ClearQuest & ClearCase What's New(s) ?

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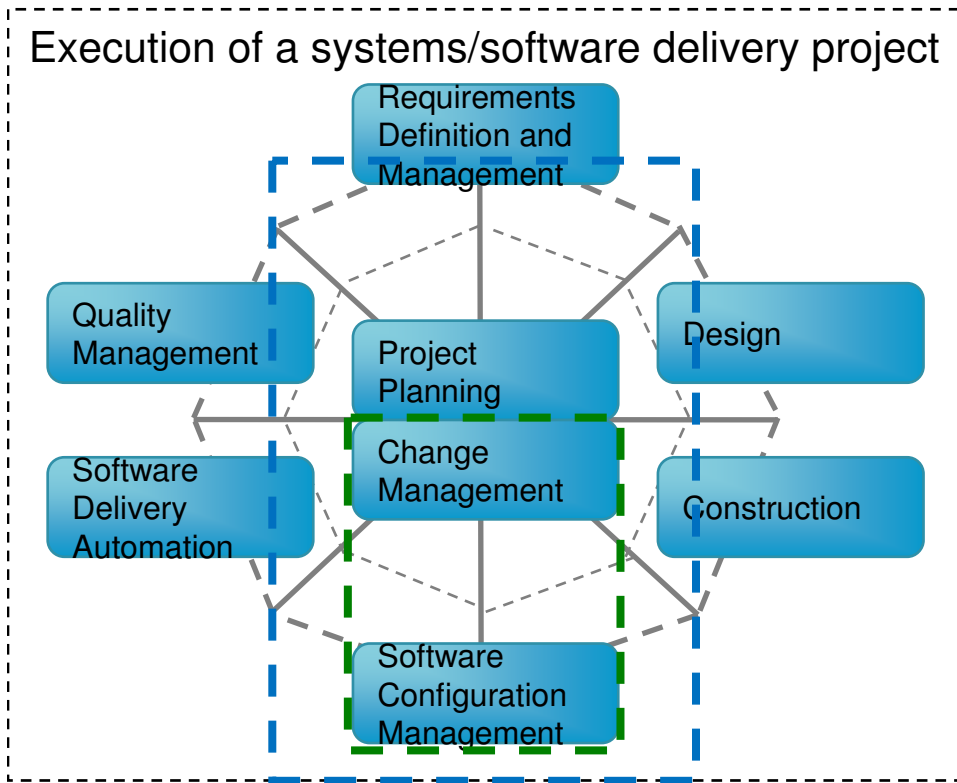Information about potential future products may not be incorporated into any contract.

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Session Agenda

1 Evolution of Change & Configuration Management Solution

2 What's New(s)?

3 What's Next ?

Change and Configuration Management (CCM) Evolution

Improve software delivery and software development lifecycle traceability with automated change management (CM) and software configuration management (SCM) solutions
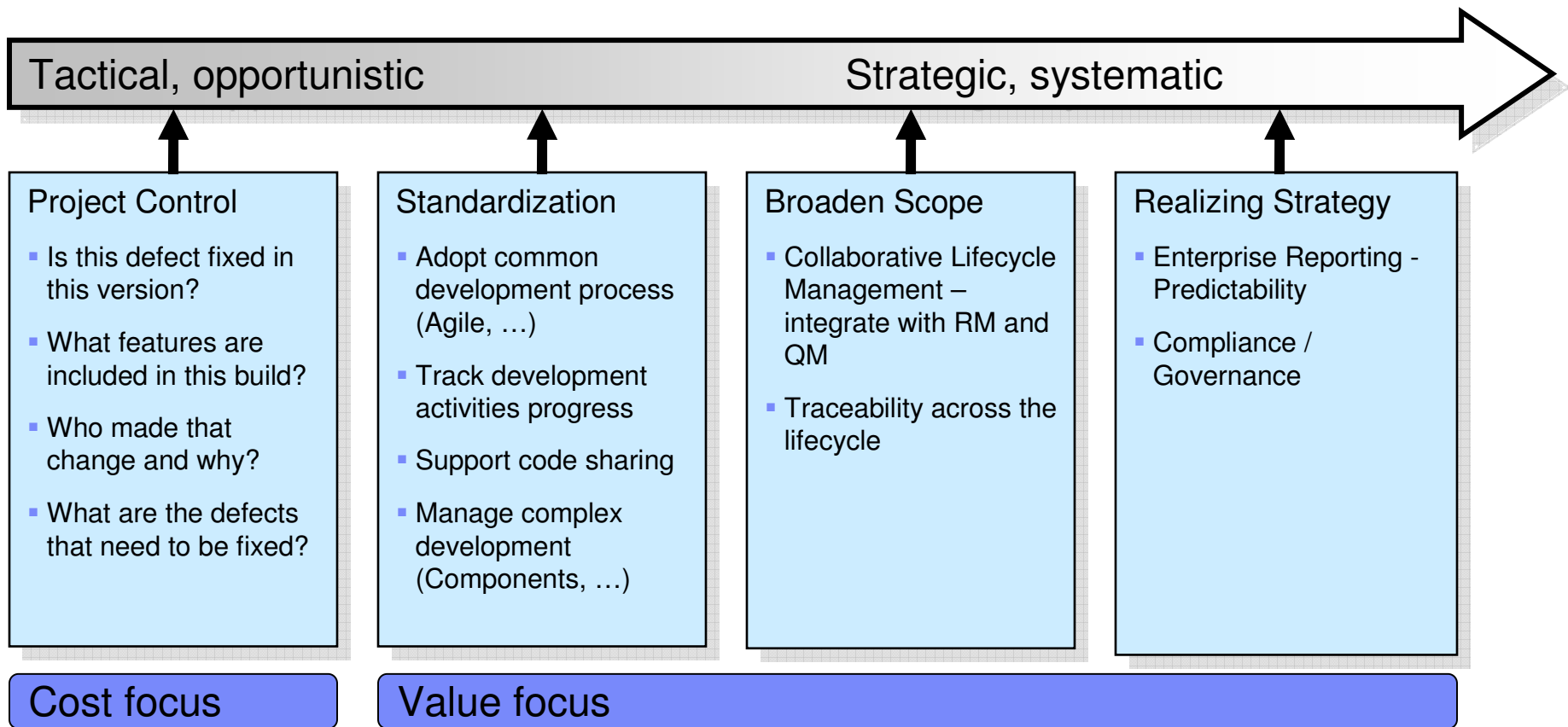
Execution of a systems/software delivery project

Requirements Definition and Management

Quality Management

Design

Project Planning

Change Management

Software Delivery Automation

Construction

Software Configuration Management

Traditional view of standalone CCM

CCM as part of an ALM platform

Capability	Definition	Customer may refer to this as…
Collaborative Change Management (CM*)	Provides flexible defect and change tracking, process automation, planning, reporting, and lifecycle traceability for better visibility and control of change and the development lifecycle	▪ Defect/bug/enhancement tracking ▪ Project planning/tracking ▪ Issue/ticket management ▪ Change request management ▪ Workflow/process automation ▪ Traceability and reporting
Software Configuration Management (SCM*)	Provides sophisticated version control, workspace management, reuse and parallel development support to improve productivity	▪ Source control ▪ File versioning ▪ Configuration management ▪ Software change and configuration management ▪ SCM
Software and Systems Lifecycle Management	Provides process and data integration of all the disciplines across the development lifecycle	▪ Integrated development lifecycle solution ▪ Application lifecycle management (ALM) ▪ Systems Lifecycle management ▪ Lean/agile development

Change & Configuration Management Adoption

Tactical, opportunistic   Strategic, systematic

Project Control

- Is this defect fixed in this version?

- What features are included in this build?

- Who made that change and why?

- What are the defects that need to be fixed?

Standardization

- Adopt common development process (Agile, …)

- Track development activities progress

- Support code sharing

- Manage complex development (Components, …)

Broaden Scope

- Collaborative Lifecycle Management – integrate with RM and QM

- Traceability across the lifecycle

Realizing Strategy

- Enterprise Reporting - Predictability

- Compliance / Governance

Cost focus   **Value focus**

Organizations often move through a set of phases as they adopt CCM

IBM Rational ClearQuest
Comprehensive Software Change Management

An industry-leading solution that provides flexible defect and change tracking, process automation, reporting and lifecycle traceability for better visibility and control of the software and systems development lifecycle

- ✓ **Flexible, customizable and automated workflows provide repeatable, enforceable and predictable processes**

- ✓ **An out-of-box Application Lifecycle Management (ALM) template provides a solid foundation for ALM best practices**

- ✓ **Real-time reporting and metrics improves project visibility and decision making**

- ✓ **Access control, electronic signatures, repeatable processes and audit trails simplify compliance management**

- ✓ **Scales to any size team from small workgroups to distributed enterprise teams to support evolving organizational needs**

- ✓ **Integration with requirements, development, build, test, deployment and portfolio management tools facilitates rapid response to change**

IBM Rational ClearCase
Complete Software Configuration Management

An industry-leading solution that provides sophisticated version control, workspace management and parallel development support to improve productivity

- ✓ **Light-weight feature-rich clients allow you to work locally or remotely**

- ✓ **Flexible out-of-box usage model based on proven best practices increases team productivity and efficiency**

- ✓ **Wide-range of supported environments and cross-platform support connects diverse teams**

- ✓ **Transparent real-time access to files and directories virtually anywhere in your organization**

- ✓ **Scales to any size team from small workgroups to distributed enterprise teams to support evolving organizational needs**

- ✓ **Integration with leading IDEs like Eclipse,Cadence DF II,Visual Studio allows you to work in your preferred environment**

- ✓ **Sophisticated branching and graphical merge tools enable concurrent access to files and efficient use of time**

IBM Rational Enterprise Change & Configuration Management

Climb the Pyramid to go from tactical to strategic adoption of Rational CCM Solution

Traceability

Agility@Scale

Jazz
Platform
Capabilities

ClearQuest

ClearCase

Process Centric SCCM
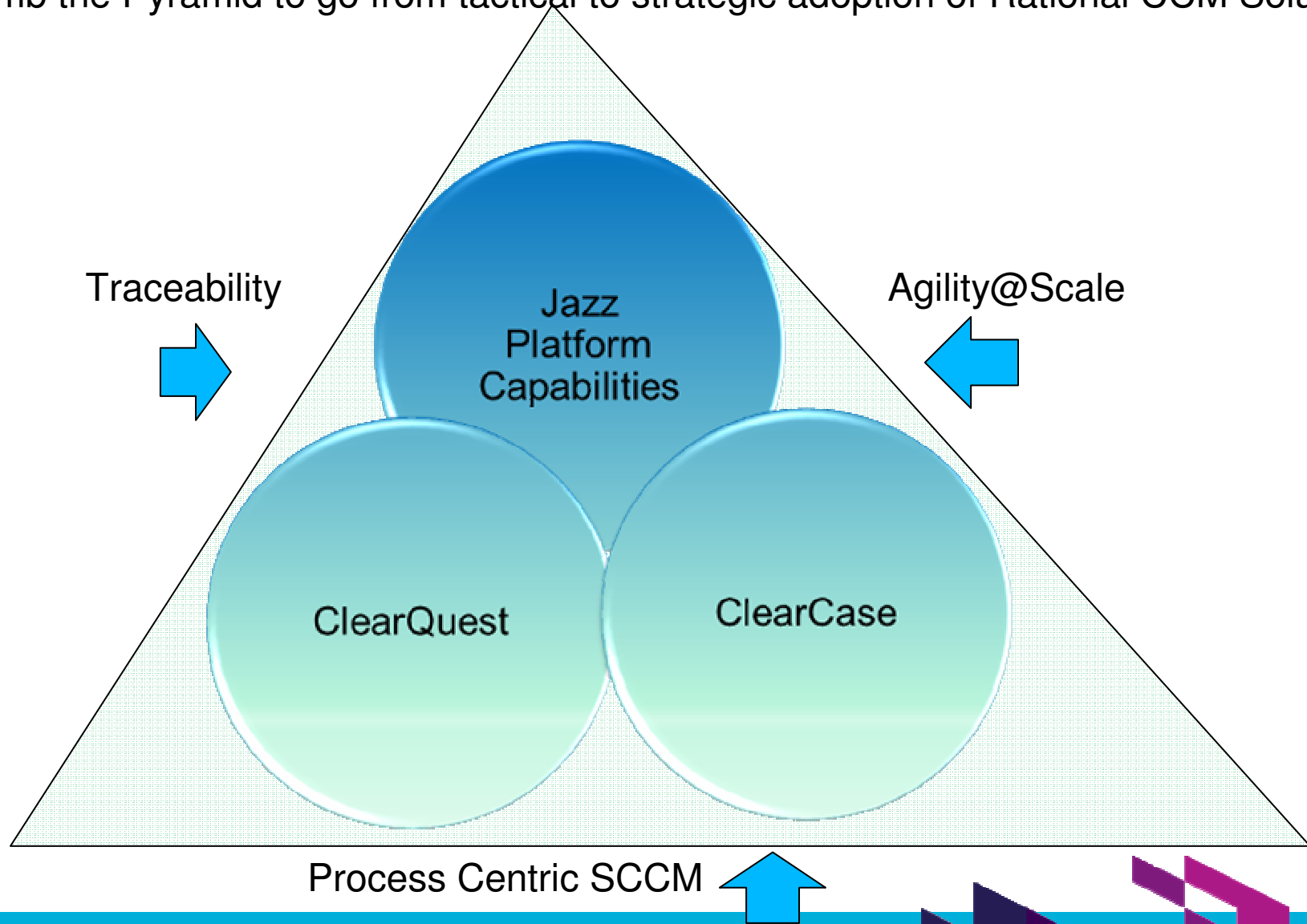
IBM Rational ClearQuest Evolution
An Enterprise Change Management Process Toolkit

CQ Change Management Advanced Solution
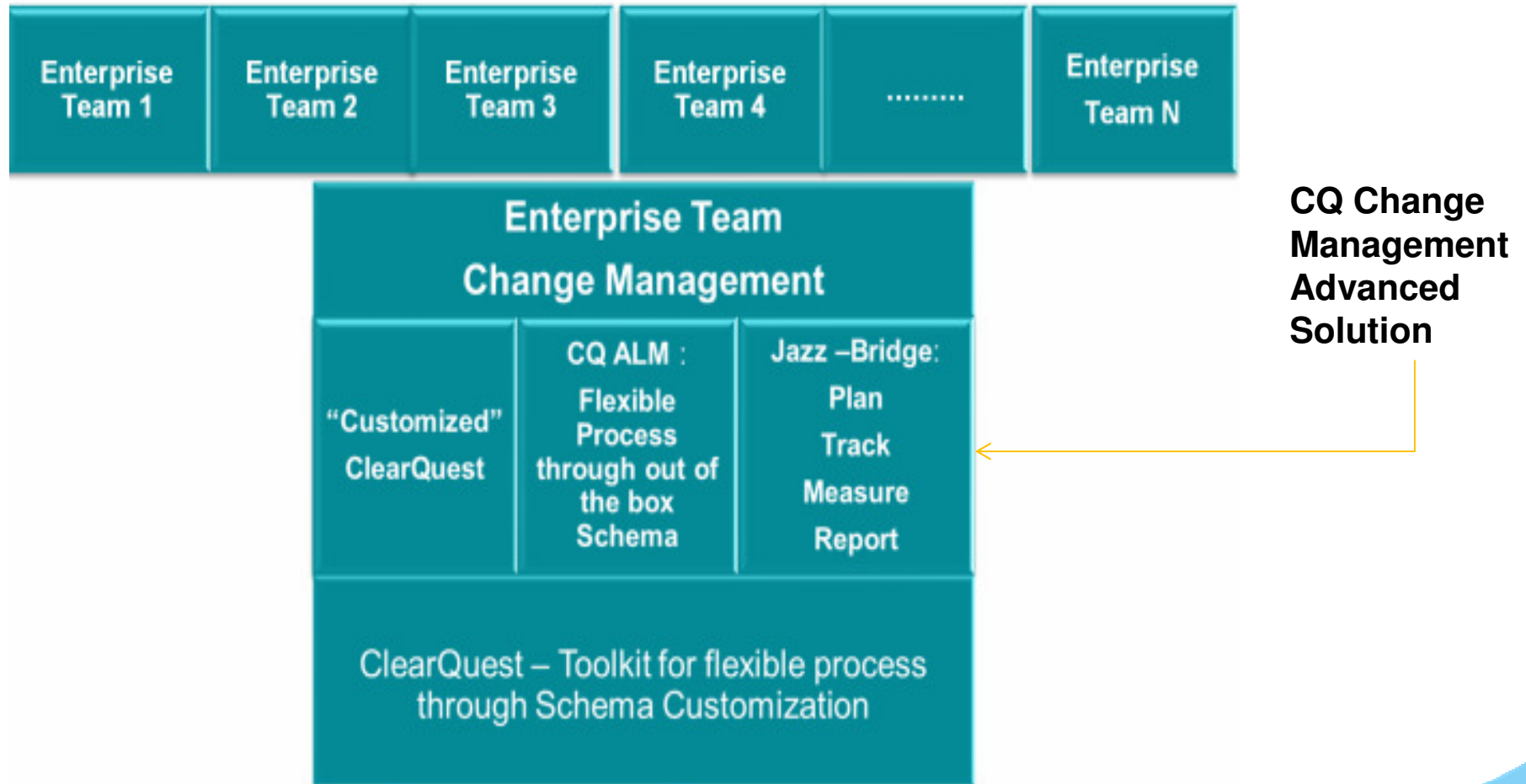
Collaborative Change & Configuration Management

