



IBM Rational Software Development Conference 2008

WHERE TEAMS ARE **R-HEROES**



Connecting to the Mothership: Using IBM Rational Team Concert with ClearCase and ClearQuest

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CRMA01

Rational Team Concert: Components

SCM

- Flow browser shows developer to team flow
- Integrated stream management
- 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

- Integrated iteration planning and execution
- Real-time project status window
- 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
- Customizable project dashboard
- Real-time reporting and queries



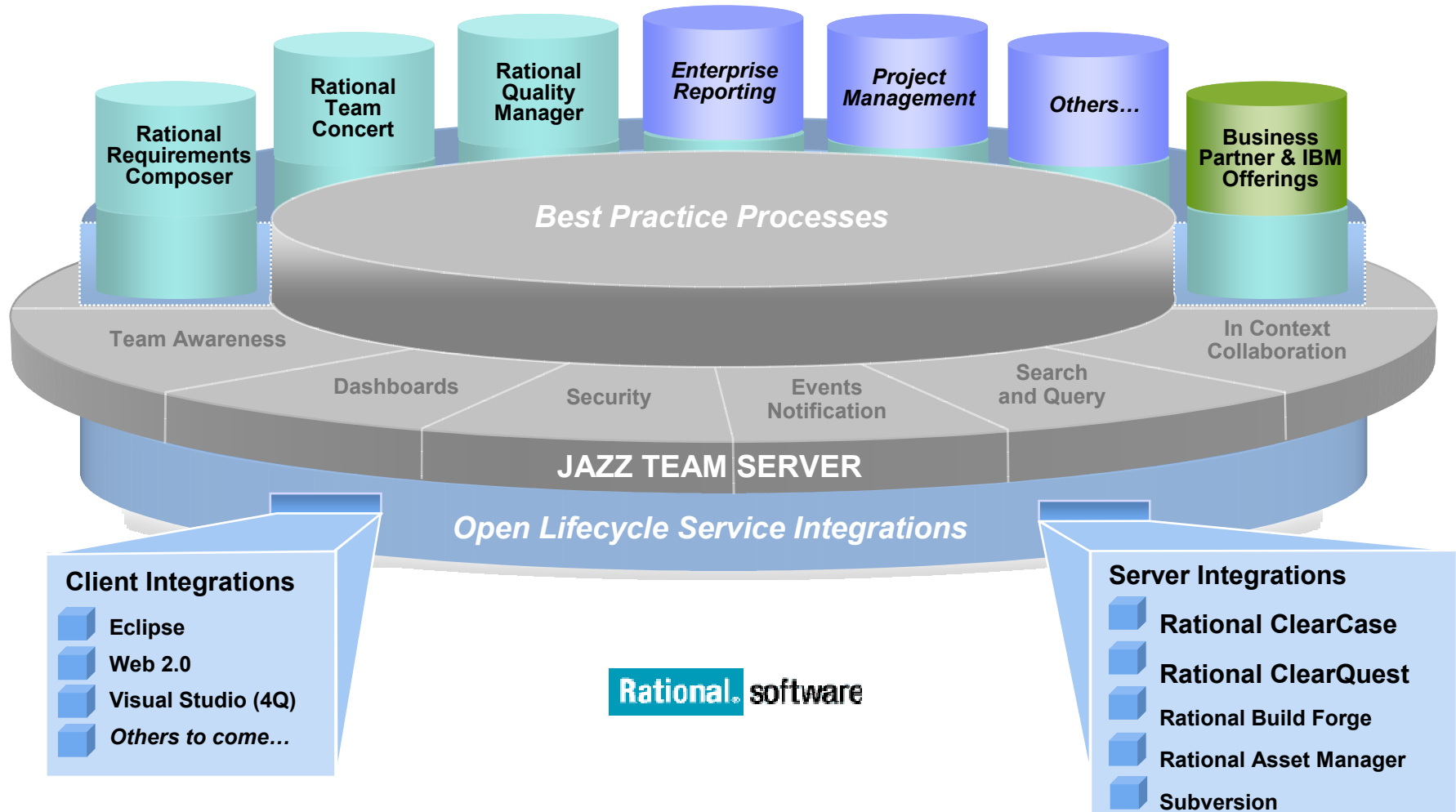
Rational Team Concert: Integrated Workflow

The screenshot shows the Rational Team Concert (RTC) interface. The main window displays a 'Team Central View' with a project hierarchy on the left and a central timeline for 'Iteration Plan: SCM 1.0 Functional Gaps 0.6 M1'. The timeline shows work items from May 8, 2007, to May 17, 2007. Below the timeline, there are sections for 'Last Week' and 'Earlier this month'. The interface also includes a 'Work Items' tab at the top and a 'Summary' section at the bottom. Several callout boxes are overlaid on the screenshot, pointing to specific features:

- Integrated SCM**: Points to the project hierarchy on the left.
- Supports parallel development**: Points to the timeline view.
- Support for RSS and Atom Feeds**: Points to the 'Work Items' tab.
- Team Central View**: Points to the main central area of the interface.
- Integrated with Work**: Points to the 'Work Items' tab.
- Process Enactment**: Points to the 'Work Items' tab.
- Streams for projects**: Points to the project hierarchy on the left.
- Integrated "entry" to Build System**: Points to the 'Work Items' tab.
- WebUI for Work Items**: Points to the 'Work Items' tab.



