Using Rational ClearQuest Project Tracker

VERSION: 1.0

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IMPORTANT NOTICE

Contents

Preface

Rational ClearQuest Project Tracker allows you to exchange information between the Microsoft Project 2000 project management application and Rational's ClearQuest change management system. It helps you create a comprehensive "closed loop" project tracking system that takes full advantage of the project management features of Microsoft Project 2000 and the change management capabilities of Rational ClearQuest.

With Rational ClearQuest Project Tracker, the project manager has easy access to information in ClearQuest about work being performed by individual contributors. The project manager can feed this information into Microsoft Project 2000 and accurately update the project plan with the most up-to-date information available.

With Rational ClearQuest Project Tracker, information from new and updated project plans can be transferred to Rational ClearQuest and made available to individual contributors and team managers. The contributors can adjust their priorities and schedules based on the most up-to-date project plan dates.

Creating this closed loop project tracking system ensures that individual contributors are focused on the plan and that the project manager gets accurate information on the progress being made. As a result, Rational ClearQuest Project Tracker saves time, reduces wasted efforts, and helps bring projects in on schedule.

This guide also provides information on how to use Microsoft Project project plans based on the Rational Unified Process (RUP). If you have the Rational Unified Process available on your system, you can access the RUP project plans from Rational Unified Process > Templates > Microsoft Project. These plans reinforce the best practices methodology developed by Rational Software.

Audience

This document is intended for project managers and staff of organizations that are using Rational ClearQuest for change request management, and that are using or planning to use Microsoft Project 2000 for project management.

For systems administrators, Appendix A explains how to set up and configure Rational ClearQuest Project Tracker. The system requirements for using Rational ClearQuest Project Tracker are also included in this appendix.

Appendix B discusses how to access and apply the optional RUP project plans to Rational ClearQuest Project Tracker.

Before you begin

If you are a project manager who has not used Rational ClearQuest, read the following:

- *Introducing Rational ClearQuest*
  An overview of Rational ClearQuest components and how to use them.

If you are a system administrator administering Rational ClearQuest, you should have read:

- *Installing Rational ClearQuest*
  A guide on how to install Rational ClearQuest and related software.

- *Administering Rational ClearQuest*
  A guide on how to customize Rational ClearQuest.

- *Rational ClearQuest Release Notes*
  (\\Program Files\Rational\ClearQuest\readme.htm)
  An HTML file that includes the most recent systems requirements information.

Contacting Rational Software

If you have a technical problem and you cannot find the solution in this guide, contact Rational Software Technical Support. From a Help screen in Rational ClearQuest, click **Help** and select **Help Topics** > **Contacting Rational** for addresses and phone numbers of technical support centers.

For technical information about Rational ClearQuest, answers to common questions, and information about other Rational Software products, visit the Rational Software World Wide Web site at http://www.rational.com. To contact technical support directly, use http://www.rational.com/support.

Overview of Rational ClearQuest Project Tracker

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This chapter provides an overview of Rational ClearQuest Project Tracker. It outlines the benefits of using Rational ClearQuest Project Tracker, describes the capabilities of the product, and provides two scenarios showing how the software might be used to exchange information between a project manager and the individual contributors and team managers working on a project.

What is Rational ClearQuest Project Tracker?

Rational ClearQuest Project Tracker is a Microsoft Project 2000 add-in, a software module that can be used to add additional Rational ClearQuest functionality to Microsoft Project 2000.

With Rational ClearQuest Project Tracker, you can export tasks from a Microsoft Project 2000 project plan to automatically create new database records in Rational ClearQuest. The tasks are automatically linked with these new database records. You can then synchronize the corresponding tasks and records later in the project, so that changes made in one system can be automatically reflected in the other.

You can also import records from Rational ClearQuest to create new project plan tasks in Microsoft Project 2000. These records and tasks are also linked so that you can continue to synchronize them periodically. In this way, progress reported in Rational ClearQuest can be transferred automatically to Microsoft Project 2000, so that a project manager can always update the project plan with the most accurate and up-to-date information.

Creating a closed loop project tracking system

By using Rational ClearQuest Project Tracker, you can take full advantage of both project management and change management systems to create a closed loop project tracking system.

A project manager can use a project management tool, Microsoft Project 2000, to create a high-level project plan. The plan specifies the major tasks that make up a project. It also identifies dependencies between the tasks, planned start and completion dates for the tasks, and other planning data. The project manager can update the plan as tasks are completed, resources are added or lost, or other factors change.

A change management system, such as Rational ClearQuest, allows both managers and individual contributors to enter new change requests for a project, including requested enhancements, defects and documentation. They can also modify and close existing change requests, share information with each other, and create queries and reports to track individual change requests and the overall progress of the project.

However, using a project management tool and a change request system together can be extremely difficult. Under typical conditions, an immense amount of manual effort is required to keep corresponding tasks and records synchronized and up-to-date.

For example, if a project manager wants to update a project plan during the course of the project, the manager has to identify all of the new and modified change requests entered in the change management system by many different contributors.

Figure 1   To keep a project plan updated, information must be obtained from many contributors. Rational ClearQuest Project Tracker makes it easy to keep corresponding tasks and records synchronized.
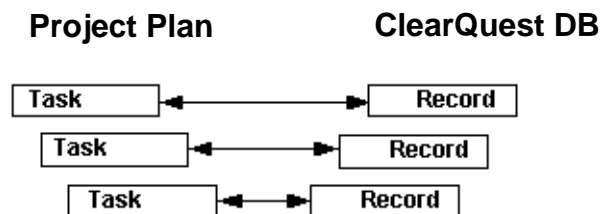
After the project manager collects all of this information, the manager must manually re-enter the data as new or modified tasks in the project management tool. Not only is this process time-consuming and error-prone, but the information is likely to be outdated before it can all be captured and entered.

With Rational ClearQuest Project Tracker, you will be able to automate most of the integration of information between Microsoft Project 2000 and the ClearQuest change management system. This saves the project manager time and makes sure that everyone on the team can work from accurate, up-to-date information and plans.

The result is a closed loop project tracking system, where actual results and other input from individual contributors and managers working on the project can be fed into the project plan, while changes in the project plan are transmitted back to the individual contributors.

Figure 2   Creating a closed loop project tracking system
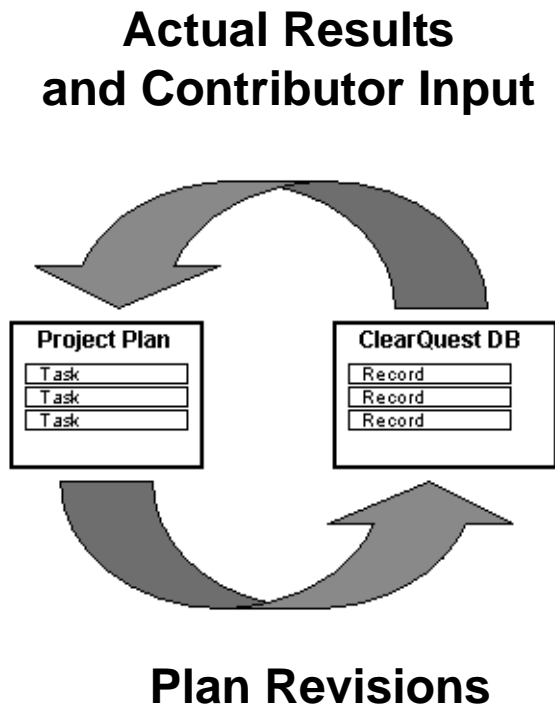
Actual Results
and Contributor Input

Plan Revisions

Capabilities of Rational ClearQuest Project Tracker

Rational ClearQuest Project Tracker provides a number of capabilities that automate the integration of a project plan created in Microsoft Project 2000 with a project database created by Rational ClearQuest, such as:

Linking a project plan with a database

When you first set up a Microsoft Project 2000 project plan to work with Rational ClearQuest Project Tracker, you create an association between that project plan and a corresponding ClearQuest database. This may be an existing database related to the same project as the project plan, or a new database just created for the project. The link ensures that future imports, exports, updates and synchronizations are always performed against the same database. More information on linking is provided in Chapter 2, *Linking a project plan with a ClearQuest database.*

Importing ClearQuest records to create new Microsoft Project tasks

In Microsoft Project 2000, tasks are the building blocks of a project plan. Similarly, each record in the ClearQuest database represents an activity that is a necessary part of a project. When Microsoft Project 2000 and Rational ClearQuest are both used to plan and track activities for the same project, in most cases each project plan task will correspond with a single record in the Rational ClearQuest database.

With Rational ClearQuest Project Tracker, you can create new tasks in a project plan from records in a ClearQuest database using the *Import New Records from ClearQuest* function. Fields in the newly created task are initialized from the ClearQuest record. The record and the task are automatically linked, so that future changes to one will be reflected in the other when the project plan and the ClearQuest database are synchronized. More information on importing is provided in Chapter 3, *Importing records from ClearQuest.*

Exporting Microsoft Project tasks to create Clearquest records

With Rational ClearQuest Project Tracker, you can also take tasks in the project plan and use these to create new records in a ClearQuest database using the *Export New Tasks to ClearQuest* function. Fields in the newly created ClearQuest record are initialized from the project plan task. The task and the record are automatically linked, so that future changes to one will be reflected in the other when the project plan and the ClearQuest database are synchronized.

Figure 3   The Import function creates new project plan tasks from records in ClearQuest. The Export function creates new records in ClearQuest from tasks in the project plan.
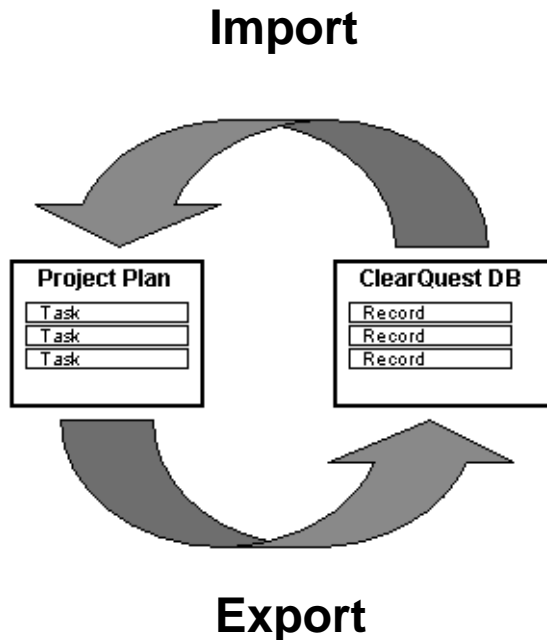
Note, however, that Rational ClearQuest Project Tracker will only create new records in the ClearQuest database for non-summary tasks in the project plan. Summary tasks, which represent an overall description of a collection of specific work steps, do not typically have a corresponding record in the ClearQuest database. Similarly, Rational ClearQuest Project Tracker does not create database records for milestones, which indicate the completion of a project phase but do not represent a task in themselves.

More information on exporting is provided in Chapter 4, *Exporting tasks Microsoft Project 2000.*

Updating and synchronizing a project plan with a ClearQuest Database

Over the course of a project, changes may be made in project plan by the project manager, and in the ClearQuest database by team managers and contributors. Rational ClearQuest Project Tracker provides update and synchronize capabilities, so that changes to ClearQuest database records are reflected in the linked project tasks, and changes to project tasks are reflected in the linked ClearQuest database records.