Plan & Track
- Integrated release/iteration/milestone planning
- Effort estimation & progress tracking task boards
- Out of the box iterative/agile process templates

Visualize, Measure & Report
- Customizable web based dashboards
- Real time metrics and reports
- Project milestone tracking and status

Configure & Build
- Isolated & Parallel development
- ClearCase Common Clients
- Atomic Commits
- UCM Change Sets
- Team Preferences & Working sets (Filters)

Release

Iteration

Daily
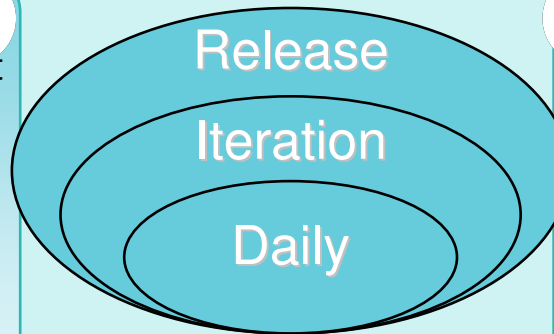
Manage Change
- Customize Workflow
- State Transition
- Agile Tasks & conversations
- View and share query results
- Support for approvals and discussions
- Query editor interface

Collaborate

- 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

Criteria for effective lifecycle management: ALM imperatives

1. Accelerate time to delivery with **Real-time Planning**

2. Improve quality with **Lifecycle Traceability**

3. Maximize product value with **In-Context Collaboration**

4. Refine predictability with **Development Intelligence**

5. Reduce costs with **Continuous Improvement**

Add automated end-to-end traceability across ALM

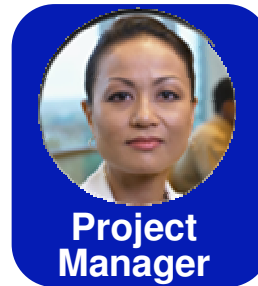Which requirements are addressed in this iteration?

Are all of the **requirements** tested?

What's the quality of the high priority requirements?

What **defects** are reported against which **requirements**?
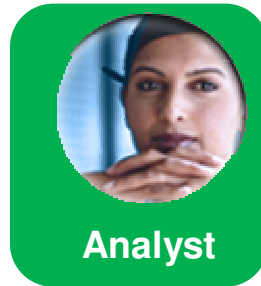
Analyst

Can we pass an audit?

Project Manager

Are we **ready** to release?

What **defects** were resolved in this **release**?

What **tradeoffs** can we make to release on time?

What **requirements** am I implementing?

How can I recreate the last version to do a patch?
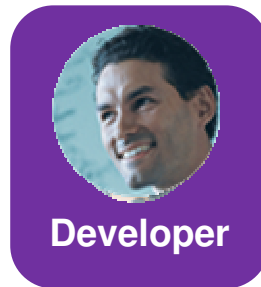
Developer

Release Engineer

Quality Professional

What is the quality of the build?

What has changed that I need to test?

What **defects** have been addressed since the last build?

What test uncovered this defect, on which environment and what build?

What changes occurred overnight?

How can I standardize when teams use different tools?

Where are the bottlenecks in our processes?

Are build times getting longer or shorter?

How can I speed up my builds?

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WWW.Open-Services.net

open-services.net

Open Services for Lifecycle Collaboration
Lifecycle tool integration inspired by the web

Learn   Adopt   Participate

Open Services for Lifecycle Collaboration (also known as OSLC or Open Services) is an open community dedicated to breaking down the barriers between the tools in the product and application lifecycle by making it easier to use lifecycle tools in combination.

Linked LifeCycle Data
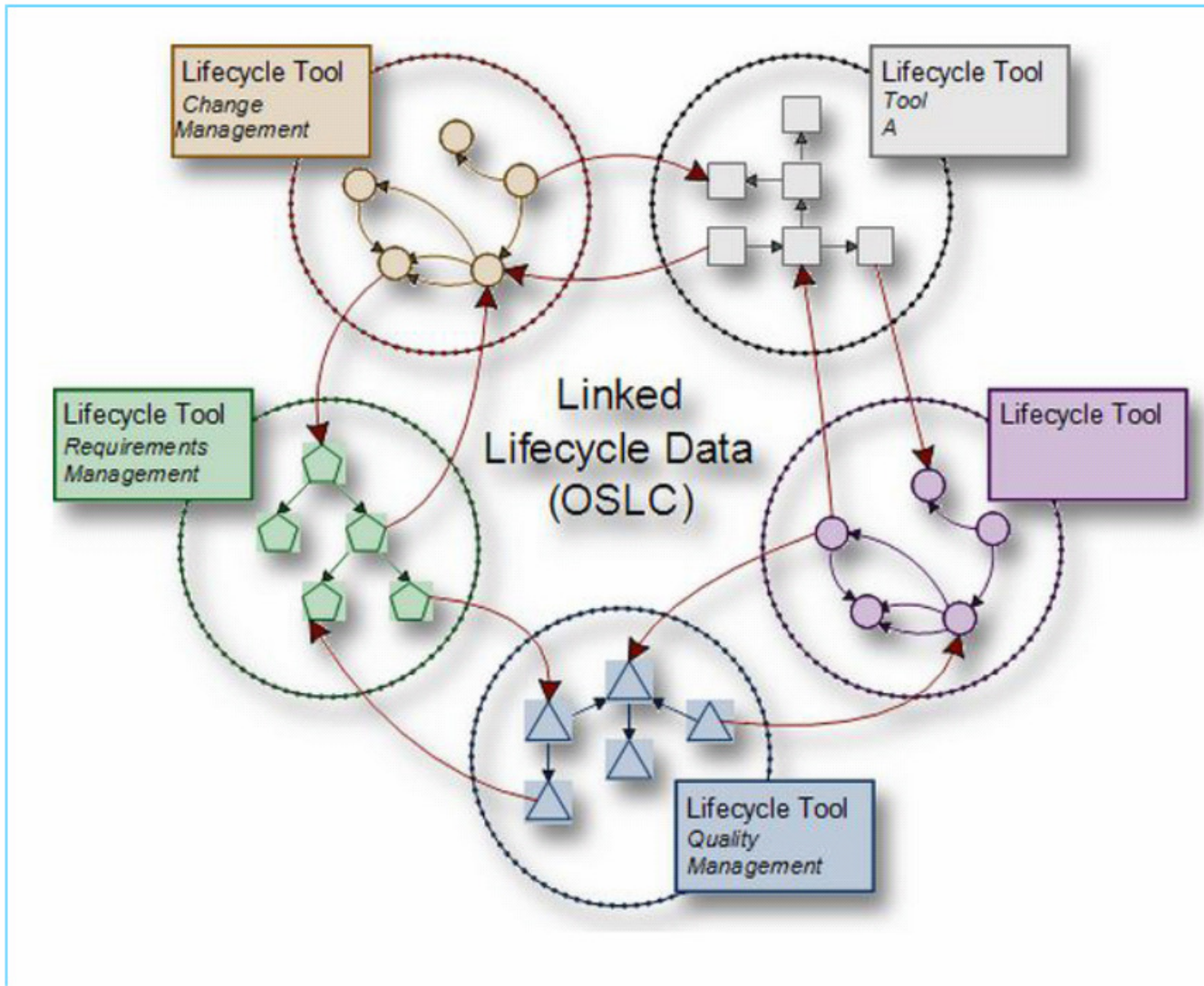
Introducing ClearQuest OSLC Links Package
Realize traceability through Linked Data
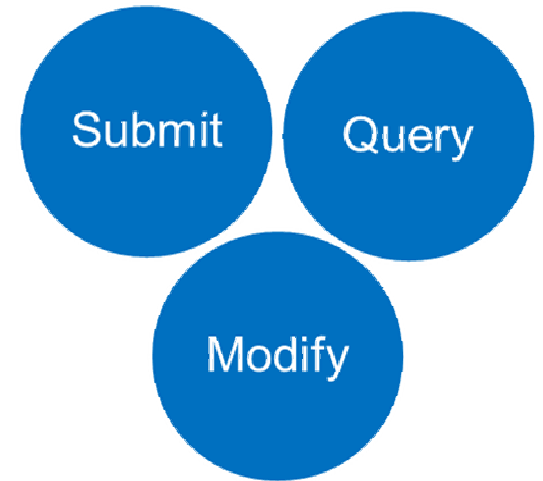
- ClearQuest supports Open Services for Lifecycle Collaboration (OSLC) APIs

- Implemented as OSLC Links Package

- Available out of the box with ClearQuest v7.1.2.1 or later

Submit Query

Modify

CM OSLC 2.0

ClearQuest OSLC Links Package	Requirements Management	Test Management	Change Management
Promotes C/LM traceability scenarios b/w CQ-RTC-RQM, implements API that other Rational (eg: DOORS) products and 3rd Party Products (eg: Bugzilla) can take advantage of.	Rational DOORS Rational Requirements Composer	Rational Quality Manager	Rational ClearQuest Bugzilla Rational Change Rational Team Concert

Setting up OSLC Links Package :
https://www-304.ibm.com/support/docview.wss?uid=swg21433074

Visualize Traceability in ClearQuest Web

- **ClearQuest lets you link to resources from other repositories**
  - ▸ Requirements
  - ▸ Related Change Requests
  - ▸ Test Artifacts
  - ▸ Rich Hover Support
  - ▸ Oauth Support
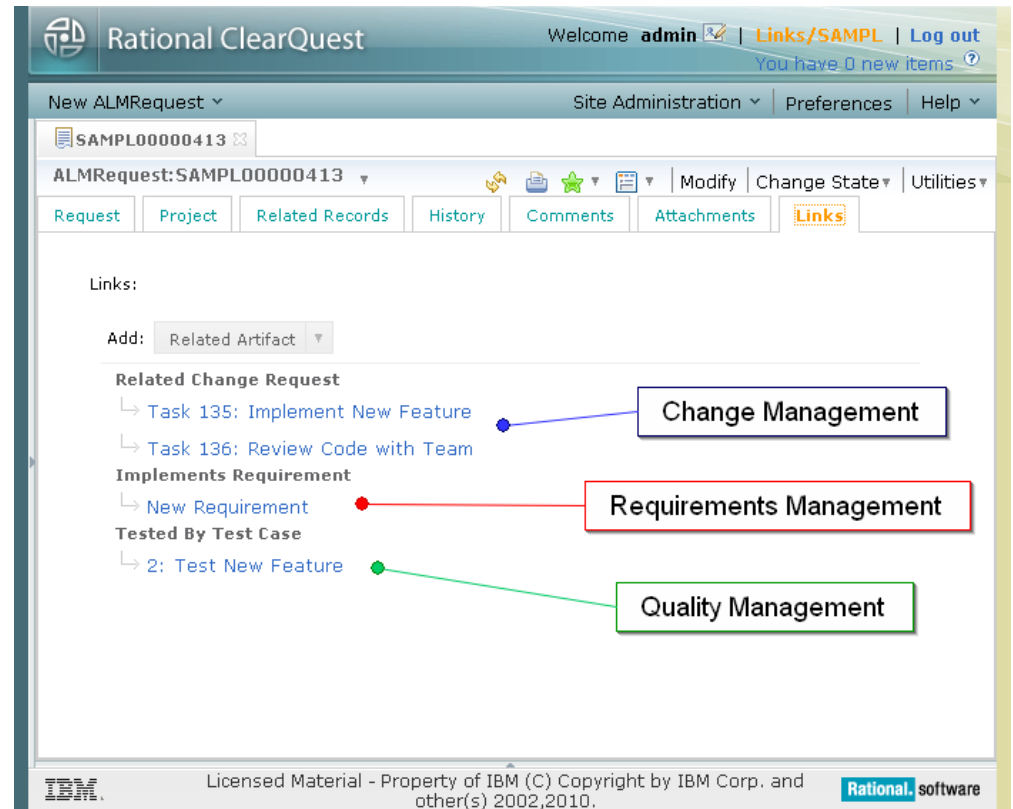
Supports CM OSLC 2.0 Relationship Properties
http://open-services.net/bin/view/Main/CmSpecificationV2?sortcol=table;up=#Resource_ChangeRequest

Rational ClearQuest

Welcome **admin** | **OSLCLinks/SAMPL** | Log out

You have 0 new items

New ALMRequest ˅

We're logged into local DB set OSLCLinks

Site Administration ˅ | Preferences | Help ˅

Welcome | **SAMPL00000060** ✕

ALMRequest:SAMPL00000060 ▾

Save | Cancel

*Request | *Project | Related Records | *History | Comments | Attachments | **OSLC Links**

OSLC Links:

CQ <-> CQ Links: Cross-server linking using OSLC!