The Jazz Platform



Using Team Concert with ClearCase

- ClearCase is the enterprise software configuration management solution
- Product integration and release are performed in ClearCase
- Development teams responsible for specific components may use Team Concert to work on those components and use the ClearCase Connector to deliver their changes to a ClearCase branch or UCM stream

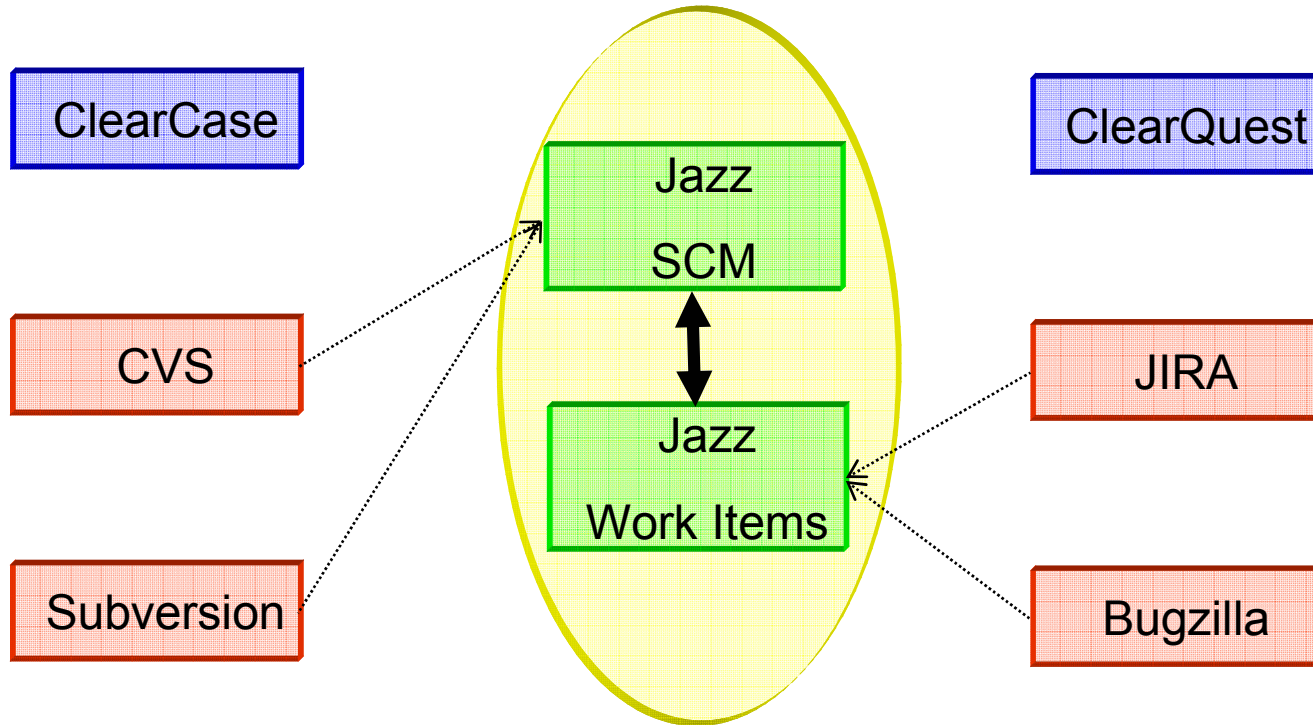


Integrating Other Repositories with Team Concert

- Import
- Bridges
- Connectors



Import

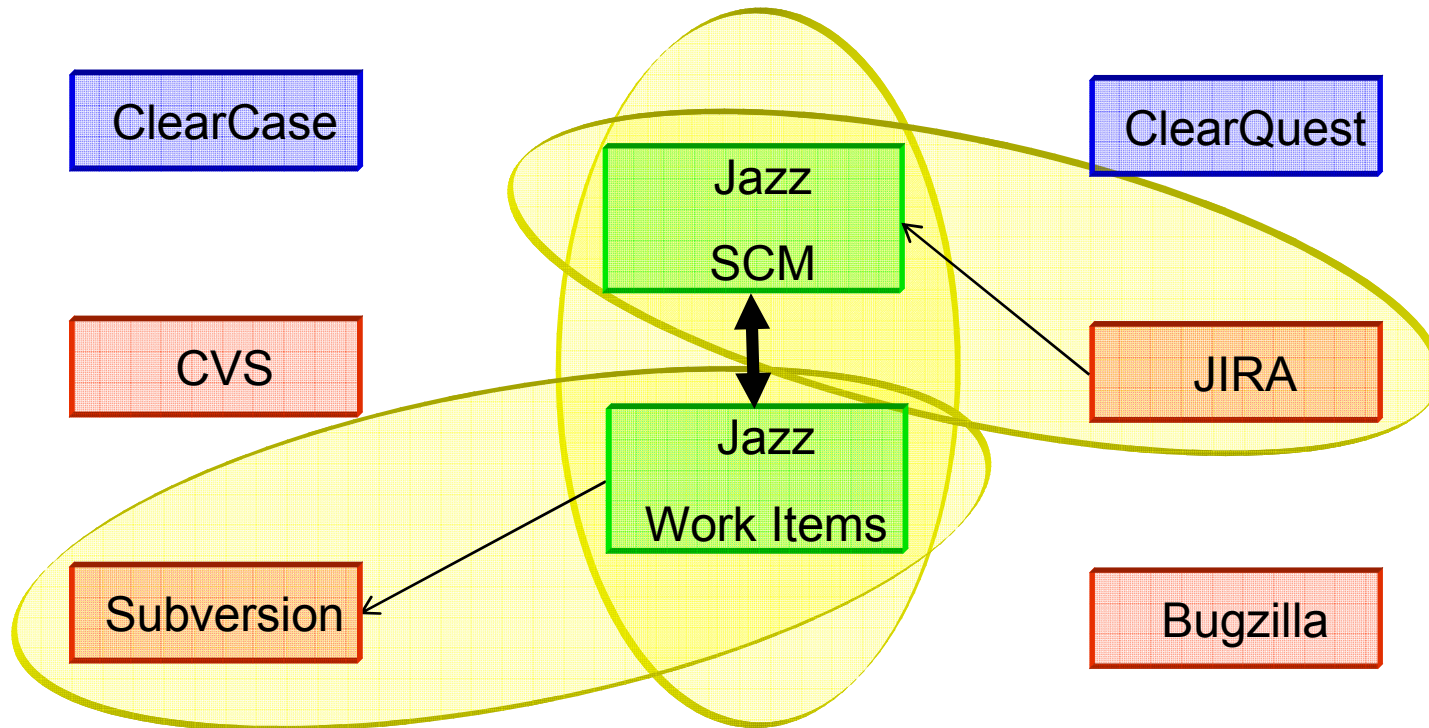


Problems with Import

- Jazz Team Server 1.0 limited to 250 users
- Customers want to trial a new repository with option of easily coming back



