opentext™

Dimensions CM

IDE Guide

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Part 1

About OpenText™ Dimensions CM Integrations

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Chapter 1

Overview of Dimensions CM Source Control

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Introduction

Purpose — This section introduces key source control concepts and the way in which Dimensions CM represents and integrates with IDE projects.

For more information — For details about source control and working with Dimensions CM, see the *Dimensions CM online help*.

IDE specific information — For information about the Dimensions CM features supported in your IDE, see Part 2, "IDE Reference," on page 37.

Source Control Concepts

To effectively use an integration between Dimensions CM and your IDE, you must understand the use of "projects" and "workspaces." Most IDEs require that you work in the context of a "Project". Projects serve to group associated files such as the source code for a program or the HTML and resource files of a website. Dimensions CM uses the term "project" with a similar connotation, a grouping of files with a particular folder structure.

NOTE To differentiate between a project in your IDE and a project in Dimensions CM, the documentation may refer to your projects within your IDE as *IDE projects* and refer to projects within Dimensions CM as *Repository projects*.

In addition, the IDE may allow the creation of workspaces consisting of multiple projects.

Dimensions CM represents and controls access to this information as described in the following topics.

Dimensions CM Representation of IDE Projects

The Dimensions CM integrations uses the concepts of *products* and *projects* to represent the organization and management of software development and to control parallel streams of development.

A Dimensions CM product is normally used to represent a high level of abstraction, probably containing many subsystems or IDE projects. A project provides an insulated environment within a product in which you can develop a collection of files under configuration management. Dimensions CM projects are may be referred to as Repository Projects to differentiate the Dimensions CM project from the IDE project.

Dimensions CM uses two entities to map the concept of IDE projects to Dimensions CM products:

- Project directories
- Project marker files. The item type PROJECT is reserved for project marker files. Any other files with the PROJECT item type are ignored.

Project Directory

All files registered in Dimensions CM for an IDE Project normally fall within the scope of a directory in a user-specified project. This is known as the *project directory* or *project*

path. The path within the repository project matches the tail components of the IDE project directory on the user's machine. Files outside the project directory, but still within the scope of the repository project, can also be used by the IDE Project.

For more information

See "About Repository Project Scope" on page 21.

Project Marker File

Project marker files enable IDEs to identify their own projects. Thus a Visual C++ user would be able to see only Visual C++ projects. Similarly, a PowerBuilder user would see only PowerBuilder projects.

Each IDE project has a project marker file located in the repository project directory that corresponds to the root of the IDE project. Project marker files are named after the IDE project or, if that information is not provided by the IDE, the IDE project directory. The file extension of a given project marker file is dependent upon the IDE it is associated with, as shown below:

NOTE Integration with some of the IDEs in this list is supported by third parties, not directly by OpenText. For the list of integrations supported, see "How Dimensions CM Integrates with IDEs" on page 12.

IDE	Extension
Eclipse	.ecl[a]
PowerBuilder	.pb
Rational Rose	.rr
Together	.tg
Visual Basic	.vb
Visual C++	.vc
VisualStudio	.vs

a.The .ecl extension is used for Eclipse 2 integrations as described in this guide. Eclipse 3 integrations use the metadata introduced in Dimensions CM 10.

NOTE Do not delete project marker files. They are required to enable your IDE projects to work with Dimensions CM source control.

To identify the project and the project marker file, the Dimensions CM integration passes an identification string to the IDE. The IDE records this string in its control files and uses it when accessing projects that are under Dimensions CM source control. These values allow Dimensions CM to identify the relevant Dimensions CM project and directory so you do not have to explicitly select the project and project directory.

Required Dimensions CM Roles or Privileges

Dimensions CM uses role assignments and privileges to define who can perform specific actions within particular products and projects.

To...	You need the role or privilege allowing...
Browse or get files	Browsing or getting of the desired items in the project
Check out files	Creation of new revisions of the item types used by files in the project
Add files	Creation of new revisions of the item types used by files in the project And you need the PROJECT-MANAGER role for the project containing the IDE project
Add projects	■ Creation of new revisions of the item types used by files in the project ■ Creation of items of type PROJECT in the project. The item type PROJECT is reserved for project marker files. Any other files with the PROJECT item type are ignored. And you need the PROJECT-MANAGER role for the project containing the project.

For details about assigning roles and privileges in the Administration Console, see the *Dimensions CM online help*.

How Dimensions CM Integrates with IDEs

The Dimensions CM integrations support the following methods of integrating with IDEs: SCC, COM, Custom SCC Based, Synchronization API, and Custom integrations. The following list shows the method used by each supported IDE:

- Source Code Control (SCC)
  - PowerBuilder
- COM
  - Quality Center (source control)
- Custom SCC Based
  - Eclipse 2 Compatible products such as IBM Rational Rose XDE.

NOTE There are two possible integrations for use with Eclipse, the SCC integration and the Rich Integration with Eclipse. The Rich Integration with Eclipse includes both a version management and issue management component. The plug-in works with Eclipse Version 3.0 and higher.

- Synchronization API
  - Serena TeamTrack (Issue Synchronization - Separate Documentation)
  - Remedy ARS (Issue Synchronization - Separate Documentation)

- Quality Center (Issue Synchronization)

- Custom Integrations
  - IBM Rational DOORS (source control and issue management)
  - Rich Integration with Eclipse
  - Microsoft Visual Studio

Additional information

For information on setting up Dimensions CM with your IDE, see the following:

For more information about...	See the...
Procedures common to integrating with SCC compliant IDEs.	Chapter 2, "Integrating SCC Projects with Dimensions CM" on page 15
Procedures for integrating with specific IDEs.	Part 2, "IDE Reference," on page 37
Setting up and configuring the Dimensions CM integration with Eclipse.	*Dimensions CM online help*
Setting up and configuring the Dimensions CM integration with Visual Studio.	*Dimensions CM online help*
Setting up and configuring the Dimensions CM integration with Solutions Business Manager.	*Dimensions CM Connect for SBM guide*

Chapter 2

Integrating SCC Projects with Dimensions CM

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Introduction

Contents and purpose

This chapter contains generic conceptual and procedural information common to setting up the Dimensions CM integrations with supported IDEs that use SCC standards.

The purpose of this chapter is to help you install the integration between Dimensions CM and your IDE, configure your IDE, and place IDE projects and files under source control.

IDE specific information

For information specific to your IDE, see the appropriate chapter under Part 2, "IDE Reference," on page 37.

About SCC Integrations with Dimensions CM

To provide a way for you to use source control without leaving your IDE, many IDEs implement source control support using SCC APIs. These APIs allow IDEs to integrate with any source control provider that has implemented the control features using the SCC APIs. The SCC APIs provide a way to do this without the IDE and provider knowing the proprietary nature of the other.

Both the source control provider and the IDE must call the SCC APIs according to documented specifications. The IDE makes the request, and the source control provider carries out the request. SCC APIs sit between the IDE and the source control provider and allow them to pass information back and forth.

The SCC functionality available from the IDE is determined by the SCC implementation in the IDE. Therefore, the source control provider can only provide the functionality for the options implemented in the IDE.

For most IDEs, you can carry out some functions from within the IDE and others from within the native interface of the source control provider. In cases where very limited functionality is available from the IDE, more effective source control can be carried out by using the source control provider's interface. You should decide which interface to use based on your source control needs.

Installing and Configuring Your Integration

Before you begin using the integration between your SCC IDE and Dimensions CM, perform the following steps to install and configure your integration:

1. Install the Dimensions CM desktop client with the SCC Integration option on the same system as the IDE.

   See the Dimensions CM *Windows Installation Guide* for more information on installing the Dimensions CM desktop client with the SCC Integration option.

2. If needed, install the integration component for your particular IDE.

   Some Dimensions CM integrations, such as IBM Rational DOORS, have a unique component which must be installed to use the integration. These integration components can be found on the Support website.

   For details, see the section regarding your IDE in Part 2, "IDE Reference," on page 37.

3. Perform the following sections to configure the options for your integration:

- "Configuring Source Control Options" on page 17
- "Connecting to Dimensions CM" on page 18
- "Registering IDE Projects with Dimensions CM" on page 19
- "About Adding Files to Dimensions CM Source Control" on page 22
- "Upload Rules Management" on page 23

Configuring Source Control Options

This section describes how to enable and set the defaults for advanced source control features. For information on overriding the defaults during a source control operation, see "Overriding Default Options" on page 26.

NOTE If you are using the SCC integration with an Eclipse-based IDEs, enable merge on check in. For details, see "Eclipse 2 Compatible Products" on page 115.

To configure source control options:

1 From the Windows Start menu, select:

```
Dimensions CM <version> | Configuration Parameters
```

The `dm.cfg` file opens in your default text file editor.

Concurrent development

2 The settings for concurrent development are now the default for Dimensions CM SCC. You no longer need to set the DIMENSIONS_SCCPLUS configuration variable.This option provides the following behavior:

- Notifies the user during concurrent check out operations.
- Displays a glyph to indicate files are checked out by other users, if the IDE is so equipped.
- Launches the Merge Tool during check in if your revisions conflict with concurrent edits already checked in by other users. (See the merge defaults.)

The default option has the same effect as the following four options combined:

- `DM_SCC_SHOWRESOLVEMERGE Y`
- `DM_SCC_NEWSTATUS Y`
- `DM_SCC_FNEWSTATUS Y`
- `DM_SCC_CONFIRMWARNINGS Y`

The effect of the default setting can be reversed by specifying the following option:

- `DIMENSIONS_SCCPLUS N`

NOTE If you are using the SCC integration with an Eclipse-based IDEs, leave this feature enabled. For details, see "Eclipse 2 Compatible Products" on page 115.

Merge defaults

3 To configure default merging behavior, add or modify the following lines:

- DM_SCC_SHOWRESOLVEMERGE Y
- DM_SCC_MERGECONFIRM *Value*

  Where *Value* is one of the following:

  - ASK**:** Prompts the user for what to do with each conflicting file. This is the default unless you have configured a different one.
  - AUTO_ALL**:** Merges the revisions without invoking the Merge tool window, unless there are line-by-line conflicts—in which case, the Merge tool appears so you can resolve the conflicts.
  - MANUAL_ALL**:** The Merge tool appears so you can manually resolve the conflicts.
  - REPLACE_ALL**:** Overwrites the local workfiles rather than performing a merge.

Timestamps

4 To set the timestamp of the local workfile to the current local system time when getting or checking out revisions, add the following line:

```
DM_SCC_TIMESTAMP Y
```

By default, the timestamp is set to the modification time of the revision.

Get newer only

5 To get a revision only if it has a newer timestamp than its workfile, add the following line:

```
DM_SCC_GETMODIFIEDONLY Y
```

By default, revisions are retrieved regardless of the timestamp.

Remove/Delete

6 To delete items from the Dimensions CM repository when a Remove operation is invoked from an IDE, add the following line:

```
DM_SCC_REMOVEISDELETE Y
```

Enabling this option restores the old behavior. The current default is to remove the items from the project but leave them in the repository.

7 To force the SCC integration to perform all fetches non-expanded, add the following line:

```
DM_SCC_NOEXPAND Y
```

NOTE
This option is required to take advantage of Library Cache Areas. This setting overrides the process model setting.

8 Save the configuration file. The changes take effect the next time you start your IDE.

Connecting to Dimensions CM

To perform any operations that access Dimensions CM, you must connect to the Dimensions CM server.

To log in:

1 Invoke Dimensions CM through your IDE. For the IDE specific menu command, see Part 2, "IDE Reference," on page 37. The Dimensions CM Login dialog box appears.

2 Do one of the following:

If you want to...	Do this...
Populate the fields with previously saved values	a Select a previous connection from the **Profile** list. b Enter a password in the **Password** field. Proceed to Step 8.
Enter new values in the fields	a Enter a new connection name in the **Profile** field and/or deselect the **Save settings** checkbox to avoid overwriting the stored values of your current connection. b Continue to the next step.

3 Enter a user name in the **Username** field.

4 Enter a password in the **Password** field.

5 Enter the name and location of a Dimensions CM server in the **Server** field.

6 Enter the name of a Dimensions CM database in the **DB Name** field.

7 Enter a database connection string in the **DB Connection** field.

8 To skip this dialog box in the future, select the **Enable automatic login** checkbox. The next time you initiate Dimensions CM from an IDE, you are automatically logged in to Dimensions CM using the current settings.

TIP To override automatic login, press the CTRL key while Dimensions CM is loading. The Dimensions CM Login dialog box opens then.

9 Click **Connect**.

Registering IDE Projects with Dimensions CM

Before you can add the files within an IDE project to source control, you must register the IDE project with Dimensions CM.

IMPORTANT! To register an IDE project with Dimensions CM, you must have the PROJECT-MANAGER role for the project concerned and the Dimensions CM role and privileges required to create items of type PROJECT in Dimensions CM.

IDE specific context

The following procedure is referenced by each IDE specific chapter contained in Part 2 of this manual as a step in the procedure to add projects to source control (SCC compliant IDEs only). For the IDE specific context in which this procedure is used, see Part 2, "IDE Reference".

Procedure

To register an IDE project with Dimensions CM:

1 Depending on the IDE you are using and how it is configured, you may invoke the registration process by:

- Creating a new IDE project
- Opening an existing IDE project not currently under source control
- Selecting the command from your IDE's menu to add a project to source control (For the IDE specific menu command, see Part 2, "IDE Reference".)

The *Select Repository Project directory for SCC Project* dialog box appears.

2 Do one of the following:

- To add the IDE project to an existing Dimensions CM SCC project, click the **Select SCC Project** button. Proceed to "Specifying an Existing Project" on page 21.
- To create a new Dimensions CM project for the IDE project, continue to the following step.

3 Do any of the following:

- Select an existing Dimensions CM product from the **Product** drop-down list.
- Select a Dimensions CM project from the **Project** drop-down list. By default, your default project is used.
- Select a design part from the **Design Part** drop-down list. By default, this field contains the top design part of the default project.
- Specify a path within the Dimensions CM project under which to place the new project. By default, the value of the **Project path** field matches the last component of the IDE project path. If you change the **Project path** field, you must base it upon the IDE project path as shown in the **Local Path** field.

Example

For example, if the local path is c:\myprojects\projectA, the default value of the **Project path** field is projectA. You could change the **Project path** field to myprojects\projectA or accept the default value of projectA; no other values is valid.

You can copy (CTRL + C) directories from the **Local path** field and paste them (CTRL + V) into the **Project path** field. To navigate existing project directories use the **Directory** tree; directories that cannot be used to match the tail of the IDE project path are marked with a prohibition **(**  **)** symbol.

IMPORTANT! The scope of the repository project is determined by the **Project path** field. All project files must be located within the scope of the repository project. For more information about defining the scope of the project, see "About Repository Project Scope" on page 21.

