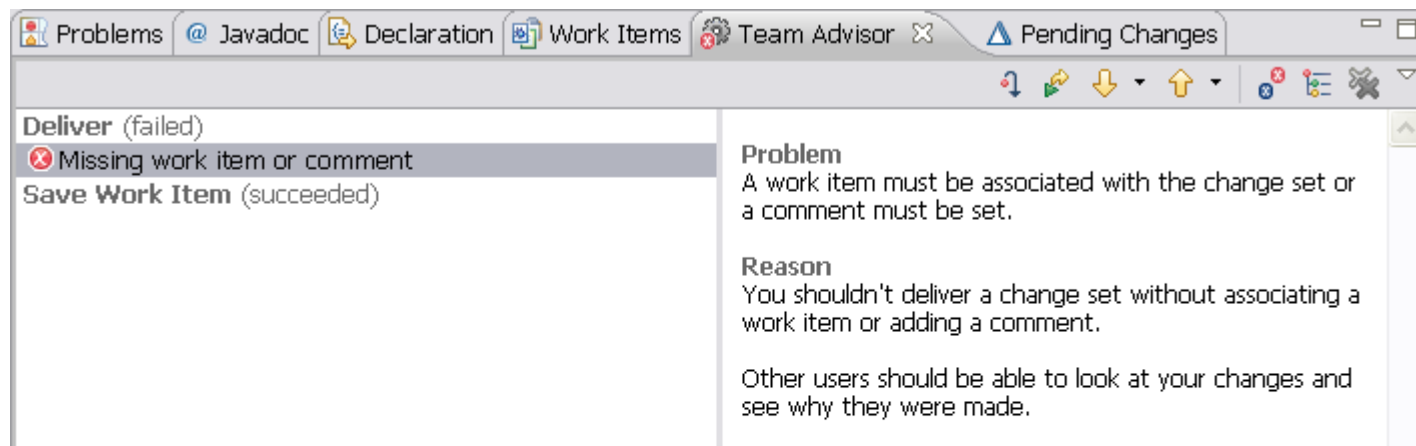
- Composed from a collection of changes to one or more files and folders
 - ▶ Manage dependencies in an integrated and transparent fashion
 - ▶ Change-set orientation is another example of Jazz understanding your project
 - ▶ A change-set that affects multiple resources is committed as a single atomic unit
- Indicates the reason for the changes
 - ▶ Traceable artifacts
 - ▶ Collaborative in nature via a comment, and/or
 - ▶ By referencing the relevant work item
- Can be shared with another team member in real time to increase productivity
 - ▶ Via a stream, or
 - ▶ From your repository workspace via a work item

Typical Journey For A Change-set

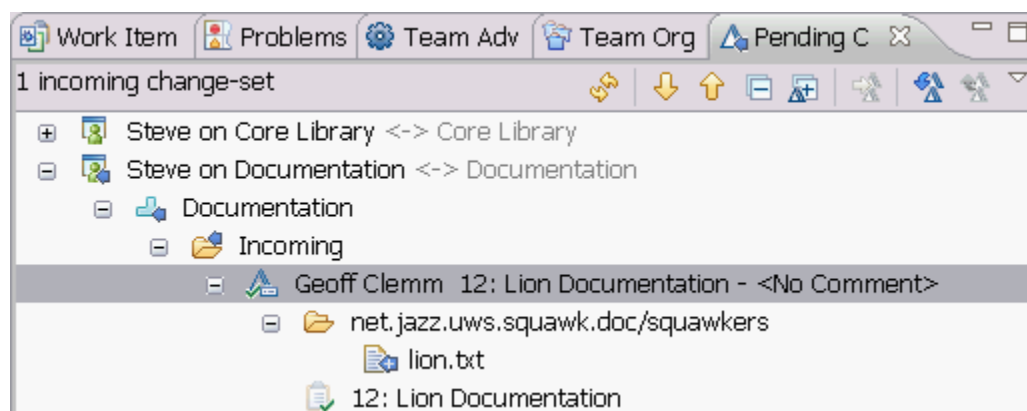
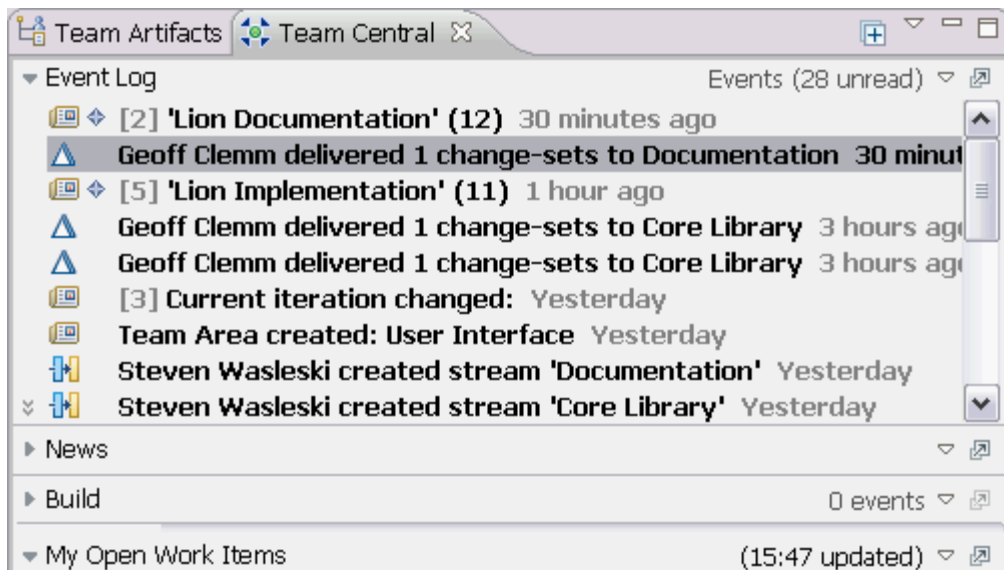