Bridges

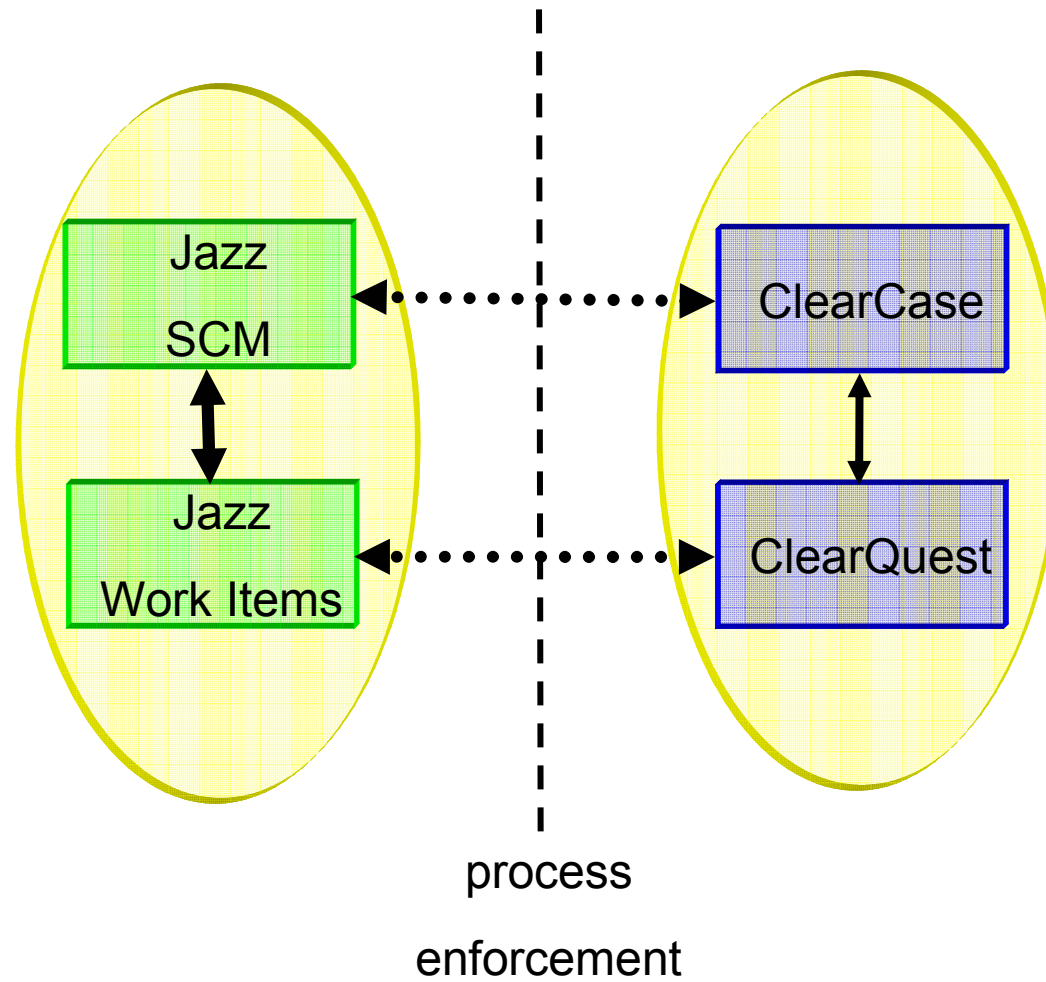


Problems with Bridges

- Only provides loose (primarily GUI) integrations
- Does not provide the full Team Concert experience of rich and seamless lifecycle integration



Connectors

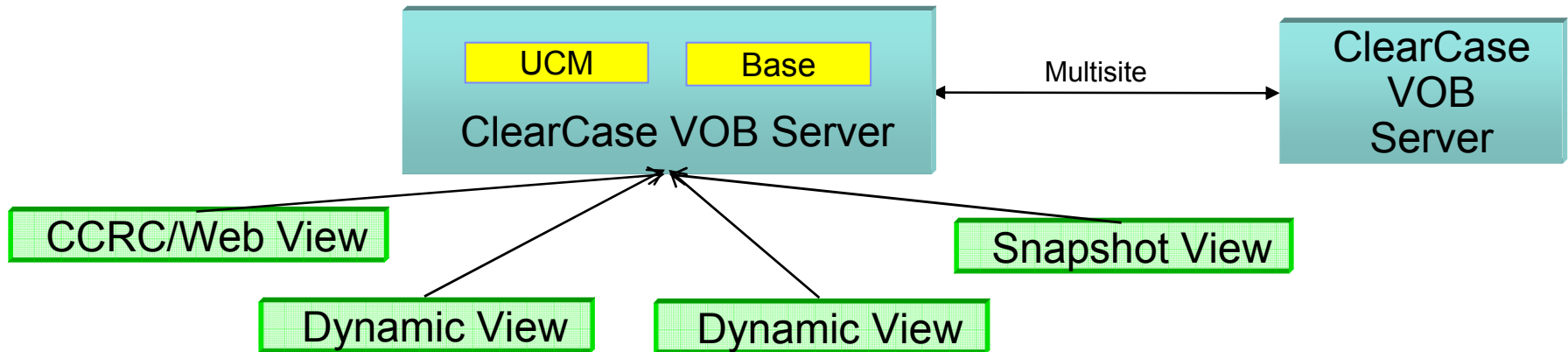


Connector Goals

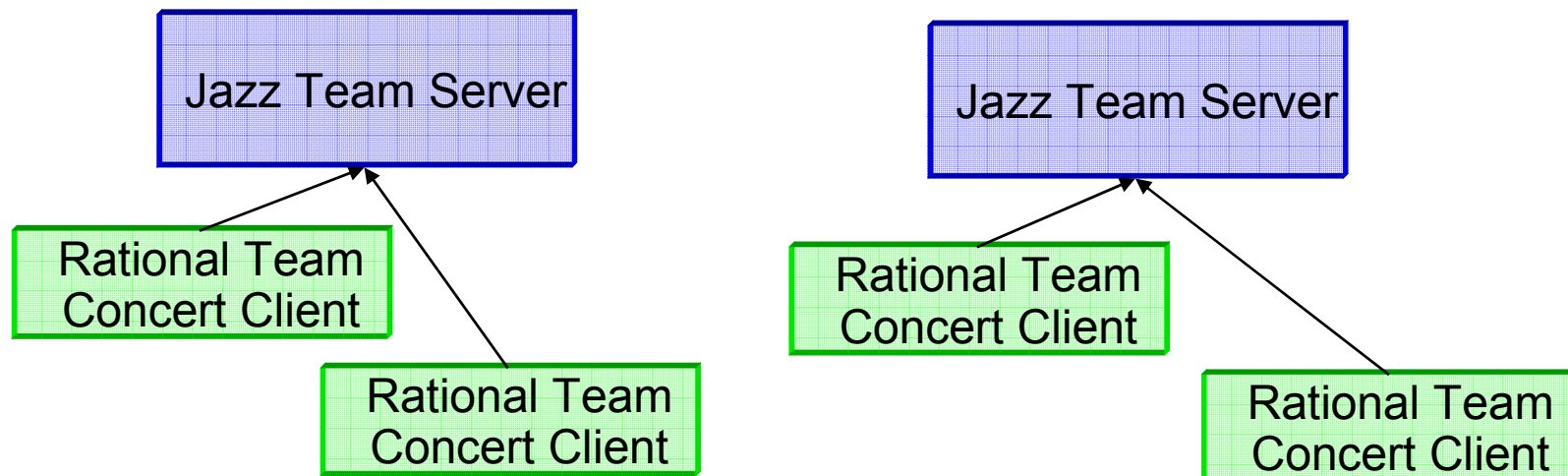
- Allow customers to use either tool/repository.
- Work can occur in parallel in both repositories.
- Process/Trigger constraints of both repositories respected and enforced
- Synchronize operation interruptible at any point.
 - ▶ Primarily merge conflicts, but also network problems.
- Customer can use standard Jazz/SCM merge tooling to resolve conflicts
- For scalability, send changes over, not entire configuration.
 - ▶ Leverage “configuration-diff” functionality of each SCM system.
- Allows ClearCase/ClearQuest customers to trial Team Concert with the full Team Concert benefits but without isolating trial users from the rest of the organization



