

CTRP

HP Quality Center

Standard Operating Procedures (SOP)
for Requirements Management Process

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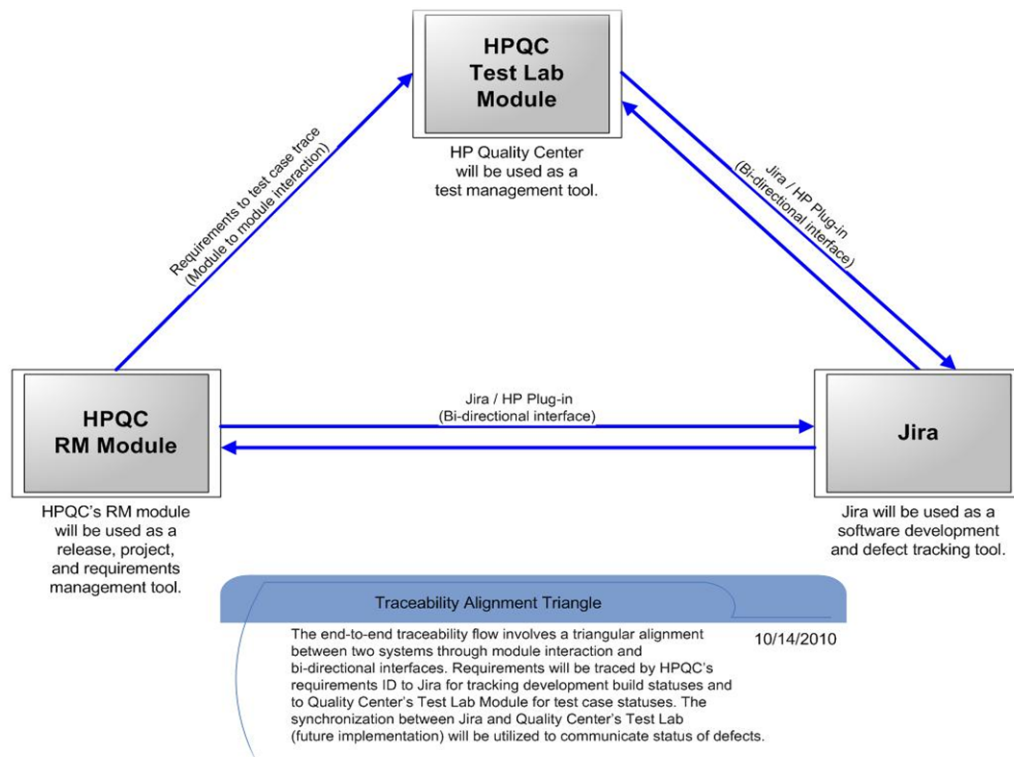


25 Jan 2011

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Preface



- ❖ The goal of the CTRP management team is to utilize HP Quality Center's Requirements Management Module as a requirements management tool, Test Lab of HP Quality Center as a test management tool, and Jira of Atlassian Software as a software development & defect management tool.
- ❖ The Release Cycle Document (RCD) and identified requirements are logged under their associative modules with ID's. Next, the Assignee (Development Lead), Component, Requirement Category, Requirement and Test Case Statuses, CTRP Release/Version, Description, Comments, Mapped Jira ID, and Priority will be identified in the requirements detail window of HPQC and replicated via bi-directional interface as a new feature in Jira with a CTRP Jira Key (CTRP-150) that identifies the requirement as an HPQC requirement.
- ❖ Upon receiving the new requirement, the Module Developer creates development tasks in the comments field of the Jira item and maps them to the parent Jira ticket number identified in the "Mapped Jira ID" field.
- ❖ The QA Engineer will group test cases for execution which will be assembled in QC's Test Lab. Test cases in the test plan will be mapped to HPQC's requirements ID and synchronized with defects in Jira. If a test case fails, the requirement and defect status will reflect the testing status based on the linkage of the requirement to the test case and the updating of the test case execution status.

Introduction

The purpose of this document is to identify a procedural workflow for the CTRP Analysts to follow regarding the requirements management process in HP Quality Center. HP Quality Center is a web-based solution for application life cycle management. Quality Center assists organizations in the management of all phases of the application life cycle management, including: defining releases, specifying requirements, planning tests, executing tests, and tracking defects.