Change-set Delivery is Process Enabled

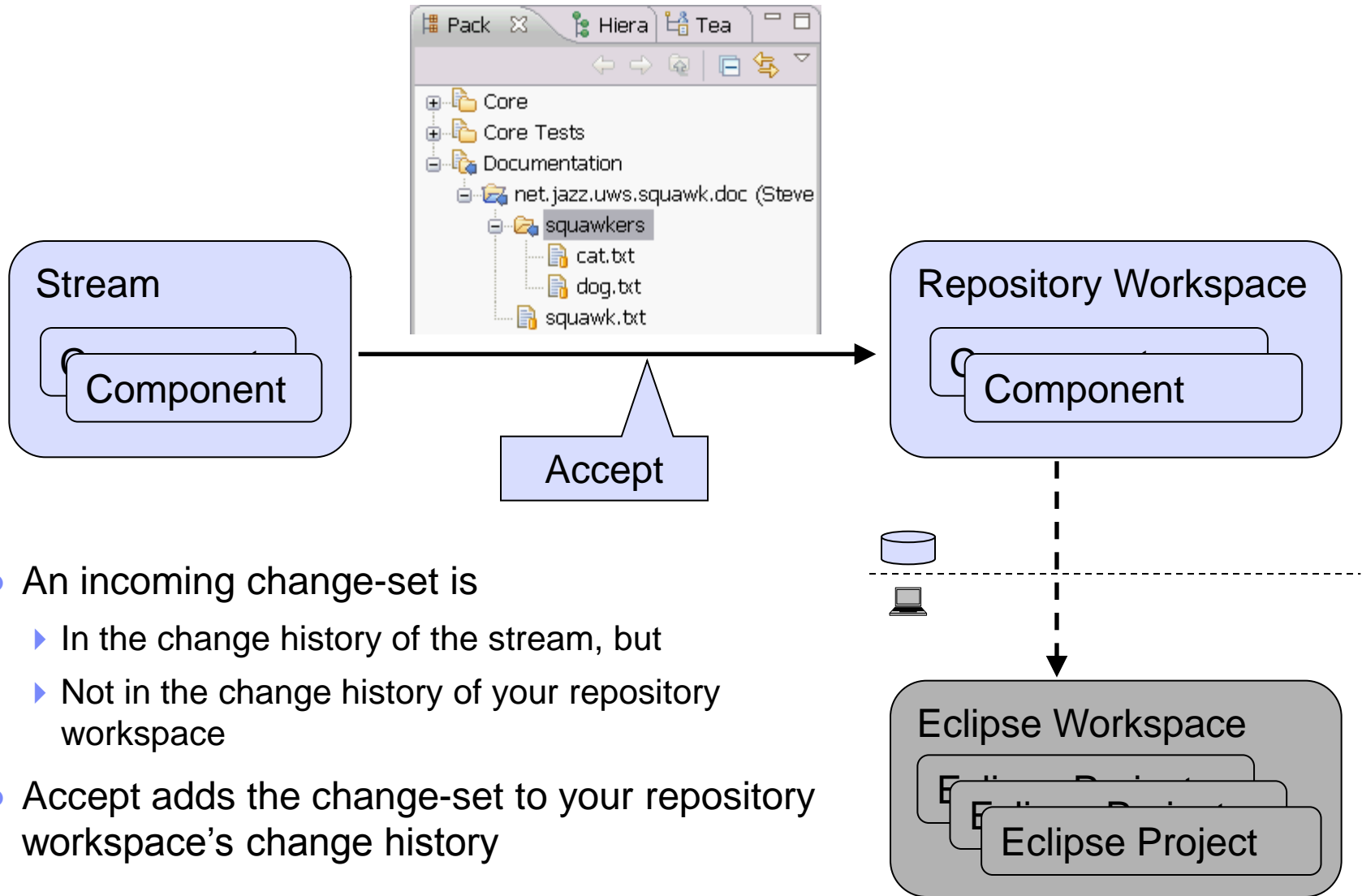
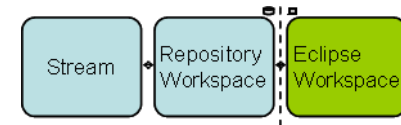
- The deliver operation is process-enabled, allowing the team's process to check and enforce delivery rules automatically