4 Click **OK**.

Additional information

Use this section in conjunction with these additional sources of information:

For information about...	See...
Follow-on procedures specific to your IDE	Part 2, "IDE Reference"
Adding files to source control, described in generic, non-IDE-specific terms	"About Adding Files to Dimensions CM Source Control" on page 22

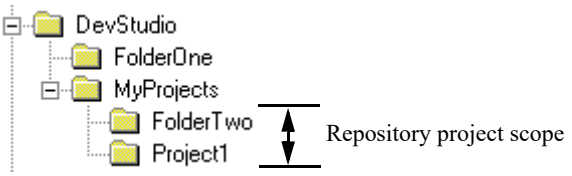
About Repository Project Scope

The value, which you enter in the **Project path** field of the *Select Repository Project directory for SCC Project* dialog box, determines the project directory and the scope of the project within the Dimensions CM repository. All project files must be located within the scope of the Dimensions CM repository project.

The scope of a repository project includes all directories in the **Project path** field and those directories that are at the same level on that branch of the directory tree.

The following examples illustrate the relationship between the value of the **Project path** field and repository project scope.

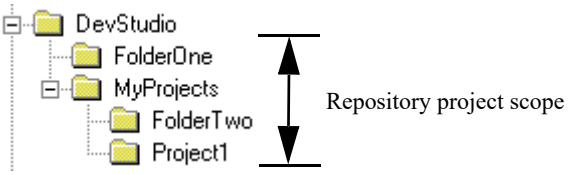
Example 1 **Project path:** Project1



Project files could be located in:

- FolderTwo
- Project1

Example 2 **Project path:** MyProjects\Project1



Project files could be located in:

- FolderTwo
- Project1
- MyProjects
- FolderOne

Specifying an Existing Project

The Select SCC Project dialog box allows you to add an IDE project to an existing Dimensions CM project. It also allows you to specify which Dimensions CM project to use if the IDE or Dimensions CM is unable to determine this on its own.

To specify an existing project:

1 Click the **Select SCC Project** button on the *Select Repository Project director for SCC Project* dialog box. (See "Registering IDE Projects with Dimensions CM" on page 19.)

The Select SCC Project dialog box may also appear when you try to access a project if:

- The IDE project files have been deleted.

- The Dimensions CM project has been deleted.
- The project has been moved into another project or directory.

2 Do any of the following:

- Select an existing Dimensions CM product from the **Product** drop-down list.
- Select an existing Project from the **Project** drop-down list. By default, your default Project is used.
- Select an existing project from the **SCC Project** drop-down list. From some IDEs, you can select a project that was created by a different IDE.

NOTE The **New SCC Project** button opens the *Select Repository Project directory for SCC Project* dialog box which allows you to create a new Dimensions CM project. For more information, see "Registering IDE Projects with Dimensions CM" on page 19.

3 Click **OK**.

About Adding Files to Dimensions CM Source Control

Purpose This section describes, in generic, non-IDE-specific terms, how IDE files are added to Dimensions CM source control. For procedures specific to your IDE, see Part 2, "IDE Reference".

Once you have created and saved an IDE project and are working in the context of that project, you may add it to Dimensions CM source control. The procedure for doing this varies somewhat with each IDE, but most of the following applies to supported SCC compliant IDEs:

- You can place a whole project under Dimensions CM control when you create it.
- Additional files can be added to the source control project during the course of development.

NOTE The IDE may prompt you to add files/projects when you create them or you may explicitly add them using menu commands. The automatic prompting is normally an option you can set in the IDE.

- Dimensions CM creates an item for each file added, using rules to determine the attributes of the item.

NOTE Default rules are set up for each IDE. The rules can be customized to create new defaults or on a project-by-project basis, using the Administration Console (See "Upload Rules Management" on page 23).

- New Dimensions CM projects use a copy of the default rules for the appropriate IDE. The Owning Design Part information in the default rules is not copied.
- Items are always created in the product that owns the project in which the Dimensions CM project was created.

- All created items are owned by the top-level design part of the product unless you specify different Owning Design Part information.
- If you are putting an existing IDE project under source control, the IDE may not prompt you to create the Dimensions CM SCC project until you attempt to add files to Dimensions CM SCC. In this case, you can make preliminary changes to the rules at any time between creating the Dimensions CM SCC project and confirming the Add operation.

Upload Rules Management

In the Administration Console you can:

- Specify rules that determine which files can be added to the Dimensions CM database, and which files should be excluded.
- View, edit, and delete rules for Dimensions CM clients, IDEs, and IDE projects.

Dimensions CM Constraints: You must be the Tool Manager to modify default rules for Dimensions CM or IDEs. You must be the Product Manager to modify rules for a specific IDE project.

Invocation: Dimensions CM Administration Console | Configuration Object Management | Upload Rules

For details about launching the Administration Console, see the *Dimensions CM online help*.

What are Upload Rules?

Upload rules map file name patterns to Dimensions CM file formats and item types. These rules determine whether files that match a certain file name pattern can be added to the database using a Dimensions CM client or an IDE. Upload rules also determine the attributes of new items that are created in Dimensions CM. Upload rules must exist in the base database before you can start adding files.

Starting with Dimensions CM 7.0, default upload rules are automatically included when you create a database. The default rules apply to Dimensions CM clients and each supported IDE. You can modify the default rules, as well as create and modify rules for specific IDE projects.

If you modify the:

- **Default rules for Dimensions CM:** The modified rules are used for all files added to Dimensions CM through the desktop client, the web client, and the Project Merge tool.
- **Default rules for an IDE:** All subsequent projects created by that IDE in the same base database use a copy of the new default rules.
- **Rules for a specific project:** The modified rules are used for all subsequent operations in that project.

For details about working with upload rules in the Administration Console, see the *Dimensions CM online help*.

Testing Dimensions CM SCC

Dimensions CM includes a tool to test that the SCC component of Dimensions CM is loading properly.

To test Dimensions CM SCC:

1. From the Start menu, select:

   `Dimensions CM <version> | SCC Diagnostics`

   The Dimensions CM SCC Diagnostics dialog box opens.

2. Click the **Test** button. The test results are displayed in the dialog box.

Chapter 3

Using Dimensions with IDE Projects

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Introduction

Purpose

This section introduces the features available in the Dimensions CM integrations, and contains common information applicable to many of the IDE integrations.

For details about source control, working with Dimensions CM, and using the merge tool, see the *Dimensions CM online help*.

IDE specific information

For information about the Dimensions CM features supported in your IDE, see Part 2, "IDE Reference".

Accessing Files from Source Control

Each supported IDE provides a means of accessing the following basic source control operations:

- **Get (Fetch):** Retrieves a read-only copy of a file from Dimensions.
- **Check Out (Extract):** Retrieves a writable copy of a file from Dimensions and assigns it the next revision number.
- **Undo Check Out:** Releases the revision number that was created during check out and replaces the writable workfile with a read-only copy of the latest revision.
- **Check In (Return):** Updates the Dimensions repository with changes made to the workfile and replaces the writable workfile with a read-only copy.

The means of invoking these functions depends on your IDE. For IDE specific menu commands and features, see Part 2, "IDE Reference," on page 37.

Overriding Default Options

This section describes how to override the default options during source control operations from your IDE.

For IDE specific menu commands for the source control operations, see Part 2, "IDE Reference," on page 37.

For information on setting the defaults, see "Configuring Source Control Options" on page 17.

Overriding Get Options

To override get options:

1. Click the **Advanced** button on the Get dialog. The Dimensions SCC Advanced Options dialog box opens. (See the chapter specific to your IDE for information about invoking your IDE's Get dialog box.)
2. Select the action to take if the revision you get conflicts with the local workfile. The options are:

- **Ask:** Prompts the user for what to do with each conflicting file. This is the default unless you have configured a different one.
- **Automatic Merge All:** Merges the revisions without invoking the Merge Tool window, unless there are line-by-line conflicts—in which case, the Merge Tool appears so you can resolve the conflicts.
- **Manual Merge All:** The Merge Tool appears so you can manually resolve the conflicts.
- **Replace All:** Overwrites the local workfiles rather than performing a merge.
- **Skip All:** Leaves the local workfiles as they are rather than performing a merge.

3 Select the **Set Local File to Current date/time** checkbox to set the timestamp of the local workfile to the current time of the local system, instead of the modification date of the revision.

4 Select the **Only Modified (newer) Files** checkbox to limit the get operation to revisions that are newer than the timestamp of the local workfile.

5 Click **OK**.

Overriding Check Out Options

To override check out options:

1 Click the **Advanced** button in the Check Out dialog. The Dimensions SCC Advanced Options dialog box opens. (See the chapter specific to your IDE for information about invoking your IDE's Check Out dialog box.)

2 Select the **Set Local File to Current date/time** checkbox to set the timestamp of the local workfile to the current time of the local system, instead of the modification date of the revision.

3 Click **OK**.

Overriding Undo Check Out Options

To override undo check out options:

1 Click the **Advanced** button on the Undo Check Out dialog box. The Dimensions SCC Advanced Options dialog box opens. (See the chapter specific to your IDE for information about invoking your IDE's Undo Check Out dialog box.)

2 Select the **Set Local File to Current date/time** checkbox to set the timestamp of the local workfile to the current time of the local system, instead of the modification date of the revision.

3 Click **OK**.

Overriding Check In Options

To override check in options:

1. Click the **Advanced** button on the Check In dialog. The Dimensions SCC Advanced Options dialog box opens. (See the chapter specific to your IDE for information about invoking your IDE's Check In dialog box.)
2. Select the action to take if the revision you are checking in conflicts with edits made in parallel. The options are:
   - **Ask:** Prompts the user for what to do with each conflicting file. This is the default unless you have configured a different one.
   - **Automatic Merge All:** Merges the revisions without invoking the Merge Tool window, unless there are line-by-line conflicts—in which case, the Merge Tool appears so you can resolve the conflicts.
   - **Manual Merge All:** The Merge Tool appears so you can manually resolve the conflicts.
   - **Replace All:** Overwrites the local workfiles rather than performing a merge.
   - **Skip All:** Leaves the local workfiles as they are rather than performing a merge.
3. Click **OK**.

Change Management

Dimensions CM requests can be used to control item checkout and creation in the dialog box that automatically opens in the following circumstances:

- If Change Management rules have been set ON in Dimensions CM for an item type

  and

  an item of that type is being checked out with the IDE.
- If the rules for an item type in Dimensions CM are that it requires a request for its creation

  and

  an Add to Source Control command is being done for an item of that type in the IDE.
- If Change Management rules have been set OFF in Dimensions CM for the item

  but

  the DM_SCC_ENABLECHANGE entry in the *dm.cfg* file has been set for the type of operation being invoked in the IDE. For more information on this method of enabling change management, see the following topic, Enabling Change Management with the dm.cfg File.

For details, see the *Dimensions CM online help*.

Enabling Change Management with the dm.cfg File

To modify the *dm.cfg* file to enable change management:

1 From the Windows Start menu, select:

`Dimensions CM <version> | Configuration Parameters`

The `dm.cfg` file opens in your default text editor.

2 Add the following line to the file:

`DM_SCC_ENABLECHANGE` *X*

Where *X* equals one of the following integer values:

- **1** - To enable change management on check out operations
- **2** - To enable change management on create operations
- **3** - To enable change management on both check out and create operations

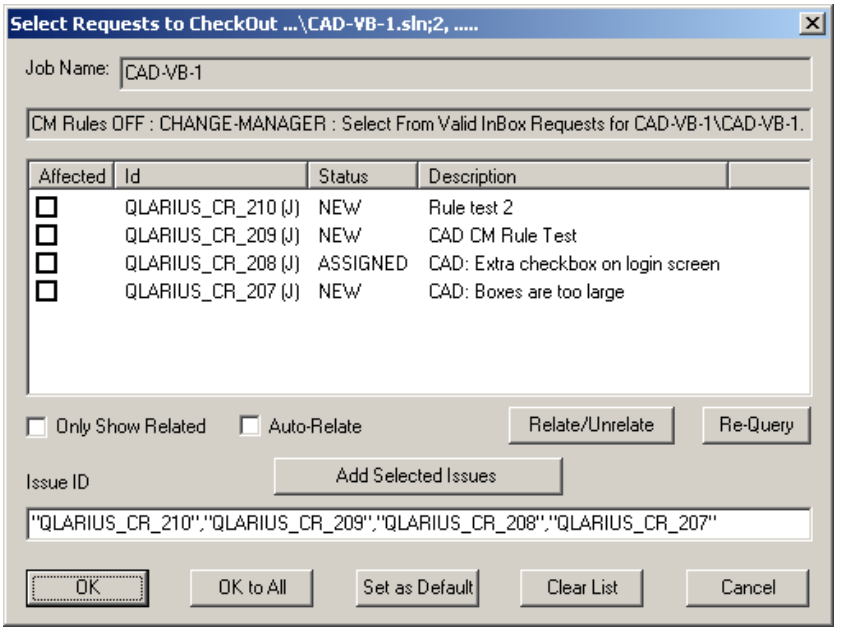
3 Save the file.

Using Change Management

After change management is configured, it is invoked when a relevant operation is performed from the IDE. For a list of relevant operations and configurations, see "Change Management" on page 28.

To use change management:

1 The following dialog box opens when you perform any relevant operation from an IDE.



The title of the dialog reflects the file and the type of operation for which it was invoked. The line beneath the title bar indicates:

- If Change Management Rules are ON or OFF

- If the user has the CHANGE-MANAGER role
- Additional information on the requirements for requests

2 Select one or more requests from the list. The list displays any valid Dimensions CM requests for the operation according to one of the following conditions:

- **Change Management Rules Are Off:** All pending requests of the types detailed in the process model valid relationships for the item type for the user in the product that the SCC project exists in. This does not include requests in the CLOSED or REJECTED phases. Also both the Request and the Item types must not have rules enabled.
- **Change Management Rules Are On:** All pending requests of the types detailed in the process model valid relationships for the user in the product that the SCC project exists in. This is additionally qualified by the request being in the AN+WORK or WORK phase and not already related in response to this or any earlier revision.

NOTE If the user is *CHANGE-MANAGER*, requests for all users are listed.

When checked, the checkboxes indicate that the request already affects the item being checked out, or the owning part if the item is being created.

3 Do any of the following:

- Select the **Only Show Related** checkbox to show only the requests that have a relationship of type Affected to the item or part in question.
- Select the **Auto Relate** checkbox to create a relationship of type Affected to the item or part in question when you click the **Add Selected Issues** button.
- Click the **Relate/Unrelate** button to update relationships according to the request checkboxes that you have checked or unchecked.
- Click the **Re-Query** button to refresh the list from Dimensions.
- Click the **Add Selected Issues** button to add the selected requests to the **Issue ID** field as a comma-separated, quoted list.
- The **Issue ID** field displays the requests added from the list box. You may type in the request IDs explicitly; entries must be quoted and comma separated.

NOTE User-entered values are not checked for validity.

- Click **OK**. The check out/create command proceeds using the requests listed in the **Issue ID** field. If rules are on and no requests are specified, the user is warned.
- If this dialog was invoked with multiple files selected, click the **OK to All** button to apply the selected requests to all operations without displaying the dialog again. If rules are on, a warning message appears.
- Dimensions maintains a default list of requests for the duration of a session. Click the **Set as Default** button to set the default list to those requests currently listed in the **Issue ID** field.
- Click the **Clear List** button to clear the **Issue ID** field.

- Click **Cancel** to quit the dialog.