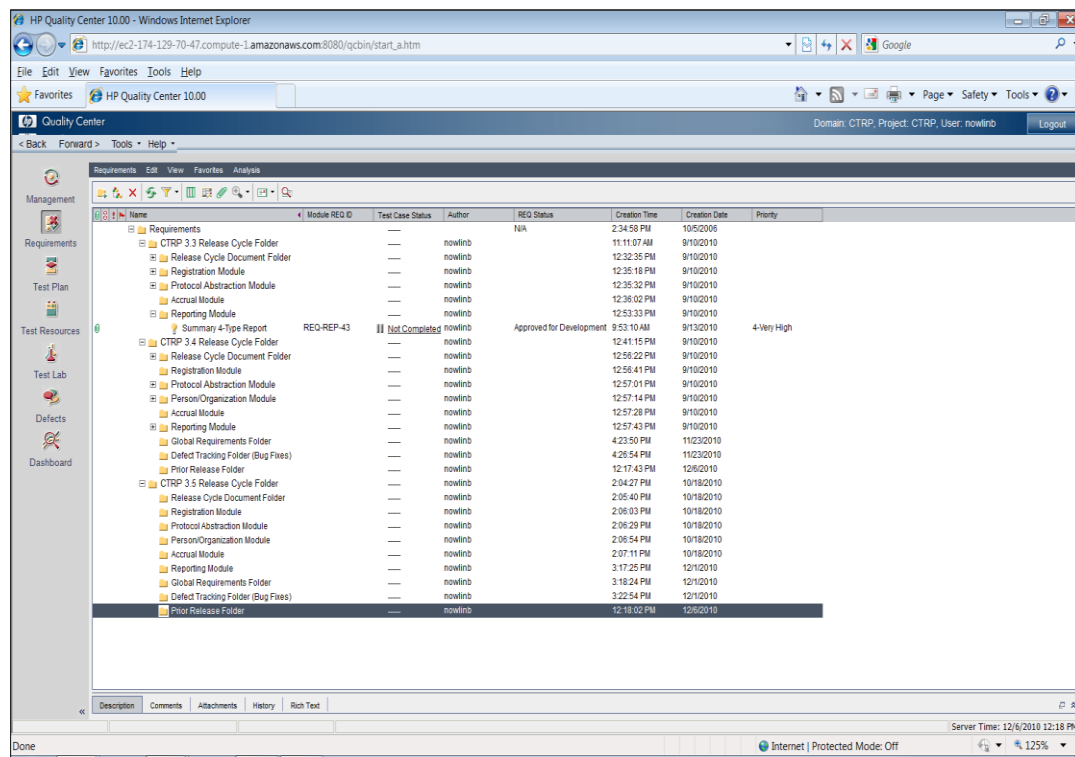
This document will outline procedures for:

- 1) **Viewing the Release Folder Tree**
- 2) **Release Cycle Documentation**
 - a. Release Cycle Document
 - b. Milestone/Sprint Document
- 3) **Creating a Requirements Tree**
 - a. Creating a parent requirement
 - b. Requirements detail window
 - c. Creating a child requirement
- 4) **Modifying Requirements**
 - a. Renaming requirements
 - b. Copying requirements
 - c. Updating requirements
 - d. Moving requirements
 - e. Deleting requirements
- 5) **Tracing Requirements**
- 6) **Establishing Links to Requirements Documentation in SVN**
- 7) **Searching for Requirements**
 - a. Finding requirements in a requirements tree
 - b. Finding requirements in a requirements grid
- 8) **Linking Requirements to Test Cases**
- 9) **Defect Tracking of Requirements**
 - a. Adding defects
 - b. Updating defects
 - c. Viewing Defects
- 10) **Synchronization with Jira via Orasi Jira/HP Bridge**

1. Viewing the Release Folder Tree

Each release will have 9 folders created by the Software Tools Analyst to organize and log requirements and applicable project documentation. The folders are:

- Release Document Folder
- Global Requirements Folder
- Defect Tracking Folder (Bug fixes)
- Prior Release Folder
- Registration Module Folder
- Protocol Abstraction Module Folder
- Person/Organization Module Folder
- Accrual Module Folder
- Reporting Module Folder



1.1 Special Procedural Notation

- **As we capture new requirements for a particular module, we will keep reference to available historical requirements and numbers that - associate with the module.** In cases where historical requirements can be combined into a more comprehensive requirement, a “new” PARENT requirement will be created and older requirements should be tagged as child requirements to the “new” parent. Otherwise, a brand new requirement document should be created.
- **In cases where requirements captured in historical documentation have NOT been implemented AND will be implemented, these will be registered, assigned new numbers and referenced to the old document numbers-.** In some cases, non-implemented requirements exist within the historical BRS documents. Analysis will need to be done to determine if these are still applicable to the current CTRP situation. If so, then they should be treated as new requirements and assigned new numbers. Reference to the historical requirement number should be captured as an annotation for traceability across documentation.
- **In cases where requirements captured in historical documentation have NOT been implemented AND will not be implemented, these will be registered and decommissioned.** In some cases, non-implemented requirements exist within the historical BRS documents. Analysis will need to be done to determine if these are not applicable to the current CTRP situation. The requirements should be captured in a separated folder and officially decommissioned for traceability.
- **In cases where historical requirements are de-scoped from one module and re-scoped to another module, –these historical requirements should - be captured.** For example, many reporting requirements exist in different modules. These should be placed into the reporting module as we move forward. These will need to be captured in the current module to which they are assigned, de-scoped and then re-scoped in the appropriate module. This will keep traceability.
- **In cases where the Lead Analyst organizes a Technical Design Meeting (TDM) for review and successful handoff of requirement.** Following the TDM, comments are logged into the “comments” section of the requirements detail window by the Lead Analyst verifying successful completion and handoff of requirement for accountability purposes. These comments are replicated in Jira for the Lead Developer to concur.