Delivery Notifications



Getting Teammates' Delivered Work



- An incoming change-set is
 - ▶ In the change history of the stream, but
 - ▶ Not in the change history of your repository workspace
- Accept adds the change-set to your repository workspace's change history

DEMO

- Sharing work across your team



Agenda

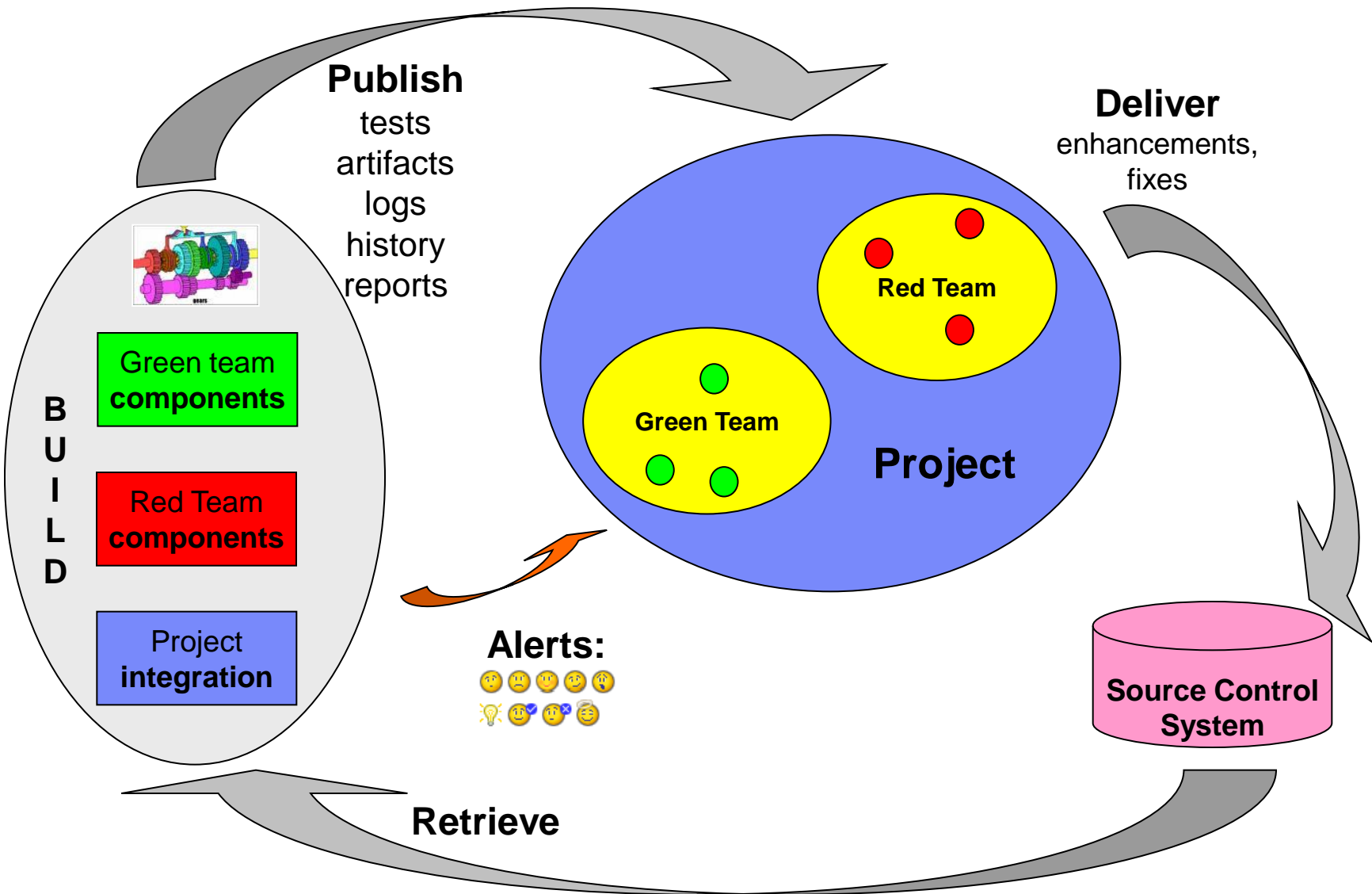
- Today's Software Development Landscape
- All that Jazz
 - ▶ Introduction
 - ▶ Architecture
- **Rational Team Concert**
 - ▶ Overview
 - ▶ Getting Started with a new Team
 - ▶ Source Configuration Management
 - ▶ **Build Management**
 - ▶ Change and Traceability
- Wrap-up and Next Steps