Add: Related Artifacts ▾

Related Change Requests

↳ SAMPL00000005: columns out of alignment

📄 SAMPL00000005: columns out of alignment ✕

Defect SAMPL00000005

Main ˅

🖥 7.0.0/SAMPL

Page 1 of 6

Linked Defect record is in a different schema repository (DB set 7.0.0)

ID:	SAMPL00000005	State:	Resolved
Headline:	columns out of alignment	Project:	Classics
Keywords:		Severity:	3-Average
Priority:	2-Give High Attention	Owner:	engineer
Symptoms:		Description:	Testing batch update.

openItem

Requirement/Change Request traceability

1) DOORS

– Requirements link to implementation orders

– Defects to be associated with requirements to investigate changes

2) CM Tool

Implementation orders

Engineering Tasks

Managed Artifacts
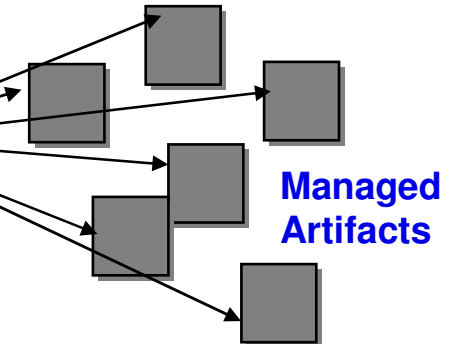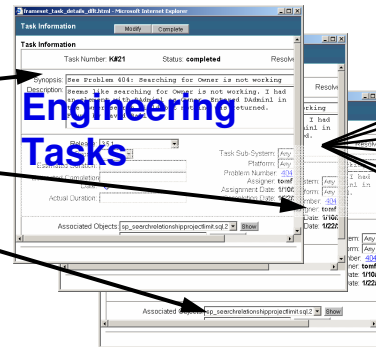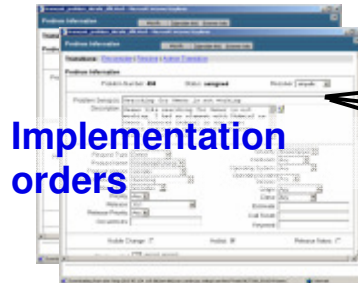
Configuration/Change Management

Traceability of actual activities, not just data – better impact analyses

Requirements Driven Development
- Bottom-up Traceability

- **Eliminate risk** associate with not knowing what made the build

- Automate **round-trip traceability** from the bottom-up

- **Increase quality of testing** because requirements are known as partially included, fully included, or missing

- **Deliver proof of compliance** to the requirement for every build candidate sent for QA approval

Top Down
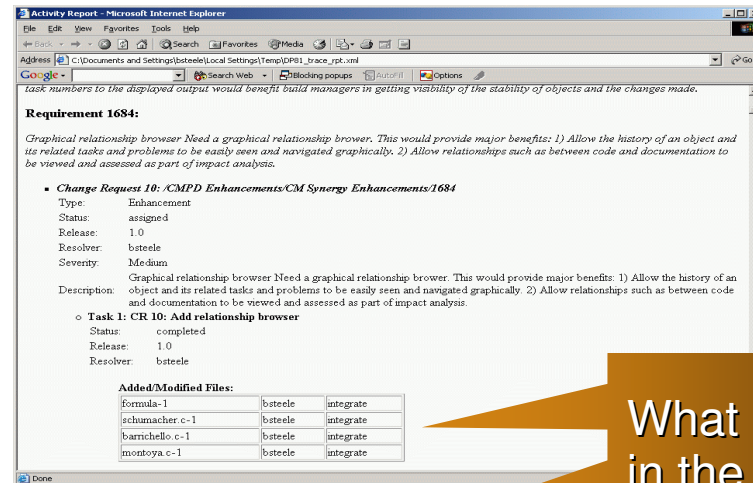
What Made it in the Build?
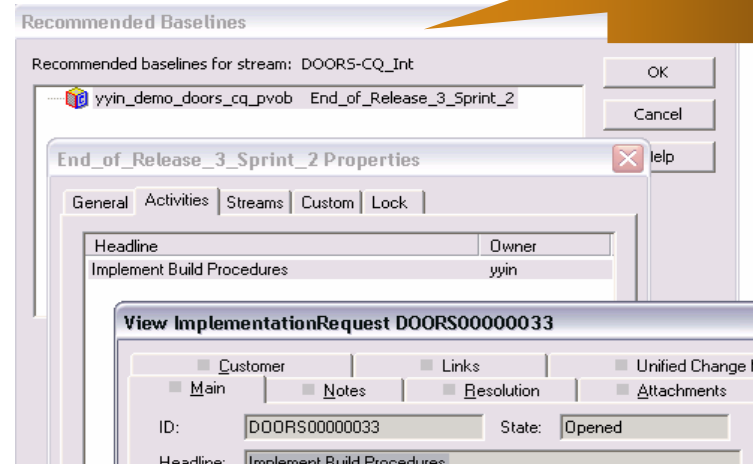
Bottom Up

ClearQuest Change Management Advanced Solution
Jazz based Collaborative Change Management

- **Plan** :
  - ▶ Agile, Iterative

- **Track** :
  - ▶ Estimate, Assign, Progress

- **Dashboard & Report** :
  - ▶ Personal Dashboards,Viewlets, Out of the box reports

- **Measure** :
  - ▶ Velocity :
    - Burn up
    - Burn down,
    - incoming,outgoing
- **Predict** :
  - ▶ Pessimistic, Optimistic

Add Dynamic Planning to your existing CCM tools

- Provide both traditional and agile views on a plan

Gantt/Roadmaps

Support any planning method
Enable success w/ transparency

Taskboard

Add process improvement – Scrum, waterfall, …
Making process executable and repeatable

Process Architect

Step 1: Customize

Project Manager

Step 2: Enact

Variant #1
Scrum

Variant #2
Iterative

Variant #3
Waterfall

Project A
Agile

Product Owner | Scrum Master | Team Member

Project B
Iterative

Analyst | Developer | Quality Professional | Release Engineer

Project C
Waterfall

Analyst | Developer | Quality Professional | Release Engineer

Scrum Template

Work Items ⌄ | Plans ⌄ | Source Control ⌄ | Build

- Welcome to Work Items

Queries
- My Queries
- Shared Queries

Create Query
- New Query

Create Work Item
- Defect
- Task
- Story
- Epic
- Track Build Item
- Impediment
- Adoption Item
- Retrospective

Create Work Item Set
- Create from Template

Formal Project Mgt Template

Work Items ⌄ | Plans ⌄ | Source Control ⌄ | Builds

- Welcome to Work Items

Queries
- My Queries
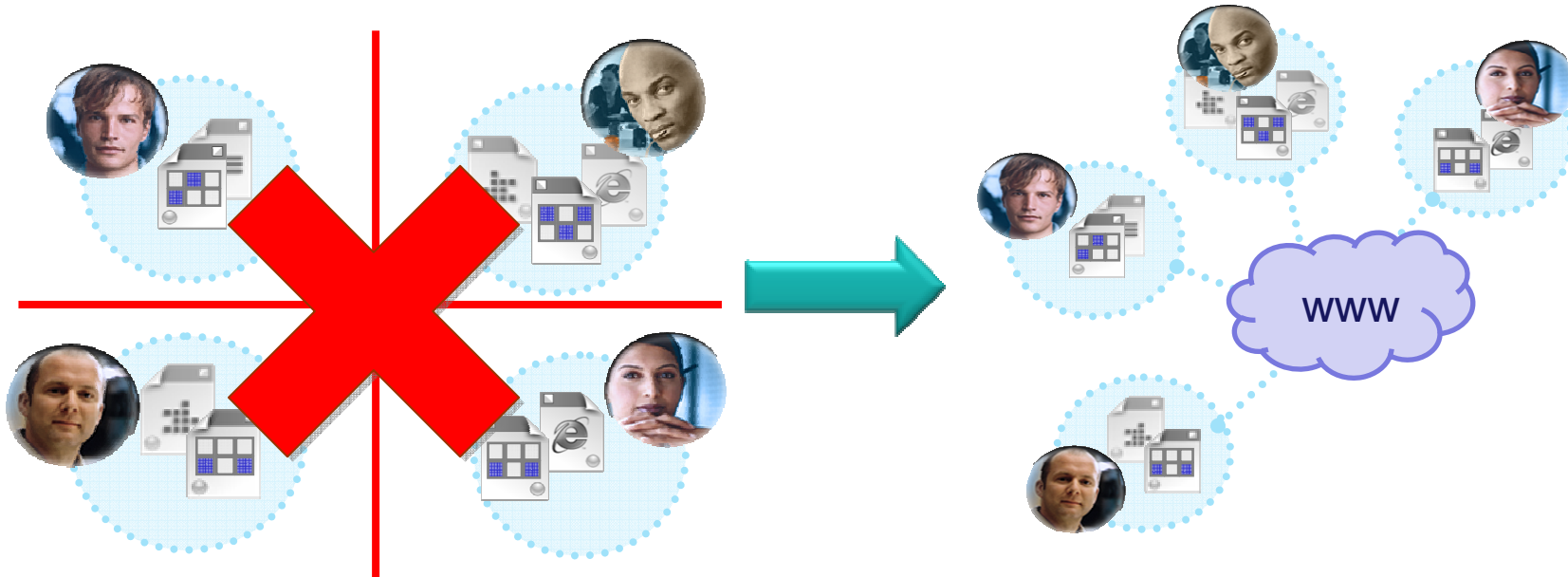- Shared Queries

Create Query
- Create Query

Create Work Item
- Defect
- Task
- Project Change Request
- Issue
- Business Need
- Risk
- Risk Action
- Milestone

Create Work Item Set
- Create From Template...

Add Collaboration across silos

- Silo'd teams; disconnected data

- Important discussions are lost to email - project records are missing the "real reason" for decisions

- Unified team shares linked data

- ALM environment tracks what is important for delivering

- "Am I blocking others"

- "Are others waiting for my approval"

Every artifact is a web link. Traceability is automated as you perform work. Empower teams AND provide flexibility to utilize resources from anywhere.

Add Transparency and Project Status for Everyone
"Every stakeholder knows project status without having to ask"

Introducing Dashboards Support for ClearQuest Data Widgets with ClearQuest Query Results

- Create Multiple Widgets

- Associate ClearQuest Query Results

- Available with ClearQuest v7.1.2.1 or later

Dashboard with Integrated Information from ClearQuest
example usage by IBM Rational ClearCase Engineering teams

Release Burndown

⇕ Show Parameters

3,220.0

0.0

2010A Sprint 3 · 7.1.2 Sprint 8 · 2010C Sprint 2 · 8.0 Sprint 1 B · 8.0 Sprint 2.1 · Cadence v1.1 Sprint 6 · 2011A Sprint 1 · Caden...

→ Remaining Work
— Planned Work

CC 90 day dW and TSE (16)

RATLC01328102: Integration
RATLC01328198: Team-Install
RATLC01329303: Team-Install
RATLC01329422: Vob
RATLC01329447: GUI Win

Page 1 of 4

CC Need Triage RFEs (2)

RATLC01332095: Mvfs
RATLC01332002: UCM

CC 30 day dW and TSEv1 (2)

RATLC01331451: Mvfs
RATLC01332095: Mvfs

CC Need Triage APARs (8)

RATLC01332294: CCRC
RATLC01332288: UCM
RATLC01326326: UCM CQ...

◄ Prev...

CC WI Need Triage (23)

18056: View stopped working using Beta IHD
18113: cleartool, cqreg: error while loading shared libraries: libacl.so.1
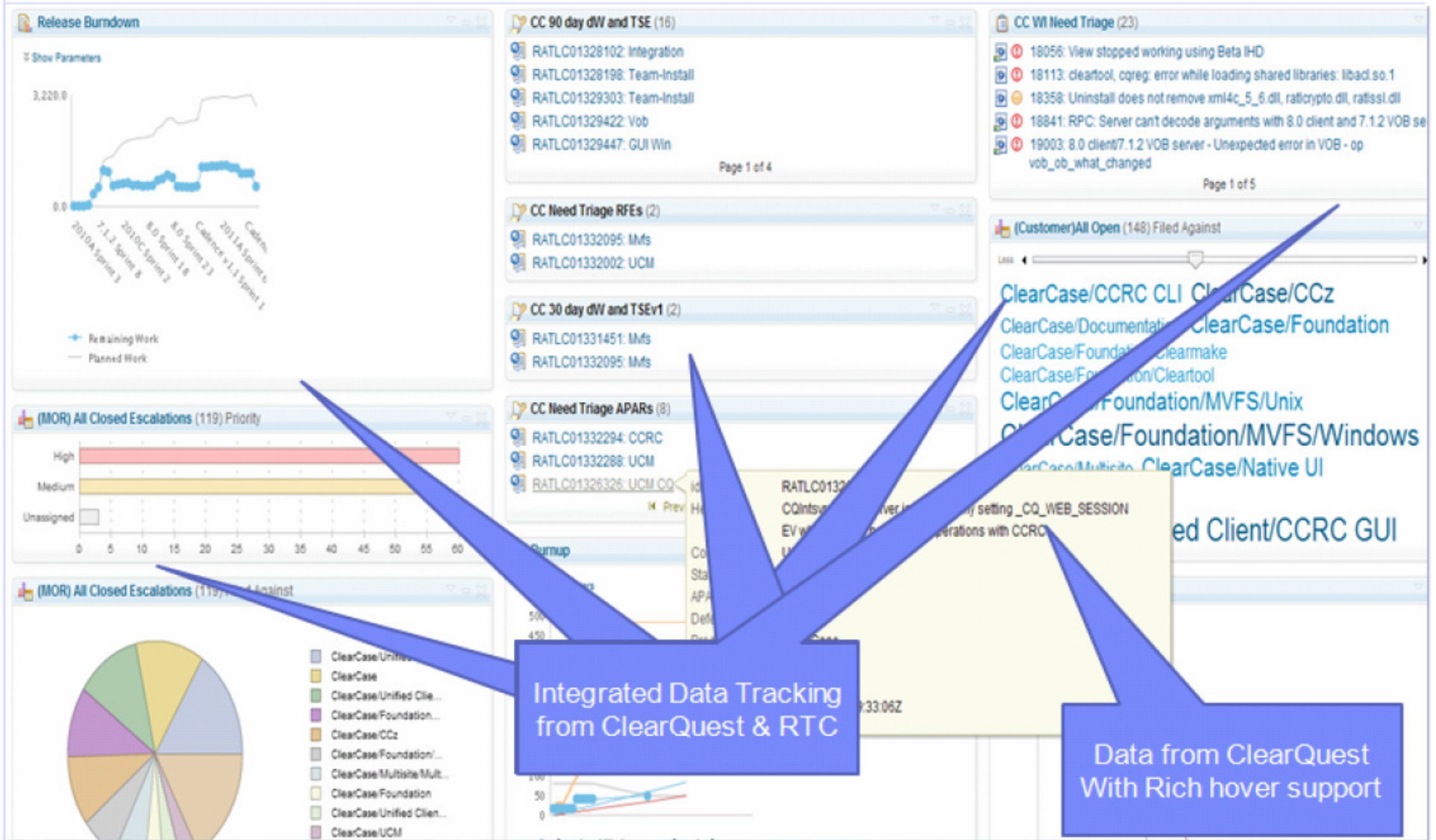18358: Uninstall does not remove xml4c_5_6.dll, raticrypto.dll, ratissl.dll
18841: RPC: Server can't decode arguments with 8.0 client and 7.1.2 VOB se
19003: 8.0 client/7.1.2 VOB server - Unexpected error in VOB - op vob_ob_what_changed

Page 1 of 5

(Customer)All Open (148) Filed Against

Less ◄ ────────────●──────── ►

ClearCase/CCRC CLI ClearCase/CCz
ClearCase/Documenta... ClearCase/Foundation
ClearCase/Founda... learmake
ClearCase/F... ...on/Cleartool
ClearCase/Foundation/MVFS/Unix
...arCase/Foundation/MVFS/Windows
...arCase/Multisite. ClearCase/Native UI

...ed Client/CCRC GUI

(MOR) All Closed Escalations (119) Priority

High
Medium
Unassigned

0 5 10 15 20 25 30 35 40 45 50 55 60

(MOR) All Closed Escalations (119)...d Against

ClearCase/Unified...
ClearCase
ClearCase/Unified Clie...
ClearCase/Foundation...
ClearCase/CCz
ClearCase/Foundation/...
ClearCase/Multisite/Mult...
ClearCase/Foundation
ClearCase/Unified Clien...
ClearCase/UCM

RATLC0132...
CQIntsv...ver i...y setting _CQ_WEB_SESSION
EV w... ...perations with CCR...

Integrated Data Tracking from ClearQuest & RTC

Data from ClearQuest With Rich hover support

The ClearQuest - Jazz Bridge

- General:

  - Connects 2 Systems through a link

  - The ClearQuest System & the Jazz System is connected through a OSLC Link

  - Does not copy data

  - Supports state transition management b/w systems

  - CAN link to **ANY** Jazz based product (we'll focus on RTC in this talk)

   - Tell the Jazz Server who it's friends are , tell ClearQuest Web Server who it's friends are
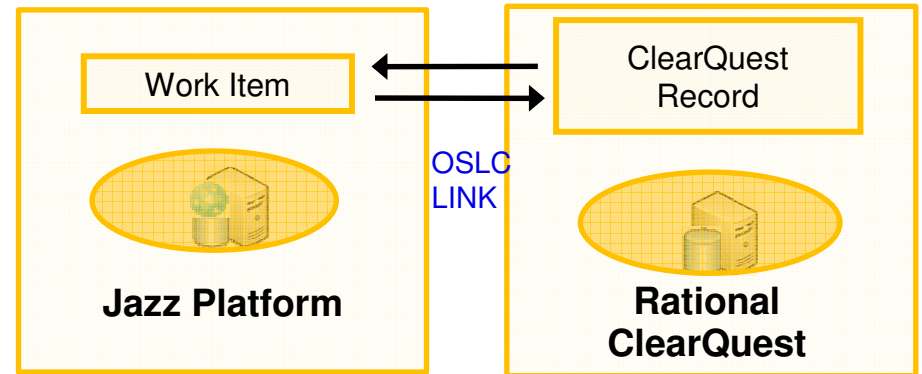
- **Specific:**

  - Allows ClearQuest customers to benefit from many features in Rational Team Concert (built on Jazz platform) while continuing to use ClearQuest.