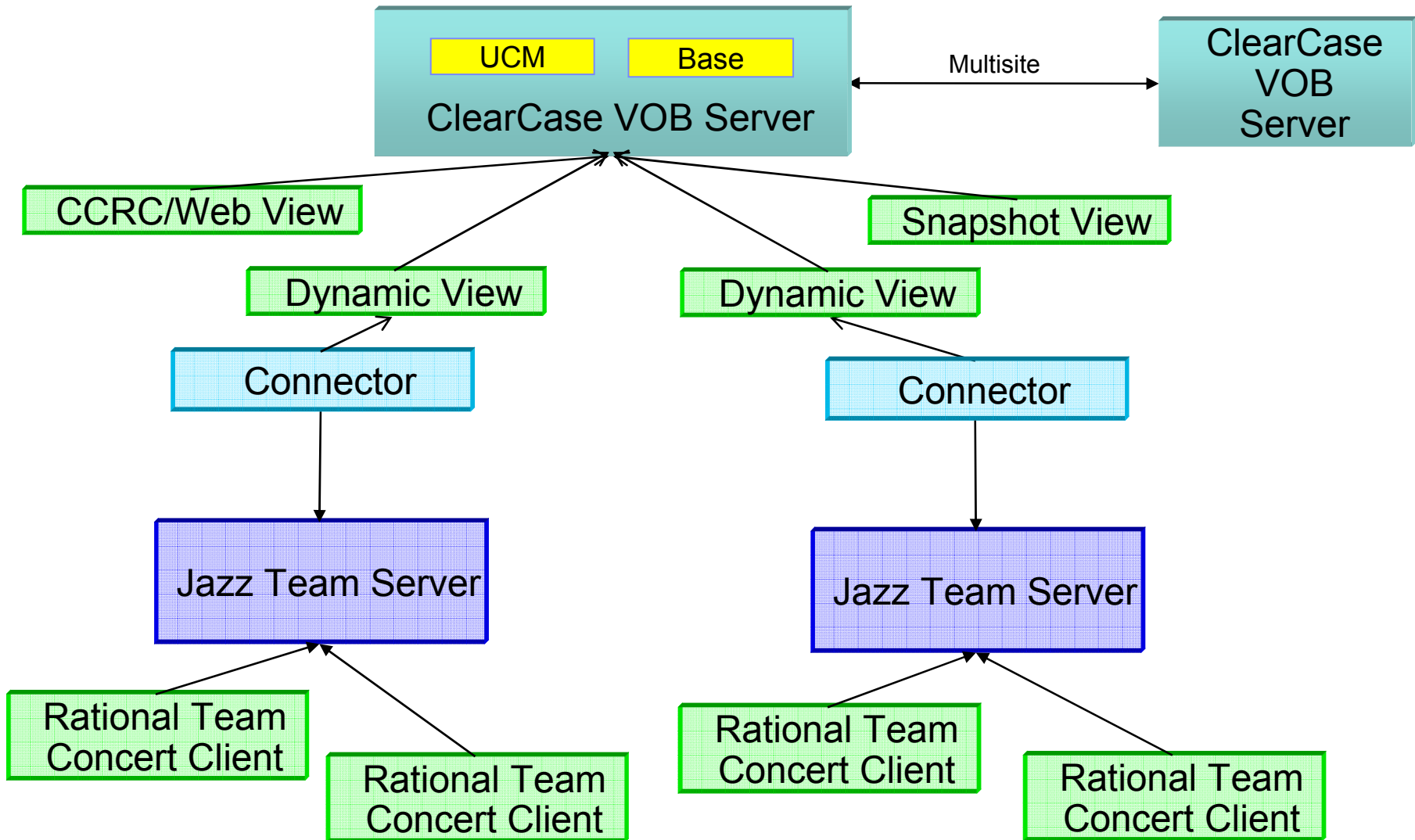
ClearCase Architecture



Rational Team Concert Architecture



ClearCase Connector Architecture



Jazz->CC Terminology Mapping (nouns)