Build Challenges and their impacts

- Silos of information contribute to reducing team productivity
- Inconsistent policies and processes for project stakeholders
- Difficult to facilitate communication, visibility, sharing, and leveraging globally distributed teams without mass chaos
- Limited to no traceability among the artifacts
- Difficulty tracking status of multiple builds
- Delays and missed deadlines for projects and releases
- Unpredictable product/project release cycles
- Costly to support/integrate/troubleshoot multiple systems to avoid mass chaos
- Failed audits, additional work needed for tracking
- No reliable status of project health and no trend analysis

Build in the World of Agile Team Development



Rational Team Concert Build

- Is an integral part of the project infrastructure
 - ▶ Consistent, repeatable process throughout the project
- Brings awareness of build progress and results to developers
 - ▶ Easy sharing of information
- Links build results to related Jazz artifacts
 - ▶ Integrated experience, traceability and tracking “baked in“
- Allow developers to have a private build area
 - ▶ Build and test code before delivering to the main branch
- Accommodates existing build technologies (Ant, CruiseControl , Build Forge, Maven, ...)
 - ▶ Leverages technology that fits your project best



Build is very visible to the user

The screenshot displays the IBM Rational Team Concert interface for a Java project. The main window shows the details of a completed build: **Build workshop.squawk.integration.build B20080116-1351-workshop.squawk.integration.build**. The build status is **Completed** with a duration of 10 seconds, starting on Wed, 16 Jan 2008 at 13:51:04. A **Contribution Summary** indicates 0 errors, 0 warnings, 2 downloads, 1 link, 17 tests, 0 failures, and 0 errors. The build is requested by Jerry Jazz and has a build definition of workshop.squawk.integration.build.

On the left, a tree view shows **My builds** under the Squawk [localhost] workspace. On the right, the **Recent builds** section shows two successful events. Below that, the **Alerts** section displays a notification: **Build finished successfully workshop.squawk.core.continuous.build B20080116-1350-workshop.squawk.core.continuous.build**. At the bottom, the **History** table lists recent builds:

| Build | Label | Progress | Est | Start Time |
|-----------------------------------|-------------------|-----------|-----|--------------------------|
| workshop.squawk.integration.build | B20080116-1351... | Completed | | Wed, 16 Jan 2008 13:... |
| workshop.squawk.core.continuo... | B20080116-1350... | Completed | | Wed, 16 Jan 2008 13:... |
| workshop.squawk.integration.build | B20080115-1638... | Completed | | Tue, 15 Jan 2008 16:3... |
| workshop.squawk.core.continuo... | B20080115-1637... | Completed | | Tue, 15 Jan 2008 16:3... |