2. Release Cycle Documentation

A release cycle document is a project management tracking document that outlines the scope of the release as well as a listing of the requirements, tracking numbers, associative modules, target release and sprint, lead analyst and developer, and priority. Upon receipt, the release document will be logged into the tool by the software tool analyst under the Release Document Folder directory and a tracking number assigned. In addition, links to milestone/sprint and other project data will be created in the attachments tab of the details window.

2.1 To access the release cycle document and milestone/sprint data links:

- Log into HP Quality Center.
- Expand the Release Cycle Document Folder.
- Double click on the release cycle document requirement.
- The requirement details window opens.

Requirement Details

HPQC REQ ID: 110 * Name: Release Cycle Document * Requirement Type: Functional

Details JIRA Comment

* Assignee: mulairee * Component: N/A

* CTRP Release/Version: 3.4 * Requirement Category: Release Doc

Author: cbnowlin Creation Date: 12/2/2010

Creation Time: 10:21:21 AM JIRA Key:

Mapped JIRA ID: Modified: 1/17/2011 9:15:16 PM

Priority: N/A Product:

REQ Status: N/A Target Cycle:

Target Release: Not Covered Test Case Status:

Description Comments Rich Text

METHODOLOGY FOR HOW ITEMS WILL BE SELECTED FOR DEVELOPMENT: We will looked at three primary items when deciding what to work on in a given iteration. (A) Is the marked as ready for Development? If not, then the item will not be considered, regardless of priority or ranking. (B) Priority. From the list of items marked as ready for development, we will then work first on those that have a Priority of 1 (=Must Have). (C) We will then look at where on the list the item falls. We will pick those that are higher on the list first.

OK Cancel Help

- Click on the attachments tab to access the document.
- The attachments tab loads the URL interface with URL links to the release document in Google docs and to dynamic milestone/sprint assignment data in Jira.
- Click on the “open” button to launch the applicable URL and view documentation.
- Click “ok” when done.

Requirement Details

HPQC REQ ID: 110 * Name: Release Cycle Document * Requirement Type: Requirement

Attach: Open Upload Save As... Delete

Name	Size	Modified
Milestone_Sprint_Assignment.url	1 KB	12/2/2010 5:21:58 PM
Release Cycle Document.url	1 KB	12/2/2010 4:49:26 PM

Description:

<https://spreadsheets.google.com/ccc?key=0AnXBJUgnA3XWdGowanlDamVOVFZnZ25VMHlmc213ZGc&hl=en&authkey=CPisk9ID>

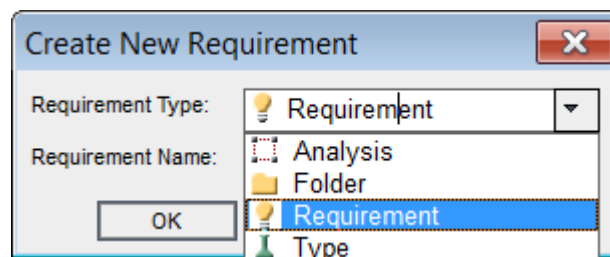
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3. Creating a Requirements Tree

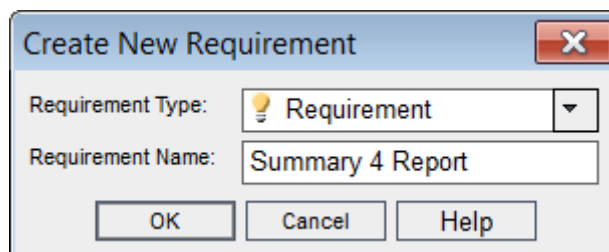
The Requirements module enables you to define and manage your requirements. You record requirements in Quality Center by creating a requirements tree. This is a graphical representation of your requirements specification, displaying your requirements hierarchically. After defining your requirements, you can establish traceability between two or more requirements. Requirements traceability defines a relationship between the requirements. When analyzing the impact of a change proposed in a specific requirement, the traceability links indicate the other requirements that the change might affect.

3.1 To create a parent requirement:

- To create a parent requirement, right click on the module folder and select “New Requirement” from the menu.
- The *Create New Requirement* dialog box opens.
- In the Requirement Type list, select a requirement type. The choice will only be “Requirement”. The analyst will be given an opportunity to select the requirement category in the requirements detail window (Functional, Non-Functional, Global, Release Document, Project Document, and Defect/Bug Fix).



- In the Requirement Name box, type a name for the new requirement.



- Click OK. The New Requirement dialog box opens.