Figure 4   The Update function updates project plan tasks from ClearQuest. The Synchronize function performs a bi-directional transfer of information between linked records and tasks.
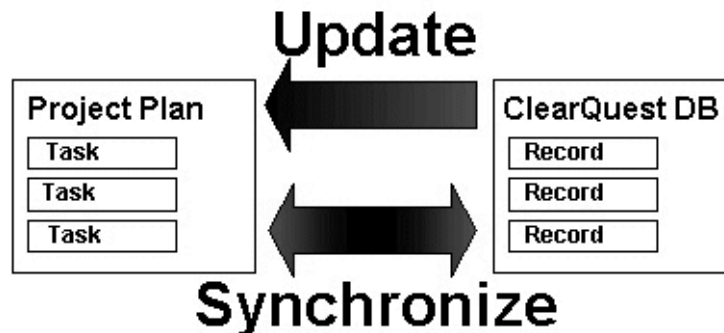
With Rational ClearQuest Project Tracker, you can update the project plan by copying information from records in the ClearQuest database to linked tasks in the project plan. This keeps the project plan up-to-date by transferring information that was entered into ClearQuest by the individual contributors and managers working on the project.

Note that the Import function discussed earlier uses *new* ClearQuest records to create *new* Microsoft Project tasks, while in contrast the Update function works with *existing* records and tasks that have already been linked.

You can also synchronize the project plan and the database. This involves a two-way flow of information (compared to the one-way transfer used in the update process).

First, information is copied from records in the ClearQuest database to linked tasks in the project plan. Second, information is copied from tasks in the project plan to linked records in the ClearQuest database.

At the end of this process, the project plan and the ClearQuest database are synchronized, with the same information included in every pair of linked tasks and records. Not only does the project manager have the most up-to-date information from the individual contributors, but the contributors have the most up-to-date data from the latest project plan.

Note that the Export function discussed earlier uses *new* Microsoft Project tasks to create *new* ClearQuest records, while in contrast the Synchronize function works with *existing* tasks and records that have already been linked.

During the Synchronize process, potential disagreements or conflicts are resolved through a set of rules. For example, planned start and planned completion dates are resolved in favor of the entries in the Microsoft Project task. This is because planned dates are typically driven by the project manager who creates the project plan.

On the other hand, actual start and actual completion dates are resolved in favor of the entries in the ClearQuest record, because accurate, actual dates are entered into the ClearQuest database by the individual contributors who perform the work.

Also, a log file is available to help you track updated information and if necessary, reverse changes.

The update and synchronization processes are discussed in more depth in Chapter 5 of this guide.

Using the RUP project plans

The Rational Unified Process (RUP) provides a best practices methodology for software development projects. RUP makes available a set of Microsoft Project plans that organize tasks according to the best practices methodology.

You can use these plans as the starting point to create and customize project plans that reinforce RUP. When the project plans are complete, you can use Rational ClearQuest Project Tracker to create records in a ClearQuest database that correspond to the tasks in the project plan.

If you have the Rational Unified Process available on your system, you can access the RUP project plans from **Rational Unified Process** > **Templates** > **Microsoft Project**. The RUP project plans are discussed in more depth in Appendix B of this guide.

Scenario 1: Starting with a new project plan

Figure 5 illustrates a typical scenario for using Rational ClearQuest Project
Tracker. At the beginning of this scenario, the project has not yet begun. The
project manager will create a new project plan, then use that plan to create a
new ClearQuest database. Ongoing changes to the database will then be
transferred to the project plan, and changes to the project plan will be
transferred to the database.

Figure 5   Steps for integrating a new project plan with ClearQuest
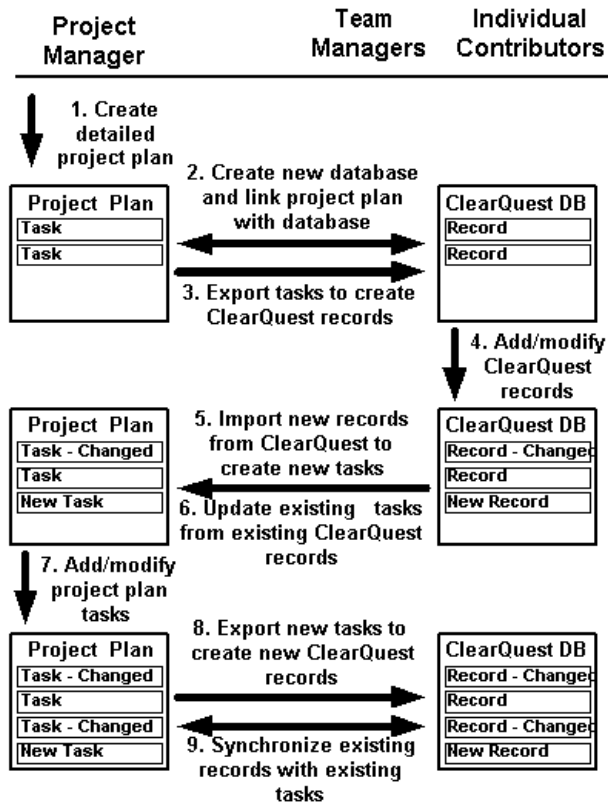
All of the Rational ClearQuest Project Tracker functions described in this
scenario are available in Microsoft Project 2000 under the Tools>ClearQuest
menu.

Scenario 2: Integrating a project plan with an existing ClearQuest database

Figure 6 illustrates another typical scenario for using Rational ClearQuest Project Tracker, when a project plan and a ClearQuest database were created independently for the same project.

Figure 6   Steps for integrating an existing project plan with ClearQuest
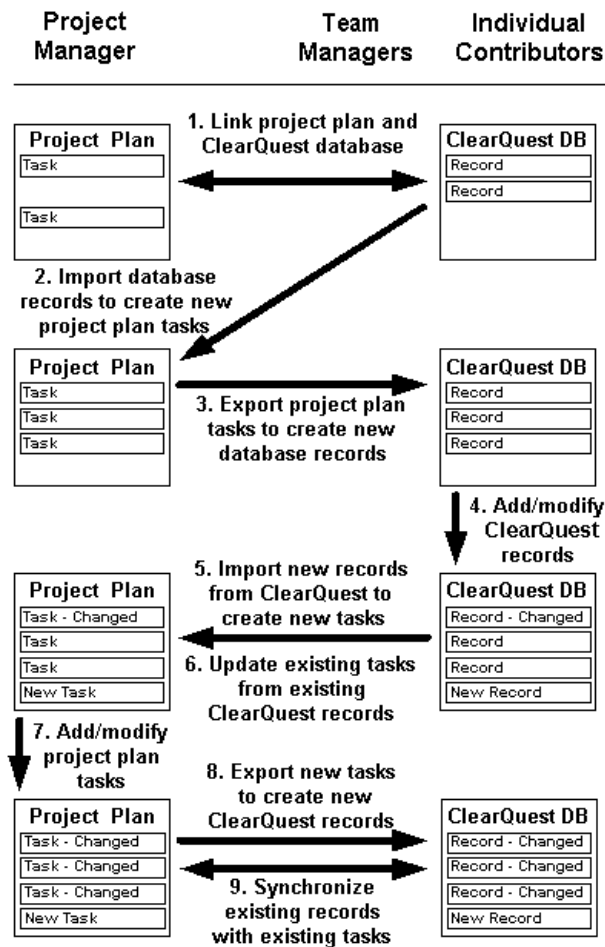
The project manager will import ClearQuest database records to create new project plan tasks, then export Microsoft Project project plan tasks to create new database records. Ongoing changes to the database will then be transferred to the project plan, and changes to the project plan will be transferred to the database. Again, all the Rational ClearQuest Project Tracker functions described in this scenario are available in Microsoft Project 2000 under the Tools>ClearQuest menu.

In Step 1, the project manager (or the ClearQuest administrator) links the project plan with the existing ClearQuest database using the *Link to ClearQuest Database* function.

This particular function is generally a one-time procedure and is only applied when a new project plan is created. Once a project plan is linked with a ClearQuest database, their association remains permanent unless problems occur with the ClearQuest database. Make sure to contact the ClearQuest administrator if there seems to be difficulties with the ClearQuest database.

In Step 2, the project manager uses the *Import New Records from ClearQuest* function to create new tasks in the project plan from existing ClearQuest database records.

In Step 3, the project manager uses the *Export New Tasks to ClearQuest* function to create new ClearQuest database records from existing project plan tasks. At this point, all of the tasks in the project plan (excluding summary tasks and milestones) are linked with corresponding records in the ClearQuest database.

In Step 4, team managers and individual contributors modify records in the ClearQuest database to record progress on actual work, and add new records so they can track previously unplanned work.

In Step 5, the project manager uses the *Import New Records from ClearQuest* to automatically create new tasks from ClearQuest records that have been added to the database.

In Step 6, the project manager uses the *Update Plan from ClearQuest* function to update existing project plan tasks based on changed records in the ClearQuest database.

In Step 7, the project manager adds new tasks and modifies existing tasks in the project plan.

In Step 8, the project manager uses the *Export New Tasks to ClearQuest* to automatically create new ClearQuest records from new tasks that have been added to the project plan

In Step 9, the project manager uses the *Synchronize Plan with ClearQuest* function to automatically update existing ClearQuest database records based on changed tasks in the project plan.

As in the previous scenario, Steps 4 through 9 can be repeated iteratively over the life of the project.
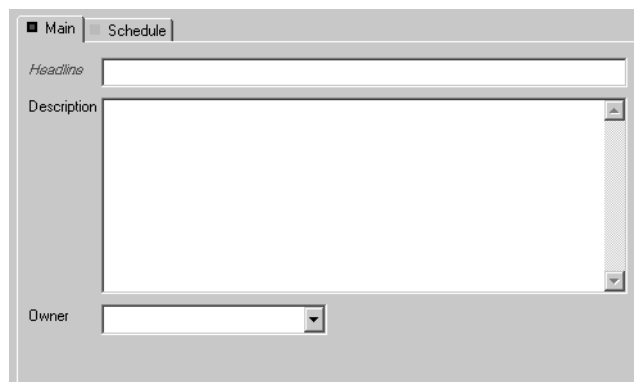
How team members create records in a ClearQuest database

Before moving on to the next chapter, let's look for a moment at how individual contributors and managers create records in a ClearQuest database. This will help you understand further how information is exchanged between Microsoft Project 2000 and Rational ClearQuest. If you are already familiar with ClearQuest, you should proceed to Chapter 2, *Linking a project plan with a ClearQuest database*.

Team members create records by entering data in forms generated by ClearQuest. The records are stored in the ClearQuest database. The forms are made up of tabs and fields that vary according to the type of activity being tracked.

The Main and Schedule windows that follow are examples of the two ClearQuest forms used for submitting information to ClearQuest Project Tracker.

Figure 7   The ClearQuest Main form

Figure 8   The ClearQuest Schedule form

Note that these forms can be customized for your environment by your ClearQuest administrator. As a result, the forms for your organization's ClearQuest system may differ from these examples, with possibly, different fields and different names on the fields or the tabs.

The Main form includes the Headline, Description and Owner fields. The Schedule form is divided in two sections and includes fields for planned and actual dates.