Viewing Source Control Information

The Dimensions integrations let you access file attributes, history, and relationships information through a single dialog. You can also use this dialog to perform source control operations upon specific revisions of files.

To view source control information:

1 Launch the Dimensions History or Properties function from your IDE. For the IDE specific menu command, see Part 2, "IDE Reference," on page 37.

TIP To allow for the selection of specific revisions, you can invoke the History tab by pressing CTRL + SHIFT when initiating a get or check out operation from an IDE. See "Specifying Revisions during Source Control Operations" on page 33.

2 Depending on your IDE and the menu item you selected, the dialog box opens to one of the following tabs:

- File Detail
- History
- Relationships
- Merge - Diff
- Customize

See the following sections for information about each tab.

File Detail Tab

The File Detail tab shows both system and user-defined attributes for the latest non-extracted revision of the file you selected in the IDE.

Do any of the following:

- Click the **Get** button to obtain a read-only copy of this revision.
- Click the **Check Out** button to check out (extract) this revision.
- Click the **Pedigree** button to display the file's pedigree. For more information, see the next section.

Viewing a File's Pedigree

The Pedigree dialog box illustrates how the revisions of a file are related in terms of time and origin.

To better view complex pedigrees containing many revisions and/or many branchings and mergings of revisions, you can adjust the display of the graph as follows:

Click this button...	To...
	Size the graph to fit the dialog box
	Zoom in or zoom out
	Show/hide the background image
	Change the text color
	Change the line color
	Show/hide the axis titles
	Flip the orientation of the axis
	Change the type of line that connects the revision icons
	Select/deselect all revisions. **NOTE** When invoked from an IDE, this feature has no use. From the desktop client, right-clicking selected revisions opens a pop-up menu of source control operations.

You can have multiple Pedigree dialog boxes open at the same time.

History Tab

The History tab displays information about each revision of the file that you selected in the IDE. For some IDEs, you may use the History tab to get or check out a specific revision of a file.

Do any of the following:

- Select the **Only show Item Revision history contained in the current Project** checkbox, to limit the display.
- Select a revision and do any of the following:
  - Click the **Relationships** tab to view relationship information about the revision.
  - Click the **Get** button to obtain a read-only copy of the revision.
  - Click the **Check Out** button to check out (extract) the revision.
  - Click the **Check In** button to check in (return) the revision.
  - Click the **Cancel Check** button to undo a check out of the revision.
  - Click the **Action Item** button to advance the revision to the next level in its lifecycle.
- Click the **Pedigree** button to display the file's pedigree. For more information, see "Viewing a File's Pedigree" on page 31.

Specifying Revisions during Source Control Operations

To allow for the selection of specific revisions, you can invoke the History tab by pressing CTRL + SHIFT when initiating a get or check out operation from within an IDE. When invoked in this way, the **Close** button is replaced by a **Select** button and the buttons for source control operations are disabled.

To specify a revision during a source control operation:

1 Press CTRL+SHIFT while initiating a get, check out, undo check out, or check in operation from an IDE. The History tab opens.

NOTE For most IDEs with get or check out dialog boxes, press CTRL+SHIFT while clicking the dialog button that initiates the source control operation (OK, Get, Check Out).

For IDEs without intervening dialog boxes, press CTRL+SHIFT while invoking the operation from the IDE's menu.

2 Select the revision that you want from the list.

NOTE Click the other tabs to view details specific to the selected revision.

3 Click the **Select** button.

NOTE The History tab opens for each file in turn.

The source control operation now proceeds as usual but with the selected revision of the file instead of the latest revision.

Relationships Tab

The Relationships tab shows the relationships recorded in Dimensions for the revision you selected in the History tab or the default latest item revision of the file that you selected in the IDE.

Use the following tabs to view specific relationship information:

- **Items:** All items related to the selected revision by user-defined Dimensions Item to Item relationships.
- **Design Parts:** Owning and Using design parts.
- **Requests:** All related Dimensions CM requests and their relationship to the selected file revision. Click the **Action Request** button to advance a request to the next level of its lifecycle.
- **Secondary Requests:** All related requests in the secondary catalog and their relationships to the selected file revision. Click the **Action Request** button to advance a request to the next level of its lifecycle.

- **Built Items:** All Dimensions CM items built from and used to build the selected file revision. The build process must have been carried out using Dimensions Make or Dimensions IP Build for items to appear in this list.
- **Environment Items:** All items in Dimensions CM related by the system-defined environment relationship to the selected file revision.
- **Work Sets:** All Dimensions CM worksets in which the selected file revision appears.
- **Baselines:** All Dimensions CM baselines that contain the selected file revision.
- **Releases:** All Dimensions CM releases that contain the selected file revision.
- **Customers:** All Dimensions CM customers that have been forwarded a release containing the selected file revision.

Merge - Diff Tab

The Merge - Diff tab enables you to load selected revisions into the Merge Tool.

To perform a merge or difference on revisions:

1 Do any of the following:

- Select the **Display only conflicting revisions** checkbox to limit the display to conflicting revisions.
- Select the **Include current Work File** checkbox to include the current workfile in the list.
- Click the **Add File** button to include other files accessible from your computer in the list.
- Click the **Remove File** button to remove a file that you added from the list.
- Click the **Pedigree** button to display the pedigree of the file you selected in the IDE. For more information, see "Viewing a File's Pedigree" on page 31.

2 Select the revisions and/or files you want to difference or merge.

3 Do one of the following:

- Click the **Merge** button to invoke the Merge Tool for merging.
- Click the **Diff** button to invoke the Merge Tool for differencing.

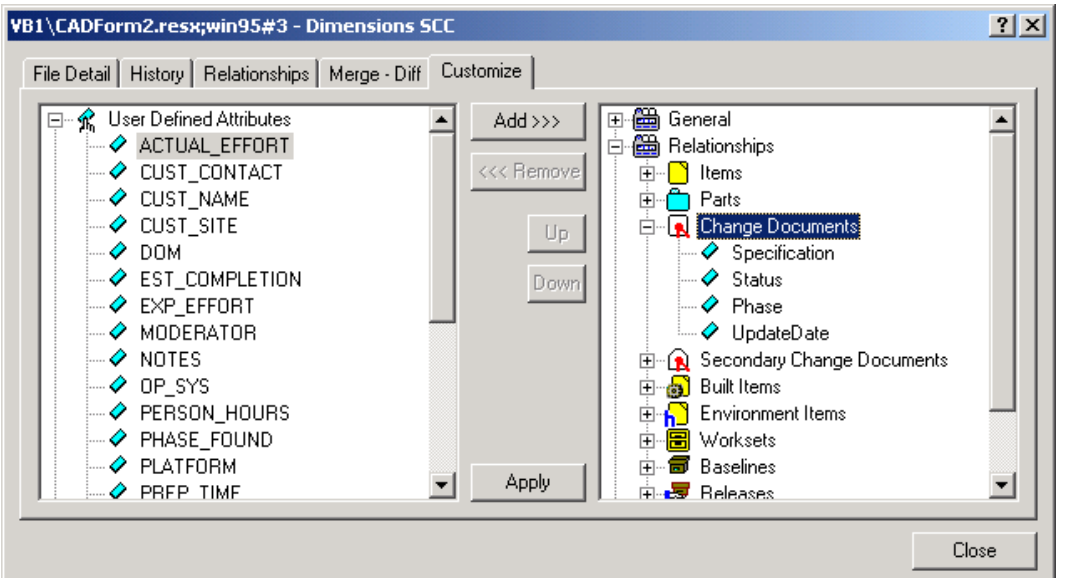
The Merge Tool opens.

For details, see the *Dimensions CM online help*.

NOTE You can configure the Merge Tool to launch during check in if the tip revision is newer than the revision you started with. For more information, see "Configuring Source Control Options" on page 17.

Customize Tab

Use the Customize tab to customize which information is displayed by the other tabs.



The right pane shows the current configuration. The left pane lists the attributes available for the object selected in the right pane.

To customize the display:

1 Select an object in the right pane.

2 Do any of the following:

If you want to...	Do this...
Add an attribute to the selected object:	a Select an attribute in the left pane. b Click the **Add** button.
Remove an attribute from the selected object:	a Select an attribute in the right pane. b Click the **Remove** button.
Change the order in which attributes are displayed:	a Select an attribute in the right pane. b Click either the **Up** or the **Down** button.

Display customizations for each user are recorded in the Windows Registry.

Viewing File or Project Differences

Difference types

The Dimensions Development Interface enables you to view:

- **File Differences:** The line-by-line differences between the file open in the IDE and its ancestor
- **Project Differences:** The differences between the files in the IDE project directory and the files in the corresponding Dimensions project directory

- **Revision Differences:** The line-by-line differences between specific revisions of a file. For more information, see "Merge - Diff Tab" on page 34.

Special Considerations

- The Project Difference mode is not applicable to repository based IDEs such as PowerBuilder and VisualAge for Java.
- You can bypass the choice dialog by making File Difference mode the default. To do so, add the following entry to the dm.cfg file:

  ```
  DM_SCC_USEPROJDIFF N
  ```

Procedure

To view file or project differences:

1. Invoke Dimensions differencing from your IDE. For the IDE specific menu command, see Part 2, "IDE Reference".
2. In the dialog box that opens, do one of the following:
   - Click the **File Differences** button and continue to the next section.
   - Click the **Project Differences** button and continue to "Viewing Project Differences" on page 36.

Viewing File Differences

After you click the **File Differences** button, the Merge Tool opens and displays the line-by-line differences between the file open in the IDE and its ancestor in the Dimensions repository.

For details, see the *Dimensions CM online help*.

Viewing Project Differences

After you click the Project Differences button, the Project Merge Tool opens and displays the differences between the files in the IDE project directory and the files in the corresponding Dimensions project directory.

The scope of the comparison is defined by the directory containing the SCC project marker file. Any Dimensions out of project directory references are not displayed.

Interpret the display of the Project Merge Tool as follows:

This icon...	Means...
	The file was added.
	The file was modified.
	The file was deleted.
	The file was not modified.

TIP To view a line-by-line listing of the changes to one of the listed files, double-click the file to open it in the Merge Tool.

For details, see the *Dimensions CM online help*.

Part 2

IDE Reference

IBM DOORS 39

PowerBuilder 55

Chapter 4

IBM DOORS

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Supported Features

The integration to IBM DOORS enables you to:

- Export DOORS baselines into Dimensions CM as Dimensions CM items.
- Export DOORS objects into Dimensions CM as Dimensions CM requests and relate them to the appropriate Dimensions CM item.
- Create Dimensions CM relationships that represent the links between DOORS objects
- Use change management rules to require that there be an approved DOORS requirement before code/documents can be checked out of Dimensions CM for work, thus ensuring traceability of all work.
- Track project status with reports that show the status of approved requirements as they relate to project milestones.

The DOORS integration does not support the Dimensions CM features used with traditional IDEs: differencing, merging, and operations on previous revisions. See the following table for information on accessing supported features.

IMPORTANT! The integration does not support Dimensions CM streams.

To...	Select...	For more information see...
Configure the DOORS/ Dimensions CM integration	Dimensions | Configure	"Configuring the DOORS-Dimensions CM Integration" on page 42
Configure Dimensions CM to open DOORS requirements from Dimensions CM requests	(See the text.)	"Configuring CM to Open DOORS Requirements from CM Requests" on page 46
Export a DOORS baseline to Dimensions CM	Dimensions | Check In Baseline Archive	"Checking In a DOORS Baseline" on page 47
Lock an item (exported baseline) in Dimensions CM	Dimensions | Lock Baseline Item	"Locking a Baseline Item" on page 48
Unlock an item (exported baseline) in Dimensions CM	Dimensions | Unlock Baseline Item	"Unlocking a Baseline Item" on page 49
Export a DOORS object to a Dimensions CM request	Dimensions | Export Object to Request	"Exporting DOORS Objects to Dimensions CM Requests" on page 49
View the Dimensions CM request associated with a DOORS object	Dimensions | Browse Object Associated Request	"Browsing Requests Associated with DOORS Objects" on page 50
Update DOORS with current Dimensions CM request status	Dimensions | Update Object Request Statuses	"Updating DOORS with Request Status from Dimensions CM" on page 50

To...	Select...	For more information see...
View Dimensions CM request status from DOORS	Edit | Object | Properties | Attributes	"Viewing Dimensions CM Request Status in DOORS" on page 50
Log the integration in to Dimensions CM	Dimensions | Login	"Logging the Integration in to Dimensions CM" on page 47
Launch Dimensions CM desktop client	Dimensions | Open Dimensions	*Dimensions CM online help*
Open DOORS requirements from Dimensions CM request	(See the text.)	"Opening a DOORS Requirement from a CM Request" on page 51
Run reports	(See the text.)	"Running Reports" on page 52

NOTE The Dimensions CM menu is available only from the Formal module window. You must open a formal module to access the menu.

Setting Up the Integration

Installing the Integration

Install the following to your system:

- Supported version of DOORS
- The Dimensions CM desktop client

IMPORTANT! You cannot install the DOORS integration on the same system as a Dimensions CM server or agent.

- The Doors-Dimensions CM Custom Integration

  This integration component can be found either:

  - On the Support website.
  - On your Dimensions CM Installation DVD in: *dimensions cm/integrations/doors*

Configuring User IDs

Your Dimensions CM user ID must have the Dimensions CM roles necessary to create, extract, and return Dimensions CM items of the type associated with DOORS objects.

Configuring Dimensions CM

You must configure a Dimensions CM product and project to work with the integration to DOORS. This entails the following:

- Choose the Dimensions CM product that serves as the repository for DOORS objects.

- Create a Dimensions CM project and when choosing an option for **Revision generation**, select **Allow user to override default revision number**.
- Configure a Dimensions CM item type to associate with DOORS objects.

IMPORTANT! You must deselect the option *When creating a new item type, generate an item identifier automatically if one is not supplied* for the item type.

- Configure a Dimensions CM request type to associate with DOORS objects. This request type must include:
  - An attribute named `TITLE` of data type **Char**
  - A relationship named `Next` of the relationship class type of **Info**
  - Valid relationships to the item type configured above and the request type itself
- You can use existing types as long as they have the required characteristics. However, DOORS objects are easier to track in Dimensions CM if you create unique types for that purpose.
- You must configure these types with lifecycles and templates, according to what makes sense for your own processes. The integration does not impose specific requirements in this area, except that these things must be configured.
- You can require that there be an approved DOORS requirement before code can be checked out of Dimensions CM for work, by turning on change management rules for the request type associated with DOORS requirements and relating those requests to your code/document items.

For details about creating and modifying Dimensions CM object types in the Administration Console, see the *Dimensions CM online help*.