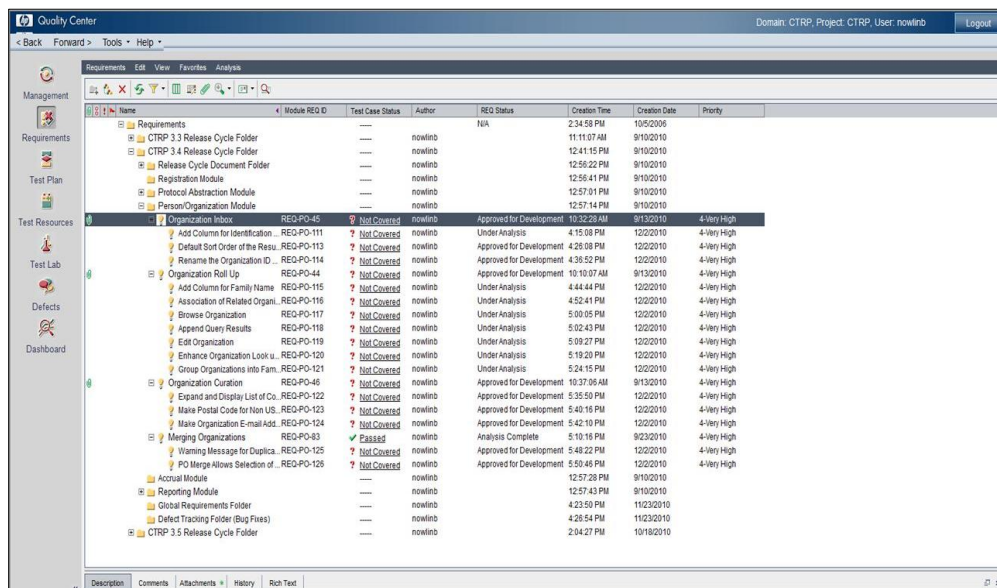
3.2 Requirements detail window:

The screenshot shows the 'Requirement Details' window. At the top, there's a header bar with navigation icons and a title bar. Below the header, the 'HPQC REQ ID' is 43, and the '* Name' is 'Summary 4-Type Report'. The '* Requirement Type' is set to 'Functional'. The left sidebar contains icons for 'Details', 'Requirements Traceability', 'Test Coverage', 'Linked Defects', 'Risk', 'Attachments', and 'History'. The main area has tabs for 'Details' and 'JIRA Comment'. The 'Details' tab is active, showing fields for '* Assignee' (shestopalovm), '* Component' (Reporting), '* CTRP Release/Version' (3.3), '* Requirement Category' (Functional), 'Author' (cbnowlin), 'Creation Date' (9/13/2010), 'Creation Time' (9:53:10 AM), 'JIRA Key' (CTRP-24), 'Mapped JIRA ID' (PO-2492), 'Modified' (1/17/2011 10:38:49 PM), 'Priority' (Major), 'Product' (empty), 'REQ Status' (Approved for Developr), 'Target Cycle' (empty), 'Target Release' (empty), and 'Test Case Status' (Not Completed). At the bottom, there's a 'Description' tab with a text area containing a paragraph about the Summary 4 Report. Below the text area are 'OK', 'Cancel', and 'Help' buttons.

- Type in requirements detail information. The Requirement Details view contains the following key elements:
 - Requirements Traceability Tab
 - Test Coverage Tab
 - Linked Defects Tab
 - Attachments Tab
 - History Tab
 - Custom Fields: Assignee (Development Lead), Component, CTRP Version/Release, Test Case Status, Priority, Requirement Category, Requirement Status, Description, Comments, and Mapped Jira ID.
 - These custom fields and all URL attachment links will be replicated in Jira through the Orasi Jira/HP Bridge integration software.
- Click the “submit” button.
- The system will automatically generate a requirement ID that will replicate in Jira.
- The new requirement and new system generated ID will show in the *Requirements Dashboard*.
- Double click the requirement to log additional information or perform other tasks.

3.3 To create a child requirement:

- Right click the parent requirement and select “New Requirement” from the menu.
- Follow the steps in section 3.1 to complete the process.



4. Modifying Requirements

This section on modifying requirements includes the following topics:

- ❖ Renaming Requirements
- ❖ Copying Requirements
- ❖ Updating Requirements
- ❖ Moving Requirements
- ❖ Deleting Requirements

4.1 Renaming requirements:

You can rename a requirement in the Requirements module. A name cannot include the following characters: \ ^ *

To rename a requirement in the tree:

- Select a requirement and choose Edit > Rename.
- Alternatively, right-click the requirement and choose Rename.
- Edit the requirement name and press ENTER.
- To rename a requirement in the grid, click the requirement's name and type a new name.

4.2 Copying requirements:

You can copy a requirement within the same project or between projects. When you copy a requirement topic, any children of the requirement topic are also copied.

To copy a requirement:

- Select a requirement from the requirements tree or grid.
- To copy more than one requirement, press the CTRL key and select the requirements you want to copy.
- Choose Edit > Copy. Alternatively, right-click and choose Copy.
- If you are copying a requirement from the grid to the requirements tree, choose View > Requirements Tree. The Requirements Tree view is displayed.
- Select a requirement in the requirements tree.
- Choose Edit > Paste. Alternatively, right-click and choose Paste.

4.3 Updating requirements:

You can update a field value for multiple records in the requirements tree or grid.

To update a requirement:

- Select the records in the grid or select the requirements in the requirements tree.
- Choose Edit > Update Selected.