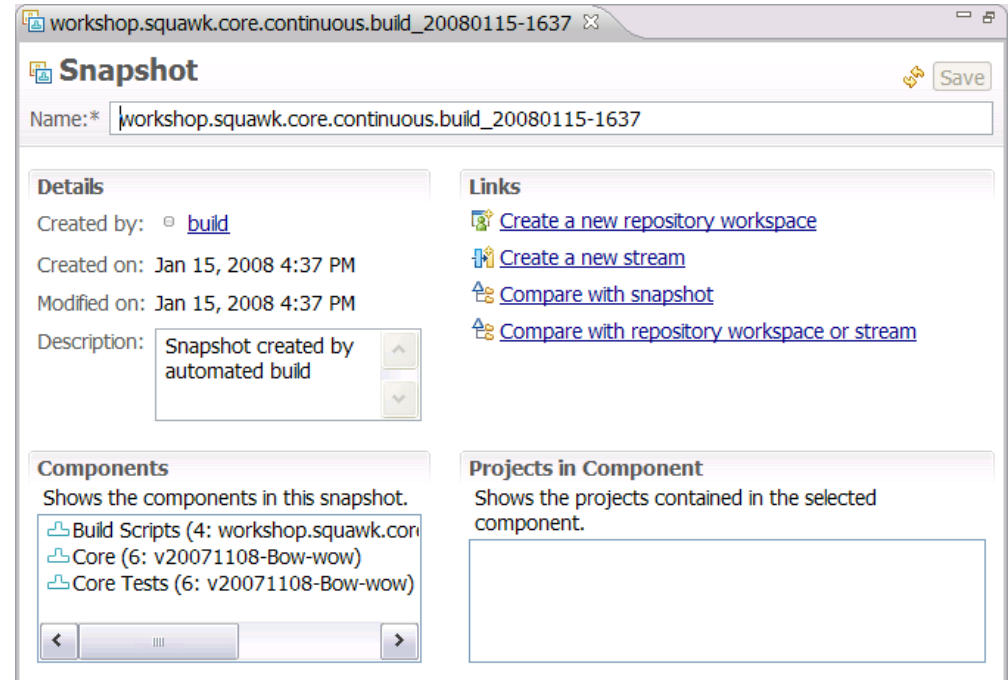
Private builds

- Private or Personal Builds allow you to build your changes before delivering them to the stream. This can provide you with some assurance that your changes will not disrupt the team when you deliver them.

The screenshot displays a web browser window with the URL `B20080516-1631-workshop.squawk.core.continuous.build`. The page title is "Build workshop.squawk.core.continuous.build (personal build by student1)". The build status is "Completed" with a green checkmark. The duration is 37 seconds, starting at 4:30:44 PM and completing at 4:31:21 PM on May 16, 2008. A status trend bar shows 12 bars, with the first two being red and the rest green. The "Reported Work Items" section shows "None reported against this build" with links to "Create a new work item" and "Associate an existing work item". The "Contribution Summary" section lists: Downloads (1 download), External Links (1 link), JUnit (4 tests, 0 failures, 0 errors), Logs (1 log), Repository Workspace (Student1 Core Library Workspace), and Compile (0 errors, 0 warnings). The "General Information" section shows: Requested by: student1, Build Definition: workshop.squawk.core.continuous.build, Build Engine: workshop.build.engine, Build History: 23 builds, and a checked box for "Deletion allowed". A navigation bar at the bottom includes tabs for Summary, Build Activities, Compilation, JUnit, External Links, Logs, Downloads, and Properties.

Builds and Snapshots

- A build can request a snapshot
 - ▶ If there are any changes in a component since the last build
 - A new baseline is created with the same name as the snapshot name
 - ▶ Convenient for reproducing build problems



DEMO

- Build Management



Agenda

- Today's Software Development Landscape
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 - ▶ Source Configuration Management
 - ▶ Build Management
 - ▶ **Change and Traceability**
- Wrap-up and Next Steps



Builds

The screenshot shows the IBM Rational Team Concert interface. The main window displays the details for a build named 'workshop.squawk.core.continuous.build' with ID 'B20080314-1507-workshop.squawk.core.continuous.build'. The build status is 'Completed' with a duration of 28 seconds, starting on March 14, 2008 at 2:07:10 PM and completing at 2:07:39 PM. A status trend bar shows a sequence of red and green bars. The 'Contribution Summary' section lists various metrics: 1 download, 1 link, 1 log, repository workspace 'workshop.squawk.core.build.workspace', snapshot 'workshop.squawk.core.continuous.build_B20080314-1507', 0 errors and 0 warnings, 4 tests, 0 failures, and 0 errors. It also shows 3 work items included in the build. The 'Associated Release' section notes that released builds are available as choices in the work item 'Found In' field. A blue callout box points to the '3 included in build' link with the text: 'Identify work items and change sets that went into the build'. Below the main view, a table lists the work items included in the build.

| I | Status | P | S | Summary | Owned By | Created By |
|----|----------|---|---|--|--------------|------------|
| 35 | Resolved | | | Ignore | Zach Builder | Jerry Jazz |
| 32 | Resolved | | | Problem with build B20080306-1029-squawk.m1.maint... | Jerry Jazz | Jerry Jazz |
| 31 | Resolved | | | Clean up Dog squawker | Zara Intern | Jerry Jazz |