The Planned section in the Schedule form includes mostly read-only fields that store scheduling data provided from the project plan. The Actual section contains data which is provided and updated by the team member using ClearQuest.

When the project manager imports records from ClearQuest to create new tasks, information entered in the records' Main form and in the Actual section of the Schedule form is copied over into the project plan.

When the project manager exports tasks to create new records in ClearQuest, information is copied into the records' Main form and into the Planning section of the Schedule form. The import and export processes are covered in detail in Chapter 3, *Importing Records from ClearQuest* and in Chapter 4, *Exporting Tasks from Microsoft Project 2000.*

ClearQuest also assigns a unique identification (ID) number for every record. When a record in ClearQuest or a task in Microsoft Project 2000 are created using Rational ClearQuest Project Tracker, a unique ID is assigned. This ID is used to link the ClearQuest record with its associated project plan task, so that information continues to be exchanged between them when the project manager uses the update or synchronize processes discussed further in Chapter 5, *Updating and Synchronizing*.

Linking a project plan with a ClearQuest database

2

This chapter tells you how to link a Microsoft Project plan with a ClearQuest database so that you can exchange information between them.

You only go through this process the first time you want to exchange information between a project plan and a ClearQuest database. After the link has been established, ClearQuest Project Tracker will always exchange information between the linked project plan and the linked ClearQuest database.

Also, you can only link a project plan to one ClearQuest database. Once a link has been made it cannot be removed.

Figure 9   Linking a project plan with a database
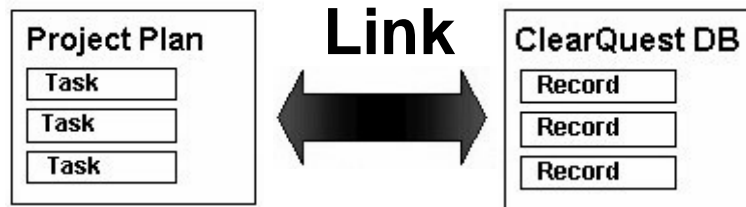
Note that before you can use Rational ClearQuest Project Tracker, a number of installation steps must be carried out by your ClearQuest administrator. These steps are described in Appendix A.

You may want your ClearQuest administrator to work with you the first time you go through this process, so that you both can make sure that all of the prerequisites have been met and that the everything is working properly.

Selecting the ClearQuest database

The first step in linking a Microsoft Project 2000 project plan with a ClearQuest database is to open your project plan and select the correct database.

To select a ClearQuest database:

1   Open the Microsoft Project project plan.

2   From the **Tools**>**ClearQuest** menu, select **Link to ClearQuest Database**. The ClearQuest Login window displays.

3   Log on to the appropriate ClearQuest database by providing your **user name**, **password**, and the ClearQuest **database name** and then click **OK**. This establishes which ClearQuest database will be associated with the project plan.

Figure 10   Rational ClearQuest Login window

Choosing fields to store ClearQuest data

Once you have selected the ClearQuest database, the Assign Custom Fields window automatically displays. This window allows you to establish which fields in Microsoft Project 2000 will be used to store ClearQuest-related data.

Microsoft Project 2000 ships with several extra fields predefined precisely to allow users and tool vendors to enhance the functionality of the application. These fields are labeled Text1, Text2, etc. You must select three of these fields to be used by Rational ClearQuest Project Tracker. You should pick three that are not already being used for your project by some other integration with Microsoft Project.

In the Assigns Custom Fields window, choose the project plan fields to store ClearQuest related data by clicking in succession on **three unused fields** and, then click **OK**.

Figure 11   Assign Custom Fields window
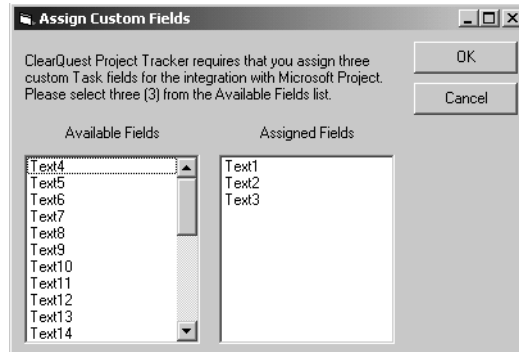
Configure your view inside Microsoft Project 2000 to display ClearQuest related data

After selecting the Microsoft Project fields used to store ClearQuest-related data, you will be prompted to add columns to your Microsoft Project 2000 view. This is a standard Microsoft Project operation, described in the online help for Microsoft Project 2000.

To add columns to your Microsoft Project 2000 view:

1 Select a column that is already in the view.

The new columns will be added in front of this selected column. We suggest selecting the third column, so that the new fields appear immediately after the Task Name column.

2 From the **Insert** menu, select **Insert Column** or right click on the column heading and select **Insert Column** from the pop-up menu.

The Column Definition window displays, prompting you to select a field for the new column.

Figure 12   Column Definition window
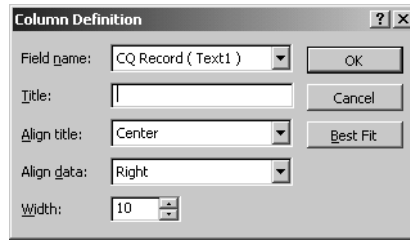
3 Specify the Field name, **CQ Record,** and click **OK**.

A new column will appear in the project plan with the title, CQ Record.

4 Repeat these steps to add a column for the **CQ Type** field. The project plan will now display the CQ Record and CQ Type columns.

Figure 13   CQ Record and CQ Type columns in project plan
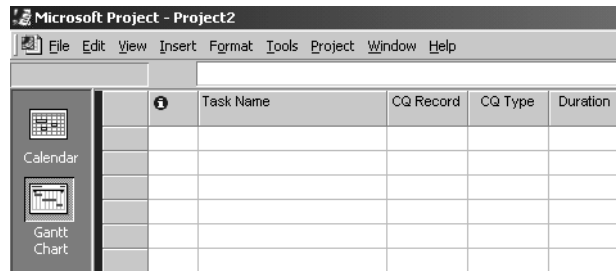
Note: You can easily remove ("hide") a column in much the same way – see Microsoft Project 2000 online help for further instructions.

Updating the ClearQuest Record Types

Before you are ready to start exchanging data between ClearQuest and Microsoft Project 2000, you need to establish which ClearQuest record types will be available.

From the **Tools**>**ClearQuest** menu, select the **Updating the ClearQuest Record Types List** and click **OK**.

This function will discover which record types have been enabled for use with Rational ClearQuest Project Tracker (by virtue of having the appropriate ClearQuest packages applied to the record types).

Figure 14   Updating ClearQuest Record Types List
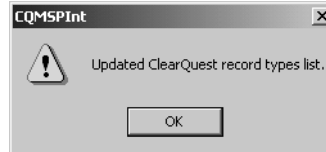
This function populates a list of values available for the CQ Type field inside Microsoft Project 2000 and ensures that the values are accurate. The value of this field controls, which kind of ClearQuest record should be created, for the given Microsoft Project 2000 task.

Importing records from ClearQuest

3

This chapter tells you how to import records from a ClearQuest database to create new tasks in a project plan.

Figure 15   Importing records from ClearQuest
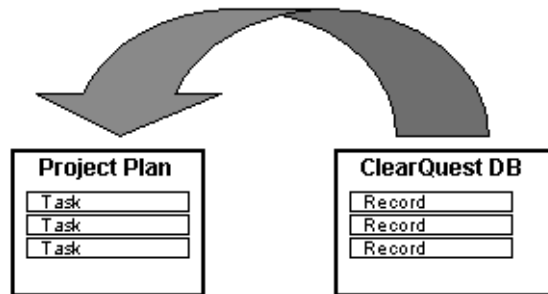
The chapter describes the basic steps for importing ClearQuest records into the project plan. It explains how to create and use queries that select exactly which ClearQuest database records you want to import. The chapter concludes with how to save and review log files created during the import process.

The next chapter will describe the inverse process of exporting tasks from a project plan to create new records in a ClearQuest database.

As noted in the first chapter, the Import function uses *new* ClearQuest records to create *new* Microsoft Project tasks, while in contrast the Update function works with *existing* records and tasks that have already been linked. The Update function is discussed in Chapter 5, *Updating and Synchronizing*.

Accessing Rational ClearQuest Project Tracker from Microsoft Project 2000

After Rational ClearQuest Project Tracker has been installed and you have opened Microsoft Project 2000, you can access the main functions by clicking the **Tools** menu and pointing to **ClearQuest**. The main functions are:

Figure 16   Menu items for Rational ClearQuest Project Tracker
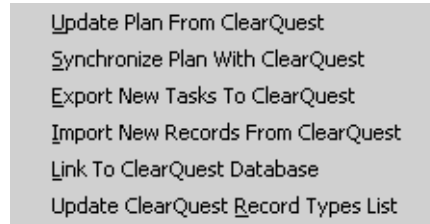
Importing records from a ClearQuest database

With the import process, you can create a new project plan quickly by building on the detailed information available in a ClearQuest database, or you can automatically add new tasks to an existing project plan.

To create new project plan tasks from ClearQuest records:

1 Launch Microsoft Project 2000 and open the project plan.

2 From the **Tools**>**ClearQuest** menu, select **Import New Records from ClearQuest**.

The Select Records to Import window displays. This window allows you to select an existing query against the ClearQuest database or to create a new query (see section on *Creating and Using Queries*). When you execute a query, Rational ClearQuest Project Tracker displays the query results from the ClearQuest database.

Note: If the Rational ClearQuest Login window displays instead, you will need to associate the project plan with the ClearQuest database. These steps are described in Chapter 2, *Linking the Project Plan with the ClearQuest Database*.

3 When you have located or created the desired query, click **Run** to execute the query against the ClearQuest database. The results of your query then displays.

4 If you want to review a particular record before importing it into your project, Rational ClearQuest Project Tracker allows you to access the actual record forms stored in the ClearQuest database. Simply double-click on the record listed in the Select Records to Import window. Close the record's window to continue importing.

5 Select the records you want to import and click **OK**.

Figure 17   Selected ClearQuest records for import
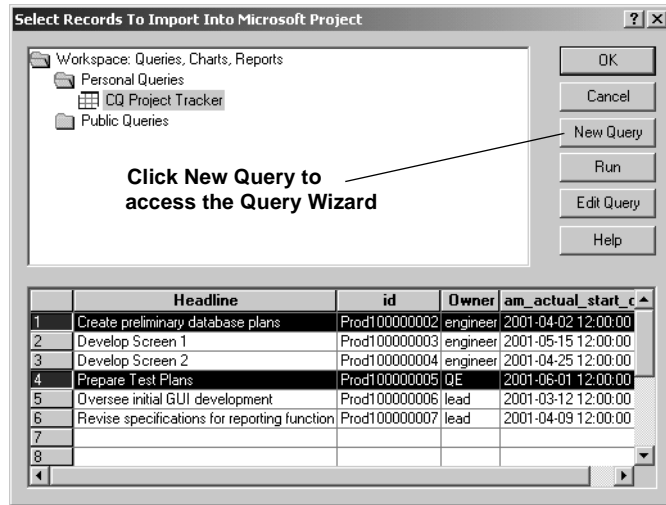
Note: Make sure to highlight the records you want to import, Rational ClearQuest Project Tracker imports only the selected ClearQuest records.