4.4 Moving requirements:

You can move a requirement to a different location in the requirements tree. Moving a requirement topic also moves its child requirements, tests coverage, requirement traceability links, and defects linkage.

To move a requirement:

- Select a requirement from the requirements tree.
- To move more than one requirement, press the CTRL key and select the requirements you want to move.
- Choose Edit > Cut or right-click the requirements and choose Cut.
- Select a requirement in the requirements tree.
- Choose Edit > Paste.
- Alternatively, right-click and choose Paste

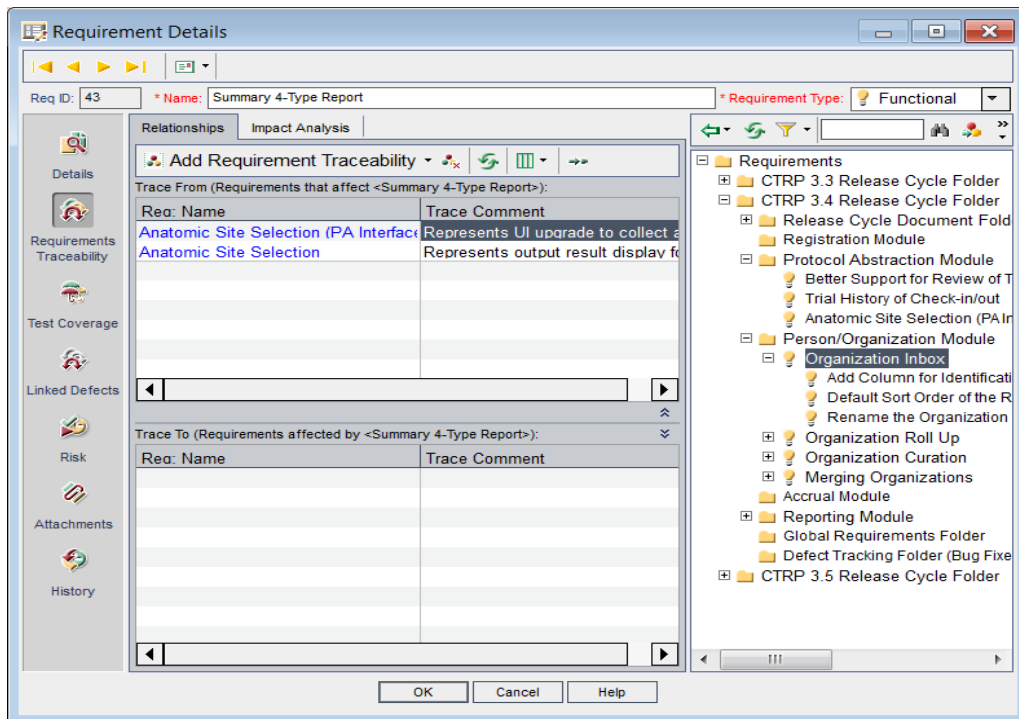
4.5 Deleting requirements:

You can delete a requirement from the Requirements module. Deleting a requirement also deletes its child requirements, tests coverage, requirement traceability links, and defects linkage.

5. Tracing Requirements

Requirements traceability defines a relationship between two or more requirements. When analyzing the impact of a change proposed in a specific requirement, the traceability links indicate the other requirements that the change might affect. Using the Requirements Traceability tab in the Requirement Details view, you can add traceability links to and from a selected requirement.

To trace a requirement, simply click on the “Add Requirements Traceability” button to open the requirements tree in the right window pane and then drag the selected requirement(s) to the left pane. The linked requirement is automatically hyperlinked for rapid access.



6. Establishing Links to Requirements Documents in SVN

You can attach a Uniform Resource Locator (URL) to a Quality Center record that will be linked via HTTP to the requirements documentation stored in a SVN directory.

To attach a URL:

- In the Attachments dialog box, click the URL button.
- The Attach Uniform Resource Locator (URL) dialog box opens.
- In the URL box, type a valid URL and click OK.
- The URL appears in the Attachments list. An icon for your default Web browser appears next to the URL.
- In the Description box, add any comments related to the attached URL.

7. Searching for Requirements

7.1 Finding requirements in the requirements tree:

You can search for a requirement in the requirements tree. If you have applied filters to the tree, the search is restricted to the requirements currently displayed.

To find a requirement in the requirements tree:

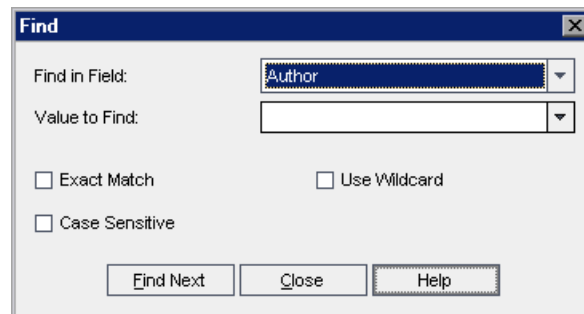
- Choose Edit > Find. The Find Requirement dialog box opens.
- In the Find in Field box, select the search criterion.
- In the Value to Find box, type or select the value of the field you chose. The search is not case sensitive.
- Click Find. The Requirements module searches for the requirement with the specified value. If the search is successful, the Search Results dialog box opens and displays a list of possible matches.
- Select a result from the list and click the Go To button to highlight the requirement in the requirements tree.
- If the search is unsuccessful, an information box opens.