  - Associate ClearQuest records with Jazz work items in the Rational Team Concert Web client

 - No data to synchronize

  - Loosely coupled

Work Item

ClearQuest Record

OSLC LINK

Jazz Platform

Rational ClearQuest

ClearQuest Bridge: Capabilities

- **Bi-directional links**
  - ▸ See relationships no matter where you are
- **Seamless user experience using delegated dialogs**
  - ▸ Advanced selection dialogs
  - ▸ Fully functional creation dialogs (form layout and hooks work as expected)
- **Rich hover**
- **Many-to-many links**
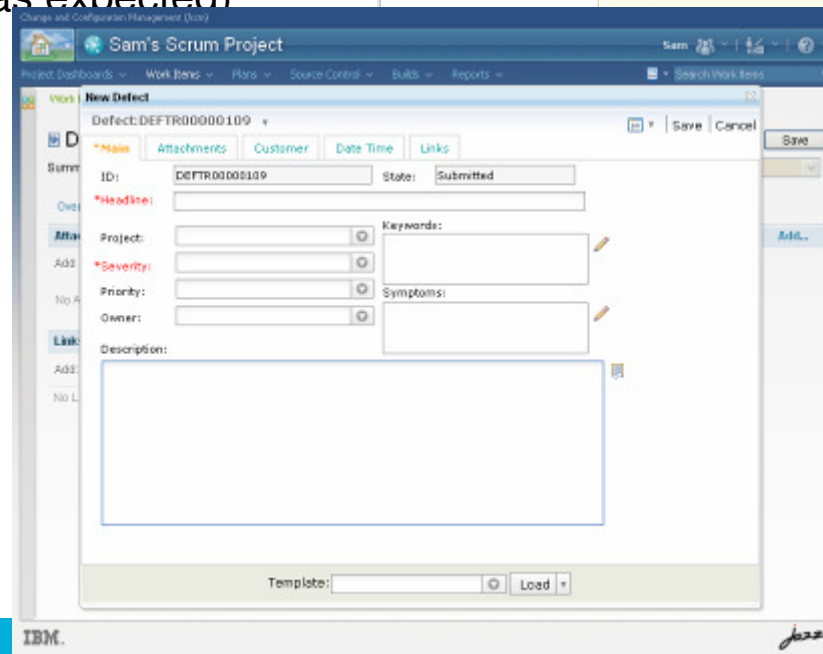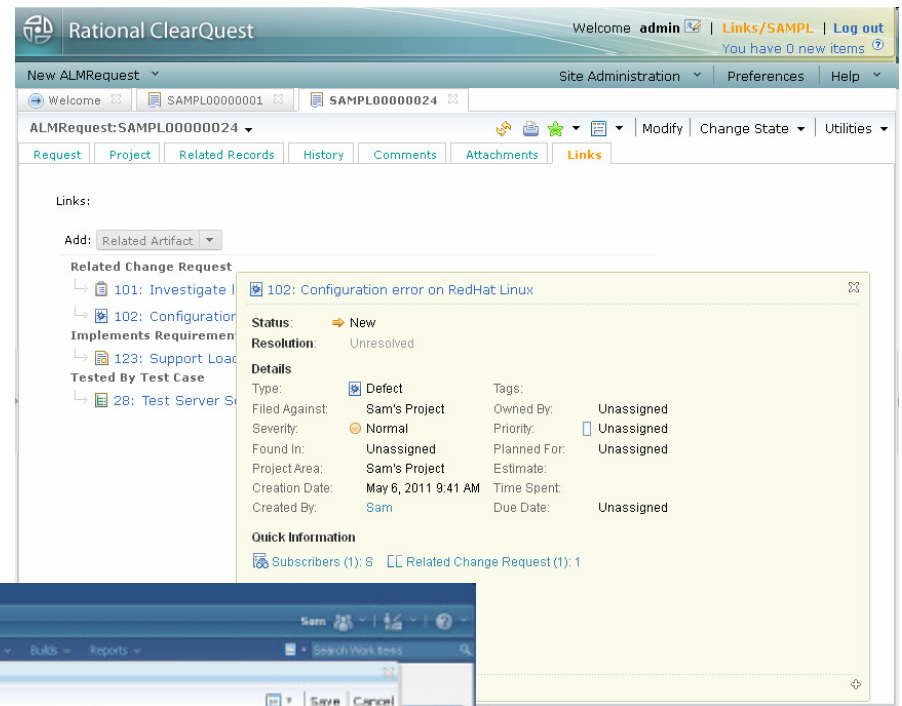
Traceability with ClearQuest Bridge

- ClearQuest lets you link to resources from other repositories
  - Requirements
  - Related Change Requests
  - Test Artifacts

- Trace development across the software lifecycle

- View relationships no matter what tool you're using
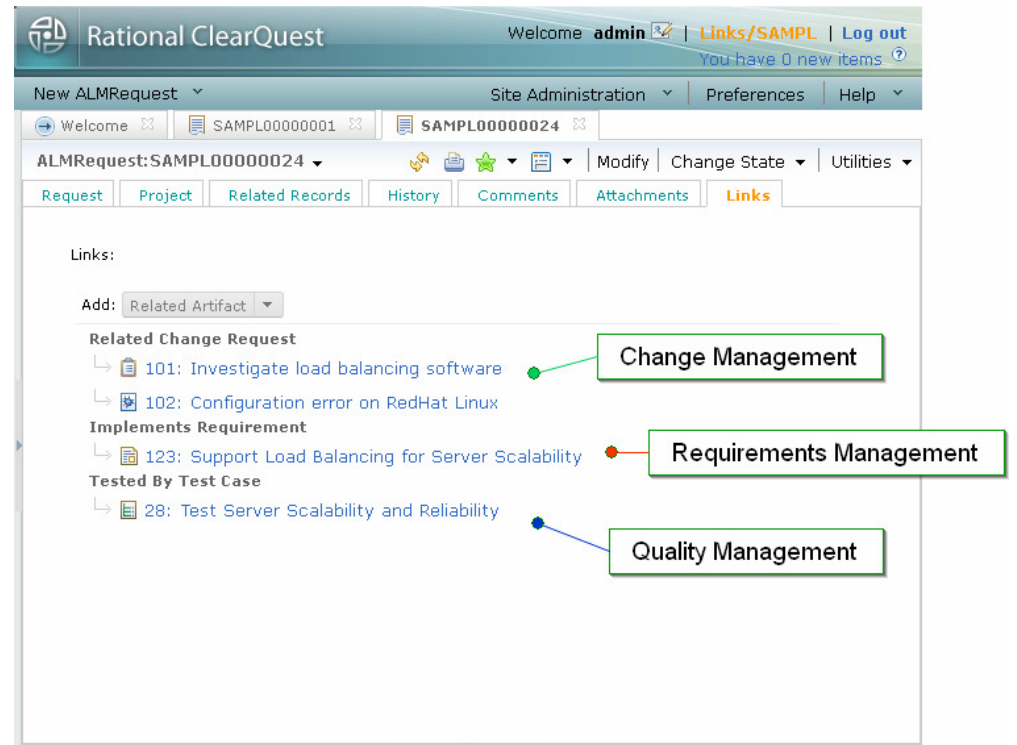
Process Management with Bridge

- Ability to create Jazz work items when creating ClearQuest records

- Ability to transition states in Jazz based on state changes in CQ

- Today you can automate this with ClearQuest hooks

  ‣ These are custom Scripts/hooks that Customers have to write (or get help from IBM Services)

Work Item Creation Automation
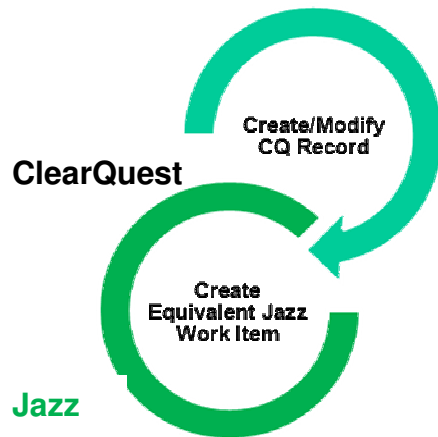
State Transition Automation
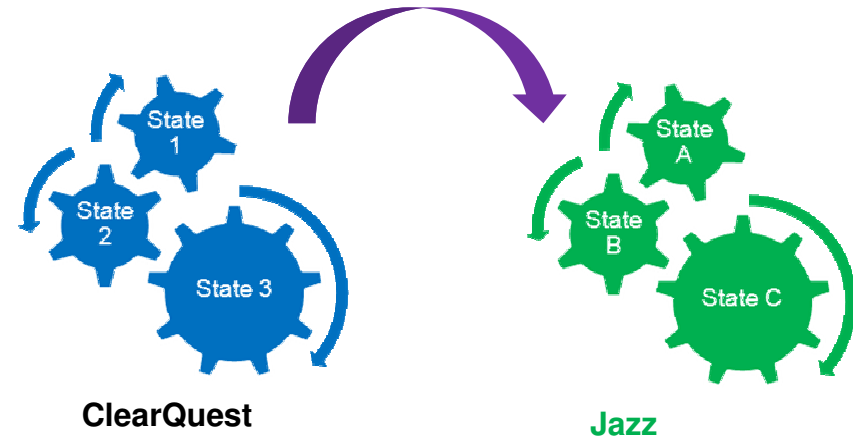
NEW CQ PACKAGES to take advantage of …

- New packages
  - EmailPlus 2.1
  - Attachments 2.1
  - ALMWork 1.3

- CQ ALM 1.3 package consists of
  - ALMWork 1.3, Attachments 2.1 and EmailPlus 2.1
  - Download from:
  - https://www-304.ibm.com/support/docview.wss?uid=swg24028637

CQ Package: EmailPlus 2.1

- Rich text support

- Form layout customization

- Rich rules support

- Multiple email protocols support

- Can be applied on any schema
  - Statefull and Stateless record-types are supported

- Supported on 7.1.2

Example Generated Email

<img src="cockroach.jpg" HEIGHT=120 WIDTH=180 ALIGN=middle>

<H1>New Defect Submission # #?ID?#</H1>

## New Defect Submission # SAMPL00000054

Severity: 1-Critical Submission Date : 26 August 2008
This Defect was submitted by: ClearQuest Administrator(admin)
EMail: cqadmin@home.com

Headline: A New defect has been born

Description : This new defect occured while I was running the automated test suite. I noticed that there was an inconsistentcy in terminaology used. In more places the word Logon is used, but on this screen it says Login

<H2>Current Workload Assignment</H2>
#@embedchart::Public Queries/Distribution Charts/Active Defects by Owner::::@#

Current Workload Assignment

Active Defects by Owner
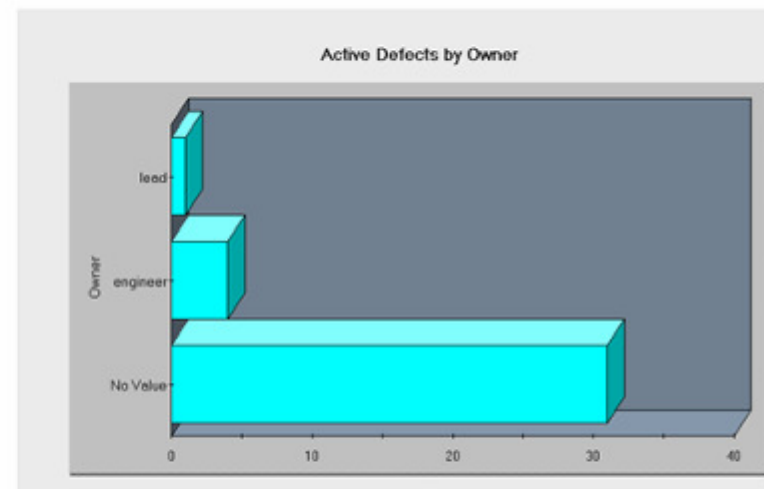
ClearQuest
--//---
Generating Email Rule Name: New Defect Submitted
Actioner User Name: ClearQuest Administrator

ClearQuest Web Link to New record

CQ Package: Attachments 2.1

- Store attachments to a remote FTP site

- Control attachment file size

- Can be applied on any schema

  ▸ Stateful and Stateless record-types are supported

- Supported on 7.1.2

- Advantages:

  ▸ Attachments are not replicated

    - DB size is smaller

    - Replication is faster

    - DB Backups are faster

CQ Package: ALMWork 1.3

- Pop-up forms support
  - ▶ Significantly reduces the number of clicks required to perform tasks
  - ▶ Pre-populate some fields for workflow automation
  - ▶ Supports multiple pop-up forms within the same workflow

- Requires CQ 7.1.2 or later

- When upgrading…
 - ▶ … also upgrades to EmailPlus 2.1 and Attachments 2.1

ClearQuest Web SmartCard Authentication Support

- For deployments where security requirements dictate stronger authentication than user name and password.

- Authentication through a user certificate enables two-factor authentication.

- Can configure smart card authentication for CQWeb such that the user must use a smart card and PIN to gain access.

- Can store a user certificate on a smart card that requires fingerprint biometric tests to access the certificate.

Configure for SmartAuth

1.Understand your LDAP server registry settings.
2.Obtain the LDAP user name of the WebSphere® Application Server (WAS) administrative user.
3.Configure secure access to Change Management Server (CM Server) and ClearQuest® Web.
4.Obtain a signer certificate for your organization.
5.Obtain client certificates for each user who requires smart card access.
6.Configure WAS
7.Configure CQWeb
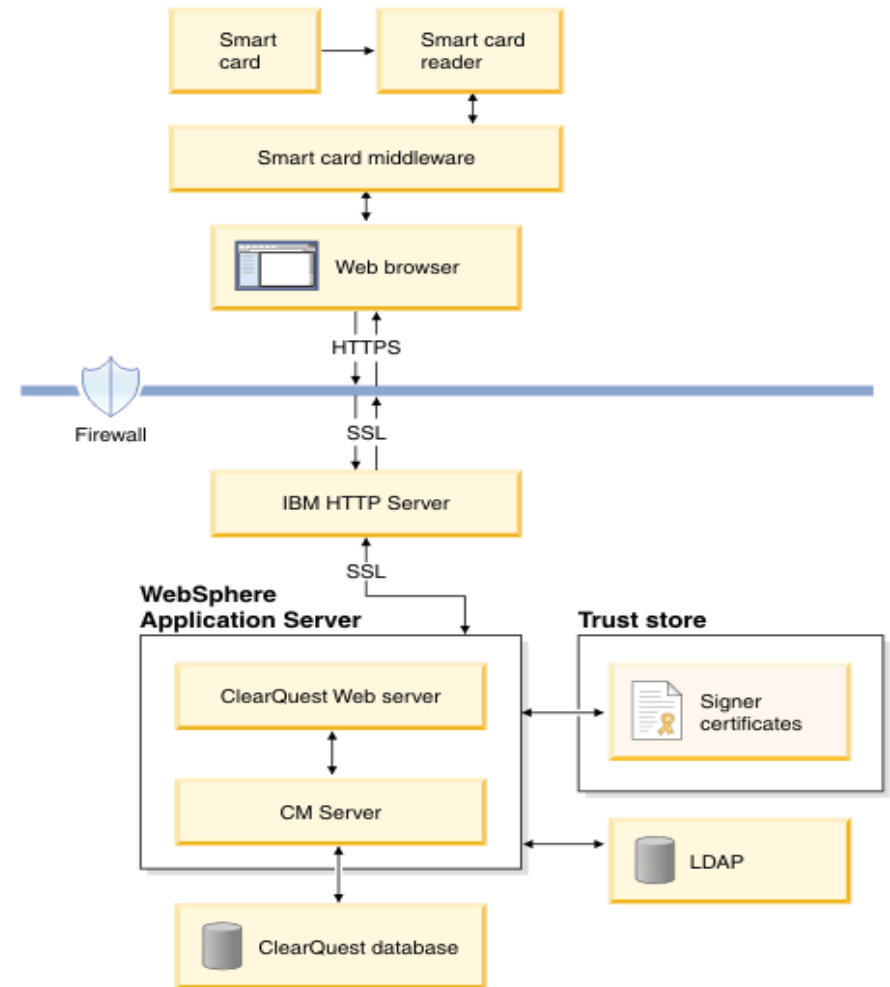
Reference :
http://publib.boulder.ibm.com/infocenter/cqhelp/v7r1m2/index.jsp?topic=/com.ibm.rational.clearquest.webadmin.doc/topics/c_smartc_config.htm