The Import New ClearQuest Records To MS Project Plan Tasks window then displays. It allows you to start the import process.

6 Click **Start**.

The Import New ClearQuest Records To MS Project Plan Tasks window lists the tasks being created as the records are being copied over from the ClearQuest database. The Progress window lists the ID and name of each record being imported.

Figure 18   Creating tasks from ClearQuest records
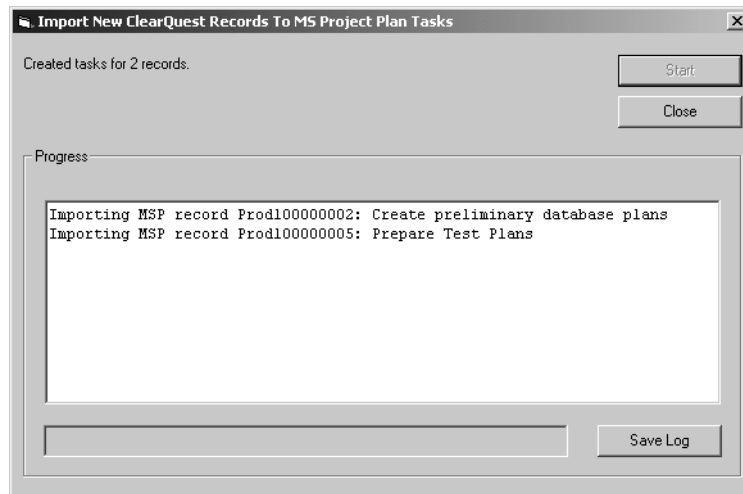
7 Click **Close** when you are finished importing and want to return
to your project plan.

Matching Resources with ClearQuest Users

During the Import process, Rational ClearQuest Project Tracker will check each ClearQuest record to see that the entry in the Owner field (sometimes called the ClearQuest user field) matches one of the Resource names already in use in the project plan. If it encounters an Owner name in a ClearQuest record that is not in use in the project plan, it will interrupt the import process and display the Select Resource Matching CQ User window.

Figure 19   Select Resource Matching CQ User window
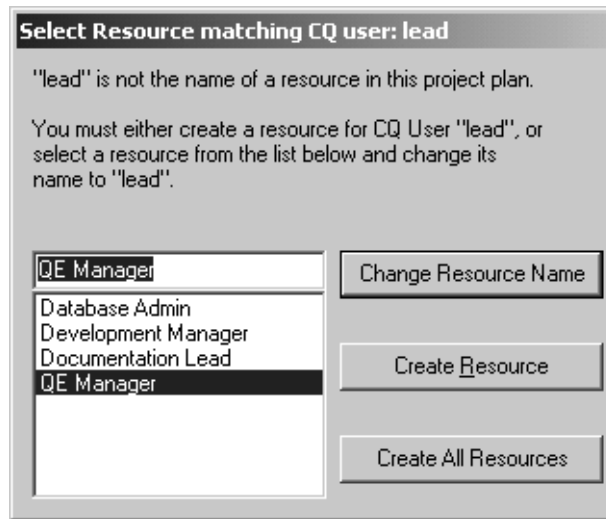
If you see a **Resource** name that is equivalent to the **Owner** field in the linked ClearQuest record, select that name from the list and click **Change Resource Name**. For example, if the ClearQuest user is "lead," and you know that "QE Manager" is the equivalent name in the project plan, select "QE Manager" and click the Change Resource Name.

When you select to change the Resource Name, Rational ClearQuest Project Tracker will replace the entry, that was in the Owner field of the ClearQuest database record, into the Resource name field of the project plan task. It will *not* use the Resource name you selected in the Select Resource matching CQ user window.

In the example above, this means it would place "lead" in the Resource name field, even though you selected "QE Manager" before clicking Change Resource Name.

It may seem counter-intuitive that the project plan's Resource name is changed, but this has to be done because:

- at the end of the process, the Owner field in the database record and the Resource name field in the project plan task must have the same entry,

- and the Import process can't change the value in the ClearQuest database.

In this situation, Rational ClearQuest Project Tracker will also change the Resource name in the list of valid Resource names (in this example from "QE Lead" to "admin"). You can see this from the **Tools**>**Resources** menu and selecting the **Assign Resources** option.

This change is made to make sure that the same Resource name ("admin") will be used consistently for future tasks and records in both the project plan and the ClearQuest database.

If you do not see a matching resource name, you can select **Create Resource**. Rational ClearQuest Project Tracker will fill in the Resource name field in the project plan task with the entry that is in the Owner field of the ClearQuest Record. It will also add the new entry to the list of Resource names used in the project plan. Again, you also can see this list by looking at the Tools>Resources menu and selecting Assign Resources.

If you click **Create All Resources**, then Rational ClearQuest Project Tracker will automatically fill in the Resource name field in the project plan task with the entry that is in the Owner field for *all* of the other ClearQuest database records that are being imported.

Figure 20   Warning on creating all resources
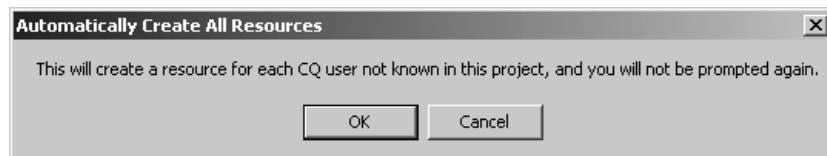
Rational ClearQuest Project Tracker will not display the Select Resource matching CQ user window again during that import process. Before clicking the **Create All Resources** function, you should make sure that *you do not want to use* the Change Resource Name function for any other record that you want to import.

Saving and viewing the log file

As Rational ClearQuest Project Tracker imports the ClearQuest records, it creates a progress log listing each record and the value of each field that is transferred.

You can save the log as a Rich Text Format (.rtf) file and review it to make sure that all of the information that was imported is appropriate and in the correct format for your project plan. You can open the saved file using any type of text editor or word processor.

It is also a good idea to keep all log files in their own folder in case questions arise about tasks created by the import process.

To save and read the progress log file, click **Save Log** in the Import New ClearQuest Records To MS Project Plan Tasks window and specify the filename and directory path for the log file.

Figure 21   Saving progress log
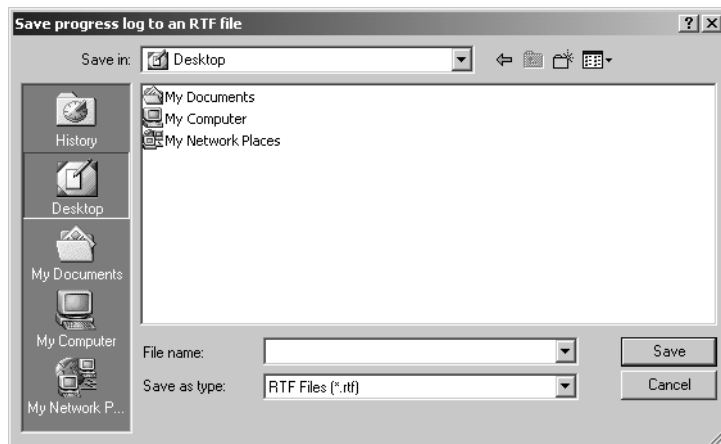
Viewing the new tasks in the Microsoft Project project plan

As Rational ClearQuest Project Tracker imports the records selected by the query into the project plan, it creates new project tasks. Information from the following ClearQuest fields is copied over to create a corresponding project plan task:

- Task Name/Headline

- Assigned Resource

- Actual Work

- Planned Work

- Remaining Work

- Actual Start Date

- Actual Finish Date

When Rational ClearQuest Project Tracker finishes converting the ClearQuest records, you will see the newly-created tasks at the end of the project plan.You can re-position the new tasks anywhere inside the project plan as long as they remain non-summary tasks.

The new tasks include a CQ Type value. This value describes the type of record that was imported as defined in ClearQuest, for example Defect or Enhancement.

The project plan is now updated to reflect the new tasks imported from the ClearQuest database.

Creating and using queries for imports

A query is a request to retrieve database records that meet specified criteria, for example all records of a certain type, or all records where the value in a field equals or exceeds a specified value, or all records that were created after a certain time.

Rational ClearQuest Project Tracker allows you to:

- Run a query that you created in the past
- Run a public query created by someone else
- Modify and run an existing query, either one you created or a public query
- Create and run a new query using the ClearQuest Query Wizard

The queries used by Rational ClearQuest Project Tracker are exactly the same as normal ClearQuest queries, and in fact may be queries created earlier using ClearQuest. If you are not familiar with the process of creating and using database queries, you should review the *Introducing Rational ClearQuest* guide. More information on executing a query is provided by accessing the online Help in Rational ClearQuest.

Figure 22   The ClearQuest Query Wizard guides you in creating queries

When you select **Import New Records from ClearQuest** from the **Tools**>**ClearQuest** menu, you will see a ClearQuest query window.

The Workspace section on the top of the window allows you to select personal queries that you created previously or existing public queries that were created by the system administrator or someone else and were made available to you and others using the system.

You can select an existing personal or private query and then click on Run to execute the query. If you want to see the criteria used to create the query before you run it, click on Edit. When you have created or selected the query, click on Run to have it execute. As noted earlier, Rational ClearQuest Project Tracker will display the records retrieved from the ClearQuest database by your query.

Saving a master copy of the project plan

It is strongly recommended that you keep a secure master copy of the last official version of the Microsoft Project project plan and always use this master copy for importing, exporting and other Rational ClearQuest Project Tracker functions.

In some situations, you may want to distribute several copies of the project plan, perhaps to multiple project managers. However, you can *not* safely export records from each of these copies to the ClearQuest database, because changes in one copy of the project plan may conflict with changes in another version. The lead project manager must take the responsibility of integrating changes from all sources into the master copy of the project plan and using this master copy to export to the ClearQuest database.

The same logic applies to the other functions of Rational ClearQuest Project Tracker. Keep a secure master copy of the project plan, integrate all changes into this copy, and make sure that all importing, exporting, updating and synchronizing are carried out between this version of the project plan and the ClearQuest database.

Exporting tasks from Microsoft Project 2000

4

This chapter describes how to export tasks from a project plan to create new records in a ClearQuest database.

Figure 23   Exporting tasks from the project plan into ClearQuest
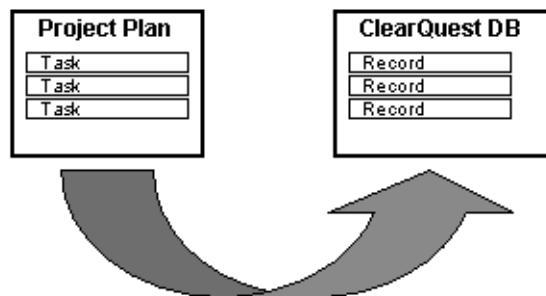
The chapter also discusses how to save and review log files created during the export process. It concludes with notes about how certain fields in your project plan and ClearQuest database are affected by the export process.

As noted in the first chapter, the Export function uses *new* Microsoft Project tasks to create *new* ClearQuest records, while in contrast the Synchronize function works with *existing* tasks and records that have already been linked. The Synchronize function is discussed in Chapter 5, *Updating and Synchronizing*.