7.2 Finding requirements in the requirements grid:

You can search for requirements in the requirements grid, based on the value of a particular field. If you have applied filters to the grid, the search is restricted to the requirements currently displayed.

To find a requirement in the requirements grid:

- Choose Edit > Find. The Find dialog box opens.



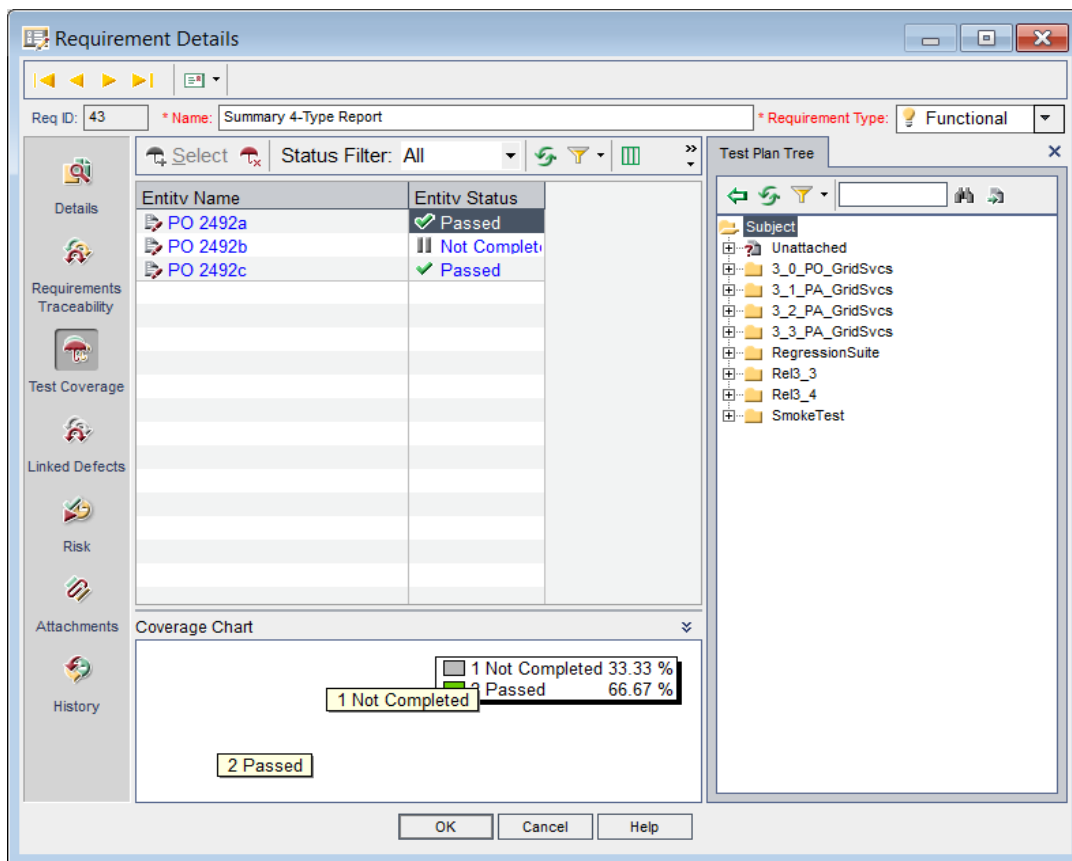
- In the Find in Field box, select a field in the grid.
- In the Value to Find box, type or select the value of the field, for which you want to search.
- Select Exact Match if you want to find requirements with field values that exactly match the Value to Find string.
- Select Case Sensitive if you want the search to distinguish between uppercase and lowercase characters.
- Select Use Wildcard if you want to use asterisk (*) characters in your search string in order to type only part of the item.
- Click Find Next. If the search is successful, the matching requirement is highlighted in the grid. If the search is unsuccessful, an information box opens.
- Click Find Next again to find the next requirement that matches the criteria.

8. Linking Requirements to Test Cases

Requirements can be linked to test cases rather simply via the “Test Coverage” tab in the *Requirements Detail* window.

To link a requirement to a test case:

- Double click on the requirement.
- Click on the “Test Coverage” tab.
- Expand the Test Plan Tree in the right pane.
- Select the applicable test case.
- Drag and drop the test case to the left pane.



9. Defect Tracking of Requirements

Defect records inform members of the application development and quality assurance teams of new defects discovered by other members. By sharing defect information, both the application development and defect repair processes are faster, more efficient, and more comprehensive. As you monitor the progress of defect repair, you update the information in your Quality Center project. You can add a new defect to a Quality Center project from any module at any stage of the application management process.

9.1 Add a defect:

To add a new defect (Step 1)

- From any module, click 'Tools > New Defect.'
- The 'New Defect' window appears.
- Fill in Summary and applicable information.
- Click 'Submit'.