ClearQuest Custom UI Forms & Messages

- surface custom pop-up UI

- as part of a workflow through scripts

EXAMPLES :

http://publib.boulder.ibm.com/infocenter/cqhelp/v7r1m2/index.jsp?topic=/com.ibm.rational.clearquest.apiref.doc/topics/r_examples_openform.htm

http://publib.boulder.ibm.com/infocenter/cqhelp/v7r1m2/index.jsp?topic=/com.ibm.rational.clearquest.apiref.doc/topics/r_examples_openurl.htm

http://publib.boulder.ibm.com/infocenter/cqhelp/v7r1m2/index.jsp?topic=/com.ibm.rational.clearquest.apiref.doc/topics/r_examples_customerrmsg.htm

Introducing ClearQuest Web Help
One place for Documentation

Access Help via :

- Internet

- Intranet

- Local Machine

- Specify Option at Install Time
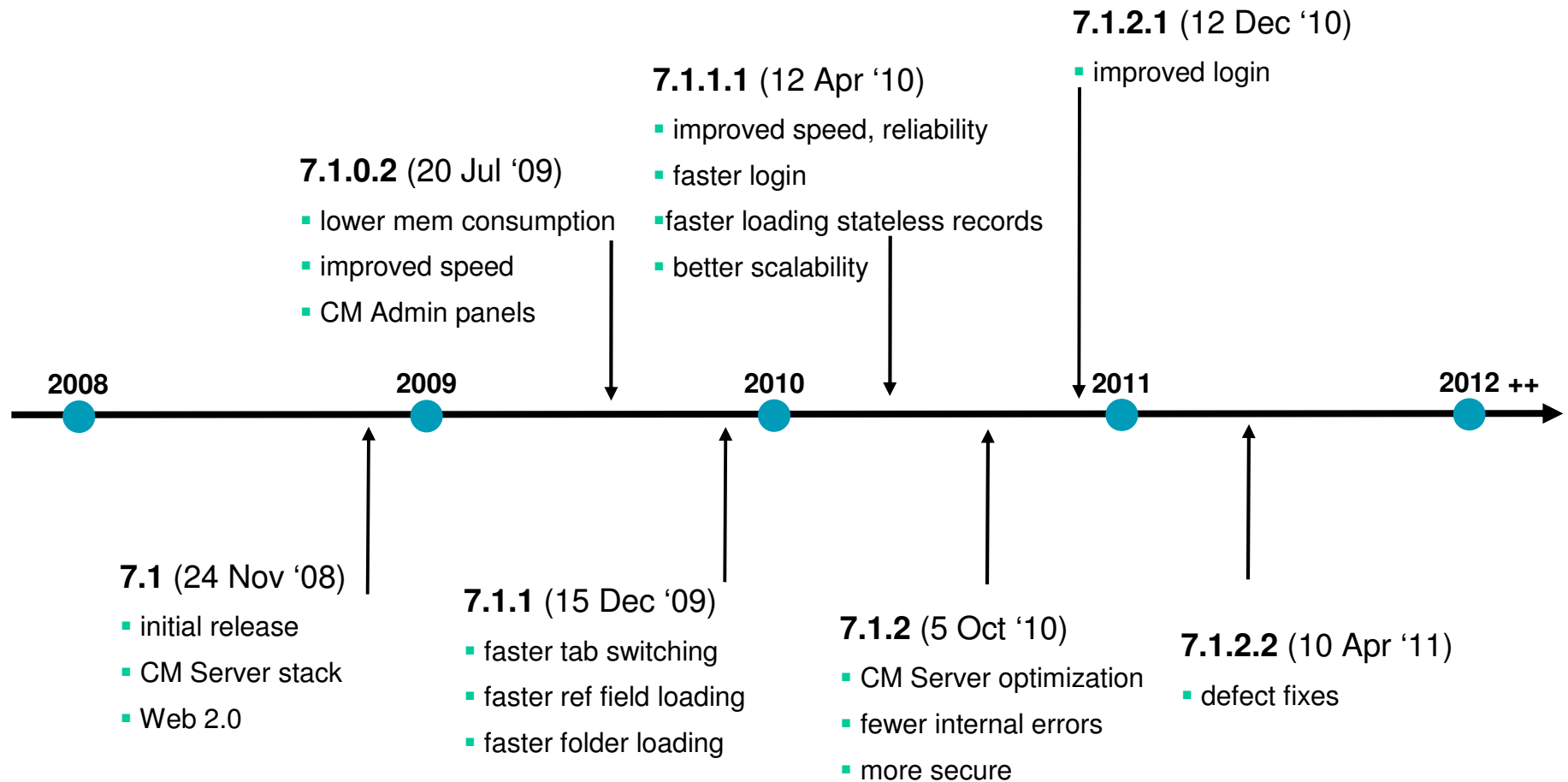
- Or

- Change option after install

- More Info :

https://www-304.ibm.com/support/docview.wss?uid=swg21474628

Install
Install software packages.

…additional ClearQuest Change Management Capabilities

Over 30 additional Noteworthy Improvements in ClearQuest :

https://www-304.ibm.com/support/docview.wss?uid=swg21450027

ClearQuest Web 7.1.2 Performance Improvements

7.1.2.1 (12 Dec '10)

- improved login

7.1.1.1 (12 Apr '10)

- improved speed, reliability
- faster login
- faster loading stateless records
- better scalability

7.1.0.2 (20 Jul '09)

- lower mem consumption
- improved speed
- CM Admin panels

2008	2009	2010	2011	2012 ++

7.1 (24 Nov '08)

- initial release
- CM Server stack
- Web 2.0

7.1.1 (15 Dec '09)

- faster tab switching
- faster ref field loading
- faster folder loading

7.1.2 (5 Oct '10)

- CM Server optimization
- fewer internal errors
- more secure

7.1.2.2 (10 Apr '11)

- defect fixes

What's New(s)

CLEARCASE

Integrated Configuration & Change Management
Realize Flexible CQ-Enabled CC Integrations

- ClearQuest Enabled Base ClearCase Integration

- ClearQuest Enabled UCM ClearCase Integration

- Flexible ClearCase-ClearQuest Integration Deployment

1 CQ Server– Multiple CC Clients

ClearCase	ClearQuest
Dynamic Views	CQ WAN (CMServer)
Snapshot Views	CQ WAN (CMServer)
Web Views (CCRC)	Integrated CQ WAN

Flexible ClearCase-ClearQuest Integration Deployment

- **LAN ClearCase can communicate with WAN ClearQuest**
  - ▶ ClearCase clients for Dynamic and snapshot views benefit from it
    - Ex. cleartool, Project Explorer, ClearCase Explorer, etc.
  - ▶ No impact to UCM use cases through CCRC or CQWeb

- **Uses OSLC 2.0 CQ REST API**
  - ▶ Comes installed with 7.1.2 CQ Web
  - ▶ WAN-friendly calls over HTTP(s)

- **Implications**
  - ▶ Reduce need to deploy CQ thick clients
  - ▶ Reduce dependency on CQ Multisite
  - ▶ New functionality is available on platforms not supported by ClearQuest
    - Solaris X86, Linux 390, Linux PPC, HP IA64

Introducing Jazz Integration with ClearCase Dynamic Views

- Leverage Jazz capabilities with ClearCase
  - ▶ Set up **build** definitions that run out of ClearCase views
    - **http://www.youtube.com/watch?v=TPnAUzdBZxc**
  - ▶ Create **work items** directly from failed builds
  - ▶ Use **agile planning** to track tasks
  - ▶ Use **queries**, **dashboards**, **reports**, etc.
  - ▶ **Collaborate** with team members

- Link work items to:
  - ▶ Build results, plans, other work items, arbitrary data
  - ▶ ClearCase data (via ClearCase Bridge)
  - ▶ ClearQuest records (via ClearQuest Bridge)
  - ▶ Naviagate links in both directions

Jazz General Build with ClearCase

- **http://www.youtube.com/watch?v=TPnAUzdBZxc**

- Create a build definition in RTC using the 'Command Line - Jazz Build Engine' template

- Use a script to pull source code from ClearCase in a dynamic view
  - ▶ Consider direct integration with ClearCase in the future?

- Use any build engine (Jazz, BuildForge, etc.)

- Run the build engine on a build machine upon request or on a schedule

- Monitor build progress

- Set up Jazz Ant Tasks to push build information to the Jazz server
  - ▶ Junit results, Java compile logs, artifacts, etc.
  - ▶ Users can download pushed files directly from the Build Results view
  - ▶ ClearCase-specific Ant Tasks in the future?

- Create RTC work items from failed builds

- **Demo available in the Solutions Center**

Link Plans to UCM with ClearCase & ClearQuest
Linkage between plan items, work items and ClearCase
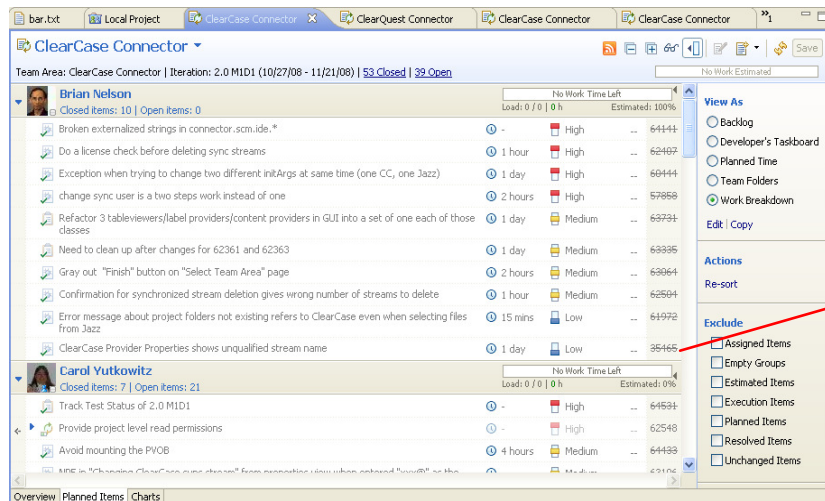
Agile Plan links to Work Items
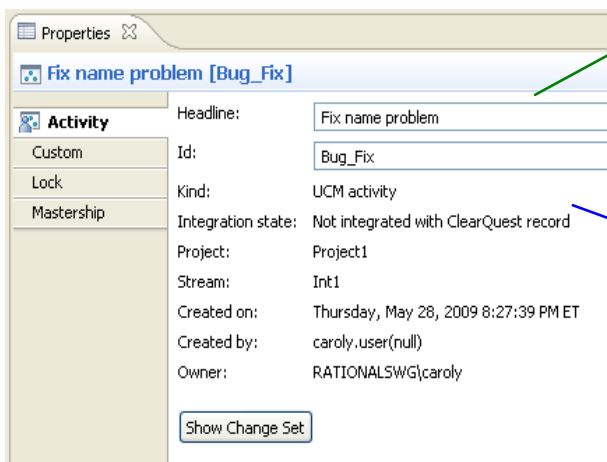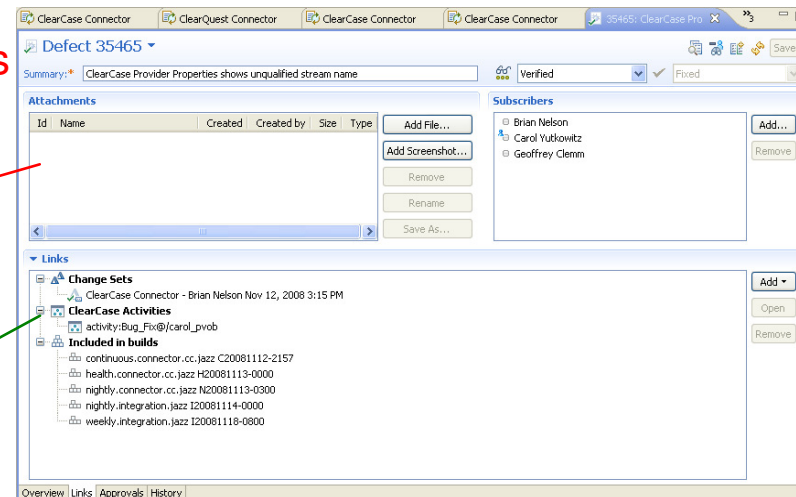
Work Items link to ClearCase activities