CQ Record Types and required fields

Before we describe the Export process, it is useful to understand CQ Record Types and the concept of required fields for ClearQuest records.

When you export project plan tasks to create new ClearQuest database records, you must select a CQ Record Type for each new record.

Depending on the record type selected, you may also need to enter values in additional required fields for that record type. For example, if you are exporting a task and you select *Enhancement Request* as the CQ Record Type, you will need to enter a customer name and a customer priority for that record. In order to enter the information, you will use a series of ClearQuest forms, known as submit forms.

Individual contributors and team managers working with ClearQuest use the CQ record type and required fields to find and analyze records in the database. For example, a manager might want to create a report of all of the recent enhancement requests, and sort the requests by priority. This is only possible if, during the Export process, you have identified tasks that represent enhancement request as EnhancementRequest record types and make an entry (High, Medium or Low) in the Customer Priority field.

Exporting tasks from a project plan to create ClearQuest records

Tasks from a project plan can be exported from Microsoft Project 2000 to create new records in the ClearQuest database. This allows you to:

- Add new records to a ClearQuest database based on information in a project plan.

- Keep the ClearQuest database continuously updated based on new tasks added to the project plan during the life of the project.

To export the project plan tasks:

1 Launch Microsoft Project 2000 and open the project plan.

2 In the **CQ Type** field for a particular task, select a valid record type from the list. Repeat this for each task you want to export.

Figure 24   A single task with CQ Type EnhancementRequest

| 15 | EnhancementRequest ▼ | | | Add tips to Installation Guide | 4 days | Thu 3/1/01 | Tue 3/6/01 |

3 Highlight the tasks that you want to export to the ClearQuest database.

Make sure to select the tasks you want to export,
Rational ClearQuest Project Tracker only exports the selected tasks.

4 From the **Tools**>**ClearQuest** menu, select **Export New Tasks To ClearQuest**.

The Export New Project Plan Tasks to ClearQuest window displays.

Figure 25   Export New Project Plan Tasks To ClearQuest window
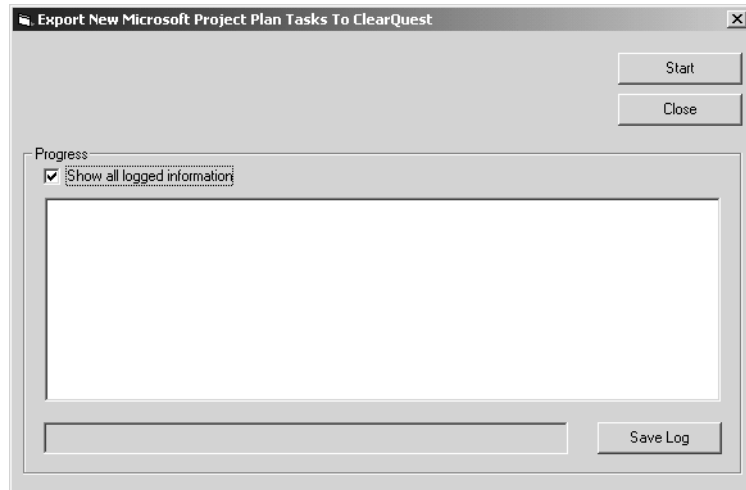
5 Click **Start**.

6 If there are required fields for any of the record types that you are exporting, Rational ClearQuest Project Tracker displays a message asking if you want to add data to the new record being created.

If you click *No*, the task will not be exported to the ClearQuest database (although it will remain in the project plan).

If you click *Yes*, Rational ClearQuest Project Tracker displays the forms used in ClearQuest to submit and modify data for that record type.

Figure 26   Required Fields window
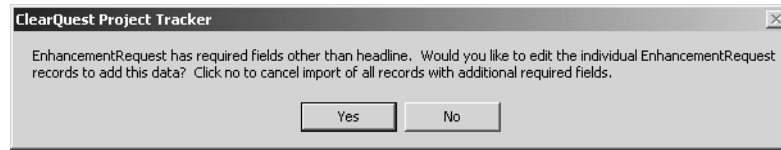
7 On the ClearQuest forms, tabs that include a required field will be marked by a red square. The names of the required fields will be highlighted in red.

Click on each of the tabs with a red square, then make an entry in each required field. You can also enter information on the other fields on these forms if you know the correct information.

Figure 27   ClearQuest Submit Forms
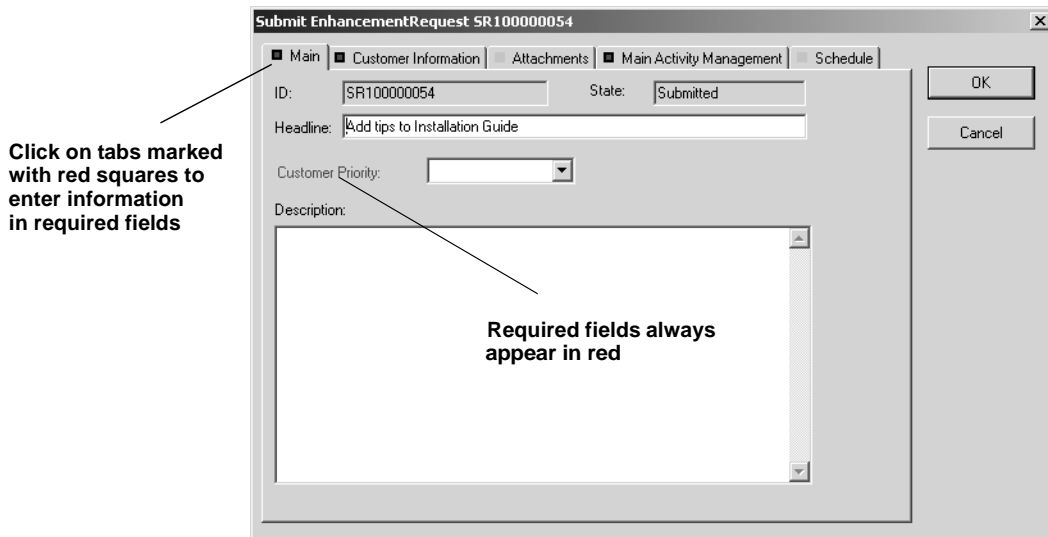
8 When you have completed the required fields for all of the tasks being exported, Rational ClearQuest Project Tracker will begin the export process and displays the name of each task being exported in the Progress window.

9 Click **OK** to save the changes to the ClearQuest database and to your project plan.

Figure 28   Displaying all logged information in Progress window
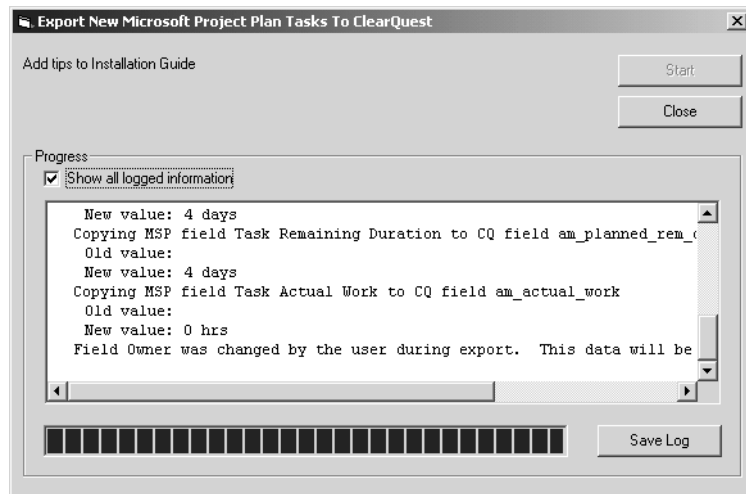
10 Check the **Show all logged information** box at any time during the export process if you want to display full details about a task and its values.

You can check or uncheck the Show all logged information box at any time before or during the export process. When it is checked, the Progress window will display information on each field in each task being exported, including the value of the field. When the box is not checked, the Export New Microsoft Project Plan Tasks To ClearQuest window displays only the name of the task being copied over to the ClearQuest database.

After the export process is complete, Rational ClearQuest Project Tracker displays a message advising you to save the changes to the project plan. Clicking *OK* will make the changes permanent in the ClearQuest database. Clicking *Cancel* will stop the new records from being saved in the ClearQuest database.

11 During the Export process, Rational ClearQuest Project Tracker will check each project plan task to see that the entry in the **Resource** name field matches one of the **Owner** field entries already in use in the ClearQuest database (the **Owner** field is also sometimes called the **ClearQuest user** field).

If it encounters a **Resource** name in a project plan task that is not in use in the ClearQuest database, Rational ClearQuest Project Tracker will interrupt the export process and display the Select Matching ClearQuest User window.

Figure 29   Select Matching ClearQuest User
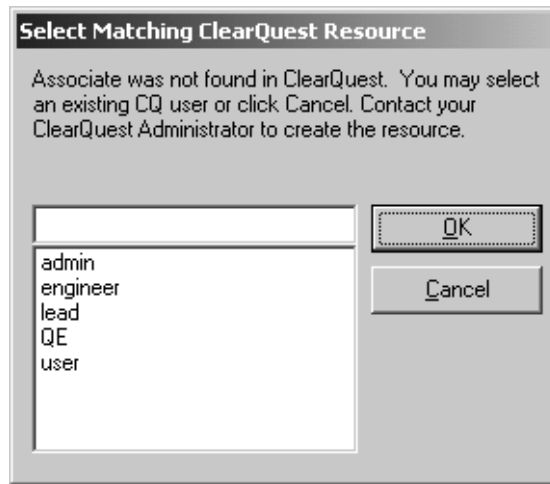
If you see an **Owner** name that is equivalent to the **Resource** field in the linked project plan task, select that name from the list and click **OK**.

For example, if the project plan Resource name is "user," and you know that "Associate" is the equivalent **Owner** name in the ClearQuest database, select "user" and click **OK**.

Note that when you click OK, Rational ClearQuest Project Tracker will take the entry that was in the Owner field of the ClearQuest database record and replace it into the Resource name field of the project plan task.

In the example above, this means it would place "user" in the Resource name field of the project plan task you were exporting. This is to make sure that at the end of the process the Owner field in the database record and the Resource name field in the project plan task have the same entry. Rational ClearQuest Project Tracker will also change the Resource name in the list of valid Resource names to make sure that the same Resource name ("user") will be used consistently for future tasks and records in both the project plan and the ClearQuest database.

If you do not see a matching **User** name, click **Cancel**. This will cancel the exporting of that project plan task. You should then contact your ClearQuest Administrator to create the correct User name in the ClearQuest database.

12 When you return to the Exporting New Microsoft Project Plan Tasks window, click **Save Log,** to save the information in a Rich Text Format (.rtf) file (see the Viewing and Saving the Log File in Chapter 3, *Importing records from ClearQuest*).

13 Click **Close** when exporting is completed and want to return to your project plan.

The task you exported will now display a unique CQ Record ID.

Figure 30   CQ Record ID

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Saving a master copy of the project plan

It is strongly recommended that you keep a secure master copy of the last official version of the Microsoft Project project plan and always use this master copy for importing, exporting and other Rational ClearQuest Project Tracker functions.