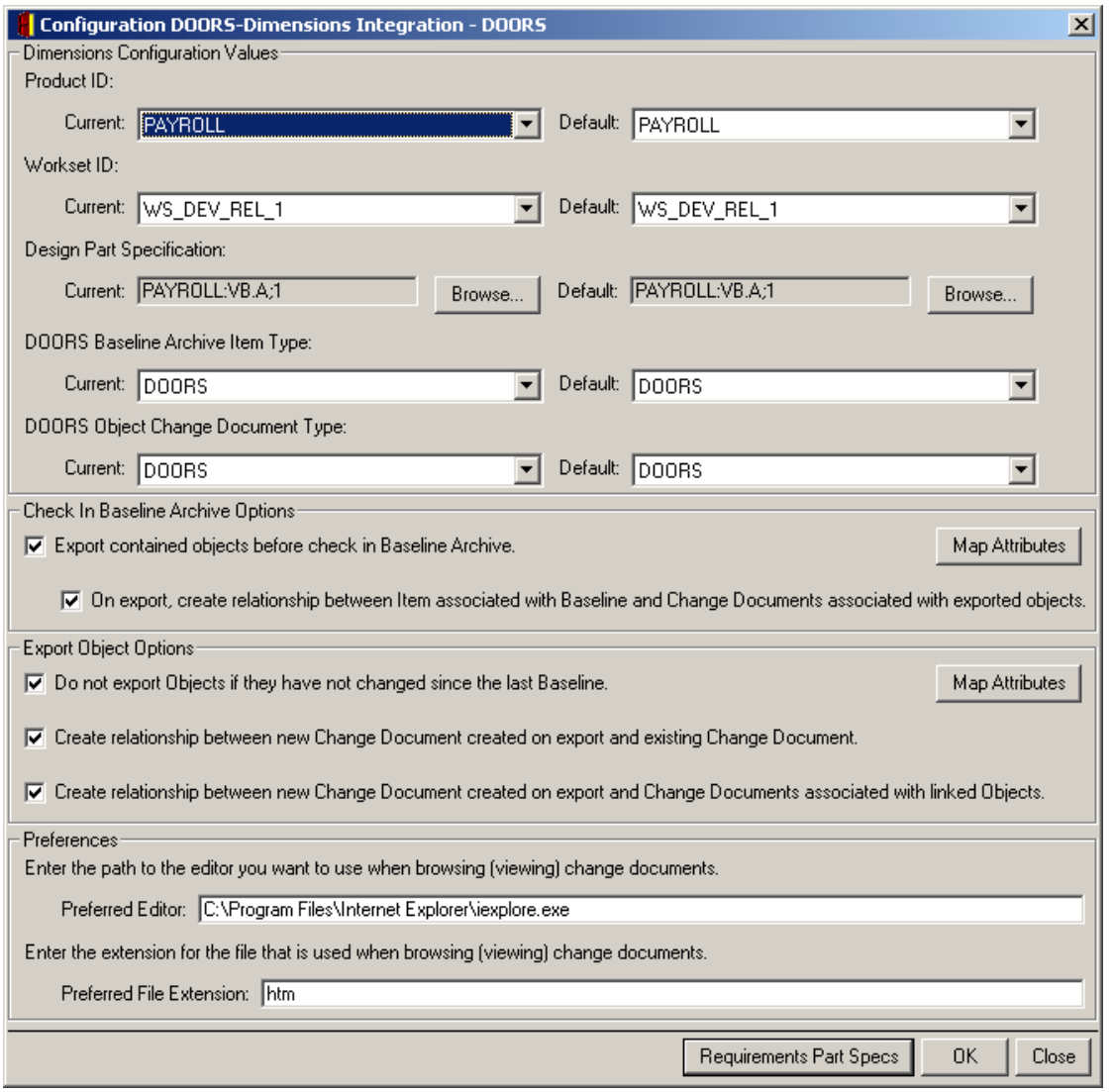
Configuring the DOORS-Dimensions CM Integration

Once you have configured a Dimensions CM product for use with the integration, you must configure the integration to access that Dimensions CM product and enable the integration features you want to use.

To configure the integration:

1 Open a formal module. The Formal module window opens.

2 Select **Dimensions | Configure**. The Configuration dialog box opens.



3 **Using the Current** and **Default** lists, select the Dimensions CM configuration values to use with the current module and/or select default values.

   a **Product ID:** Select the Dimensions CM product to use.

   b **Project ID:** Select the Dimensions CM project to use.

   c **Design Part Specification:** Click the **Browse** button to select the Dimensions CM design part to use.

   d **DOORS Baseline Archive Item Type:** Select the Dimensions CM item type to use.

   e **DOORS Object Request Type:** Select the Dimensions CM request type to use.

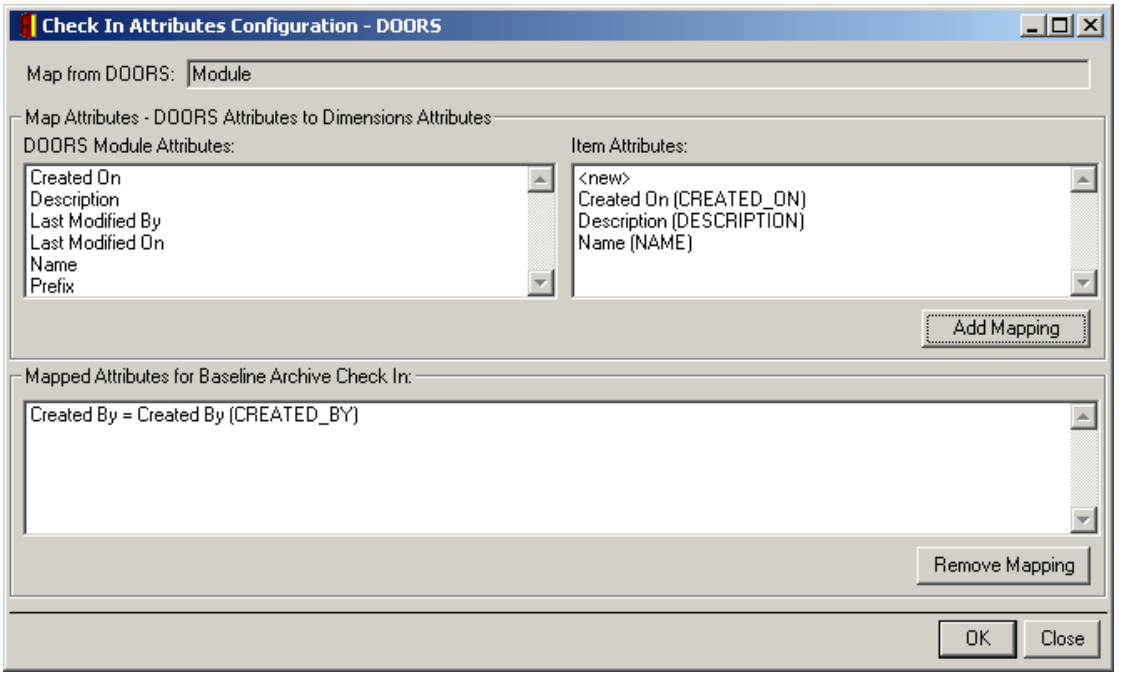
4 Do any of the following to configure how DOORS baselines are exported to Dimensions CM items:

   - To export DOORS objects to Dimensions CM before checking in a DOORS baseline, select the **Export contained objects before check in Baseline Archive** option.

- To create relationships in Dimensions CM between items and requests, select the **On export, create relationship between Item associated with Baseline and Requests associated with exported objects** option.

NOTE The preceding checkbox must be selected to enable this checkbox.

- To map DOORS module attributes to Dimensions CM item attributes, click the **Map Attributes** button. The Check In Attributes Configuration dialog box opens.



Select a DOORS attribute in the **DOORS Module Attributes** list, and do one of the following:

Task	Description
Map to an existing Dimension item attribute	Select one from the **Item Attributes** list.
Map to a new Dimensions CM item attribute	select <new> from the **Item Attributes** list.

Click the **Add Mapping** button.

5 If you selected **<new>** above, the Auto Create Dimensions CM Attribute dialog box opens.

a Modify the fields as needed and click **OK**.

b The new mapping appears in the **Mapped Attributes for Baseline Archive Check In** list.

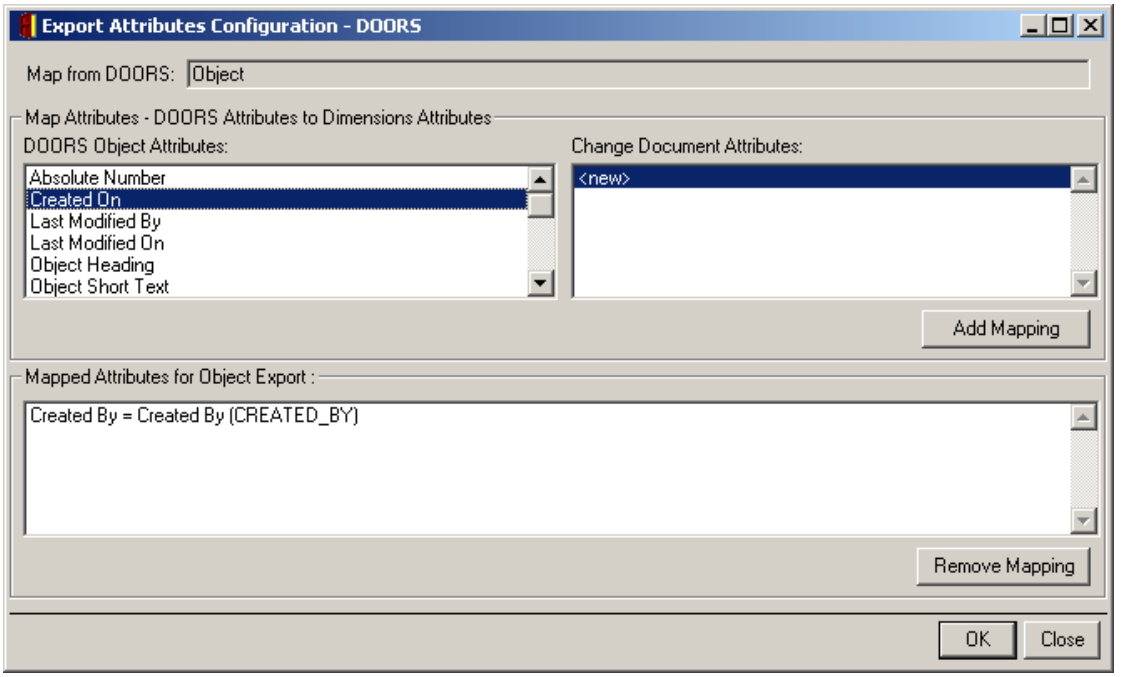
c To remove a mapping, select it in the **Mapped Attributes for Baseline Archive Check In** list and click the **Remove Mapping** button.

d Click **OK**.

6 Do any of the following to configure how DOORS objects are exported to Dimensions CM requests:

If you want...	Do this...
To export only those DOORS objects that have changed since the last baseline	Select the **Do not export Objects if they have not changed since the last Baseline** option.
To create relationships between existing requests and any new ones created during export	Select the **Create relationship between new Request created on export and existing Request** option.
To create relationships between new requests created during export and any already associated with linked objects	Select the **Create relationship between new Request created on export and Requests associated with linked Objects** option.

7 To map DOORS object attributes to Dimensions CM request attributes, click the **Map Attributes** button. The Export Attributes Configuration dialog box appears.



a Select a DOORS attribute in the **DOORS Object Attributes** list.

b To map to an existing Dimension request attribute, select one from the **Request Attributes** list.

c To map to a new Dimensions CM request, select **<new>** from the **Request Attributes** list.

d Click the **Add Mapping** button.

e If you selected **<new>** above, the Auto Create Dimensions CM Attribute dialog box opens.

Modify the fields as needed and click **OK**.

f The new mapping appears in the **Mapped Attributes for Object Export** list.

g To remove a mapping, select it in the **Mapped Attributes for Object Export** list and click the **Remove Mapping** button.

h Click **OK**.

8 **Preferred Editor:** Enter the path to the program with which you want to view requests.

9 **Preferred File Extension:** Enter the file extension to use when viewing requests.

NOTE Regardless of the file extension you choose, the content of requests is always formatted according to the template associated with the request type in the process model.

10 If you have selected one or more requirements in the current module, you can specify to which Dimensions CM design part to relate the requests associated with those requirements.

a Click the **Requirements Part Specs** button. The Design Part Selection dialog box opens.

NOTE If the button is not enabled, no requirements are selected in the current module.

b Select a design part and click **OK**.

If a different design part is already assigned, you need to confirm the change.

11 Click **OK**.

Configuring CM to Open DOORS Requirements from CM Requests

In Dimensions CM you can select a request and cause DOORS to open to the associated DOORS requirement. The following procedure adds a menu item to the Dimensions CM desktop client for this purpose.

To enable the launching of DOORS from within Dimensions CM:

1 From the Dimensions CM desktop client, select Tools | Customize Menu Sets/Tools. The Customize dialog box appears.

2 Select the Tools tab.

3 Click the **New** button. A new item appears in the **Menu text of user-modifiable tools** list.

4 Change the item's text to the following:

```
DOORS!Go to DOORS Requirement for selected Request
```

5 In the **Command** field, enter the full path to the DmRunCmd executable. In a default install of Doors 8, the path is:

```
"C:\Program Files\Telelogic\DOORS 8
    \lib\dxl\addins\Dimensions\DmRunCmd.exe"
```

6 Enter the following in the **Arguments** field:

```
-e "C:\Program Files\Telelogic\DOORS 8\bin\doors.exe"
    -d $[title]
```

NOTE The above example assumes a default DOORS installation. Modify it as necessary to reflect the actual path to your `doors.exe` file.

7 Click the **OK** button. The desktop client now has a new menu item: Tools | Doors | Go to DOORS Requirement for selected request.

8 You must also add the Title attribute to request lists in the desktop client. To do this, first select View | Customize Views. The Customize dialog box appears.

9 Expand the **Requests** node on the right.

10 Expand the **Primary** node under **Requests**. Here you can see each of the attributes that appear as columns in primary request lists.

11 Select the **Primary** node.

12 On the left, expand the **User Defined** node, select the TITLE attribute, and click the **Add >>>** button. If the TITLE attribute does not appear here, notify your Dimensions administrator.

13 Repeat these steps for the **Request** node under **Requests**, and then again for the **Primary** and **Requests** nodes under **Requests Inbox**.

14 Click **OK**.

Using the Integration

IMPORTANT! The integration only supports Dimensions CM projects and not streams.

Logging the Integration in to Dimensions CM

The Dimensions CM Login dialog box is displayed whenever the integration needs to establish a connection with Dimensions CM. Or you can launch the Login dialog box at any time to connect the integration to Dimensions CM.

To open the Dimensions CM Login dialog box, select **Dimensions | Login** from the Module window.

For more information about logging in to Dimensions CM, see "Connecting to Dimensions CM" on page 18.

Checking In a DOORS Baseline

Checking in a DOORS baseline creates items and requests in Dimensions CM according to the settings you made in the Configuration dialog box. For information on configuring the integration, see "Configuring the DOORS-Dimensions CM Integration" on page 42.

To check in a baseline:

1 Open a formal module. The Formal module window appears.

2 Select **Dimensions | Check In Baseline Archive**. The Check In Baseline Archive dialog box opens.

3 **Dimensions CM Item Revision:** The displayed value is used as the revision number for the item that you are checking in. This value cannot be edited during check-in.

4 **Next Version:** Select an option to determine the revision number of the next revision.