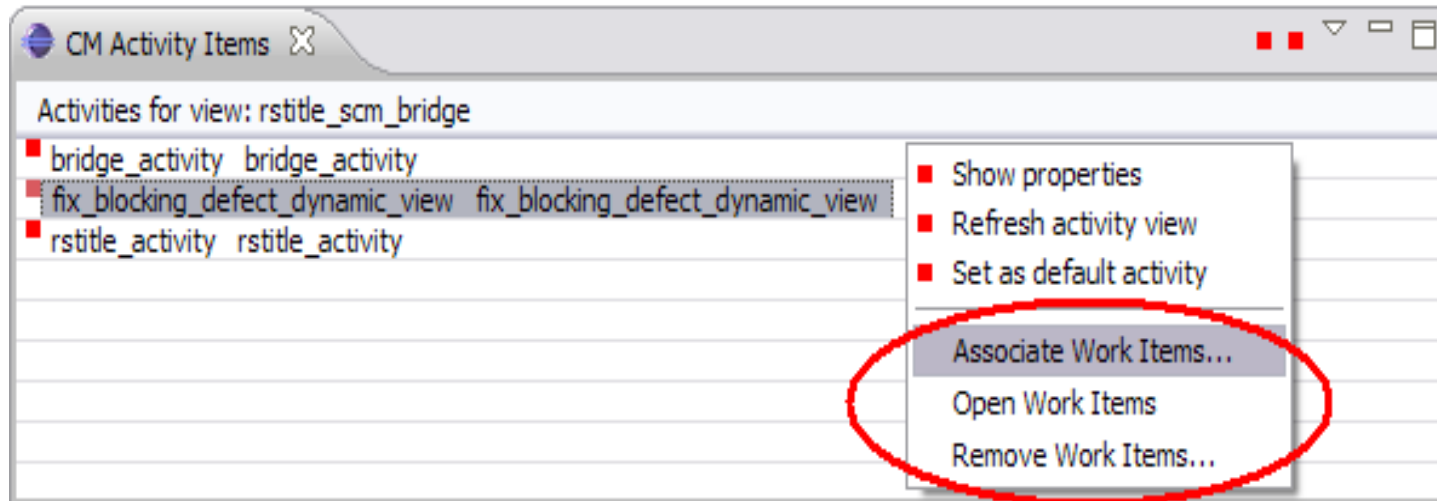ClearCase activities link to change-sets

48
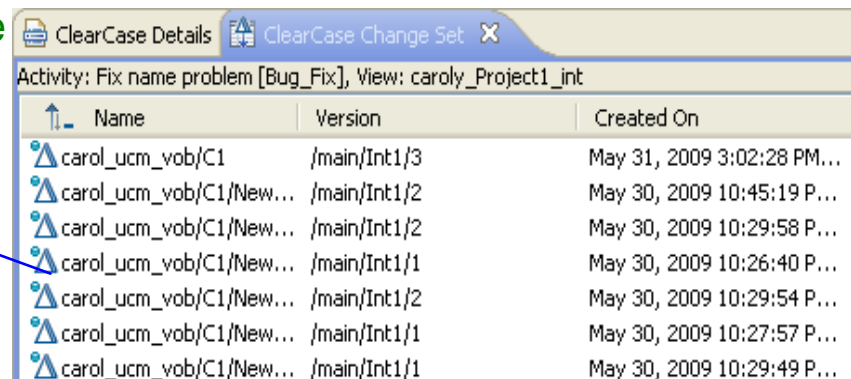
Link Plans & Work items to Base ClearCase
Linkage between plan items, work items and ClearCase
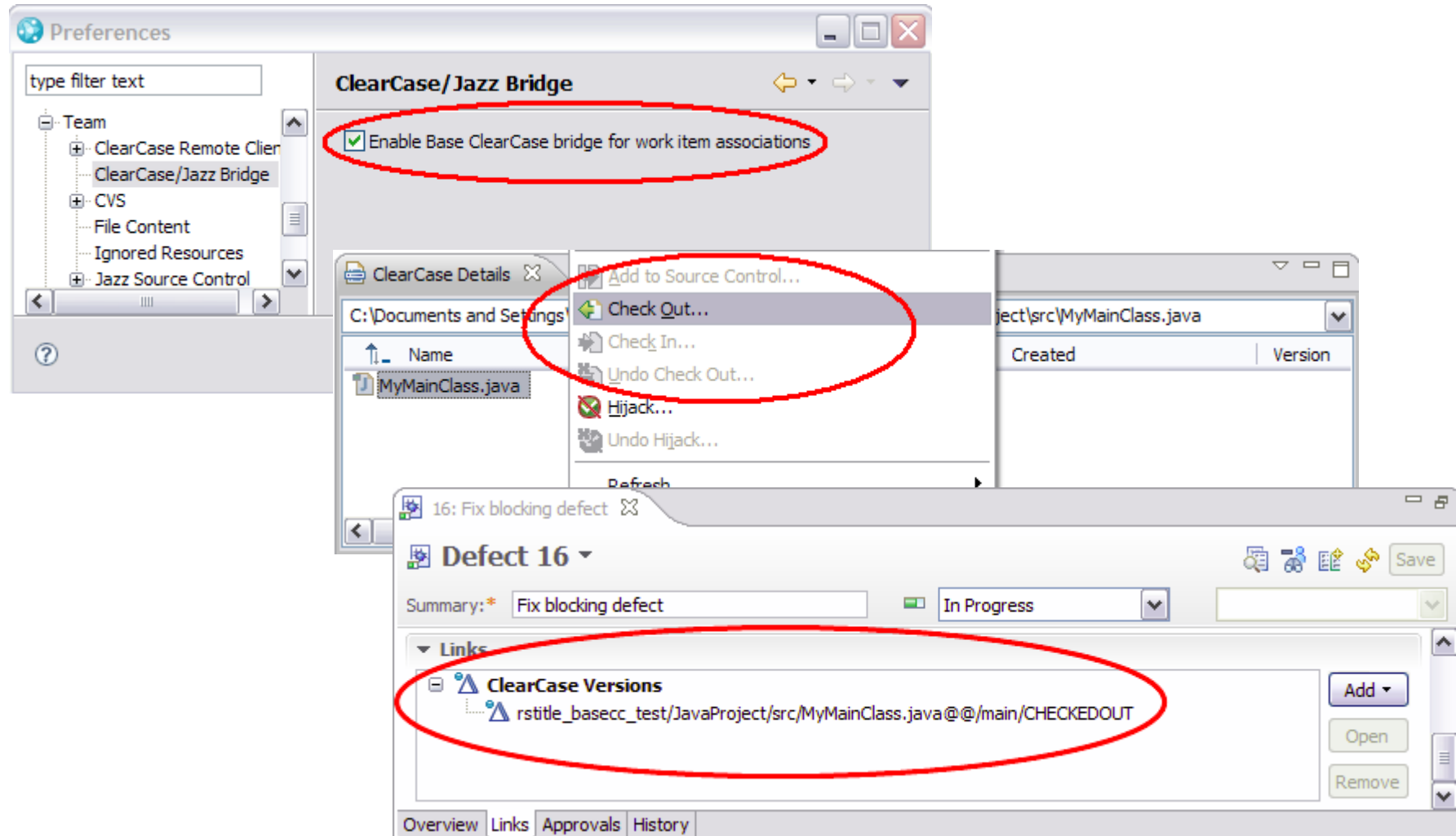
Associate work items from Dynamic Views
Using SCM Adapter

ClearCase MultiSite – Synchronous Request for Mastership
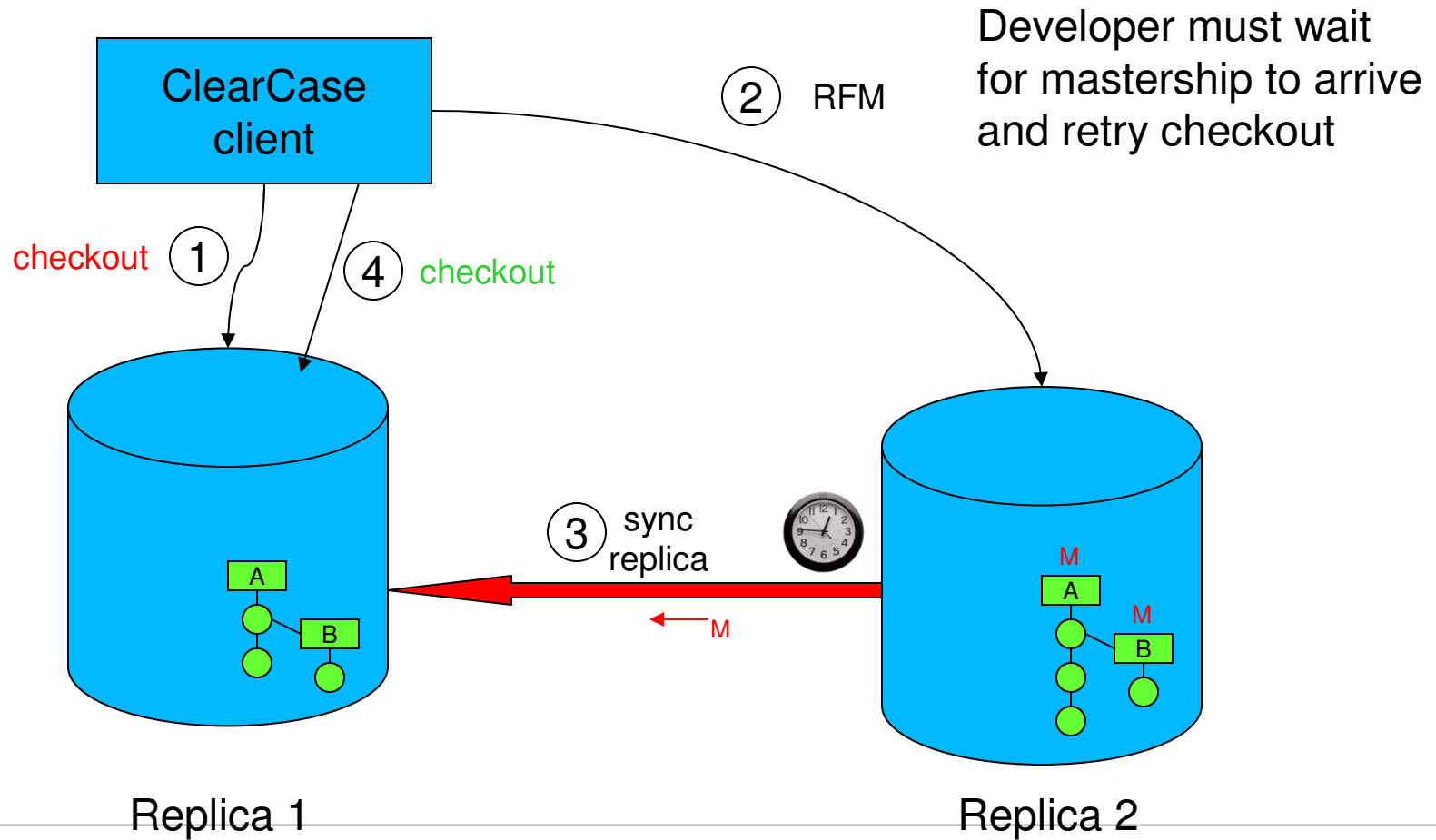
What is SRFM?

New feature in 7.1.2.02 release

Issues a silent reqmaster during checkout of a remotely mastered branch

If mastership is transferred, allows the User's checkout to complete, so they can begin working immediately

Eliminates the wait for syncreplica to happen before beginning work, BUT

User cannot checkin the new version until mastership arrives

Request for Mastership

ClearCase client

Developer must wait for mastership to arrive and retry checkout

checkout ① ④ checkout

② RFM

③ sync replica

A

B

M
A

M
B

M

Replica 1

Replica 2

Synchronous Request for Mastership

ClearCase client

checkout ①

② SRFM

③ SRFM reply

④ sync replica

M

A

B

A
B

M

M

M

Replica 1

Replica 2

Developer checkout succeeds if SRFM reply indicates it's safe. Checkin not allowed until mastership arrives.
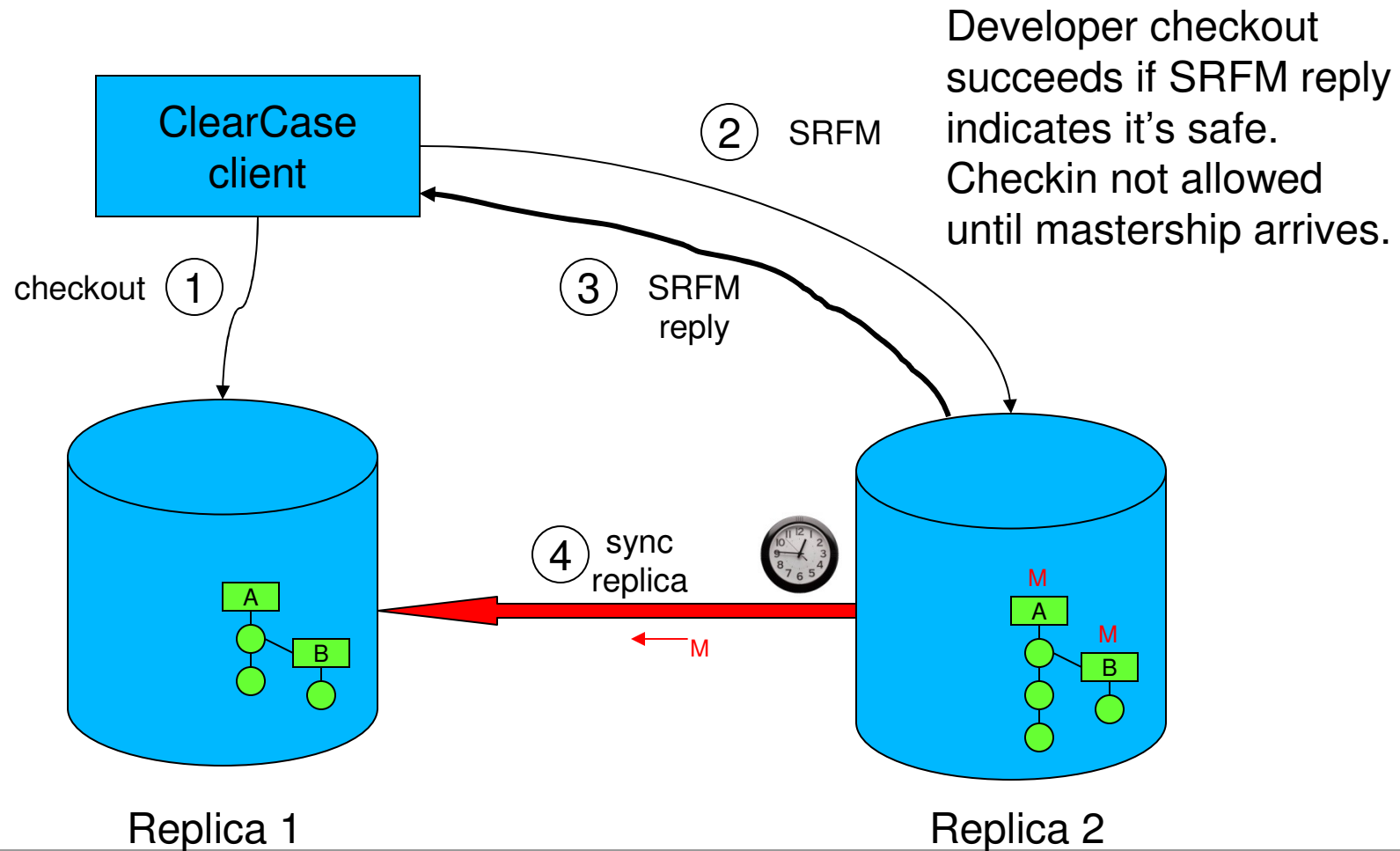
EDA Tools Integration

IBM and Cadence Design Systems

Providing codevelopment and verification management solutions for electronic and software design.

http://www-01.ibm.com/software/rational/offerings/cadence/

IBM Rational ClearCase – Cadence Integration
Bring Analog/Mixed Signal Designers under one roof

A First Class Integration of ClearCase inside Cadence Design Framework

Supports Instant on workspace access and integrated SCCM operations from within Cadence Design Framework

Share, Collaborate and Design analog and mixed signal circuits in a Geographically distributed development environment

Visualize and Track Changes inside the Design Framework

Realize Increased Developer, Team and Organization Productivity inside the Design Framework

ClearCase – Cadence Integration Capabilities

- A **rich set of integrated Menus, toolbar, and custom user interface** for **workspace management** and designer productivity

- Instant on Workspace support - Ability to instantly access any large sets of data through ClearCase workspace (**Dynamic Views**) without having to pre-populate information

- Operations for Globally Distributed Development through **MultiSite**.

- Ability to perform **version control operations from within your design** environment

- Support for **co-managed sets** and Atomic Checkin operations

- Ability to **manage design input** inside Cadence DFII from open access data objects to SKILL, Circuit Design language (CDL), PSF, PSF XL, and others

- Ability to **manage design outputs** in ClearCase like Library, cell view and cell folder and file assets including XML database, PSF, PSF XL, scripts, and other related assets

- Supports 32-bit & 64-bit Cadence tools

Cadence Integration – Working Model

- Many / most Cadence artifacts are not mergeable
  - Reserved checkouts
  - Avoid branching

- Design libraries can be huge
  - Dynamic views
    - Effective management of very large workspaces / files

- Distributed teams
  - ClearCase MultiSite with Request for Mastership (RFM)
    - RFE in the works: Synchronous RFM with "pending reserved" checkouts

- Base CC & UCM
  - Base ClearCase for designers using Cadence Integration
    - Offers Atomic Checkin Support for co-managed sets
  - UCM for the organization (can use single-stream UCM)

- Workspace Configuration Specification Management Choices :
  - Frozen Model – things don't change underneath
  - Dynamic Model – things can change underneath

ClearCase Work Area Listing
Inside Cadence Design Framework

Library Manager: WorkArea: /vobs/cds_vob/cdslib

File Edit View Design Manager Help

cadence

☐ Show Categories   ☐ Show Files

Library

basic_A

basic
basic_2A
basic_2B
basic_A
basic_B
cdsDefTechLib

Cell

CGND
CGND2
CGNDnew

View

Messages

Checked out "/vobs/cds_vob/cdslib/b2/CGNDnew/schematic/master.tag" from version "/main/1".
Info (ccase):
Checked out "/vobs/cds_vob/cdslib/b2/CGNDnew/schematic/data.dm" from version "/main/1".
Info (ccase):
Checked out "/vobs/cds_vob/cdslib/b2/cdsinfo.tag" from version "/main/1".
Info (ccase):
Checked out "/vobs/cds_vob/cdslib/b2/Connectors.Cat" from version "/main/1".
Check Out is done.
Querying all cells in library basic_A. This can take a while.
Query of library basic_A done.