In some situations, you may want to distribute several copies of the project plan, perhaps to multiple project managers. However, you can *not* safely export records from each of these copies to the ClearQuest database, because changes in one copy of the project plan may conflict with changes in another version. The lead project manager must take the responsibility of integrating changes from all sources into the master copy of the project plan and using this master copy to export to the ClearQuest database.

The same logic applies to the other functions of Rational ClearQuest Project Tracker. Keep a secure master copy of the project plan, integrate all changes into this copy, and make sure that all importing, exporting, updating and synchronizing are carried out between this version of the project plan and the ClearQuest database.

Viewing new records in the ClearQuest database

Rational ClearQuest Project Tracker will create a new ClearQuest record for each task and transfer the following fields from the Microsoft Project 2000 task to the record:

- Task Name

- Planned Start Date

- Planned Finish Date

- Planned Work

- Actual Work

- Remaining Work

- Actual Start Date

- Actual Finish Date

- Assigned Resource

When Rational ClearQuest Project Tracker finishes exporting the project plan tasks, the newly created records will be listed in the ClearQuest database.

The planned start and end dates from the project plan task will appear on the Schedule tab of the ClearQuest form for this record. These fields cannot be modified by the team member using ClearQuest, because these dates are the responsibility of the project manager who creates the project plan, not the team member using ClearQuest.

Additional notes on exporting

Assigning resources

Microsoft Project 2000 allows several resources to be assigned to a task, while Rational ClearQuest allows only one resource to be assigned. If more than one resource is listed in the project plan task, Rational ClearQuest Project Tracker will carry over only the first one.

Summary tasks and milestones and are not exported

As noted in Chapter 1, Rational ClearQuest Project Tracker does not export Microsoft Project 2000 summary tasks or milestones. A summary task is a collection of detail tasks that is used to summarize a phase of a project, but does not involve work independent of the detail tasks that it summarizes. A milestone is point that marks a significant event or deadline, but it has neither work nor duration associated with it. Therefore, Rational ClearQuest Project Tracker creates ClearQuest database records for detail tasks, but not for summary tasks or milestones.

Changing field values by owners

After a task has been exported to ClearQuest, some, but not all, of the fields in the resulting record can be modified by the owner of the record.

The owner is the team member responsible for performing the task. The fields available for changing are those where the team member is likely to have correct information, such as the actual start date and the remaining work. The fields not available for changing are those where the project manager is most likely to have correct information, such as the planned start and end date.

Entering required fields when the task has no entry

When the field in a task is blank and that field corresponds to a required field in the ClearQuest database record, Rational ClearQuest Project Tracker will prompt you for an entry. When you make an entry, that value will be included in the database record, but the field in the project plan task will still be blank. If this situation occurs, you may want to run the Update or the Synchronize function to assure that the task and the record have the same value (the Update and Synchronize functions are described in Chapter 5, *Updating and Synchronizing*).

For example, if the Owner field is blank in the project plan task, during the Export process you may be prompted to enter a name for this field, because Owner is a required field in the ClearQuest database record. Your entry will be included in the new database record created by the Export process, but the field in the project plan task will remain blank. If you want the project plan task to include the same information as the database record, you will need to run the Update or Synchronize function.

Updating and Synchronizing

5

This chapter tells you how to:

- Update project plan tasks from linked ClearQuest database records
- Synchronize the project plan and the ClearQuest database.

This chapter outlines the basic steps for updating project plan tasks from ClearQuest database records, and how to save and view the log files. It discusses the basic steps for a bi-directional synchronizing of the project plan and the ClearQuest database.

The chapter then discusses the rules that are used to resolve conflicts that occur during updates and synchronization, when the same information has been changed independently in the two systems.

Note that the Update and Synchronize functions do not automatically handle deleted tasks or records. The issues concerning deletions are discussed in Chapter 6, *Understanding Additional Administrative Procedures.*

Synchronizing compared with updating

Synchronizing the project plan with the ClearQuest database is very similar to updating the project plan. The main difference is that the Update Plan From ClearQuest function is a one-way transfer of information, with updates flowing only from the ClearQuest database to the project plan.

Figure 31   The Update Process
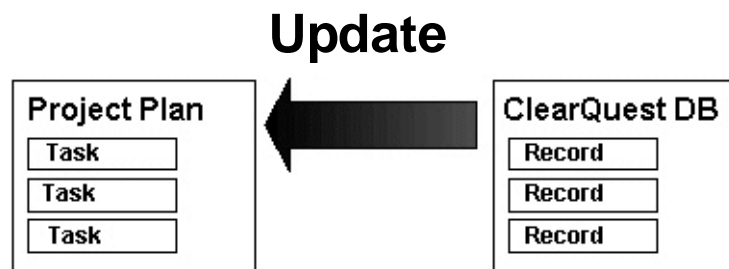
The synchronize process is a two-way transfer of information, with updates flowing first from the ClearQuest database to the project plan, and then from the project plan back to the ClearQuest database. In the end, the linked records and tasks share the same information.

Figure 32   The Synchronize Process

Synchronize
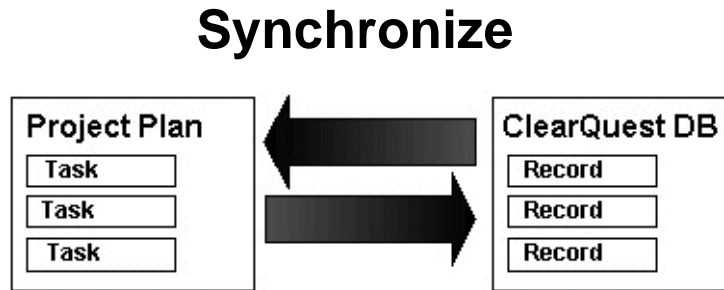
Updating linked project plan tasks with ClearQuest records

During the life of a project, team members will change information in ClearQuest database records.

For example, a team member may specify new dates in the actual start and end date fields provided in the Schedule form of the ClearQuest record.

If the ClearQuest records are already linked to specific tasks in the project plan, then the *Update Plan from ClearQuest* function will allow you to automatically update the linked tasks with the changed information in the ClearQuest records.

The task fields that will be updated from the ClearQuest record are:

- Task Name/Headline
- Assigned Resource
- Actual Work
- Planned Work
- Remaining Work
- Actual Start Date
- Actual Finish Date

To update the project plan tasks from ClearQuest records:

1 Launch Microsoft Project 2000 and open the project plan.

2 From the **Tools**>**ClearQuest** menu, select **Update Plan from ClearQuest**.
   Rational ClearQuest Project Tracker displays the window used for
   updating.

Figure 33   The Update Microsoft Project Plan window
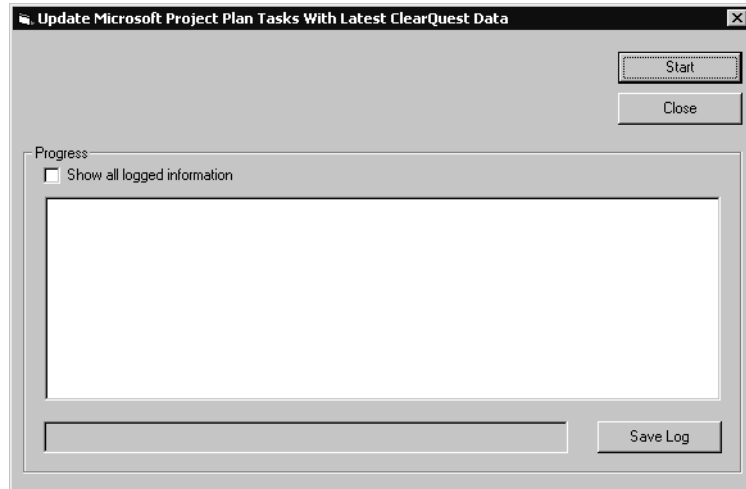
3 Check the **Show all logged information** box if you want to display details
   about the update any time before or during the update process.

   When this box is checked, the Progress window displays information on
   each value being updated with new information.When the box is not
   checked, the Progress window displays only the name of the task being
   updated.

4 Click **Start**.

5 During the Update process, Rational ClearQuest Project Tracker will check
   each ClearQuest record to see that the entry in the **Owner** field (sometimes
   called the **ClearQuest user** field) matches one of the Resource names
   already in use in the project plan. If it encounters an **Owner** name in a
   ClearQuest record that is not in use in the project plan, it will interrupt the
   update process and display the Select Resource matching CQ user
   window.

Figure 34   Select Matching ClearQuest User window
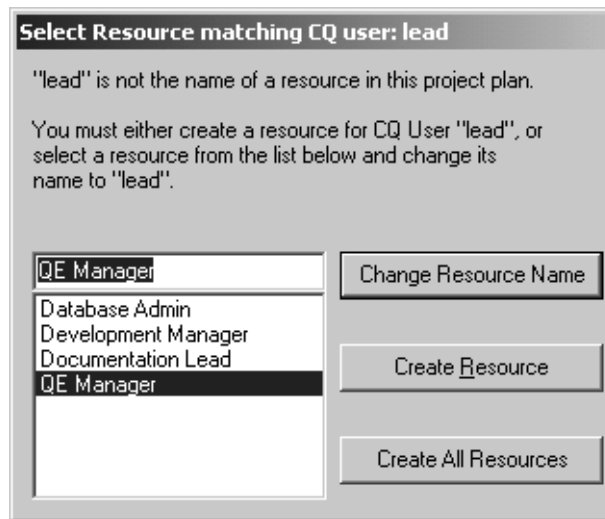
If you see a **Resource** name that is equivalent to the **Owner** field in the linked ClearQuest record, select that name from the list and click **Change Resource Name**.

If you do not see a matching resource name, you can click **Create Resource**, and Rational ClearQuest Project Tracker will fill in the **Resource** name field in the project plan task with the entry that is in the **Owner** field of the ClearQuest Record.

If you click **Create All Resources**, then Rational ClearQuest Project Tracker will automatically fill in the **Resource** name field with the entry that is in the **Owner** field, for *all* of the other ClearQuest database records that are being used in the update process. For a more detailed discussion of these options, see the *Matching Resources with ClearQuest Users* section in Chapter 3, *Importing Records From ClearQuest*.

6   Click **Save Log** to store the log as a Rich Text Format (.rtf) file after the update process is completed, if you wish to have a copy of all the transactions.

You can open the saved .rtf file using any type of text editor or word processor. (Refer to the Saving and Viewing the Log File discussion in Chapter 2 for more information.)

7   Click **Close** when you are finished updating and want to return to the project plan.

Synchronizing the project plan with the database

Again during the life of a project, you may be updating the project plan to respond to changes in requirements, priorities and resources. The *Synchronize Plan with ClearQuest* function allows you to convey this changed planning information to members through Rational ClearQuest Project Tracker.

For example, if revising the project plan changes the Planned Start Date and Planned End Date for some tasks, the synchronize process will copy those changes to the appropriate records in the ClearQuest database. When team members next run a *To Do List* query against the ClearQuest database, they will see a list of tasks that have been scheduled for the future, and the records for those tasks will include the updated planning dates.