- **Versionable Item:** file or directory under version control.
-> **VOB Element**
- **Repository Workspace:** private stream storing versions visible by a project team member.
-> **UCM Development Stream**
- **Stream:** tracks history of a collection of versionable items created through delivery of change sets.
-> **UCM Integration Stream**



Jazz->CC Terminology Mapping (more nouns)

- **Baseline:** records a particular configuration of a repository workspace or stream.
-> **UCM Baseline**
- **Snapshot:** records a set of baselines
-> **UCM Composite Baseline**
- **Change Set:** Collection of checked-in versions associated with a work item that constitutes an atomic unit for the deliver and accept operations.
-> **UCM Activity Change Set**
- **Eclipse File Area:** for browsing and modifying items.
-> **CC View**

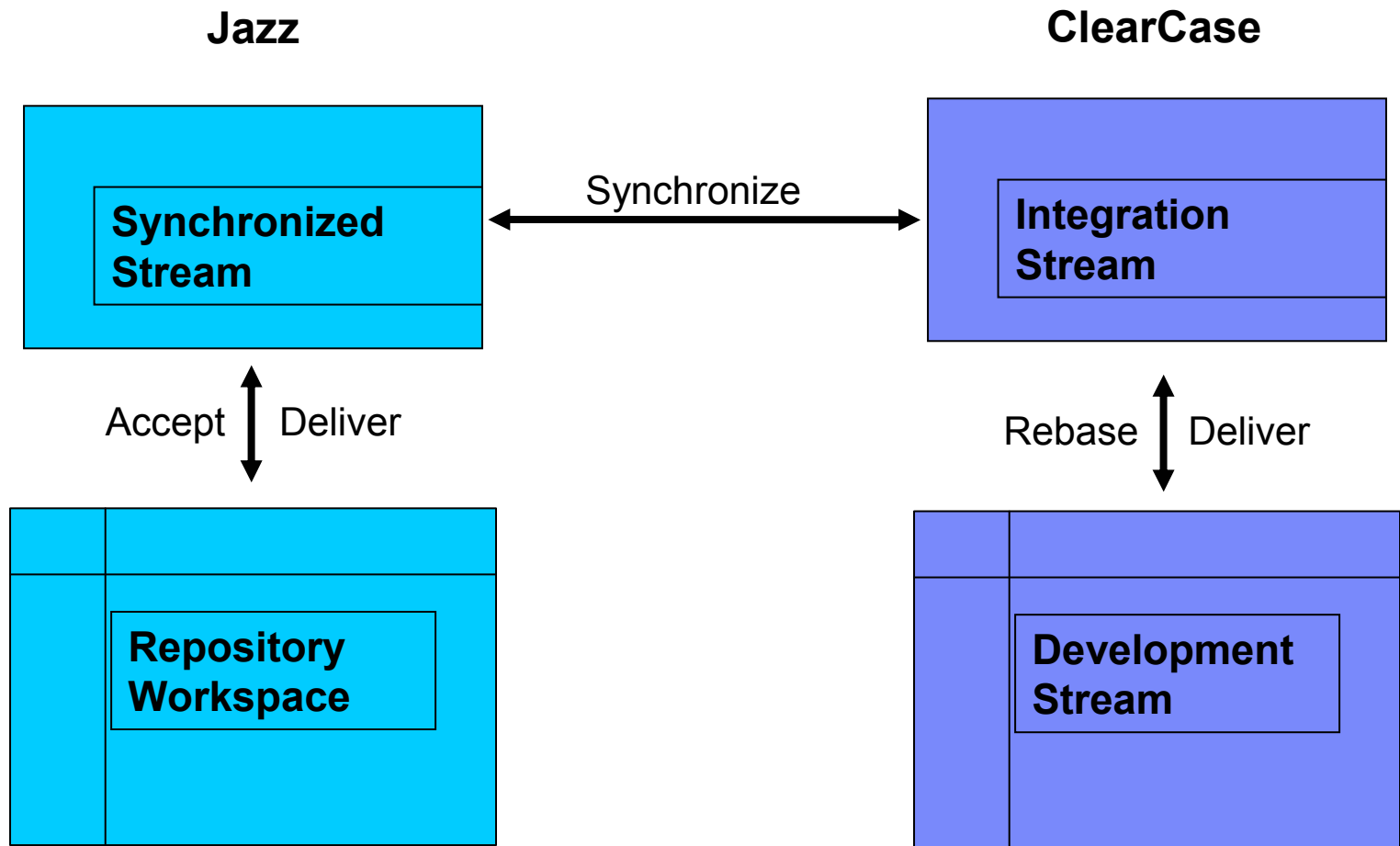


Jazz->CC Terminology Mapping (verbs)