Identify work items and change sets that went into the build

Work Items

The screenshot displays the 'Work Items - Squawk - Team Concert' application window. The interface includes a menu bar (File, Edit, Navigate, Search, Project, Run, Window, Help), a toolbar, and a left-hand navigation pane titled 'All Team Areas (6 of 6 Team Areas selected)'. The navigation pane shows a tree structure with categories like Repository Connections, Builds, Plans, Reports, Streams, Work Items, Favorites, Feeds, My Repository Workspaces, My Team Areas, and Work Item History. The main area shows the details for 'Defect 32'. The summary is 'Problem with build B20080306-1029-squawk.m1.maintenance.build'. The details section includes fields for Type (Defect), Severity (Critical), Found In (Unassigned), Created (Mar 6, 2008 12:31 PM), Created By (Jerry Jazz), Team Area (Core Library / Squawk), Filed Against (Squawk/Core), Owned By (Jerry Jazz), Priority (Unassigned), Planned For (Patches), Estimate, Correction, Time Spent, Due (None), Resolved (Mar 13, 2008 5:17 PM), and Resolved By (Jerry Jazz). A 'Quick Information' section lists Change Sets (2), Reported against Builds (1), and Included in Builds (3). The description contains a message from Jerry Jazz dated April, asking for help with a failure. A discussion section shows a comment from Jerry Jazz on Mar 13, 2008, stating 'Reassigned it back to myself.' At the bottom, a table lists work items found in a specific build.

| I | Status | P | S | Summary | Owned By | Created By |
|----|----------|---|---|--|--------------|------------|
| 35 | Resolved | | | Ignore | Zach Builder | Jerry Jazz |
| 32 | Resolved | | | Problem with build B20080306-1029-squawk.m1.maintenance.b... | Jerry Jazz | Jerry Jazz |
| 31 | Resolved | | | Clean up Dog squawker | Zara Intern | Jerry Jazz |

List associated work items

Drill down into the details of a work item

Change Sets

Defect 32

Summary:* Problem with build B20080306-1029-squawk.m1.maintenance.build

Resolved Fixed

Attachments

| Id | Name | Created | Created by | Size | Type |
|----|------|---------|------------|------|------|
|----|------|---------|------------|------|------|

Add File...
Add Screenshot...
Remove
Rename
Save As...

Subscribers

Add...
Remove

Links

- Change-Sets
 - Changes in Core - Jerry Jazz 3/13/08 5:16 PM
 - Changes in Core Tests - Jerry Jazz 3/13/08 5:16 PM
- Included in builds
 - squawk.m1.maintenance.build M20080313-1516
 - workshop.squawk.core.continuous.build B20080314-1507-workshop.squawk.core.continuous.build
 - workshop.squawk.integration.build I20080314-1507-workshop.squawk.integration.build
- Reported against builds
 - squawk.m1.maintenance.build B20080306-1029-squawk.m1.maintenance.build

Review change sets that make up the build

Change Explorer lists files that were modified for a given change set

Overview Links Approvals History

Work Items Problems Builds Change Explorer

<No Comment>

- net.jazz.uws.squawkers/src/net/jazz/uws/squawkers
 - Dog.java

Compare Changes

Compare changes between versions of a file

```

Java Structure Compare
  - Compilation Unit
    - Dog
      - BOW_WOW : String

Java Source Compare
  Dog.java
  Dog.java

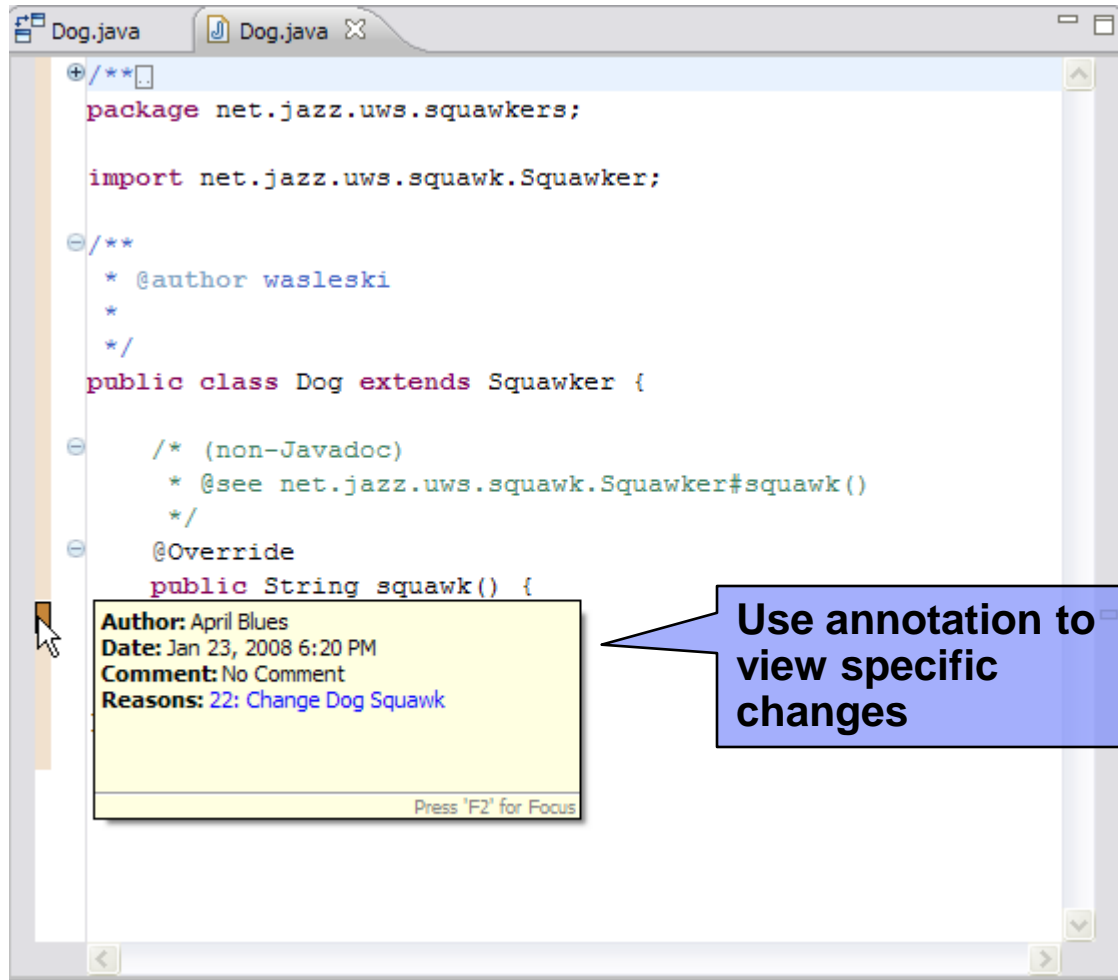
/**
 * @author wasleski
 */
public class Dog extends Squawker {

    private static final String BOW_WOW = "Bow-wow!";

    /* (non-Javadoc)
     * @see net.jazz.uws.squawk.Squawker#squawk()
     */
    @Override
    public String squawk() {
        return BOW_WOW;
    }
}
    
```