Assets in ClearCase Data Store (VOB)

mapped to

Cadence Library,Cell,View

ClearCase Context Sensitive Menus
Inside Cadence Design Framework
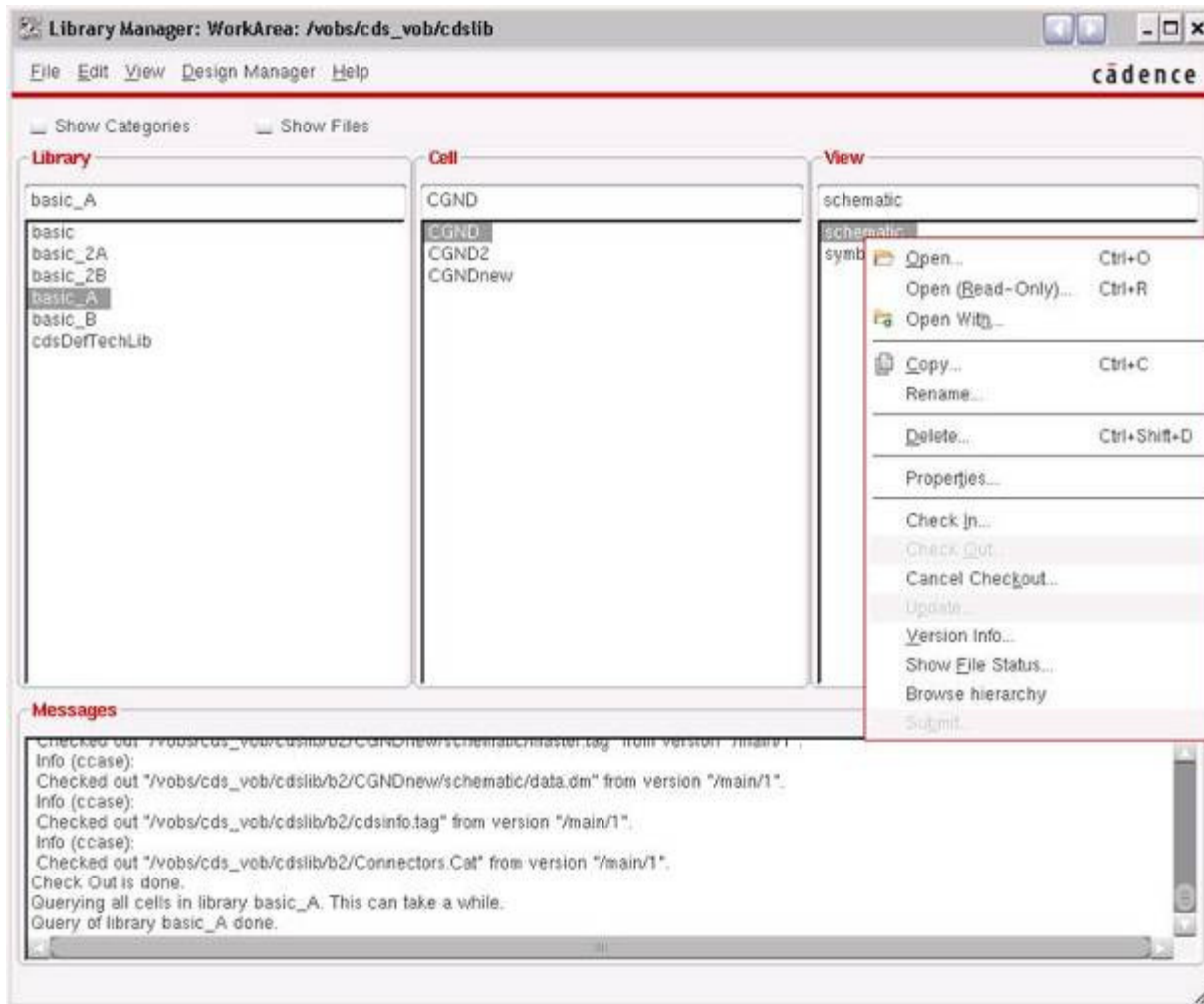
Context Sensitive menus for ClearCase Operations

ClearCase Version Information
Inside Cadence Design Framework
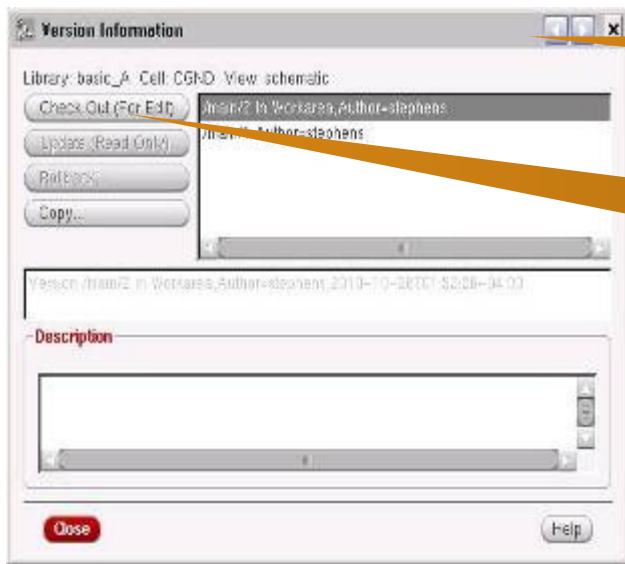
Easily View ClearCase Version Information from within Cadence Design Framework
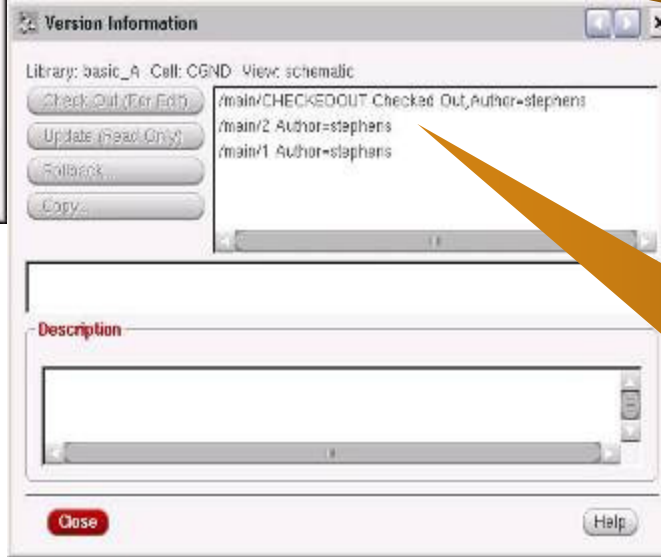
Quick access to ClearCase operations

ClearCase Version, and owner info mapped to schematic view inside Cadence Design Framework

ClearCase Vtree Browser
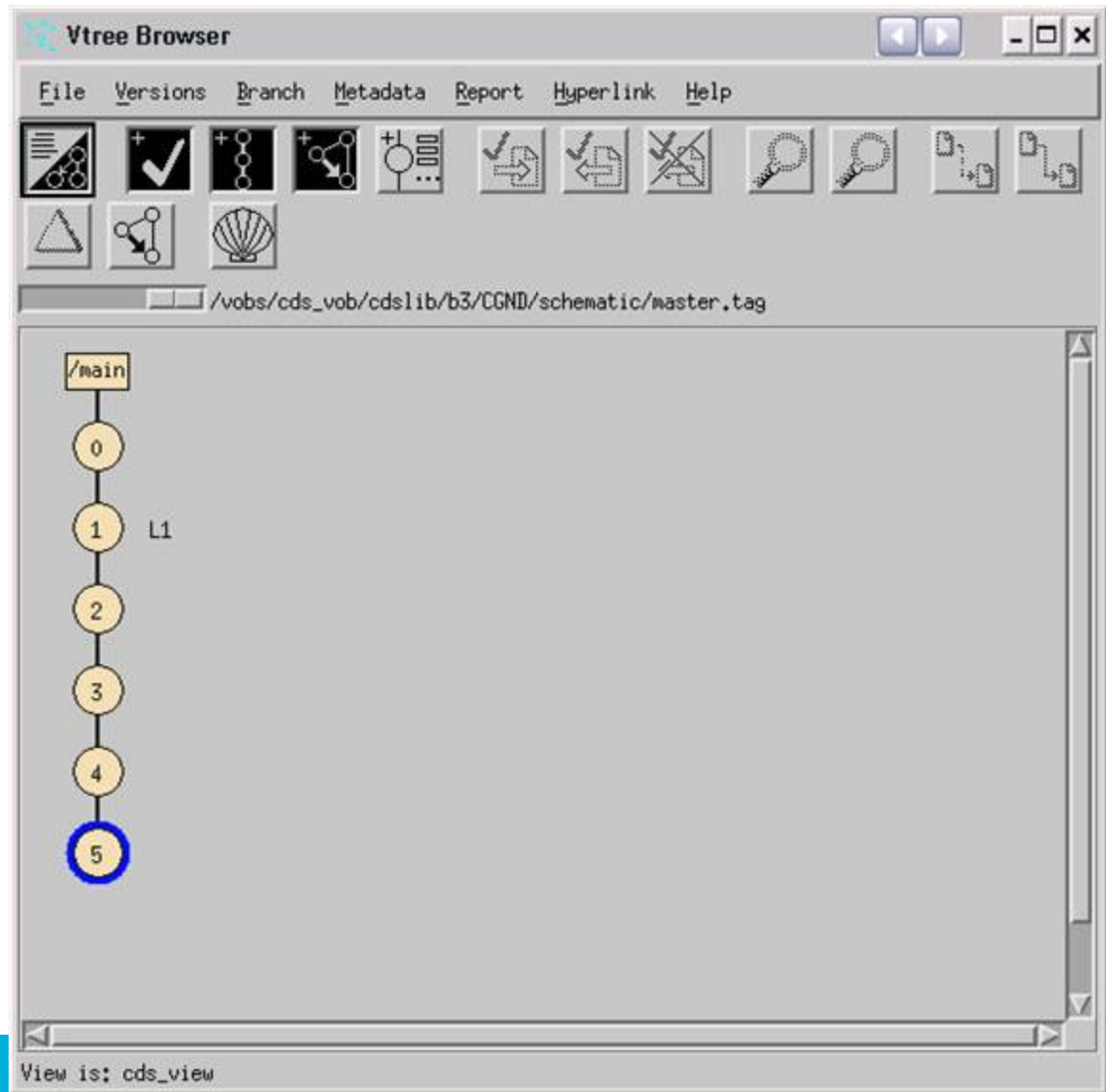
ClearCase Work Area Manager
Inside Cadence Design Framework

…More ClearCase Capabilities

Capability	Value
Windows 7 with User Access Control Support Windows 7 BitLocker Support	Provides IT Compliance solution by addressing Security Needs of organizations that run Windows 7 software.
PKI/CAC – SmartCard access support for CC Native Clients and CQ Web	Addresses US Government/DoD security requirement on SmartCard authentication access
CC/CQ – Ubuntu 10.04 LT client support	Provides customers the ability to develop and build Android applications on Ubuntu 10.04LT client platform.
CC/CQ – Token License Support	Provides customers the flexibility in licensing to deploy Rational Solutions to address business needs by purchasing license tokens that can be used /moved around between several Rational products

Session Agenda

1 What happened in the last decade – A Look Back
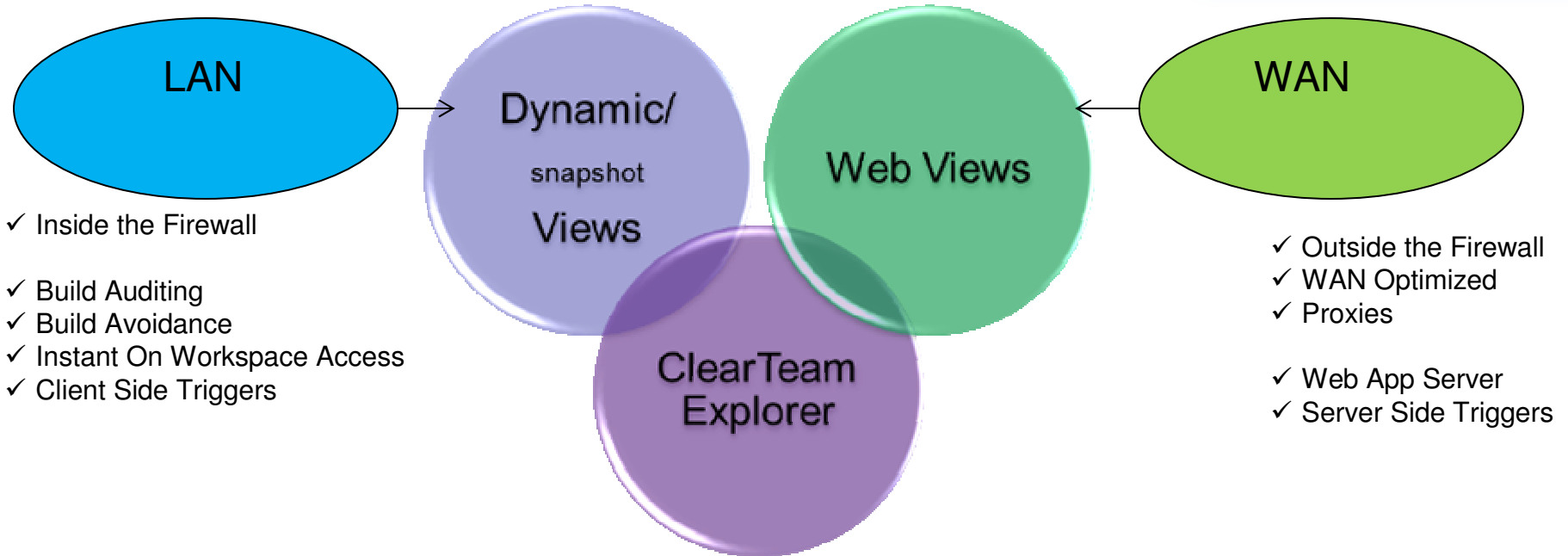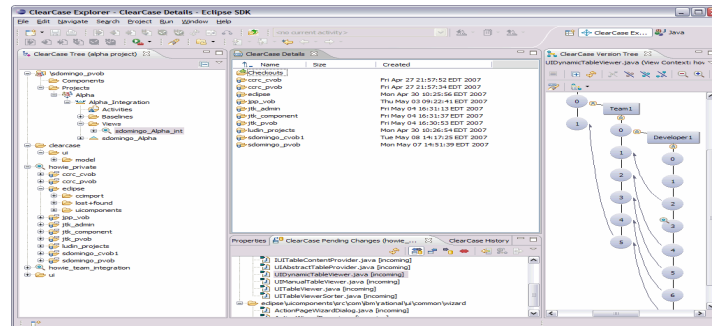
2 What's New(s)?

3 What's Next ?

Introducing ClearTeam Explorer
A Unified Desktop Client User Interface for ClearCase

Early Adopter Program

2H 2011

LAN

✓ Inside the Firewall

✓ Build Auditing
✓ Build Avoidance
✓ Instant On Workspace Access
✓ Client Side Triggers

Dynamic/
snapshot
Views

Web Views

ClearTeam
Explorer

WAN

✓ Outside the Firewall
✓ WAN Optimized
✓ Proxies

✓ Web App Server
✓ Server Side Triggers

A Unified Desktop Client User Interface for ClearCase

ClearTeam Explorer

- **Increased Developer productivity with:**
  - Support for Dynamic & Web Views
  - Preferences and Workspace Filters
  - One click Deliver and Rebase
  - Recursive Check in
  - Multisite Support
  - Project Lead Support for base and UCM
- **Increased Team productivity with:**
  - Integrated CQ Forms & Queries
  - Pending changes view
  - Eclipse shell-share support
  - Integrated Jazz based Collaborative Development Support
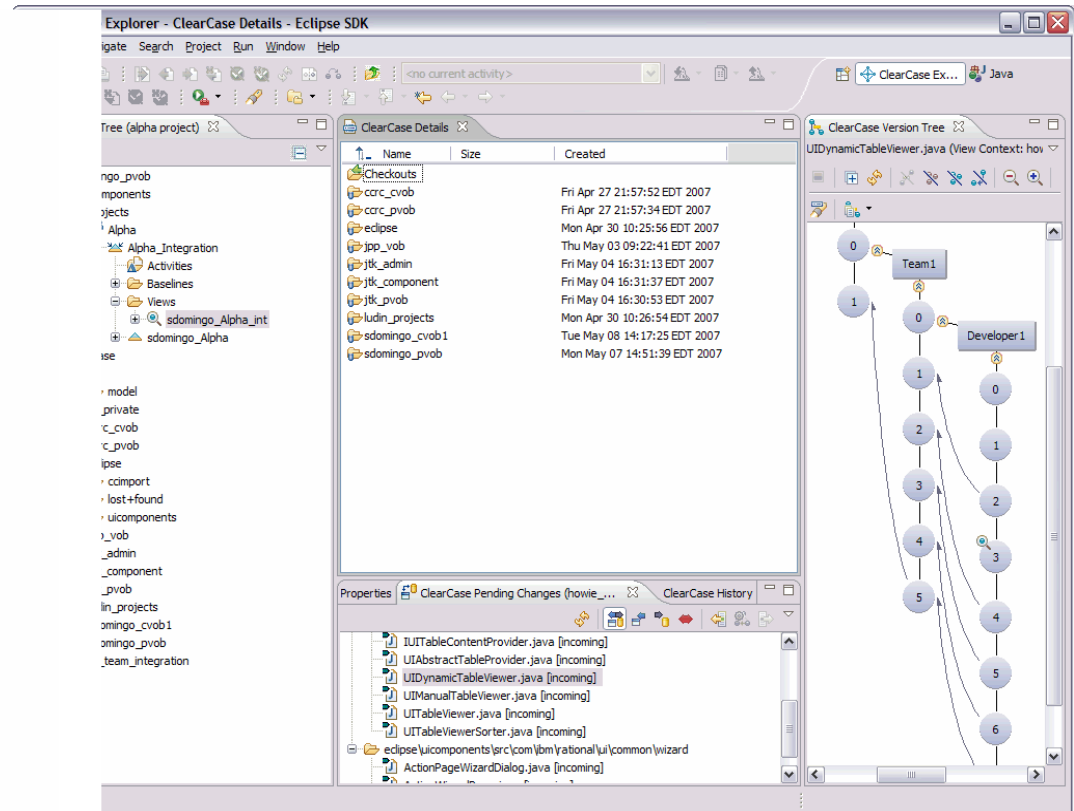
A Unified Desktop Client User Interface