Rational ClearQuest Project Tracker will first pull information from linked ClearQuest database records in order to update the following values in the project plan tasks:

- Task Name/Headline
- Assigned Resource
- Actual Work
- Planned Work
- Remaining Work
- Actual Start Date
- Actual Finish Date

Rational ClearQuest Project Tracker will then take information from the following values in the project plan task and use them to update the linked ClearQuest database records:

- Task Name/Headline
- Assigned Resource
- Planned Start Date
- Planned Finish Date
- Planned Work
- Remaining Work
- Planned Duration
- Remaining Duration
- Actual Work
- Actual Start Date
- Actual Finish Date

Making changes to both ClearQuest and project plan

The *Synchronize Plan with ClearQuest* function must be used with caution, because it makes changes to both the ClearQuest database and the project plan. Once the changes have been saved to the ClearQuest database, you will need the help of the ClearQuest administrator to make any corrections.

Synchronizing linked tasks and records

To synchronize the ClearQuest database and the project plan:

1 Launch Microsoft Project 2000 and open the project plan.

2 From the **Tools**>**ClearQuest** menu, select **Synchronize Plan With ClearQuest**.

   Rational ClearQuest Project Tracker displays the Synchronize Microsoft Project Plan Tasks And ClearQuest Records window.

3 Check the **Show all logged information** box if you want to display details about the changed values. Again, you can check or uncheck the Show all logged information box at any time before or during the Synchronize process.

4 Click **Start**.

As each task is synchronized, you will see the log transactions that are created.

Figure 35   Synchronizing tasks with records
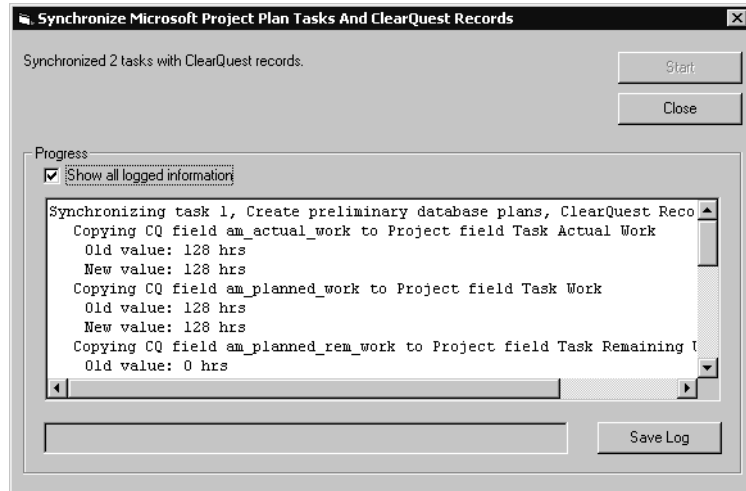
Matching Resources with CQ Users

During the Synchronize process, Rational ClearQuest Project Tracker twice compares entries in the Owner field of ClearQuest database records with the corresponding entries in the Resource name field of the linked Microsoft Project project plan tasks to make sure they are the same.

This happens first when the Synchronize process pulls modified database records to update project plan tasks, and again then the process pulls modified project tasks to update database records.

In the first part of the Synchronize process, Rational ClearQuest Project Tracker will check each ClearQuest record to see that the entry in the **Owner** field (sometimes called the **ClearQuest user** field) matches one of the Resource names already in use in the project plan. If it encounters an **Owner** name in a ClearQuest record that is not in use in the project plan, it will interrupt the synchronize process and display the Select Resource matching CQ user window.

If you see a **Resource** name that is equivalent to the **Owner** field in the linked ClearQuest record, select that name from the list and click **Change Resource Name**.

If you do not see a matching resource name, you can click **Create Resource**, and Rational ClearQuest Project Tracker will fill in the **Resource** name field in the project plan task with the entry that is in the **Owner** field of the ClearQuest Record.

If you click **Create All Resources**, then Rational ClearQuest Project Tracker will automatically fill in the **Resource** name field in the project plan task with the entry that is in the **Owner** field for *all* of the other ClearQuest database records that are being used in the synchronize process. For a more detailed discussion of these options, see the *Matching Resources with ClearQuest Users* section in Chapter 3, *Importing Records From ClearQuest.*

During the second part of the Synchronize process, Rational ClearQuest Project Tracker will check each project plan task to see that the entry in the **Resource** name field matches one of the **Owner** field entries, already in use in the ClearQuest database. If it encounters a **Resource** name in a project plan task that is not in use in the ClearQuest database, it will interrupt the Synchronize process and display the Select Matching ClearQuest User window.

Figure 36   Select Matching ClearQuest User window
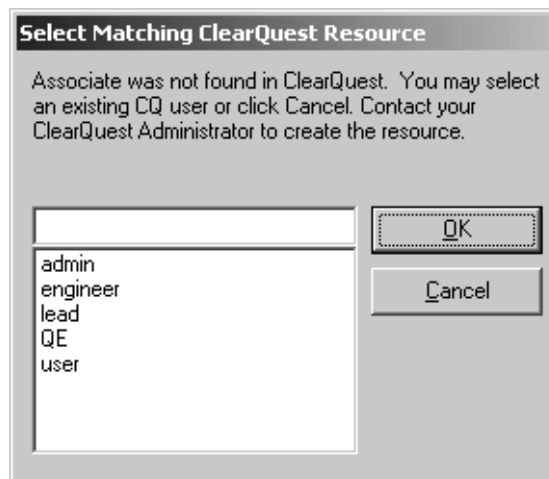
If you see an **Owner** name that is equivalent to the **Resource** field in the linked project plan task, select that name from the list and click **OK**.

Note that when you click **OK**, Rational ClearQuest Project Tracker will take the entry that was in the **Owner** field of the ClearQuest database record and place *that* entry back into the **Resource** name field of the project plan task. This is to make sure, that at the end of the process, the **Owner** in the database and the **Resource** name in the project plan task have the same entry. Rational ClearQuest Project Tracker will also change the **Resource** name in the list of valid Resource names to make sure that the same Resource name will be used consistently for future tasks and records in both the project plan and the ClearQuest database.

If you do not see a matching **User** name, click **Cancel**. This will cancel the synchronizing of that project plan task. You should then contact your ClearQuest Administrator to create the correct **User** name in the ClearQuest database.

Saving and viewing the log file

After the synchronize process is complete, Rational ClearQuest Project Tracker advises you to save changes to the project plan. Because the changes to the ClearQuest database have already been committed, you *should save* the changes to the project plan. This will ensure that information shared between the ClearQuest database and the project plan remains consistent.

1   Click **OK** to save the project plan. The Planning Wizard window then displays.

2   In the Planning Wizard window, check whether you want to save the project plan with or without a baseline and click **Save**. The Synchronize Microsoft Project Plan Tasks With ClearQuest Records window returns.

3   Click **Save Log** if you want to save the log as a Rich Text Format (.rtf) file. You can open the saved file using any type of text editor or word processor.

4   Click **Close** when you are finished synchronizing and want to return to the project plan.

Rules for resolving conflicting information

Sometimes conflicting information will be encountered when updating or synchronizing the project plan with the ClearQuest database. This occurs when the same information is changed independently in the two systems. For example, the project manager might change the start date for a task in Microsoft Project 2000, while an individual contributor responsible for that task might enter a different date in the ClearQuest database.

To address this problem, Rational ClearQuest Project Tracker applies a set of synchronization rules designed to determine the winner based on the who is most likely to have the best information or make the best decision.

In the example mentioned above, the same information has been changed independently in Microsoft Project 2000 and in ClearQuest. Because the individual contributor assigned to the task is in the best position to know the actual start date, the rule in Rational ClearQuest Project Tracker is that the contributor's decision wins for this field.

In applying this rule, the *Update Plan From ClearQuest* function and the *Synchronize Plan with ClearQuest* function will copy the Actual Start Date from the ClearQuest database into the corresponding project plan field.

There are also rules, of course, where the decision of the project manager will win. For example, because the project manager is responsible for planning, the Planned Start Date will always come from the entry in the Microsoft Project task.

The synchronization rules followed by Rational ClearQuest Project Tracker are illustrated in the following table. This table indicates which fields can be updated in Microsoft Project 2000 and in ClearQuest, and which entry is the winner if there is a conflict.

Field Name	Can be updated in Microsoft Project	Can be updated in ClearQuest	"Winner" if conflict
Task Name/Headline	Yes	Yes	ClearQuest
Planned Start Date	Yes	No	-
Planned Finish Date	Yes	No	-
Planned Work	Yes	Yes	ClearQuest
Remaining Work	Yes	Yes	ClearQuest
Planned Duration	Yes	No	-
Remaining Duration	Yes	No	-
Actual Work	Yes	Yes	ClearQuest
Actual Start Date	Yes	Yes	ClearQuest
Actual Finish Date	Yes	Yes	ClearQuest

*The Description field is not changed in the project plan or the ClearQuest database.

Overriding the synchronization rules

In some cases, you may want to override the synchronization rules applied by Rational ClearQuest Project Tracker. To do this, you may need to view the log of the tasks that have been updated or synchronized (see discussion of saving and viewing logs in Chapter 2), then manually update the affected tasks and records using Microsoft Project 2000 and ClearQuest.

Understanding Additional Administrative Procedures

6

This chapter describes a number of administrative procedures you may need to keep data correctly synchronized between the project plan and the ClearQuest database, along with additional information that you can use for troubleshooting.

Using functions together to insure up-to-date information

Updating and synchronizing apply only to linked tasks and records

It is important to note that the Update and Synchronize functions work only with tasks that have already been linked to records during an import or export process. New tasks and new database records (that is, tasks that do not yet have a linked record, and records that do not yet have a linked task) are ignored by these functions.

To make sure that a project plan and a ClearQuest database are fully up-to-date, you may need to use more than one function at a time.

Import and Update to update a project plan

If individual contributors have added new records to the ClearQuest database, you want them to be transferred to the project plan as new tasks. However, any records that have been added since the last use of the Import function will be ignored by the Update and Synchronize functions, because they have not yet been linked to project plan tasks.

Therefore, to make sure that both new and modified records in the ClearQuest database are reflected in the project plan, you may need to first use the Import function to transfer the new records, and then use the Update function to capture changed information from existing records.

Export and Synchronize to update a ClearQuest database

If the project manager has added new tasks to the Microsoft Project 2000 project plan, you want these to be transferred to the ClearQuest database as new records. However, any tasks that have been added since the last use of the Export function will be ignored by the Synchronize function, because they have not yet been linked to
a database record.

Therefore, to make sure that both new and modified tasks are reflected in the ClearQuest database, you may need to use the Export function to transfer the new tasks, then use the Synchronize function to capture changed information from existing tasks.

Updating the ClearQuest Record Types List

When records are being imported into Microsoft Project, Rational ClearQuest Project Tracker checks to make sure that, in the new tasks being created, only valid ClearQuest record types are inserted in the **CQ Type** field.

However, during the life of a project the ClearQuest systems administrator may add new record types to the ClearQuest database and may remove obsolete ones. If this happens, you need to run the *Updating the ClearQuest Record Types List* function.

When you run this function, Rational ClearQuest Project Tracker updates the ClearQuest Records Type List for that project plan to include new entries on the list of valid record types.

Alternatively, you can convert the record type for a new task to one of the types already on the list. However, you must do one or the other or you will not be allowed to import the record.

To run the Updating the ClearQuest Record Types List utility from the Tools>ClearQuest menu, select **Update ClearQuest Record Types List**.