5 **Suffix:** Select a Dimensions CM named branch from the **Suffix** list. The item revision number then takes the form of:

`NamedBranch#RevisionNumber`

For example:

PlanB#4.3

NOTE This field is enabled only if named branches have been defined for the project. For details about creating named branches in the Administration Console, see the *Dimensions online help*.

6 **Request ID:** Enter the ID of the Dimensions CM request that called for the changes that you are now checking in.

NOTE This field is required if change management rules are in effect. Otherwise, it is disabled.

7 **Comments:** Enter a description of the baseline that you are checking in.

8 Click **OK**. You are prompted to confirm the check in.

9 Click **Yes**. The Export Objects dialog box appears with a list of any objects that are unchanged since the last baseline or which have a header but no associated text.

10 Click **Yes**. A results dialog box appears.

- You are prompted to save changes to the DOORS module, if you have not already.
- If the dialog includes the message:

  "Checkin Failed, but new DOORS baseline was created."

  See "Fixing a Failed Baseline Check In" on page 51 for information on resolving the problem.

11 Click **Close** to dismiss the results dialog box.

Locking a Baseline Item

Locking a baseline item locks the Dimensions CM item that represents the DOORS module. This keeps other users from creating a new revision of the DOORS module in Dimensions CM.

To lock a baseline:

1 Open a formal module. The Formal module window appears.

2 Select Dimensions | Lock Baseline Item. A confirmation dialog box appears.

3 Click **Confirm**. A results dialog box appears.

NOTE If change management rules are on, you are prompted for the ID of the Dimensions CM request that called for the changes that you are now checking the module out to make.

4 Click **Close**.

Unlocking a Baseline Item

Unlocking a baseline item unlocks the Dimensions CM item that represents the DOORS module. This allows other users to create a new revision of the DOORS module in Dimensions CM.

To lock a baseline:

1 Open a formal module. The Formal module window appears.

2 Select Dimensions | Unlock Baseline Item. The Check In Baseline Archive dialog box appears.

3 Select Dimensions | Unlock Baseline Item. A confirmation dialog box appears.

4 Click **Confirm**. A results dialog box appears.

5 Click **Close**.

Exporting DOORS Objects to Dimensions CM Requests

Exporting DOORS objects creates requests in Dimensions CM according to the settings that you made in the Configuration dialog, see page 45 for details.

To export objects to requests:

1 Open a formal module. The Formal module window appears.

2 Select objects in the module (shift-click).

3 Select **Dimensions | Export Object Options**. A confirmation dialog box opens.

NOTE If you select the **Do not export Objects if they have not changed since the last Baseline** option in the Configuration dialog box, the confirmation dialog box includes a list of any unchanged objects that are currently selected. These objects are not exported.

4 Click **Yes**.

Browsing Requests Associated with DOORS Objects

You can browse the Dimensions CM requests associated with DOORS objects from within DOORS.

To browse requests:

1 Open a formal module. The Formal module window appears.

2 Select an object in the module (shift-click).

3 Select Browse Object Associated Request. The Dimensions CM request associated with the DOORS object opens.

NOTE The request opens in the application that you specified in the **Preferred Editor** field of the Configuration dialog box. See "Configuring the DOORS-Dimensions CM Integration" on page 42.

Updating DOORS with Request Status from Dimensions CM

You can update DOORS with the current status of Dimensions CM requests.

To update request status:

1 Open a formal module. The Formal module window opens.

2 Select **Dimensions | Update Object Request Statuses**. A completion message is displayed.

3 Click **OK**.

Viewing Dimensions CM Request Status in DOORS

You can view the status of Dimensions CM requests from within DOORS.

NOTE See the preceding procedure to ensure the status is current.

To view request status:

1 Open a formal module. The Formal module window opens.

2 Select an object (shift-click).

3 Select **Edit | Object | Properties**. The Object properties dialog box opens.

4 Select the **Attributes** tab. The Dimensions CM request status is stored in the **PVCS Chdoc Status** attribute.

Opening a DOORS Requirement from a CM Request

From within Dimensions CM, you can select a request and cause DOORS to open to the associated DOORS requirement.

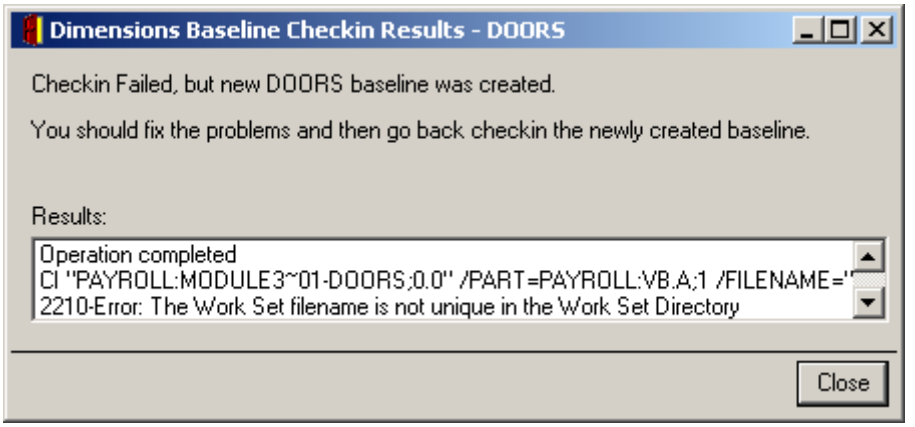
IMPORTANT! Only run this menu command for requests that were created automatically by the DOORS integration.

You must configure this feature before it can be used. See "Configuring CM to Open DOORS Requirements from CM Requests" on page 46.

To open a requirement from a request:

1. Select a request in Dimensions CM desktop client.
2. Select Tools | DOORS | Go to DOORS Requirement for selected Request.
3. The DOORS login dialog box appears. Login to DOORS.
4. DOORS opens to the requirement associated with the selected request.

Fixing a Failed Baseline Check In



If you receive an error like the one above during a baseline check in, you must:

1. Resolve the underlying problem.
2. Check in the DOORS baseline that was created during the failed attempt to check in.

Resolving the Underlying Problem

Before you can export the DOORS baseline to Dimensions CM, you must resolve the underlying problem that caused the check in to fail. Possible causes include:

- Your Dimensions CM user ID does not have the roles necessary to create, modify, and check in items in the Dimensions CM product.
- An item already exists with the same name as would be used for the new item for the DOORS baseline.

Checking In a Baseline that Failed to Check In

Once you have resolved the underlying problem, you can check in the baseline.

1. Open the formal module that failed to check in. The Formal module window appears.
2. Select File | Baseline | View. The Open Baseline Archive dialog box appears.
3. Select the baseline that failed to check in.
4. Click **OK**. The baseline opens in a Module window.
5. Select Dimensions | Check In Baseline Archive. The Check In Baseline dialog box appears.
6. Complete the dialog box as needed and click **OK**. The check proceeds as per the normal check in process.

Running Reports

The integration to DOORS includes two sqlplus reports that can be run against the Dimensions CM database. These reports can list all items that are:

- Related directly or indirectly to DOORS requests
- NOT related directly or indirectly to DOORS requests

This allows you to track those code or document files that you have placed under Dimensions CM source control and related to requests derived from DOORS requirements.

NOTE These reports are Oracle specific. They cannot be used with a DB2 database.

To run a report:

1. Open a command prompt.
2. Log in to sqlplus.
3. Change to the `reports` directory of the Dimensions CM plug-in for DOORS. Default path:

   `C:\Program Files\Telelogic\DOORS 8\lib\dxl\addins\Dimensions\reports`

4. Enter the following on the command line and press ENTER:

   `sqlplus` *`DatabaseUserID/DatabasePW@NetServiceName`* `@DOORSRels.sql` *`ReportType Database Product Project Part ItemType RequestType`*

   Where:

   - *`DatabaseUserID`* is a user ID with the reporting role in Dimensions CM
   - *`DatabasePW`* is the password for the user ID
   - *`NetServiceName`* is a valid Oracle net service name
   - *`ReportType`* is one of the following:
     - DOORSRELS - Lists all items that are related directly or indirectly to DOORS requests.
     - NODOORSRELS - Lists all items that are NOT related directly or indirectly to DOORS requests.

- *Database* is the Dimensions CM base database used with the DOORS inetgration
- *Product* is the Dimensions CM product used with the DOORS inetgration
- *Project* is the Dimensions CM project used with the DOORS integration
- *Part* is the Dimensions CM part ID used with the DOORS inetgration, for example, DATABASE and not QLARIUS:DATABASE.A;1.
- *ItemType* is the Dimensions CM item type used with the DOORS integration
- *RequestType* is the Dimensions CM request type used with the DOORS integration

5 The output is written to a file named DOORSRelsReport.txt in the directory in which the report was run.

NOTE Reports on larger databases require more time.

Troubleshooting

Checking In Linked Modules

NOTE Under certain circumstances, when checking in modules with links from another module, the following dialog may appear

```
"Error: Unlock Module failed: no such file or directory.... lock.dtc".
```

Investigation shows this error can be safely ignored. This occurs when the linked object has been changed prior to the checkin. If Doors is restarted before changing the module the error does not occur.

Checking In Modules with Outgoing Links

When checking in a module with outgoing links, the target modules in the link (the link is "FROM" the module being checked in) must also be opened in Doors so that the source module's baseline item can be created in Dimensions CM. Having the target module open allows the source module's item to be created and all expected relationships to be formed.

DXL Error, Cannot Open File

When closing the Configuration Dialog, you may receive the following DXL Error:

```
-R-E- DXL: <Line:161> cannot open file (C:\Programme\Telelogic\DOORS
    7.1\data\PVCS.cfg) for writing (Invalid argument)
```

This happens when the installation process fails to create the folder **data**.

To fix the issue, manually create the folder **data** in the path displayed in the error message.

Chapter 5

PowerBuilder

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Introduction

Purpose

This chapter:

- Lists the Dimensions CM features available through Sybase® PowerBuilder™ and provide a quick reference to accessing those features.
- Notes any features described in Part 1 of this manual that do not apply to this IDE.
- Helps you to set up source control projects and add files to source control.
- Helps you to access files that are under source control from within PowerBuilder.

For more information

See "Overview of Dimensions CM Source Control" on page 9 for information about:

- Source control concepts
- Source control defaults
- Advanced source control features

Accessing Supported Features in PowerBuilder

What is supported?

PowerBuilder supports all the source control features available through the Dimensions CM integration except that previous revisions cannot be retrieved from the History tab unless it is invoked during a check out or get operation. See "Accessing Specific Revisions" on page 62.

To...	Select...	For more information see...
Get revisions	Right-click | Get Latest Revision	"Getting Objects" on page 60
Check out revisions	Right-click | Check Out	"Checking Out Objects" on page 61
Undo check out of revisions	Right-click | Undo Check Out	"Undoing Check Out" on page 61
Check in revisions	Right-click | Check In	"Checking In Objects" on page 61
View Information: - File Detail - History - Merge/Difference - Pedigree - Relationships	Right-click | Show History	"Viewing Source Control Information" on page 31 "Accessing Specific Revisions" on page 62
Connect workspaces to source control	Right-click | Properties	"Connecting PowerBuilder Workspaces to Source Control" on page 57
Add objects to source control	Right-click | Add to Source Control	"Adding Objects to Source Control" on page 58
Disconnect workspaces from source control	Right-click | Properties	"Disconnecting Workspaces from Source Control" on page 60

To...	Select...	For more information see...
Remove objects from source control	Entry | Source Control | Remove from Source Control	"Removing Objects from Source Control" on page 59
Launch Dimensions CM desktop client (Enabled Menu depends on displayed painter and context)	Select Workspace | Context Menu | Run Source Control Management Tool or Entry Source | Control | Run Serena Dimensions	The *Dimensions CM online help*

Setting Up Source Control Projects in PowerBuilder

For best results, you should create a hierarchy of directories so each target is located in its own directory beneath the workspace directory. Dimensions CM then creates nested source control directories that reflect the structure of your workspace. This avoids problems associated with having identically named files in several targets and imposes a logical hierarchy on the otherwise flat file structure of PowerBuilder projects.

Connecting PowerBuilder Workspaces to Source Control

To connect a PowerBuilder Workspace to source control:

1 Right-click the Workspace object in the System Tree pane.

2 In the menu that opens, select **Properties**. The Properties of Workspace dialog box opens, displaying the Source Control tab.

3 Select **Serena Dimensions** from the **Source Control System** list.

4 Enter the path to the root directory for this PowerBuilder workspace in the **Local Root Directory** field or click the **Browse** button to select it.

IMPORTANT! All objects that are part of the PowerBuilder workspace must be located in the local root directory or in a subdirectory beneath it.

5 Click the **Browse** button to the right of the **Project** field.

6 If your current IDE session is not yet logged in to Dimensions CM, the Dimensions CM Login dialog box appears. Log in to Dimensions CM. For more information on logging in to Dimensions CM see "Connecting to Dimensions CM" on page 18.

NOTE If the Login dialog box is displaced by an error message before you are able to log in, repeat Step 5 to bring up a fresh Login dialog box.

7 The Select project directory for project dialog box appears. By default, your default project and its top design part are selected. Accept the defaults by clicking the **OK** button, or make different selections from the drop-down lists. For more information, see "Registering IDE Projects with Dimensions CM" on page 19.

8 A Dimensions SCC dialog box appears stating that the operation completed. Click **OK**.

9 A second Dimensions SCC dialog box states that the project is being opened in the project. Click **OK**.

10 Click the **Connect** button. The Login dialog box appears again.

11 Login to Dimensions CM. A green plus sign () appears to the left of each object icon to indicate that the workspace is connected to source control but that the objects are not yet under source control.

12 Optionally, complete the other fields on the Properties of Workspace dialog box to configure how PowerBuilder interacts with source control. For more information on how to use these settings, see the *PowerBuilder documentation*.

13 Click **OK**.

Adding Objects to Source Control

To add objects to source control:

1 Right-click the Workspace object in the System Tree pane.

2 In the menu, select **Add to Source Control**. The Add to Source Control dialog box opens.

3 Do one of the following:

- Change which objects to add to source control by unselecting or selecting the checkboxes next to each object name.
- Enter a comment in the **Comment** field.

4 Click **OK**. A green dot () appears to the left of each object icon to indicate the that object is under source control and is not checked out.

Configuring Workstations in a Multi-User Environment

After connecting a PowerBuilder workspace to source control and adding the objects within it to source control, you can make it available to multiple users. To do so, you must complete the following steps:

1 Copy the directory structure of the PowerBuilder workspace to the workstation. Include only the workspace and target directories, the PowerBuilder Library (.PBL) files, and the PowerBuilder Target (.PBT) files.

Special Considerations

- Do not include the workspace (.PBW) file. The .PBW file contains absolute paths.
- The directory structure of the PowerBuilder workspace must be the same on each system.

2 Create a new PowerBuilder workspace in the workspace directory you copied to the workstation.

3 Add the copied target (.PBT) files to the new workspace.

4 Connect the new workspace to the existing source control project. See the next section for more information on this step.

Connecting Workstations to the Existing Source Control Project

To connect a workstation to source control:

1 Right-click the Workspace object in the System Tree pane.

2 In the menu that opens, select **Properties**. The Properties of Workspace dialog box opens, displaying the Source Control tab.