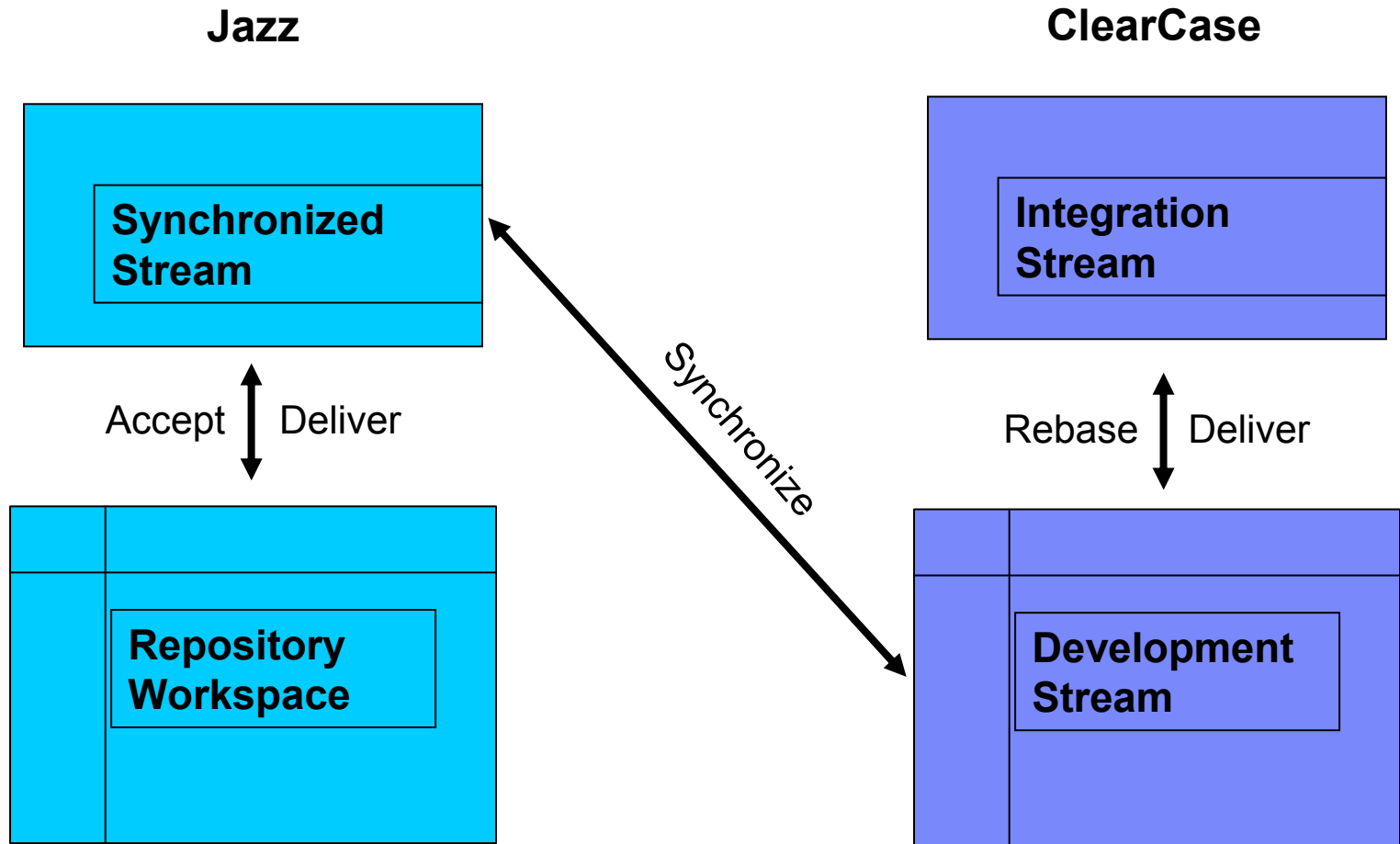
- **Check-in:** operation for assigning a item version to a change set in the repository workspace (there is no check-out operation).
-> **CC Check-in**
- **Deliver:** operation for delivering change sets from the repository workspace into the stream.
-> **UCM Deliver**
- **Accept:** operation for making change sets or baselines shared in the stream visible to the repository workspace.
-> **UCM Rebase**
- **Load:** operation for populating the Eclipse workspace from the repository workspace's current configuration.
-> **Snapshot view update**



Synchronizing with an Integration Stream



Synchronizing with a Development Stream



Selecting Files to Synchronize

- Because of the cost of synchronization, by default, a software component in ClearCase used from a CCRC view.
- If a particular software component is being modified in both ClearCase and Team Concert, select the root directory of that component for synchronization.
- If a component contains a large number of files:
 - ▶ Select a set of sub-trees of that component to be synchronized.
 - ▶ When all sub-trees have been successfully synchronized, select the root directory of the component to be synchronized
 - ▶ When the root directory has been successfully synchronized, the sub-trees can be de-selected.