Deleting Tasks and Records

Deleting a task from the project plan

Great care is required when a task is deleted from the project plan. In some cases it may be desirable to delete the ClearQuest record that corresponds to the deleted task. However, in other circumstances it may be preferable to leave the record in place. Perhaps some work was done on this item even though it is no longer needed in the project plan, or perhaps the work is being transferred to another project.

When you delete a task from the project plan, Rational ClearQuest Project Tracker *does not delete* the corresponding ClearQuest record. You can leave the ClearQuest record in the database, or you can remove it manually in ClearQuest. Whatever choice you make, you must be very careful to track all of the tasks deleted from the project plan and take the correct action in each case.

The log created by the Update and Synchronize functions will include a message that indicates when a linked task can not be found for a ClearQuest database record. Consult the log to find these messages and make sure that the appropriate result was achieved.

Deleting a record from the ClearQuest database

Great care also is required when a record is deleted from the ClearQuest database. In some cases it may be desirable to delete the project plan task that corresponds to the deleted record. However, in other circumstances it may be preferable to leave the task in place.

When you delete a record from the ClearQuest database, Rational ClearQuest Project Tracker *does not delete* the corresponding project plan task. You can leave the task in the project plan, or you can remove it manually in Microsoft Project 2000. Whatever choice you make, you must be very careful to track all of the records deleted from the ClearQuest database and take the correct action in each case.

The log created by the Update and Synchronize functions will include a message that indicates when a linked ClearQuest database record can not be found for a task. Consult the log to find these messages and make sure that the appropriate result was achieved.

Additional Considerations

Changing required fields in ClearQuest

If the ClearQuest administrator changes the ClearQuest database schema to add new required fields or make existing fields required, he or she must work closely with the project manager to make sure that every task in the Microsoft Project project plan has an entry in this field.

If one of the tasks in the Microsoft Project project plan does not have an entry in the newly created required field, then that task can not be exported or synchronized--Rational ClearQuest Project Tracker will display an error message and fail to export or synchronize that task.

Avoiding nested project plans

Once a project plan has been linked to a ClearQuest database, it is not possible to nest other project plans within the linked plan. If you do so, executing the Synchronize function will cause run-time errors and unpredictable behavior.

Instead of nesting a project inside the linked project, you will need to enter the new tasks into your linked project.

Task Name may be truncated when transferred to the ClearQuest Headline field

The ClearQuest Headline field can contain up to 125 characters. Therefore, if you export a project plan task with a Task Name exceeding 125 characters, only the first 125 will be transferred to the Headline field of the ClearQuest record (in other words, the field is truncated at 125 characters). You will be able to see when this occurs in the progress log, which will display a statement.

Note that if you use the Export function and later the Synchronize function, you may end up with the 125 character truncated version back in the project plan Task Name field. This is because the Export function only transfers the first 125 characters to the Headline field in the ClearQuest record. Then, during the Synchronize process, the 125 character version is copied back to the project plan Task Name field, overwriting the longer version.

Removing an owner from the ClearQuest database

The ClearQuest administrator is able to remove names from the list of active ClearQuest users (which consists of those user names that are valid entries in the Owner field of the ClearQuest database).

However, when a name is removed from the list of active ClearQuest users, it is *not* removed from the list of ClearQuest users recognized by Rational ClearQuest Project Tracker during the Import, Export, Update and Synchronize processes.

This fact can have an impact when Rational ClearQuest Project Tracker, during one of these processes, finds a Resource name in the project plan that does not match a recognized ClearQuest owner name. Rational ClearQuest Project Tracker will then display a list of recognized ClearQuest users.

You can select a name from the list so that the Resource name in the project plan record will match a recognized ClearQuest user. However, in this case the list displayed will include the name of the ClearQuest user who was earlier removed from the list of active users. Selecting this would cause the name of someone no longer working on the project to be stored in the Resource name field of the project plan task.

It is therefore important that the ClearQuest administrator notify every project manager when a ClearQuest user is removed from the active users list. That way, the project manager knows not to select that user's name during an Import, Export, Update or Synchronize process.

Deleting the Actual End Date from a ClearQuest record

A ClearQuest user may modify the Actual End Date field in a ClearQuest database record to make it blank. However, when you then run the Update or Synchronize process, that blank is not "copied" into the Actual Finish Date field in the linked record in the project plan. Instead, whatever date was in the Actual Finish Date field remains there.

This happens because Microsoft Project does not allow Rational ClearQuest Project Tracker to "copy" a blank onto an Actual Finish Date field that already has a value.

To know if there is a blank in the Actual End Date field, you or the ClearQuest administrator can run a query of the ClearQuest records.

Setting Up and Configuring Rational ClearQuest Project Tracker

A

Appendix A describes how to set up Rational ClearQuest Project Tracker in order to exchange information between Microsoft Project 2000 and ClearQuest.

Prerequisites

The prerequisites for setting up Rational ClearQuest Project Tracker are:

- ClearQuest has been installed and is in use
- Microsoft Project 2000 has been installed and is in use by the project manager

In essence, these prerequisites mean that your project team has already learned how to effectively use both ClearQuest and Microsoft Project 2000, and that both applications have been deployed on the current project. This means that there are already ClearQuest records for the project and that there is a project plan in Microsoft Project with work tasks.

To setup and configure Rational ClearQuest Project Tracker you will need to:

1 Update the ClearQuest database schema for your project – to store the new information that will be exchanged with Microsoft Project 2000

2 Run Regsvr32 CQMSPInt.dll to finalize the installation.

In addition, the following steps will need to be taken either by you or by the project manager responsible for each project plan. These steps are described in Chapter 2: *Linking a Project Plan with a ClearQuest Database*. You may want to work with the project manager or managers to make sure these steps are carried out correctly:

3   Configure each Microsoft Project 2000 project plan with information about ClearQuest by providing the following information:

    i   Which ClearQuest database to exchange data with.

    ii   Which Microsoft Project fields to use to store ClearQuest related data

    iii   Which ClearQuest record types will be available.

4   Configure the view inside Microsoft Project 2000 to display ClearQuest related data.

When these steps have been taken, you are ready to do the initial import of ClearQuest records into Microsoft Project 2000 and the initial export of Microsoft Project 2000 tasks to ClearQuest.

These steps will be discussed in greater detail.

Platform Dependencies

Rational ClearQuest Project Tracker is implemented as an add-in to Microsoft Project 2000 that communicates with ClearQuest using COM. This means that the platforms supported by Rational ClearQuest Project Tracker are defined by Microsoft Project 2000, or stated differently, this means that Rational ClearQuest Project Tracker does not depend on the way ClearQuest was deployed.

The ClearQuest server can be deployed on an NT machine or a Unix machine using any of the supported ClearQuest databases. All that is required is that the client machine have the Windows ClearQuest client and Microsoft Project 2000 installed.

Update the ClearQuest database schema for your project

Rational ClearQuest Project Tracker requires two ClearQuest packages to be applied to the ClearQuest database schema that is used for your project's ClearQuest database. These ClearQuest packages must be installed in the following order:

1 AMBaseActivity

2 AMWorkActivitySchedule

What are ClearQuest packages?

ClearQuest packages contain definitions of new database fields and related information that when applied to the definition of a ClearQuest record type add the new fields to that record type. The ClearQuest packages needed by Rational ClearQuest Project Tracker define fields such as Planned Start Date and Actual Work.

For more information on ClearQuest packages, please refer to the *Administering ClearQuest* manual and to the online help for the Rational ClearQuest Designer application.

Note: You will need to apply both, the AMBaseActivity and AMWorkActivitySchedule packages, to each ClearQuest record type that you want to use to exchange information with Microsoft Project 2000.

Package	Description	Record Type(s) added/modified	Field(s)
AMBaseActivity	Provides additional support for Rational ClearQuest Project Tracker.	Adds the Main tab to the enabled record type.	Fields added to enabled record type: Headline Owner Description
AMWork ActivitySchedule	Provides scheduling attributes needed to integrate Rational ClearQuest and Microsoft Project 2000 using Rational ClearQuest Project Tracker. With the AMWorkActivitySchedule record type family, you can query records being created and updated with Rational ClearQuest Project Tracker.	Defines and adds the AMSchedule record type family to the enabled schema. Record types being enabled with this package will be added to this record type family. Adds the Schedule tab to the enabled record type.	Fields added to enabled AM Schedule record type: am_planned_start_date am_planned_end_date am_planned_work am_planned_rem_work am_planned_duration am_planned_rem_duration am_actual_start_date am_actual_end_date am_actual_work

To apply these packages, use the ClearQuest Package Wizard feature in the ClearQuest Designer application. For more information on the ClearQuest Package Wizard, please refer to the *Administering ClearQuest* manual and to the online help for the Rational ClearQuest Designer application.

Run Regsvr32 CQMSPInt.dll

To finalize Rational ClearQuest Project Tracker's installation, you need to run Regsvr32 CQMSPInt.dll on your system. This DLL file is already available in your system when you installed ClearQuest.

To register the file:

1 From the **Start** menu, select **Run**.

2 In the Run window, enter **Regsvr32 CQMSPInt.dll** and click **OK.**

You are now ready to exchange data between Rational ClearQuest Project Tracker and Microsoft Project 2000.
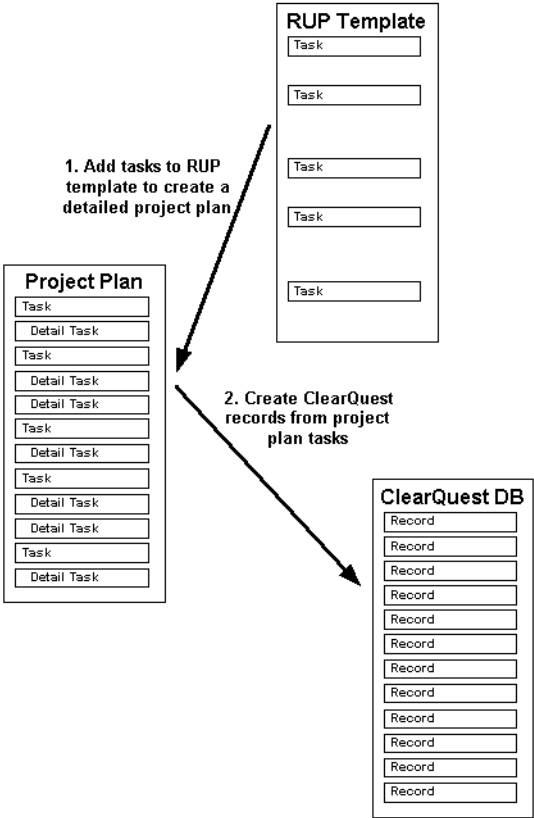
Using RUP Project Plans

B

The Rational Unified Process (RUP) provides a set of Microsoft Project plans that organize tasks according to the best practices methodology supported by RUP.

If you have RUP available on your system, you can access the project plans from **Rational Unified Process**>**Templates**>**Microsoft Project**.

Figure 37   Using RUP project plans

Two levels of plans are provided for each iteration in each phase, a summary template at the workflow detail level, and a more detailed template at the activity level.

You can use the RUP project plans as a starting point, then adjust and add detail to reach a complete project plan with the specific tasks that can be converted to ClearQuest database records and assigned to individual contributors. For example, you should replace generic resource names with specific resource names, adjust start and finish dates, add detailed work-level tasks and remove tasks that do not apply.

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