3 Select **Serena Dimensions** from the **Source Control System** list.

4 Click the Browse button to the right of the **Project** field.

5 If your current IDE session is not yet logged in to Dimensions CM, the Dimensions CM Login dialog box appears. Log in to Dimensions CM. For more information on logging in to Dimensions CM see "Connecting to Dimensions CM" on page 18.

NOTE If the Login dialog box is displaced by an error message before you are able to log in, repeat Step 4 to bring up a fresh Login dialog box.

6 The Select Repository Project directory for IDE project dialog box appears. Click the **Select Project** button.

7 The Select SCC Project dialog box opens.

8 Select the correct product and Dimensions CM project from the **Product** and **Project** drop-down lists, as needed.

9 Select the correct project from the **SCC Project** drop-down list.

10 Click **OK**. The Properties of Workspace dialog box reappears.

11 Enter the path to the root directory for this workspace in the **Local Root Directory** field or click the browse button to select it.

12 Click the **Connect** button. The Login dialog box appears again.

13 Log in to Dimensions CM. Symbols appear to the left of each object icon to indicate that the objects are under source control:

- A green dot ( ) indicates that the object is checked in.
- A red check mark ( ) indicates that the object is checked out by another user.

14 Optionally, configure how PowerBuilder interacts with source control. For more information on how to use these settings, see the *PowerBuilder* documentation.

15 Click **OK**.

Removing Objects from Source Control

When you remove an object from source control, you are no longer able to access the previous revisions of the object. Only the latest revision remains.

To remove objects from source control:

1 In the Library Painter, select the object or objects that you want to remove from source control.

2 Select **Entry | Source Control | Remove from Source Control**. The Remove from Source Control dialog box appears with a list of objects to remove from source control.

3 Make sure the correct objects are selected and click **OK**. The selected objects are removed from source control.

Disconnecting Workspaces from Source Control

Disconnecting a PowerBuilder workspace from source control does not affect the Dimensions CM repository. You can always re-connect the workspace to source control later.

To disconnect a workspace from source control:

1 Right-click the workspace object in the System Tree. A pop-up menu appears.

2 Select Properties. The Properties of Workspace dialog box appears.

3 Select **None** from the **Source Control System** field.

4 Click **OK**. The workspace is disconnected from source control.

Using Source Control with PowerBuilder

Contents This section contains procedural information about viewing and editing files that are under source control.

For more information See Chapter 3, "Using Dimensions with IDE Projects" on page 25.

Getting Objects

When you get an object, a read-only copy of the latest revision is placed in the target PBL.

To get a revision:

1 Right-click the object and select Get Latest Version from the resulting pop-up menu. The Get Latest Version dialog box opens with a list of objects.

2 Select or deselect objects from the list as needed.

3 To override the default get options, click the **Advanced** button. See "Overriding Get Options" on page 26.

4 Click **OK**.

Checking Out Objects

When you check out an object, the revision is locked and a writable object is created in the target PBL and assigned the next revision number.

To check out an object:

1. Right-click the object and select Check Out from the resulting pop-up menu. The Check Out dialog box opens with a list of objects.
2. Select or deselect objects from the list as needed.
3. To override the default check out options, click the **Advanced** button. See "Overriding Check Out Options" on page 27.
4. Click **OK**. A green check mark () appears to the left of each object icon to indicate that the objects are checked out by you.

NOTE A red check mark () indicates that the object is checked out by another user

Undoing Check Out

When you undo a check out, the revision number that was created during check out is released and the object is unlocked without updating the Dimensions CM repository with changes.

To undo a check out:

1. Right-click the object and select Undo Check Out from the resulting pop-up menu. The Undo Check Out dialog box opens with a list of objects.
2. Select or deselect objects from the list as needed.
3. To override the default undo check out options, click the **Advanced** button. See "Overriding Undo Check Out Options" on page 27.
4. Click **OK**. A green dot () appears to the left of each object icon to indicate that the objects are no longer checked out.

Checking In Objects

When you check in an object, the object is unlocked and the new revision created during check out is saved in the Dimensions CM repository.

To check in an object:

1. Right-click the object and select Check In from the resulting pop-up menu. The Check In dialog box opens with a list of objects.
2. Select or deselect objects from the list as needed.
3. To override the default check in options, click the **Advanced** button. See "Overriding Check In Options" on page 28.

4 In the **Comment** field, enter comments describing the changes that you made to the object or objects.

5 Click **OK**. A green dot ( ) appears to the left of each object icon to indicate that the objects are checked in.

Accessing Specific Revisions

To get or check out a specific revision of an object, rather than the latest revision, you can invoke the History tab and then select the revision that you want.

NOTE Previous revisions are not accessible from the History tab unless it was invoked with the CTRL + SHIFT keys.

To specify a revision during a get or check out operation:

1 Press CTRL + SHIFT while doing one of the following:

- **Check out:** Clicking the **OK** button on the Check Out dialog box
- **Get:** Clicking the **OK** button on the Get Latest Version dialog box

2 The History tab appears listing the revisions of the object. Select the revision you want from the list.

3 Click the **Select** button.

The get or check out operation now proceeds as usual but with the selected revision of the objects instead of the latest revision.

Adding New Objects

When you create new objects in a source controlled workspace, a green plus sign ( ) appears to the left of each object icon to indicate that the objects are not yet under source control. To add new objects to source control, follow the procedure "Adding Objects to Source Control" on page 58.

Once the objects are added to source control, other users can access them by getting or checking out the target that contains them.

Adding New Targets or PBLs

If you add a new target (.PBT) or library (.PBL) to a source controlled workspace, you must:

1 Add it to source control. See "Adding Objects to Source Control" on page 58. Note that when you add a PBL to source control, the PBL itself is not placed under source control; the objects it contains are.

2 Distribute it to each workstation, as was done when the workspace was first set up for use by multiple users. See "Configuring Workstations in a Multi-User Environment" on page 58.

PowerBuilder Specific Usability Notes

This section describes several unexpected or undesired behaviors exhibited by the SCC integration to PowerBuilder and how to avoid or manage them.

Doing a Merge - Diff on the Working Copy of an Object

Behavior The Merge - Diff tool works with the ASCII representation of the PowerBuilder objects not the objects themselves.

Solution To perform a difference operation with the working copy of an object, it must be exported from the PowerBuilder Library and the exported file added to the selection list for Merge - Diff operations.

Unable to Read Registry Value

Behavior Users on Windows may receive the following error message while connecting to Dimensions SCC:

```
"Unable to Read Registry Value:
Software\Serena\Dimensions\<version>\PcmsScc
\SccServerName"
```

This happens even though the registry value is present in HKEY_LOCAL_MACHINE and can be read through the registry editor.

Solution This is a generic problem for all PowerBuilder SCC interfaces. Do one of the following:

- Make any user that receives this error a member of the Administrators Group using the Windows User Manager.
- Update the security permissions on the registry key using REGEDT32. See the following procedure.

To update security permissions on the registry key:

1. As the administrator, launch REGEDT32.
2. Select the HKEY_LOCAL_MACHINE window and navigate to HKEY_LOCAL_MACHINE\Software\Serena\Dimensions\<version>\PcmsScc.
3. Select Security | Permissions. The Registry Key Permissions dialog box appears.
4. Select **Special Access...** from the **Type of Access** drop-down list. The Special Access dialog box appears.
5. Select the following checkboxes:
   - Create Link
   - Write DAC
   - Write Owner
   - Read Control
6. Click **OK**.

7 Click **OK**.

Selecting a Different Application May Not Change the Active SCC Project

Behavior When you use the Library Painter to select a different application as the active application, PowerBuilder may stay connected to the previous Dimensions CM project instead of connecting to the source control project associated with the newly selected application.

Solution Close and then reopen the Library Painter to break the connection to the previously selected project and establish one with the current project.

Chapter 6

Quality Center

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About the Dimensions CM Integration to Quality Center

The issue management integration enables you to:

- Create defects in Quality Center that spawn requests in Dimensions CM.
- Create requests in Dimensions CM that spawn defects in Quality Center.
- Synchronize the data in Quality Center defects with that in Dimensions CM requests, and vice versa.
- Synchronize the status of Quality Center defects with the lifecycle state of Dimensions CM requests, and vice versa.

Accessing Supported Features

The issue management features are accessed through the QualityCenter synchronizer.

See the following topics for details on accessing the features:

Issue Management Features

The following issue management features can be accessed from the main window of the QualityCenter Synchronizer:

Action	Select	More information
Configure a connection to a Dimensions CM database	Action | Configure Dimensions CM Connection(s)	page 69
Configure a connection to a Quality Center project	Action | Configure Quality Center Connection(s)	page 70
Map a Quality Center project to a Dimensions CM product	Action | New Link	page 71
Edit existing attribute mappings and synchronization settings	■ Action | Edit Links ■ **Edit Attributes Mapping** button	page 78
Edit existing status mappings and synchronization settings	■ Action | Edit Links ■ **Edit Status Mapping** button	page 81
Edit Quality Center restrictions	■ Action | Edit Links ■ **Edit QC Restriction** button	page 82
Edit Dimensions CM restrictions	■ Action | Edit Links ■ **Edit DM Restriction** button	page 82
Submit a defect from Quality Center	(See the text.)	page 87

Action	Select	More information
Submit a request from Dimensions CM	(See the text.)	page 88
Resolve synchronization conflicts	■ Action | Edit Links ■ View Conflict button	page 88
Launch the integration	(From the Windows Start menu) `Start | Dimensions CM <version> | Quality Center | QualityCenter Synchronizer`	n/a
Send the integration window to the Windows Taskbar	Click the minimize button ()	n/a
Restore the integration window	Double-click the Dimensions CM icon () in the Windows Taskbar	n/a

Setting Up the Issue Management Integration

Contents This section contains information about setting up Dimensions CM issue management to work with Quality Center.

Purpose This integration enables you to:

- Create defects in Quality Center that spawn requests in Dimensions CM.
- Create requests in Dimensions CM that spawn defects in Quality Center.
- Synchronize data in Quality Center defects with that in Dimensions CM requests, and vice versa.
- Synchronize the status of Quality Center defects with the lifecycle state of Dimensions CM requests, and vice versa.

Installing the Software Components

The issue management integration requires that you install the following components to your system:

- The Quality Center Connectivity Tool, which you can download from the QC server, for example:

  `http://hostname:8080/qcbin/PlugIns/TDConnectivity/TDConnect.exe`

IMPORTANT!

The tool must be present before you install the Serena Dimensions CM - Quality Center Synchronizer.

- Dimensions CM client
- The Serena Dimensions CM - Quality Center Synchronizer component.

  The Serena Dimensions CM - Quality Center Synchronizer component can be found on the Support website or on your Dimensions CM Installation DVD under the *dimensions cm/integrations/qc_issue* directory.

IMPORTANT!

Uninstall the previous version of the Quality Center Synchronizer before installing the new version.

The `tddimint.xml` file is not removed on uninstall, meaning that it is present when you perform a new install. The file holds all the link definitions, attribute mappings, and conflict data.

For additional security, you can save a copy of the file elsewhere and before performing the uninstall.

- Version 2.0 of the Microsoft .NET Framework.

Enabling History

You must enable history to map attributes and fields between Quality Center and Dimensions CM.

Enabling History for Dimensions CM Attributes

1. From the Start menu, open the Dimensions CM Administration Console:

   ```
   Dimensions CM <version> | Administration Console
   ```

2. Click the **Requests** link under the Configuration Object Management group. The Object Types window appears.
3. In the left pane, select the type of Dimensions CM request that you plan to map to Quality Center defects.
4. In the right pane, select the **Attributes** tab.
5. For each Dimensions CM attribute you plan to map to a Quality Center field, click the name of the attribute and select **Keep History** option.

Enabling History for Quality Center Fields

See the topic *Customizing Project Entities* in the Quality Center help.

Configuring the Issue Management Integration

1. Configure a connection to a Dimensions CM database, see *page 69*.
2. Configure a connection to a Quality Center project, see *page 70*.

3 Map a Quality Center project to a Dimensions CM product, see page 71.

4 You can edit the link configuration and mapping of attribute data between a Quality Center project and a Dimensions CM product, see page 78.

5 You can edit the mapping of status/lifecycle states between Quality Center and Dimensions CM, see page 81.

About Defect Status and Request Lifecycle States

You can map the status states of Quality Center defects to the lifecycle states of Dimensions CM requests to enable a synchronized progression through both cycles. At each step, either Quality Center or Dimensions CM controls (owns) the progression to the next state.

The following is an example of a defect passing through such a progression.

User Action	Interface Action	QC Status	Dm Status
Tester submits defect	Defect is replicated to a request in Dimensions CM	New	Raised
Developer investigates then actions request to Change Required	Defect is actioned to Open	Open	Change Required
Developer completes the code changes then actions the request to Retest	Defect is actioned to Fixed	Fixed	Retest
Tester verifies the fix then actions defect to Passed	Request is actioned to Closed	Passed	Closed
	Defect is actioned to Closed	Closed	Closed

Configuring a Connection to a Dimensions CM Database

1 Stop the TDDmSyncService service if it is running.

2 Launch the issue management integration:

```
Start | Dimensions CM <version> | Quality Center | QualityCenter
    Synchronizer
```

3 Select **Action** | **Configure Dimensions CM Connection(s)**. The New Dimensions CM Connection dialog box opens.

4 Enter a Dimensions CM user ID in the **User ID** field.

- The user ID must have the roles necessary to create and modify requests of the type that you later define for use with Quality Center projects.
- The user ID should be reserved for use with the integration and should not be used for manual changes. Manual changes made with this user ID is not picked up by the integration. Because this user is reserved for the integration, **you cannot manually submit requests when logged in as this user.** If you want to manually submit requests, you must log in as a different user.

5 Enter the password for the Dimensions CM user ID in the **User Password** field.

6 Enter the Dimensions CM database in the **Enter Database Login ID** field.

7 If needed, enter a password for the Dimensions CM database in the **Enter Database Password** field. This field is usually left blank.

8 Enter the remote connection string for the Dimensions CM database in the **Database Setup - Remote Connection String** field.

9 Enter the name of the host computer for the Dimensions CM database in the **Server Host Name** field.

10 Click the **Test Product Connection** button. One of the following occurs:

- An error message appears. Review the steps above and re-enter any invalid entries.
- A success message appears. Click **OK** to dismiss it.

11 Click the **Save Connection** button. A save complete message appears. Click **OK** to dismiss it.

12 Click the **Exit** button to close the New Dimensions CM Connection dialog box.

Configuring a Connection to a Quality Center Project

1 Stop the TDDmSyncService service if it is running.

2 For Quality Center complete the following steps:

a Launch the Quality Center Site Administration console and log in.

b Select the **Site Configuration** tab.

c Click **New** to create a new parameter.

d Enter `BACKWARD_SUPPORT_ALL_DOMAINS_PROJECTS` in the **Parameter** field, and `Y` in the **Value** field. Click **OK**.

3 Launch the integration:

```
Start | Dimensions CM <version> | Quality Center | QualityCenter
    Synchronizer
```

4 Select **Action | Configure Quality Center Connections**. The New QualityCenter Connection dialog box opens.

5 Enter the URL of the Quality Center host in the **Host URL** field.

IMPORTANT! The URL should specify a directory, for example:

`http://hostname:8080/qcbin`

Do not include a file name.