Using Team Concert with ClearQuest

- ClearQuest is the enterprise change request management system
- Development teams may choose to use Team Concert without having to manage their tasks “in parallel” with ClearQuest
- Support, management, and other interested parties can track Team Concert developers’ status while still using ClearQuest
- Work status across separate Team Concert “islands” can be aggregated and shared

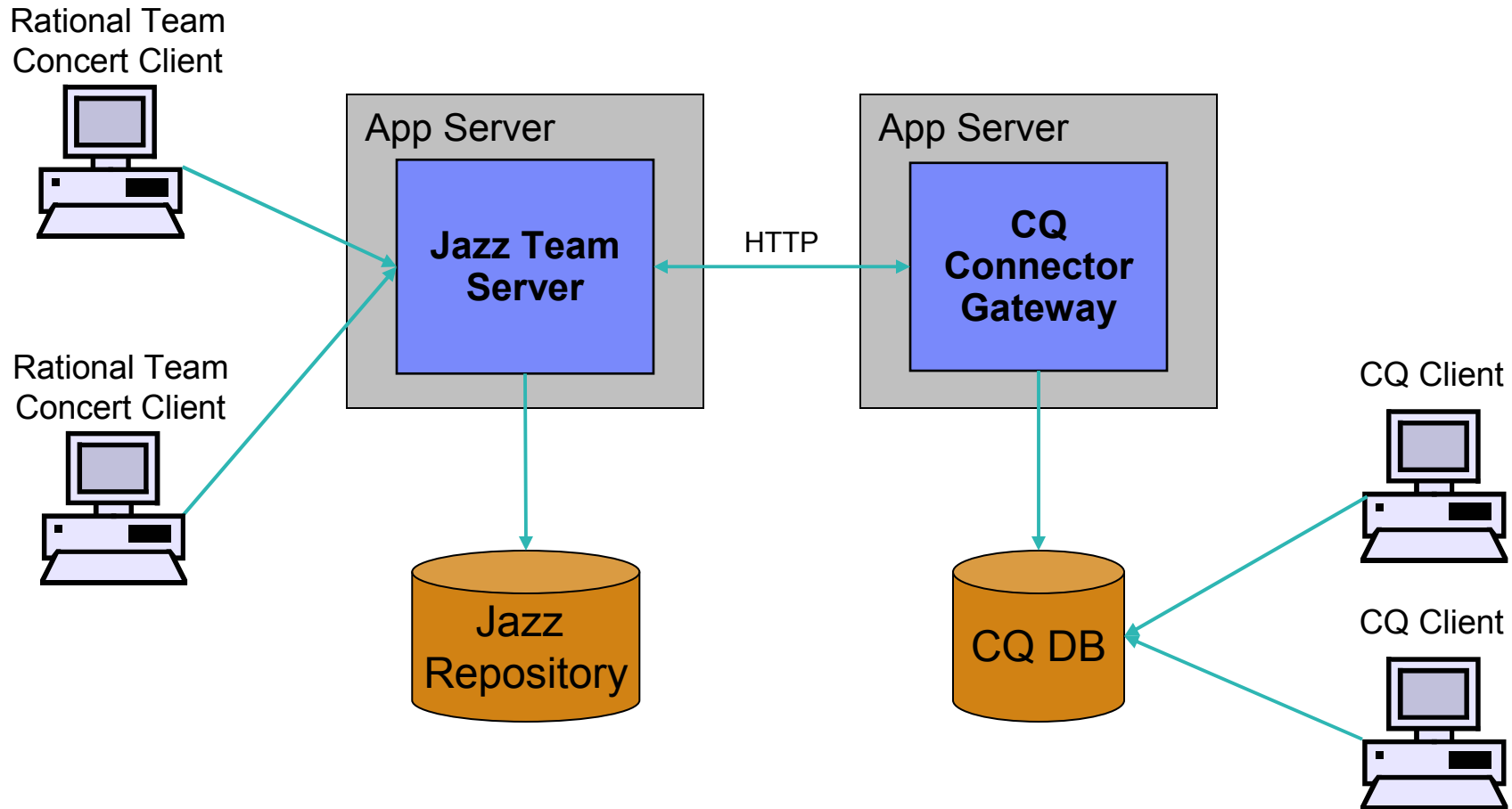


Team Concert Work Items

- Work items are used to organize ideas and tasks
- Types are user defined; examples provided
 - ▶ Defect, Enhancement, Task, Story (for example)
 - ▶ Editor is customizable
 - ▶ Work flows (state transitions) are user-definable
- Can be aggregated and tracked via iteration plans
- Tightly integrated with source control and builds via change sets
- Metrics and statistics available with queries and reports



ClearQuest Connector Architecture



Synchronization Rules

- Defines the mapping between CQ record types and Team Concert objects
- Created and managed in Team Concert, as project artifacts
- Primary mapping: one or more record types corresponding to work items
- Secondary mappings: other related records
 - ▶ Attachments
 - ▶ Users
 - ▶ Stateless records
- Specifies the related CQ and Team Concert object types, and how each CQ field maps to a Team Concert property
 - ▶ Not all fields and properties need be mapped
 - ▶ Field/property values may be simply copied or may undergo a transformation





DEMO





QUESTIONS





THANK YOU

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- [Change and release management](#)
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