New Defect

Clear Attach: [Icons]

* Summary: Milestone Bug Fix

Details

* Detected By: nowlinb
* Severity: 3-High
Detected in Cycle: ...
Detected in Version: ...
Priority: 3-High
Reproducible: Y
Subject: ...
Target Release: ...

* Detected on Date: 12/6/2010
Assigned To: nowlinb
Detected in Release: CTRP 3.3 Release
Modified: ...
Project: All Projects
Status: New
Target Cycle: ...

Description:
Requirement: [2.9] Requirements\CTRP 3.4 Release Cycle Folder\Prior Release Folder

Submit Cancel Help

To add a new defect (Step 2):

- Expand the release folder tree.
- Select and Right click the "Defect Tracking Folder".
- Select 'New Requirement' from the menu.
- The "Create New Requirement" window will load.
- Select 'Requirement' from the drop-down menu.
- Type in name of defect.

Create New Requirement

Requirement Type: Requirement
Requirement Name: Warning Message Bug Fix

OK Cancel Help

- Create custom ID and complete custom fields.

9.2 Update/View a defect:

Tracking the repair of defects in a project requires that you periodically update defects.

You can do so directly in the Defects Grid, or in the Defect Details dialog box.

To update defects:

- In the Defects Grid, double-click the defect you want to update.
- Alternatively, select the defect and click the Defect Details button.
- The Defect Details dialog box opens to make appropriate changes.
- Click OK to save changes.

Defect: 3 The list of flights is given when Departing date after Returning

Details Page 2

* Category: Defect * Status: Open

Project: Mercury Tours (HT) * Detected in Version: Version 1.0

* Subject: Flight Finder * Detected on Date: 9/1/2005

* Reproducible: Y Regression: N

* Detected By: alice_qc * Severity: 3-High

Assigned To: james_qc Priority: 3-High

Estimated Fix Time: 3 Planned Closing Version: Version 1.01

Actual Fix Time: 0 Closed in Version: ...

Description: Test Set: Mercury Tours Functionality
Test: [1]Returning Date
Run: Run_9-2_10-51-7
Step: Step 3: Departing Date After Returning Date

Description:
1. Select a future date for both the departing flight and returning flight date, so that the returning date will be earlier than the departing date.
2. Click the Continue button.

Comments: Add Comment

Execution Report OK Cancel

9.3 Delete a defect:

You can delete old or duplicate defects from a project. When you delete a defect, Quality Center does not reuse the Defect ID.

To delete a defect:

- In the Defects Grid, select a defect to delete.
- Click the Delete button or choose Edit > Delete.
- Alternatively, right-click the defect and choose Delete.
- Click 'Yes' to confirm.

10. Synchronization with Jira

The true value of the JIRA Bridge is that once a defect or requirement is revealed in either JIRA or HP Quality Center, the defect will follow the established, customized workflow for that tool and automatically synchronize with the other. This automated synchronization allows both teams to know the defect and requirement status.

10.1 Bi-Directional synchronization use cases:

Requirements Management Use Case

Most of the field tabs represented in the requirements detail window will be replicated in Jira, to include:

- HPQC REQ ID
- Requirement Name
- Assignee
- CTRP Release/Version
- Priority
- Author
- Test Case/Requirement Statuses
- Mapped Jira ID
- Creation Date/Time
- SVN URL Link
- Jira Key
- Linked Defects
- Description/Comments

Requirement Details

HPQC REQ ID: 43 * Name: Summary 4-Type Report * Requirement Type: Functional

Details | JIRA Comment

* Assignee: shestopalovm * Component: Reporting

* CTRP Release/Version: 3.3 * Requirement Category: Functional

Author: cbnowlin Creation Date: 9/13/2010

Creation Time: 9:53:10 AM JIRA Key: CTRP-24

Mapped JIRA ID: PO-2492 Modified: 1/17/2011 10:38:49 PM

Priority: Major Product: ...

REQ Status: Approved for Developr Target Cycle: ...