6 Click **Connect**. The **Domain** and **Project** lists are populated.

7 Select a Quality Center domain from the **Domain** list.

8 Select a Quality Center project from the **Project** list.

9 Enter a Quality Center user ID in the **User ID** field.

- The user ID must have Administrator rights in Quality Center.
- The user ID should be reserved for use with the integration and should not be used for manual changes. Manual changes made with this user ID are not picked up by the integration. Because this user is reserved for the integration, **you cannot manually submit defects when logged in as this user.** To manually submit defects, you must log in as a different user.

10 Enter the password for the user ID in the User Password field.

11 Click the **Test Project Connection** button.

12 One of the following occurs:

- An error message is displayed. Review the steps above and re-enter any invalid entries.
- A success message appears. Click **OK** to dismiss it.

13 Click the **Save Connection** button.

14 A save complete message is displayed. Click **OK** to dismiss it.

15 Click **Exit** to close the New QualityCenter Connection dialog box.

Linking a Quality Center Project to a Dimensions CM Product

1 Stop the TDDmSyncService service if it is running.

2 Launch the integration:

```
Start | Dimensions CM <version>| Quality Center | QualityCenter
    Synchronizer
```

3 Select **Action | New Link**. The Link Setup Wizard appears.

4 Select a Quality Center project from the **QualityCenter Project** list.

NOTE To add a Quality Center project to this list see page 70.

5 Select a Dimensions CM product from the **Dimensions Product** list.

NOTE To add a Dimensions CM product to this list see page 69.

6 In the **Change Document Type** list, select the Dimensions CM request type to map to Quality Center defects.

7 Select a design part from the **Design Part** tree. Select the checkbox below to include all design parts within the subtree below the selected design part. Leave the checkbox cleared to synchronize requests from the selected design part only. If you choose to use the whole tree below the selected design part, no other link can use either the

selected design part or any of the design parts in the subtree below without any further restriction.

8 To restrict which Quality Center defects spawn Dimensions CM requests, specify a specific value for a specific field.

If you specify a value, only those defects that match it can spawn requests.

IMPORTANT!
If you create links between a Quality Center project and multiple Dimensions CM products, you must specify the same **Field Name** but a different **Field Value** for each link. This ensures that only one request is spawned from each defect.

a Click the **Edit** button under QualityCenter field. The QualityCenter Field Restriction dialog box appears.

b Select a field from the **Field Name** list.

c Select a value from the **Field Value** list.

d Click **OK**.

9 To restrict which Dimensions CM requests spawn Quality Center defects, specify a specific value for a specific attribute.

If you specify a value, only those requests that match it can spawn defects.

IMPORTANT!
If you create links between a Dimensions CM product and multiple Quality Center projects, you must specify the same **Attribute Name** but a different **Attribute Value** for each link. This ensures that only one defect is spawned from each request.

a Click the **Edit** button under Dimensions CM Attribute field. The Dimensions CM Attribute Restriction dialog box appears.

b Select an attribute from the **Attribute Name** list.

c Select a value from the **Attribute Value** list.

d Click **OK**.

10 Click **Next**. Page Two of the Link Setup Wizard opens.

11 To map defect/request statuses between Quality Center and Dimensions CM:

a Select a Dimensions CM lifecycle state from the Dimensions CM Status list.

b Select the corresponding Quality Center defect status from the QualityCenter Status list.

c To determine which application controls the next change in status, select one of the following from the Owner list:

- **QualityCenter**
- **Dimensions**

- **Both**: Either application can change the status.

NOTE If you intend to submit defects/requests from both Quality Center and Dimensions CM, you must set the owner of the initial status state to **Both**.

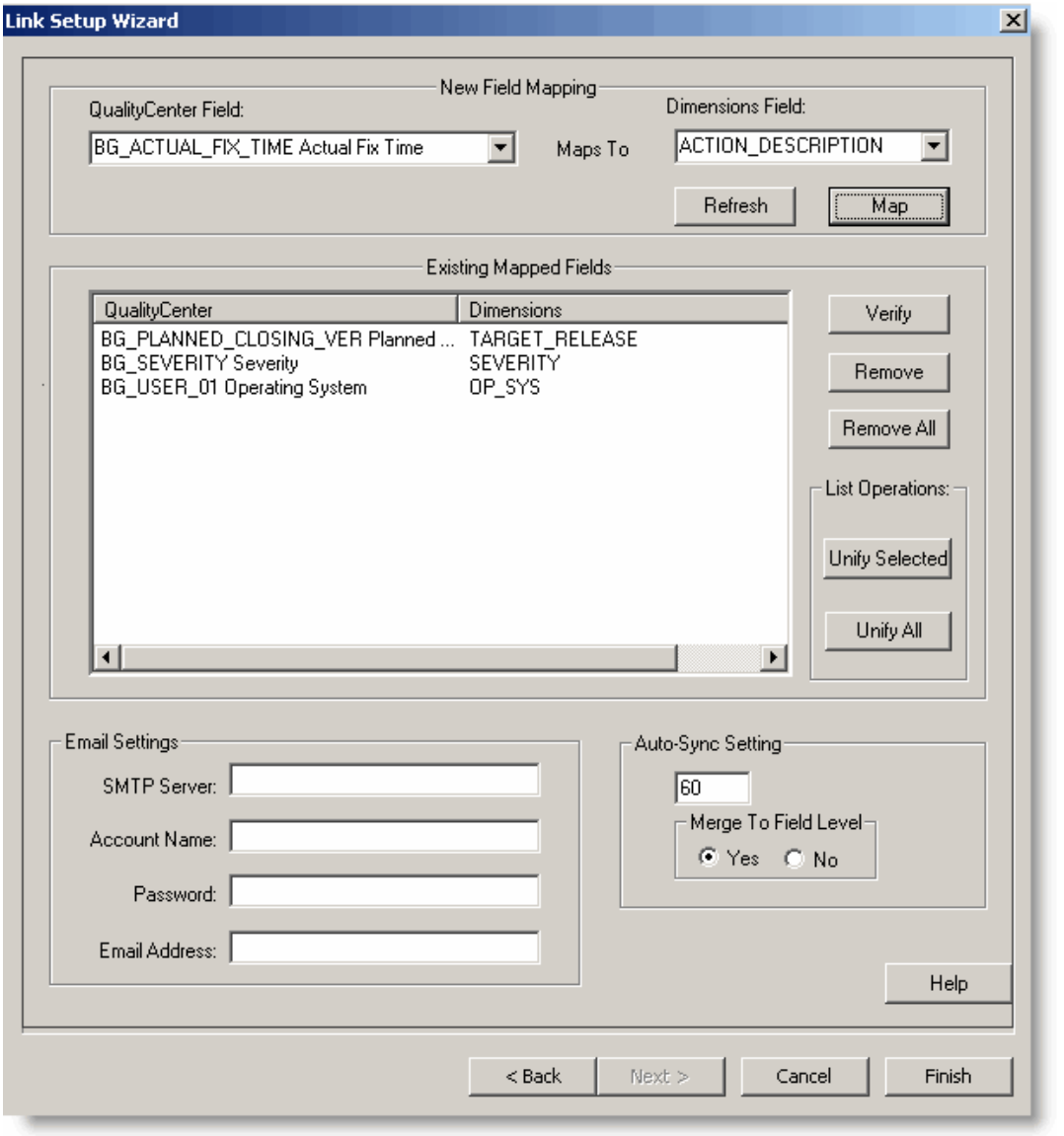
d Click the **Map** button. The new mapping appears in the **Existing Status Mapping** list.

NOTE For more information, see "Accessing Supported Features" on page 66.

12 To remove an existing status mapping, select the mapping in the **Existing Status Mapping** list and click the **Remove** button.

13 To remove all mappings displayed in the **Existing Status Mapping** list, click the **Remove All** button.

14 Click the **Next** button. Page Three of the Link Setup Wizard appears.



IMPORTANT! You must enable the history option for any fields you map between Quality Center and Dimensions CM. For more information see page 68.

15 To map Quality Center fields to Dimensions CM attributes:

IMPORTANT!
See page 76 for special considerations and information about mapping attributes and fields.

For example, you must map all Quality Center fields that represent mandatory attributes of the Dimensions CM request type.

a To refresh the **QualityCenter Field** and **Dimensions Field** lists with the latest items, click the **Refresh** button.

b Select a Quality Center field from the **QualityCenter Field** list.

c Select a Dimensions CM attribute from the **Dimensions Field** list.

d Click the **Map** button. The new field mapping appears in the **Existing Mapped Fields** list.

NOTE Depending on the type of fields that you mapped, a message may display indicating which direction the fields can be populated, such as this mapping only allows updates from Quality Center to Dimensions CM.

e Repeat the earlier steps for each Quality Center field that you want to map.

16 To verify that all Dimensions CM fields that represent required attributes in the Dimensions CM request type are mapped, click the **Verify** button.

IMPORTANT! You can exit this screen without all required attributes mapped. This allows for saving partial configurations while setting up the integration. All required attributes must be mapped and verified before the link can be successfully synchronized.

To change the required attributes for Dimensions CM, you must log in to the Dimensions CM Administrator Console and edit the rules for your lifecycle. For details about creating rules in the Administration Console, see the *online help*.

17 To remove a field mapping, select a mapped link in the **Existing Mapped Fields** list and click the **Remove** button.

18 To remove all field mappings, click the **Remove All** button.

19 To update the Lists Operations, which dictate which way the list fields/attributes populate, select a map and click **Unify Selected** (or modify all by click **Unify All**). You are prompted to select the direction of the information flow. See page 77 for more information about unifying your lists.

20 To receive email notification of synchronization conflicts, complete the following fields:

a **SMTP Server:** Enter the name, or IP address, of the email server to send email through.

b **Account Name**: Enter the email account name to use for the integration.

c **Password**: Enter the password for the email account.

d **Email Address**: Enter the email address to which to send conflict notifications.

21 To automatically synchronize the Quality Center and Dimensions CM data, complete the following fields:

a **Auto-Sync Setting**: Enter the desired synchronization interval in minutes.

b **Merge To Field Level**: Determines when fields are synchronized automatically versus when you are notified of a field level conflict. To raise a synchronization conflict:

- Only when the same field changes in both Quality Center and Dimensions CM, select the **Yes** option.
- Whenever mapped fields change in both Quality Center and Dimensions CM, whether the fields are mapped to each other or not, select the **No** option.

The following table illustrates various scenarios where QC Field-1 is mapped to Dm Field-1 and QCField-2 is mapped to Dm Field-2.

Option	QC Field-1	QC Field-2	Dm Field-1	Dm Field-2	Result
Yes	Changed		Changed		Conflict. An email notification is sent.
Yes	Changed			Changed	No conflict. No email is sent. Dm Field-1 is updated with the new content of QC Field-1. QC Field-2 is updated with the new content of Dm Field-2
Yes	Changed				No conflict. No email is sent. Dm Field-1 is updated with the new content of QC Field-1.
No	Changed		Changed		Conflict. An email notification is sent.
No	Changed			Changed	Conflict. An email notification is sent.
No	Changed				No conflict. No email is sent. Dm Field-1 is updated with the new content of QC Field-1.

22 Click the **Finish** button.

NOTE Restart the TDDmSyncService service if you have finished editing the configuration (use the Windows Services utility.)

After you have created a link between your projects see page 85 for information on configuring Dimensions CM to use the integration.

About Mapping Attributes and Fields

When mapping Dimensions CM attributes and Quality Center fields, remember the following:

- You must enable the history option for any fields you map between Quality Center and Dimensions CM. For details, see page 68.
- Dimensions CM attributes to be mapped must not require Electronic Signature Support, that is, they must not be defined as sensitive.
- The Dimensions CM attribute that you select must be of a type compatible with the selected Quality Center field or Dimensions CM requests are not created.
- You must map all Quality Center fields that represent mandatory attributes of the Dimensions CM request type.

- If either the Quality Center field or the Dimensions CM attribute have a list of valid values, you can choose to populate the mapped field (or attribute) with the same values.
- If both the Quality Center field and the Dimensions CM attribute have a list of valid values but the lists are different, you can either:
  - Choose one list (Dimensions CM or Quality Center), overlaying the other one (similar to previous bullet).
  - Choose values from both lists to update attributes and fields.

  See page 77 for details.
- By default, the Dimensions CM Detailed Description is mapped to the Quality Center BG_Description. When performing synchronization and raising conflicts in exactly the same way as any other normal manual attribute mapping. Any raised conflicts require manual resolution. See page 88 for more information.
- You can synchronize the Dimensions CM *Action Description* and Quality Center *BG_DEV_COMMENTS*. See page 78 for details.

About Valid List Mappings

You can modify attribute lists by adding or removing values from either the Dimensions CM or the Quality Center list. This enables you to make both lists the same and aids clean synchronization between attributes and fields.

- If only the field has a list you can use it for the attribute.
- If only the attribute has a list you can use it for the field.
- If both field and attribute have a list, you can choose values from both to create a new unified list for field and attribute.

Use the **Unify Selected** and **Unify All** buttons on the Attribute Mappings dialog to synchronizer the lists.

Note that this dual direction updating does not apply to all mappings. Some lists have restrictions on how the user can operate on them:

- If a Dimensions CM attributes list is multicolumned (its values determine other list values), the user cannot modify it.
- If a Quality Center field list has sublists (tree structure), the user cannot modify it.

About Mapping Comments and Action Descriptions

You can synchronize the Dimensions CM *Action Description* and Quality Center *BG_DEV_COMMENTS*; however, the *BG_DEV_COMMENTS* field cannot have Dimensions CM comments added by the synchronizer. To prevent this from happening, the outgoing action description must be mapped to another memo field in Quality Center to represent actions added in Dimensions CM.

In other words, the Dimensions CM 'Action Description' attribute is represented in the GUI as two fields:

- --> ACTION_DESCRIPTION' (incoming)
- <-- ACTION_DESCRIPTION' (outgoing)

--> ACTION_DESCRIPTION (incoming) can only be mapped to 'BG_DEV_COMMENTS' in Quality Center and vice versa. This mapping represent data synchronization for this mapping from Quality Center to Dimensions CM.

<-- ACTION_DESCRIPTION (outgoing) can be mapped to any memo field in Quality Center except 'BG_DEV_COMMENTS'. This mapping represents data synchronization for this mapping from Dimensions CM to Quality Center. The synchronizer filters out any data that has been synchronized from Quality Center with the above mapping, so only Dimensions Action description data is displayed in the chosen Quality Center memo field.

The synchronization works as follows:

BG_DEV_COMMENTS -> Action Description -> (any other Quality Center memo field)

Editing Existing Attribute Mappings

- See page 76 for special considerations and information about mapping attributes and fields.
- Before you can edit attribute mappings, you must create the link between the Quality Center project and Dimensions CM product as described on page 71.

