

ClearCase Integrations: Rational Team Concert Project Management, Work Items and Jazz Team Builds

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Introduction

This white paper provides details about how to install and setup an integration of IBM Rational ClearCase and IBM Rational Team Concert (RTC) for Project Management, Work items and Jazz team builds. You can leverage your investment in IBM Rational ClearCase and enhance it with agile planning, work item execution and change management with IBM Rational Team Concert. This document provides information about the necessary requirements and identifies resources that will assist you in setting up the integration. This document is designed to be read by ClearCase and Rational Team Concert Administrators and technical project leaders.

Below is a list of some of the ClearCase features and functionality that you can continue to leverage while integrated with Rational Team Concert.

- Established ClearCase development and build environments that require dynamic views
- Use of clearmake or omake build avoidance, configuration records for compliance and auditing, and distributed builds
- non-ClearCase Access (NCA) to exported VOBs and Views
- Windows interoperation build environments that require Samba/CIFS or PCNFS
- ClearCase MultiSite environments that replicate data over distant geographies where increased WAN traffic from Web clients would be prohibitive and local access to the data is necessary
- Directory versioning including branching and labeling
- Extensive metadata and version history
- Hardlinks to versioned objects within the same VOB
- Unified Change Management (UCM) and established base ClearCase environments that have a process that cannot be easily migrated
- NFS access to versioned data and storing source containers on relatively inexpensive storage versus data stored within a DB2/Oracle/SQL database at a considerable cost
- Speed of accessing version data across NFS or CIFS versus downloading entire workspaces from versions stored within a DB2/Oracle/SQL/Derby database

Overview

The integration between ClearCase and Rational Team Concert consists of two ways to join work items and ClearCase version data:

- I. Graphical User Interface: Rational Team Concert with Rational ClearTeam Explorer (CTE) by leveraging the Rational ClearCase Bridge
- II. Command Line Interface: Implementation of a trigger for both UCM and base ClearCase that leverages [cURL](#) to interface with Rational Team Concert to record versions within work items

Rational Team Concert work items support two types of ClearCase-specific links; 1) ClearCase Activities, for UCM users, and 2) ClearCase Versions, for base ClearCase users. Either type of link may be accessed from a trigger (or other script or program), though access to ClearCase Versions links is available only in Rational Team Concert 2.0.0.2 iFix3 or later. The following is a collection of data and links describing the integration.

Graphical User Interface

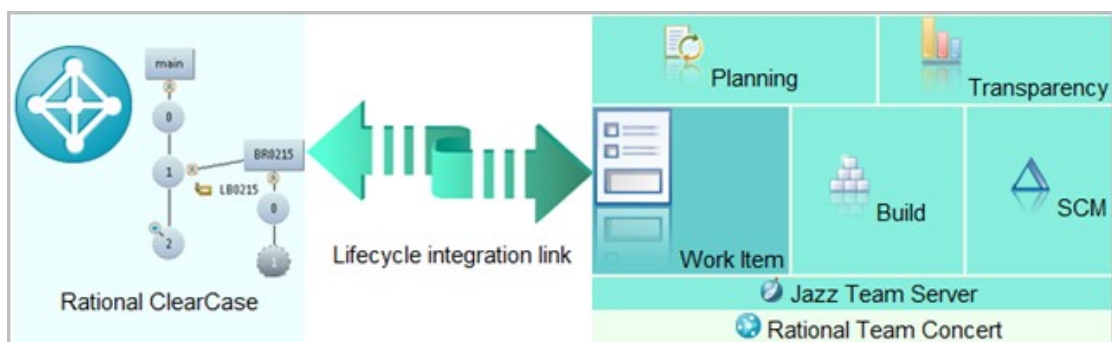
Consult the following documentation titled [Rational Team Concert and Rational ClearCase - Integration Cookbook](#) and review the "Rational ClearCase Bridge" section which contains several Quick Tours, Getting Started sections and instructional videos:

[Video: Using Rational Team Concert 4.0 with Rational ClearTeam Explorer](#)

[Video: Using Rational Team Concert 3.0.0.1 with Rational ClearTeam Explorer](#)

[Video: Using Rational ClearCase with Rational Team Concert 3.0](#)

Rational ClearCase Bridge



The deployment of the Rational ClearCase Bridge is very straight-forward with the graphical user interface: no pre-configurations are necessary. Since this is a feature within an Eclipse shell, the only setup requirement is to install the Rational ClearCase Eclipse client (Rational ClearTeam Explorer, ClearCase Remote Client (CCRC), or Source Control Management (SCM) Adapter) into the Rational Team Concert Eclipse client.