| Comment | Creator | Date Created | Merges |
|--|-------------|-----------------|--------|
| 32: Problem with build B20080306-1029-squawk.m1.mai... | Jerry Jazz | 3/13/08 5:16 PM | |
| 31: Clean up Dog squawker | Zara Intern | 3/6/08 12:26 PM | |
| 22: Change Dog Squawk | April Blues | 1/23/08 6:20 PM | |
| Share projects | Jerry Jazz | 1/23/08 2:05 PM | |

Visualize Change History



The screenshot shows an IDE window titled 'Dog.java' containing the following Java code:

```
package net.jazz.uws.squawkers;

import net.jazz.uws.squawk.Squawker;

/**
 * @author wasleski
 */
public class Dog extends Squawker {

    /* (non-Javadoc)
     * @see net.jazz.uws.squawk.Squawker#squawk()
     */
    @Override
    public String squawk() {
```

A yellow popup window is displayed over the code, showing the following change history information:

- Author:** April Blues
- Date:** Jan 23, 2008 6:20 PM
- Comment:** No Comment
- Reasons:** 22: Change Dog Squawk

At the bottom of the popup, it says "Press 'F2' for Focus".

A blue callout box with a pointer to the popup contains the text: "Use annotation to view specific changes".

DEMO

- Exploring Changes and Traceability



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Call to action and next steps

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 - hands on training utilizing the combined CC/CQ/BF/TPM solution
- Build Forge™ Proof of Technology
 - In depth dive into IBM Rational BuildForge
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 - ▶ Service Oriented Architecture Governance POT
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✓

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(One per Project)

✓

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Full IBM Support

250

Derby and DB2 Express (DB2, Oracle, SQL Server)

Tomcat (WebSphere)

✓

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(Unlimited Project, Team, and Personal)

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- ▶ Webcasts
- ▶ Demos
- ▶ Academic portals
- ▶ Sample projects

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- ▶ Technology zones
- ▶ Brand zones
- ▶ alphaWorks
- ▶ Discussion forums
- ▶ Blogs
- ▶ Wikis
- ▶ RSS Feeds
- ▶ Podcasts
- ▶ Localized sites in key non-US markets

The screenshot shows the IBM developerWorks website interface. At the top, there's a navigation bar with 'Home', 'Products', 'Services & industry solutions', 'Support & downloads', and 'My IBM'. A search bar is on the right. The main content area features a 'Top story' section with an article titled 'Get started with DB2 and Ruby on Rails'. Below this, there are several other articles with titles like 'Database refactoring with db4o', 'Exception handling in WebSphere Process Server and WebSphere ESB', 'Integrate the Storage Resource Broker and Globus through WSRE', 'Introducing Composite Application Workflow', 'Signing, encrypting, and decrypting Atom', and 'In pursuit of code quality: Beware the tight couple'. A 'Podcasts' section is also visible. On the right side, there's a 'My developerWorks' section with 'Welcome guest' and options to 'Sign in' or 'Register'. Below that, there's an 'Across the site' section with links to 'Downloads', 'Tutorials and training', 'Software products for developers', 'Technical events and briefings', 'Webcasts | Podcasts', and 'RSS feeds'. At the bottom, there are 'Related links' and 'Local sites' sections. A large yellow starburst graphic is overlaid on the right side of the screenshot, containing the following text:

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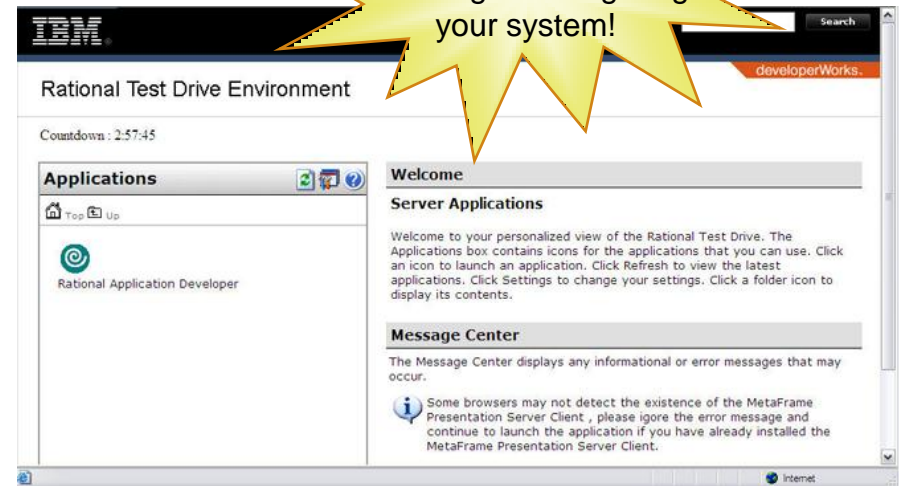
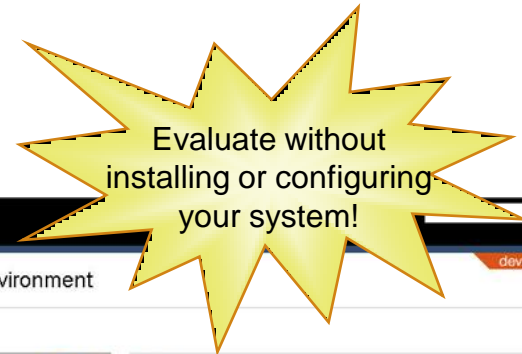
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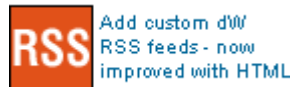
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developerWorks podcasts

| Podcast | Date |
|---|-------------|
| This week on developerWorks -- 27 Feb 2007 Contributing author Nicholas Chase talks about his Sudoku obsession and his new two-part article on using XForms to create your own Sudoku game. (See Scott Laningham's blog for this week's show notes .) Listen | 27 Feb 2007 |
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IBM Academic Initiative

The screenshot shows the IBM Academic Initiative website. At the top, there is a navigation bar with the IBM logo, a 'Country/region [select]' dropdown, 'Terms of use', a search bar with 'Academic Initiative' entered, and a 'Search' button. Below this is a secondary navigation bar with links for 'Home', 'Products', 'Services & solutions', 'Support & downloads', and 'My account'.

The main content area features a large banner with the text 'Get access to academic resources.' and an image of a classroom. Below the banner is a 'Why IBM' section with the text: 'Reap the benefits of open source, keep up with the latest technologies, prepare your students for the hottest jobs in the top fields, and get the resources you need to reach these goals, all at no charge.'

On the left side, there is a vertical menu with the following items: 'IBM Academic Initiative', 'Products & technologies', 'Downloads & CDs', 'Training', 'Curriculum & courseware', 'Skills for the 21st century', 'Forums & community', 'Certification', 'Library', 'Support', 'News & events', 'Membership', 'Site map', and 'Feedback'. Below this menu is a 'Related links' section with links to 'Student Portal', 'developerWorks resource for developers', and 'alphaWorks emerging technologies'.

On the right side, there are several utility boxes: 'Membership' with links to 'Join now!', 'Renew membership', 'Reset your password', and 'Update your profile'; 'Worldwide sites' with a 'Select your country' dropdown; 'Quick links' with links to 'Request or renew a Rational license key' and 'Get help'; and a box titled 'Give students access to helpful resources.' with links to 'Student software catalog (US,Canada)' and 'Student Opportunity'.

At the bottom of the main content area, there are three circular icons with text: 'Learn about open source', 'Explore high school resources', and 'Read our latest newsletter'.

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