Target Release: ... Test Case Status: Not Completed

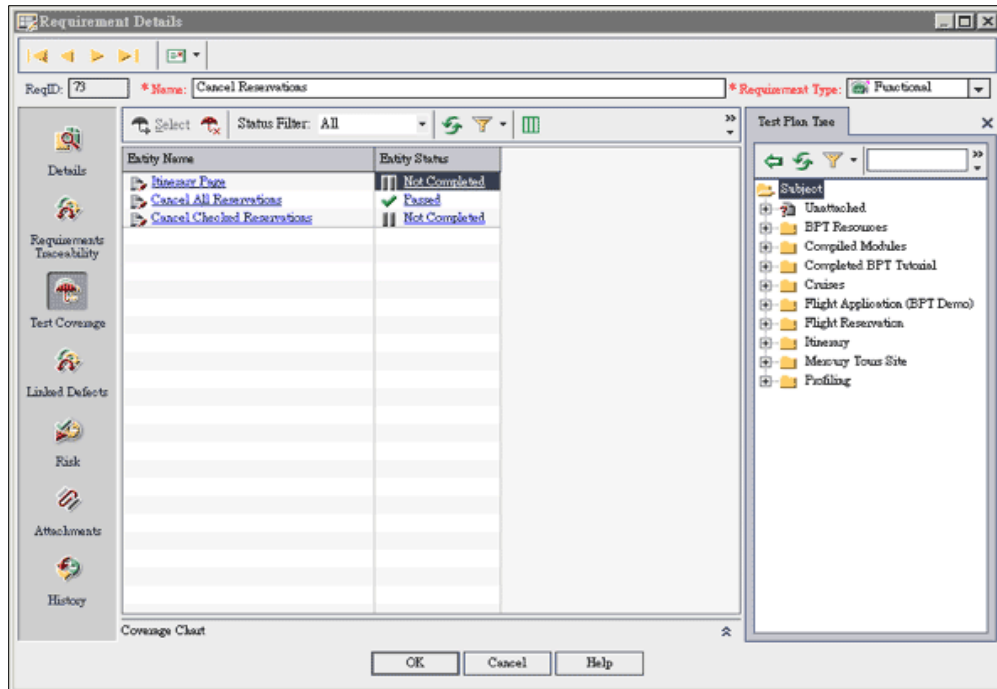
Description | Comments | Rich Text

A Summary 4 Report is an annual report, completed every year within a 5 year period, initiated by an NCI designated cancer center for the purpose of satisfying the grant application renewal process. After receipt of the grant application, it undergoes peerreview. If the grant application receives a favorable score by the peerreviewers, it is approved, and the organization receives funding and designation as an NCI designated cancer center.

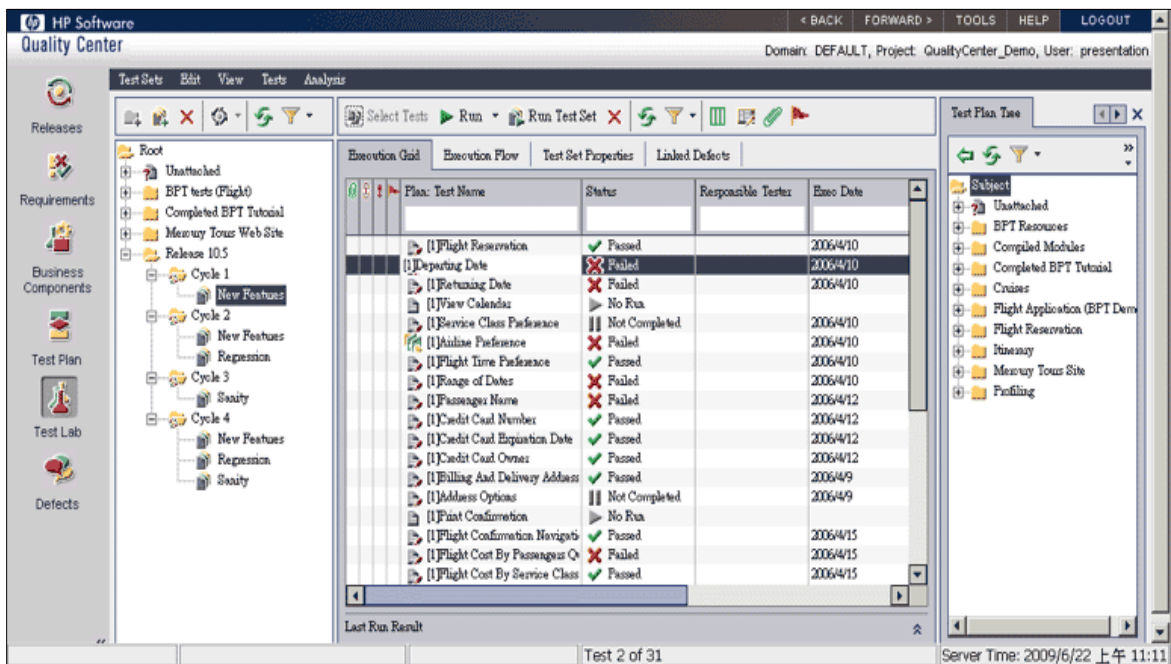
OK Cancel Help

Defect Management Use Case

Once the requirements are created, the QA Team then creates a test plan. The test plan is then associated with the related requirements in Quality Center. The test plan is then selected from the test plan tree, from the specific requirement.



The QA Team creates a test set, then adds the test plan to the test set. QA runs the test set and discovers a defect. The defect is created in Quality Center, which is synced to JIRA.



The defect is synced to a specific project in JIRA, and an issue is created. The created issue includes the related Quality Center information - Requirements, Defects, and Test Cases. Using JIRA, the Development Team receives the issue based on assignee policies, and then reviews the linked Quality Center information. The development team transitions the issue status to “In Progress” and begins to fix the issue. During their review and work, the Development Team can collaborate with QA using the comment field. The QA Team contributes to the collaboration by providing comments within Quality Center. These comments are replicated between JIRA and Quality Center.