ClearTeam Explorer Capability Highlights

- **Atomic Commit Support**
- **Jazz Integration** for Collaborative Development
- **Pending Changes** View
- **Deliver/Rebase enhancements**
  - Streamlined "default" operations for agile
  - Automated make/recommend baseline following deliver
- **Scheduled operations**
  - Notifications for view updates
  - Notifications for new baselines
  - Refresh of pending changes view
- **New Common Dialogs**
  - Simple, Detailed versions
  - Customization
  - Preferences
  - Recursive support within view namespace
  - Filtering support for recursive operations
- **Aggregated change indicator**
- **New Preferences**
  - Identical Checkin handling
- **New Wizards**
  - Join Project, Create View, Create Stream
  - Apply Label
- **Tasktop/Mylyn integration**
- **Automated discordance detection**

- New Edit Configuration (load rules) dialog
- **Contextual operations**
  - Create Stream in stream context
  - Create View in stream context
  - Join Project in stream context
- **New Change Set View**
  - Drag and drop versions between change sets, activities
- **Integrated CQ**
  - New CQ (SQUID) integration
  - Create any CQ Record, Find by ID, Find Recent
- **UCM**
  - Toolbar: Deliver/Rebase, Activity Mgmt, Join Project
  - Activity caching (performance)

  - Option to load both dev & int views when joining project
- **Explorer enhancements**
  - Address Bar
  - Working Sets
  - Disconnected mode support
- **Differencing and Merging**
  - Third-party diff/merge tool support
  - VTree merge selected versions
- **MultiSite**
  - Automated Request for Mastership
  - mkelem -master

Collaborative Development with ClearTeam Explorer

- Jazz Build Integration enables you to better manage and streamline ClearCase Builds.

- Bidirectional links between Agile planning in RTC to CC builds, activities, versions promotes traceability

- Flexible CQ/CC Integrations with no CQ local-install improves consumability and cost of ownership

ClearCase and ClearQuest Architecture 2011
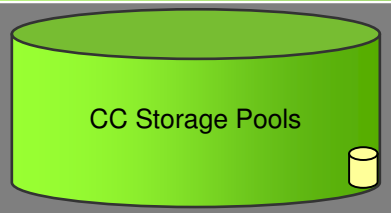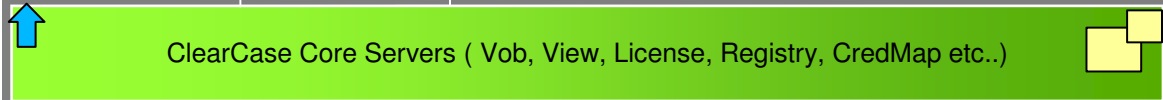
Goal : Flexible Deployment. Improved Performance

ClearCase Clients

| Standalone Clients | IDE Integrations | Command Line | Custom Automation |

(Dynamic /Snapshot Views)

Web View

rpc

http(s)

CCRC WAN Server

ClearCase Core Servers (Vob, View, License, Registry, CredMap etc..)

CC Storage Pools

ClearQuest Clients

| Standalone Clients | Custom Automation |

OSLC API | CQ Web Browser

http(s)

http(s)

DBMS wire Protocol

CQ Web Server

DBMS Server (DB2,ORACLE,SQL Server)

CQ Databases

provides HA support

provides DR support
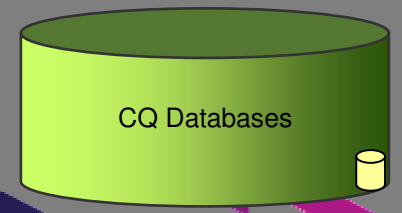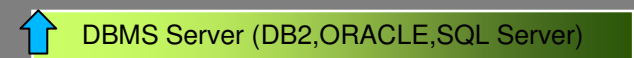
Rational ClearQuest Reporting Solution

Early Adopter Program

2H 2011

Report Authoring	• Author Reports on data from a single and/ or instances
Report Consumption	• Consume Reports via the web or desktop
Report Management	• Version control and secure access to reports
Enterprise Deployment	• Deploy report consumption and management for the enterprise
Business Performance Management	• Report on Linked Data and Trends for business performance management through data warehousing

Early Adopter Program

ClearQuest Reporting in 2011

	Authoring	Consumption	Management	deployment
BIRT	Data-pull report authoring with BIRT Report Designer (separate download)	Run locally hosted data-pull reports using BIRT Report Designer Run shared data-pull reports using separate web interface Information Center	ClearQuest Report Launcher for file-based management	ActuateOne (separate license)
Cognos	IBM Rational Insight (separate license)	IBM Rational Insight (separate license)	IBM Rational Insight (separate license)	IBM Rational Insight (separate license)
Crystal Reports	Data-pull report authoring using Crystal Reports Designer (separate license)	Run data-push reports from ClearQuest Client (Eclipse-based) via Report Server for Crystal Reports Run data-push reports from the ClearQuest Web client Run shared data-pull reports using separate web interface Information Center	ClearQuest Report Launcher for file-based management	SAP Crystal Reports Server (separate license)

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IBM Rational ClearCase & ClearQuest Roadmap 2011

THEME	2011	

ALM Integration	❖ Unified ClearCase Client Integration to Jazz Platform
	   ❖ base ClearCase and UCM support
	   ❖ Rich Jazz work item association with ClearCase
	   ❖ Eclipse 3.6 based shell-sharing support
		❖ CQ Jazz Dashboard Data Visualization Support
		❖ Requirements Change Management Integration update
		❖ A common WAS 7 based Web Server Deployment
		❖ serves CQ,CC and Jazz Web components

Developer Focused **SCM Performance**	❖ 1.25x Faster UCC/Web Views workspace Loading ❖ 10x Faster Namespace Collision detection (Evil Twin Detection)	**Note :** **Any performance data contained herein is measured in a controlled environment. Therefore, the results obtained in other operating environments might vary significantly. Users of this document should verify the applicable data for their specific environment.**

Co-Development Solution for EDA	❖ Cadence Integration Support
	   ❖ Supports CQ-Enabled CC use cases for Cadence DF II
	   ❖ Supports MultiSite Synchronous Request for Mastership
	   ❖ Supports both 32-bit and 64-bit Cadence DF II	

Core SCM	❖ Unified ClearCase Client
	   ❖ Support for Dynamic Views
	   ❖ Support for Web Views
	   ❖ Support for Flexible CQ-CC Integration
		❖ MVFS Mini-Filter Driver Support for Windows 7
		❖ MultiSite Synchronous Request for Mastership Support

Core CM	❖CQ Reporting Solution Enhancements ❖CQ ALM Enhancements ❖CQ E-Mail Plus Package Solution ❖CQ Infrastructure Enhancements	❖ CQ Data Visualization through Charting ❖ Open Social Gadget Support ❖ CQ Web Help Support

Q2 -2011 : ClearCase & ClearQuest

Themes	ClearCase & ClearQuest Offering Capabilities
EDA Tool Integration Enhancements	**Rational ClearCase & ClearQuest - Cadence Integration update [Q2 2011]** An update to Cadence Integration that offers integrated change and configuration management solution by surfacing ClearQuest integration to ClearCase within Cadence Design Framework, providing designers an integrated SCM workflow.
ALM Integration Requirements Change Management Update	**Rational ClearQuest - Rational DOORS Integration update [Q2 2011]** An update to ClearQuest-DOORS Integration that offers integrated Requirements Change Management that can be applied to any ClearQuest record type, to enable a Requirements driven development solution for individuals, teams and team of teams.

2H 2011: ClearCase & ClearQuest

Themes	ClearCase & ClearQuest 2011 Planned Capabilities
Core CM/Core SCM **Product Capability Improvements** **Note :** **Any performance data contained herein is measured in a controlled environment. Therefore, the results obtained in other operating environments might vary significantly. Users of this document should verify the applicable data for their specific environment.**	Building on solutions introduced in prior releases this offering provides capabilities in the following key areas: Performance (1)1.25x Faster WAN workspace Load Usability & Consumability (2) A Unified ClearCase Client built on Eclipse technology that promotes individual and team productivity for ClearCase LAN & WAN workspaces (3) A Flexible ClearQuest enabled ClearCase Integration based on the unified ClearCase Client (4) A revamped ClearQuest Reporting solution that offers better security. (5) The ability to independently install & update WAS 7 for ClearQuest and ClearCase WAN Infrastructure, allowing customers to deploy WAS security updates without having to install CQ/CC patch updates (6)The ability to update individual ClearCase VOB schemas (7) Ability to run ClearQuest and ClearCase on new platforms Reliability & Quality (8) Better MVFS Kernel component reliability on Windows OS (Windows 7 and above) when dealing with anti-virus software (9) Core SCM Reliability through Evil Twin detection & prevention and time storage inconsistency avoidance through 64-bit time storage solution (10) APAR fixes that improved both perceived and real quality of ClearQuest and ClearCase offerings
Application lifecycle management (ALM) Integration	Building on the jazz integration technology, this offering plans to provide : (1)Unified ClearCase Client Integration to Jazz Platform supporting base ClearCase and UCM using Dynamic Views and Web Views. (2)Visualization of ClearQuest Data in Jazz Dashboards through Charts (3)Rich Jazz work item association with ClearCase (4)Eclipse 3.6 based shell-sharing support (5)A common WAS 7 based Web Server Deployment that serves CQ,CC and Jazz Web components ClearQuest is a OSLC Provider , while ClearCase is an OSLC Consumer.

ClearCase & ClearQuest 2011 Beta2 Now Available !

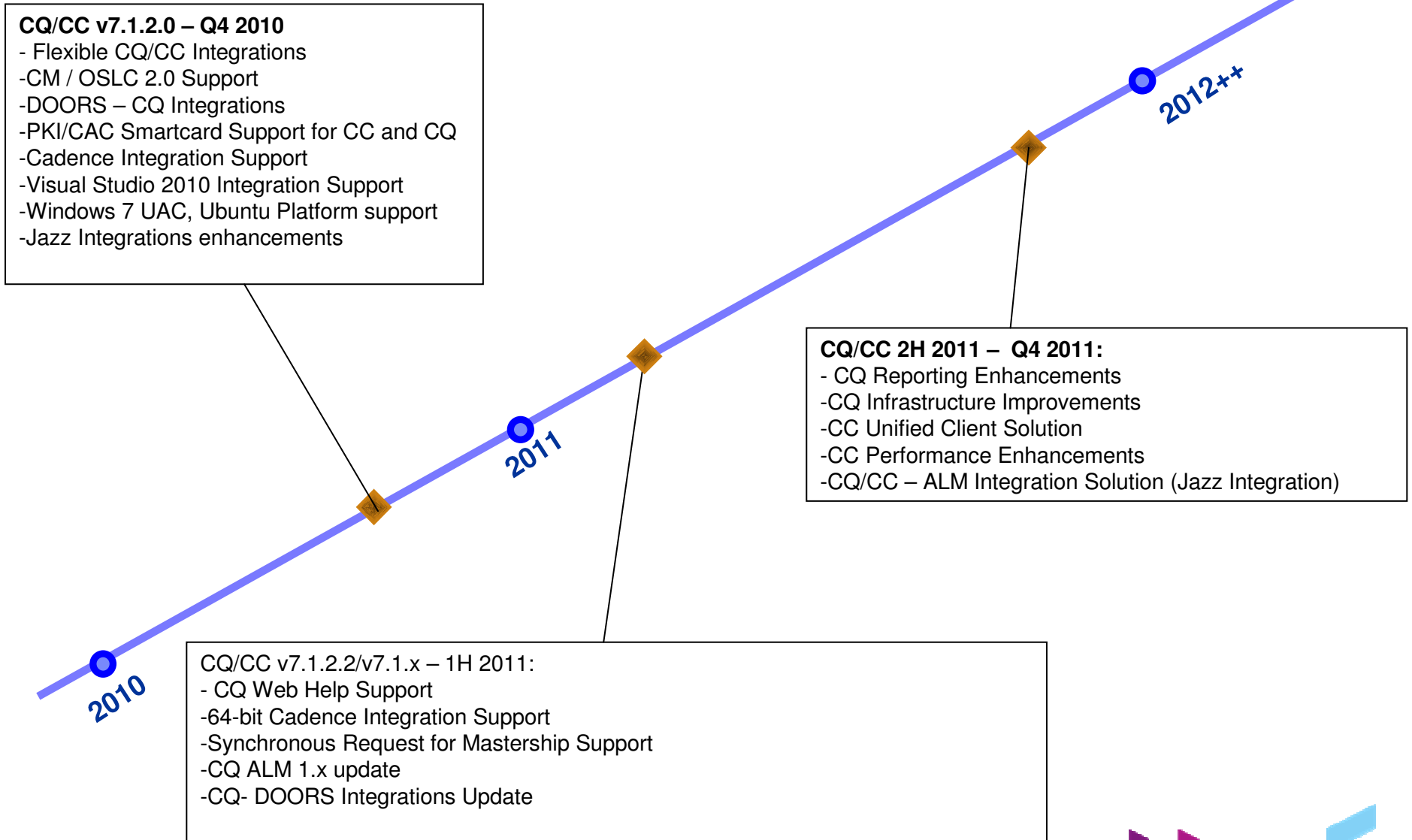## https://www14.software.ibm.com/iwm/web/cc/earlyprograms/rational/rccq8ob/

ClearCase & ClearQuest Directions

> We plan to continue **CC and CQ enhancements** with a focus on providing additional compelling value to address enterprise configuration and change management needs.

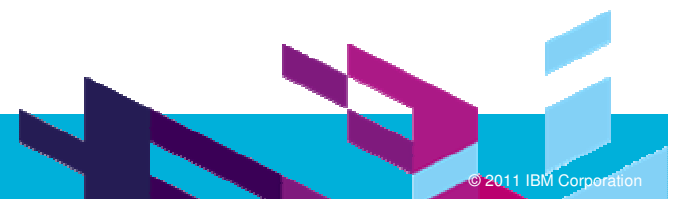> We plan to provide a **first-class integration** with Jazz Platform using connectors and bridges to address system and application lifecycle management needs.

ClearQuest & ClearCase 2010 -2011

CQ/CC v7.1.2.0 – Q4 2010
- Flexible CQ/CC Integrations
-CM / OSLC 2.0 Support
-DOORS – CQ Integrations
-PKI/CAC Smartcard Support for CC and CQ
-Cadence Integration Support
-Visual Studio 2010 Integration Support
-Windows 7 UAC, Ubuntu Platform support
-Jazz Integrations enhancements

2012++

CQ/CC 2H 2011 – Q4 2011:
- CQ Reporting Enhancements
-CQ Infrastructure Improvements
-CC Unified Client Solution
-CC Performance Enhancements
-CQ/CC – ALM Integration Solution (Jazz Integration)

2011

2010

CQ/CC v7.1.2.2/v7.1.x – 1H 2011:
- CQ Web Help Support
-64-bit Cadence Integration Support
-Synchronous Request for Mastership Support
-CQ ALM 1.x update
-CQ- DOORS Integrations Update

www.ibm.com/software/rational

www.ibm.com/software/rational