To install Rational Team Concert and Rational ClearTeam Explorer using IBM Installation Manager:

1. Add the repository locations for the Rational Team Concert and ClearTeam Explorer extension offerings to the list of repository locations under **File -> Preferences** in the Installation Manager. Click **OK** to save the list.
2. Choose **Install** from the main Installation Manager window, and install Rational Team Concert by selecting **Rational Team Concert - Client for Eclipse IDE** from the list of installation packages. Select the version of your choosing.
3. Accept the license agreement and click **Next**. On the **Install Packages** page, ensure that the **Create a new package group** radio button is selected. Choose a location for your package group, choose an architecture from the selection, and click **Next**.
4. Step through the remaining pages of the installation wizard, answering the questions as appropriate to complete your Rational Team Concert installation.
5. Once the installation finishes, back in the main Installation Manager window, choose **Install** again, in order to install ClearTeam Explorer. Select **IBM Rational ClearTeam Explorer Extension** from the list of available installation packages.
6. Again, step through the wizard and accept the license agreement. This time, when you reach the **Install Packages** page of the wizard, select the **Use the existing package group** radio button and select the package group you created in the previous step.
7. Step through the remaining pages of the installation wizard, answering the questions as appropriate to complete your ClearTeam Explorer installation.
8. Close the Installation Manager when the installation finishes. The bridge is now ready to use with RTC 4.0.

Note that you must update the Java Runtime Environment of the Eclipse shell (only for Rational Team Concert 3.0.1.x).

Instructions to accomplish this task including further information and screen clips for the above steps can be found here:

[Tip: Installing the ClearTeam Explorer to Rational Team Concert](#)



A video demonstration showing a basic installation of ClearCase 8.0 and RTC 3.0.1 is also available in the IBM Education Assistant:

[Installing Rational Team Concert and ClearTeam Explorer in the same Eclipse instance](#)

Command Line Interface

Consult the following documentation titled [Using ClearCase triggers to implement ClearCase Bridge capabilities in Rational Team Concert](#) which includes a sample cperl trigger and cleartool command to assist with the proof of concept for a basic integration. The integration trigger leverages the [cURL](#) command-line tool to easily generate the HTTP requests to RTC and links to the work items from the ClearCase command line.

The above integration relies on [Open Services for Lifecycle Collaboration](#) (also known as OSLC or Open Services) standard. Rational Team Concert supports a simple [RESTful](#) (Representational state transfer or REST) [RTC API](#) for modifying work items and their attributes. The RTC API is a summary of the [OSLC CM REST API](#) and includes samples and shell scripts based on [cURL](#).

Jazz Builds with ClearCase software configuration management

The following [video](#) will demonstrate how to run a Jazz build, out of the box, using a ClearCase dynamic view.

Topics of the fourteen minute video include:

- Basic description of a Jazz Build
- Creating a Jazz Build Definition and Jazz Build engine
- Running a Jazz Build with an external SCM (Software Configuration Management) system, namely ClearCase
- Reviewing a Jazz Build result and linking work items to the build
- Scripting with Jazz Build Ant tasks to promote build awareness through build progress monitoring, build alerts and build result viewing

The scripts that were utilized within the video can be downloaded from a file [JazzBuilds.zip](#) on developerWorks.

Notes and warnings

Configuration testing used multiple RedHat Linux 5 Update 8 64-bit multiprocessors systems and local storage while using ClearCase as the software configuration management tool. Below you will find the system roles created and their configurations, each representing an individual RedHat system. Note that the latest software patches were applied for the respective installed software packages:

- IBM DB2 9.5 Workstation
- IBM Rational Jazz 4.0.1 Rational Team Concert with IBM WebSphere 8 ND
- Microsoft Windows 2008 R2 with Active Directory [to unify all user and group accounts with LDAP as well as Windows workstations]
- ClearCase 8 VOB and View Server with WAN Server installed and WebSphere 8 ND [Samba configured for Windows Interop with CIFS – see whitepaper “[ClearCase and Samba: A Supported Configuration](#)”]
- ClearCase 8 Client for both snapshot and dynamic views [This is also the RTC client for the CTE integration]

Additional interop configuration for Windows clients:

Microsoft Windows 7 64-bit multiprocessor ClearCase 8 Client for both snapshot and dynamic views accessing VOB and View storage with CIFS [This is also the RTC client for the CTE integration]

References

The following were used in references or as other sources of information:

- [Rational Team Concert and Rational ClearCase - Integration Cookbook](#)
- [Using the ClearCase Bridge to Rational Team Concert](#)
- [System Requirements for Rational Team Concert 3.0.1, Rational Quality Manager 3.0.1 and Rational Requirements Composer 3.0.1](#)
- [Installing the ClearCase SCM Adapter to Rational Team Concert](#)
- [Installing the Rational ClearCase Bridge to Rational Team Concert \(CCRC\)](#)
- [Accessing the RTC CM OSLC interface](#)
- [cURL home page](#)
- [cURL examples calling OSLC](#)
- [OSLC Change Management specification](#)

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