1 Stop the TDDmSyncService service, if it is running. (Use the Windows Services utility.)

2 Launch the integration:

```
Start | Dimensions CM <version> | Quality Center | QualityCenter
    Synchronizer
```

3 Select **Action | Edit Links**. The Links dialog box appears.

4 Select a link and click the **Edit Attributes Mapping** button. The Attributes Mapping dialog box opens.

5 To map Quality Center fields to Dimensions CM attributes:

a To refresh the **QualityCenter Field** and **Dimensions Field** lists with the latest items, click the **Refresh** button.

b Select a Quality Center field from the **QualityCenter Field** list.

c Select a Dimensions CM attribute from the **Dimensions Field** list.

NOTE The Dimensions CM attribute you select must be of a type compatible with the selected Quality Center field. Otherwise, Dimensions CM requests are not created.

d Click the **Map** button. The new field mapping is displayed in the **Existing Mapped Fields** list.

e Repeat the above listed steps for each Quality Center field that you want to map.

6 To verify that all Dimensions CM required attributes in the request type are mapped, click the **Verify** button.

NOTE To change the required attributes for Dimensions CM, you must log in to the Dimensions CM Administrator Console and edit the rules for your lifecycle. For details about creating rules in the Administration Console, see the *online help*.

7 To remove a field mapping, select a mapped link in the **Existing Mapped Fields** list and click the **Remove** button.

8 To remove all field mappings, click the **Remove All** button.

9 To update the Lists Operations, which dictate which way the list fields/attributes populate, select a map and click **Unify Selected** (or modify all by click **Unify All**). You are prompted to select the direction of the information flow.

See page 77 for more information on unifying your lists.

10 To receive email notification of synchronization conflicts, complete the following fields:

a **SMTP Server**: Enter the name, or IP address, of the email server to send semail through.

b **Account Name**: Enter the email account name to use for the integration.

c **Password**: Enter the password for the email account.

d **Email Address**: Enter the email address to which to send the conflict notifications.

11 To automatically synchronize the Quality Center and Dimensions CM data, complete the following fields:

a **Auto-Sync Setting**: Enter the desired synchronization interval in minutes.

b **Merge To Field Level**: Determines when fields are synchronized automatically versus when you are notified of a field level conflict. To raise a synchronization conflict:

- Only when the same field changes in both Quality Center and Dimensions CM, select the **Yes** option.
- When ever mapped fields change in both Quality Center and Dimensions CM, whether the fields are mapped to each other or not, select the **No** option.

The following table illustrates various scenarios where QC Field-1 is mapped to Dm Field-1 and QC Field-2 is mapped to Dm Field-2.

Option	QC Field-1	QC Field-2	Dm Field-1	Dm Field-2	Result
Yes	Changed		Changed		Conflict. An email notification is sent.
Yes	Changed			Changed	No conflict. No email is sent. Dm Field-1 is updated with the new content of QC Field-1. QC Field-2 is updated with the new content of Dm Field-2
Yes	Changed				No conflict. No email is sent. Dm Field-1 is updated with the new content of QC Field-1.
No	Changed		Changed		Conflict. An email notification is sent.
No	Changed			Changed	Conflict. An email notification is sent.
No	Changed				No conflict. No email is sent. Dm Field-1 is updated with the new content of QC Field-1.

12 Click the **OK** button.

NOTE Restart the TDDmSyncService service if you are done editing the configuration. (Use the Windows Services utility.)

Editing Existing Status Mappings

Before you can edit status mappings you must create the link between the Quality Center project and Dimensions CM product as described on page 71.

1 Stop the TDDmSyncService service, if it is running. (Use the Windows Services utility.)

2 Launch the integration:

```
Start | Dimensions CM <version> | Quality Center | QualityCenter
    Synchronizer
```

3 Select **Action | Edit Links**. The Links dialog box appears.

4 Select a link and click the **Edit Status Mapping** button. The Status Mapping dialog box opens.

5 To map defect/request statuses between Quality Center and Dimensions CM:

a Select a Dimensions CM lifecycle state from the **Dimensions Status** list.

b Select the corresponding Quality Center defect status from the QualityCenter Status list.

c To determine which application controls the next change in status, select one of the following from the Owner list:

- **QualityCenter**
- **Dimensions**
- **Both**: Either application can change the status.

For more details, see page 66.

NOTE If you intend to submit defects/requests from both Quality Center and Dimensions CM, you must set the owner of the initial status state to **Both**.

d Click the **Map** button. The new mapping appears in the **Existing Status Mapping** list.

6 To remove an existing status mapping, select the mapping in the **Existing Status Mapping** list and click the **Remove** button.

7 To remove all mappings displayed in the **Existing Status Mapping** list, click **Remove All**.

8 Click the **OK** button.

NOTE Restart the TDDmSyncService service, if you are done editing the configuration. (Use the Windows Services utility.)

Editing Existing Quality Center Restrictions

You can restrict which Quality Center defects spawn Dimensions CM requests by specifying a specific value for a specific field. If you specify a value, only those defects that match it can spawn requests.

Before you can edit restrictions, you must create the link between the Quality Center project and Dimensions CM product as described on page 71.

IMPORTANT! If you create links between a Quality Center project and multiple Dimensions CM products, you must specify the same **Field Name** but a different **Field Value** for each link. This ensures that only one request is spawned from each defect.

1 Launch the integration:

```
Start | Dimensions CM <version> | Quality Center | QualityCenter
    Synchronizer
```

2 Select **Action | Edit Links**. The Links dialog box appears.

3 Select a link to edit.

4 Click the **Edit QC Restriction** button. The QualityCenter Field Restriction dialog box appears.

5 Select a field from the **Field Name** list.

6 Select a value from the **Field Value** list.

7 Click **OK**.

Editing Existing Dimensions CM Restrictions

You can restrict which Dimensions CM requests spawn Quality Center defects by specifying a specific value for a specific attribute. If you specify a value, only those requests that match it can spawn defects.

IMPORTANT! If you create links between a Dimensions CM product and multiple Quality Center projects, you must specify the same **Attribute Name** but a different **Attribute Value** for each link. This ensures that only one defect is spawned from each request.

1 Launch the integration:

```
Start | Dimensions CM <version> | Quality Center | QualityCenter
    Synchronizer
```

2 Select **Action | Edit Links**. The Links dialog box opens.

3 Select a link to edit.

4 Click the **Edit DM Restriction** button. The Dimensions CM Attribute Restriction dialog box opens.

5 Select an attribute from the **Attribute Name** list.

6 Select a value from the **Attribute Value** list.

7 Click **OK**.

Deleting Quality Center Connections

1 Stop the TDDmSyncService service, if it is running. (Use the Windows Services utility.)

2 Launch the integration. All defined connections are displayed in the **QualityCenter Connections** list.

3 Do one of the following:

To...	Do the following...
Delete a Connection	a Select a connection in the **QualityCenter Connections** list. b Click the **Delete Current QC Project** button.
Delete all Quality Center connections	Click the **Delete All QC Projects** button.

NOTE Restart the TDDmSyncService service if you are done editing the configuration. (Use the Windows Services utility.)

Deleting Dimensions CM Connections

1 Stop the TDDmSyncService service, if it is running. (Use the Windows Services utility.)

2 Launch the integration:

```
Start | Dimensions CM <version> | Quality Center |
    QualityCenterSynchronizer
```

All defined connections are displayed in the **Dimensions Connections** list.

3 Do one of the following:

To...	Do the following...
Delete a Connection	a Select a connection in the **Dimensions Connections** list. b Click the **Delete Current Product** button.
Delete all Dimensions CM connections	Click the **Delete All Dimensions Products** button.

NOTE Restart the TDDmSyncService service if you are done editing the configuration. (Use the Windows Services utility.)

Deleting Links

You can delete existing links between Quality Center projects and Dimensions CM products from the Links dialog box.

1 Stop the TDDmSyncService service, if it is running. (Use the Windows Services utility.)

2 Launch the integration:

```
Start | Dimensions CM <version> | Quality Center |
    QualityCenterSynchronizer
```

3 Select **Action | Edit Links**. The Links dialog box appears.

4 Do one of the following:

- To remove a specific link, select the link and click **Remove**.
- To remove all links, click **Remove All**.

5 Click **OK**.

NOTE Restart the TDDmSyncService service if you are done editing the configuration. (Use the Windows Services utility.)

Using Issue Management

This section contains information about using Dimensions CM issue management with Quality Center.

Configuring Dimensions CM After Creating a Link

After you create a link between a Dimensions CM product and a Quality Center project as described on page 71, you must configure Dimensions CM to access the REPLICATE_DEFECT attribute that was automatically added to Dimensions CM when the link was created. This attribute allows the integration to create a defect in Quality Center when a request is created in Dimensions CM.

Dimensions CM attributes (maxlength):

- REPLICATE_DEFECT (1)
- PROJECT_ID (500)
- DEFECT_ID (10)
- SYNC_USER (256)
- SYNC_TIME (50)
- DEFECT_STATUS (50)

Configuring Dimensions CM to Replicate a Request in Quality Center

To replicate a Dimensions CM request to a Quality Center defect, you must enable the ability to set the REPLICATE_DEFECT attribute to **Y** when creating the request.

We recommend that you create a rule making this a mandatory attribute on request creation. The REPLICATE_DEFECT attribute should have a valid list consisting of **Y** and **N**.

To configure Dimensions CM to replicate a request:

1. Log in to the Dimensions CM Admin Console.
2. Modify the request to make the REPLICATE_DEFECT attribute mandatory on creation:
   a. Select **Requests** from Object Type Definitions.
   b. Select the request type that you are using from the tree, such as **CR**.
   c. Click the Lifecycle tab.
   d. Edit the Lifecycle Flow.
   e. On the Edit Lifecycle screen, select the Attribute Rules tab and the appropriate object type.
   f. Add an Attribute Rule to the first state.

      For example, if you are using the sample workflow with the preliminary state of Raised, add the Attribute Rule by selecting **REPLICATE_DEFECT** as the Attribute name, **$TO_BE_DEFINED** as the From state, **Raised** as the To state, **$Originator** as Role, and the all of the flags.
3. If needed, modify, the valid set definitions associated with the REPLICATE_DEFECT to have the values Y and N.
   a. Select **Valid Set Definitions** from the Admin Console Home page.
   b. Edit the appropriate valid set definition and change its values to **Y** and **N**.

See page 88 for details about replicating a request from Dimensions CM to Quality Center.

For details about creating rules in the Administration Console, see the *online help*.

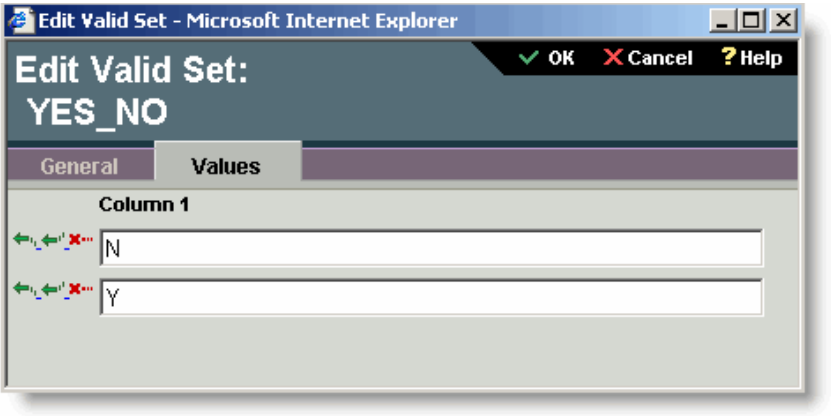
Modifying Valid Set Definition

You may need to modify the values in the Valid Set Definition for **YES_NO** to be compatible with Quality Center. Quality Center requires that the values are **Y** and **N** instead of the **Yes** and **No**.

NOTE You must make this modification to use the synchronization integration with sample Payroll database supplied with Dimensions CM.

1. Log in to the Dimensions CM Admin Console.
2. Select Valid Set Definitions.

3 Edit the **YES_NO** definition and change its values to **Y** and **N**:



Replicating Defects to Dimensions CM

1 From the Defects tab of Quality Center, click the **Add Defect** button. The Add Defect dialog box opens.

2 To create a request in Dimensions CM based on this defect, select **Y** from the Replicate To Dim field.

To exclude this defect from the integration with Dimensions CM, select **N** from the Replicate To Dim field.

3 Complete the rest of the dialog as you would normally.

NOTE If a defect has attachments at the time that it is replicated to Dimensions CM, the attachments are also replicated. See page 88 for details.

About Synchronizing Attachments and URL's

The Synchronizer synchronizes both attachments and URLs.

The Synchronizer is enabled for **attachment** synchronization in both direction, for new and updated attachments.

Note that attachments added to an already existing Quality Center bug must have a modified date after the last synchronization time. Quality Center does not change the modified date of uploaded attachments. When the synchronizer runs, it ignores this attachment, as it assumes it has not changed because of the 'old' modified date. Due to lack of information on deleted attachments, the synchronizer cannot determine whether an attachment is new or removed. Manual removal is required on both applications if you need to delete them.

NOTE Any attachments synchronized from Dimensions CM to Quality Center are re-synchronized back to Dimensions CM during the next synchronization. This is because the Quality Center-API does not have enough information to determine if the attachment was new or not. If in the unlikely event that the attachment is re-added during this next synchronization, a conflict occurs. Conflicts arising from attachments require manual resolution. See page 88 for details.

URL attachments are synchronized in a similar way to how file attachments are synchronized. The URL to be attached is written as a hyperlink to a .txt file which then gets uploaded as an attachment to Dimensions CM.

Replicating Requests to Quality Center

Before you can replicate a request from Dimensions CM to Quality Center, verify that the REPLICATE_REQUEST attribute is available on request creation. See page 85 for more information.

1. When you are creating a new request, select the Attributes tab in the New Request dialog box.
2. To create a defect in Quality Center based on this request, change the value of the **Replicate to QC** attribute to **Y**.

   To exclude this request from the integration with Quality Center, ensure that the value of the **Replicate to QC** attribute is **N**.
3. Complete the rest of the fields.

NOTE Attachments to Dimensions CM requests are replicated to Quality Center. See page 88 for more information.

Resolving Conflicts

1. Launch the integration:

   ```
   Start | Dimensions CM <version> | Quality Center |
       QualityCenterSynchronizer).
   ```
2. Select **Action | Edit Links**. The Links dialog box opens.

3 Select a link and click the **View Conflict** button. The Link Conflicts dialog box opens.

The **Link Conflicts List** contains the following information:

- **QC Bug ID**: The Quality Center defect ID number of the defect that contains data in conflict with Dimensions CM.
- **QC Field Name**: The name of the Quality Center field that contains data in conflict with Dimensions CM.
- **QC Field Value:** The Quality Center data that is in conflict with Dimensions CM.
- **Request ID:** The Dimensions CM ID of the request that contains data in conflict with Quality Center.
- **Attribute Name:** The name of the Dimensions CM attribute that contains data in conflict with Quality Center.
- **Attribute Value:** The Dimensions CM data that is in conflict with Quality Center.

4 Select a conflict in the **Link Conflicts List** and do one of the following:

- To remove the conflict from the list without affecting the data in Quality Center or Dimensions CM, click the **Remove Conflict** button.
- To synchronize the data in Quality Center and Dimensions CM, select which data source to use from the Synchronize by group, QualityCenter or Dimensions and click the **Resolve Conflict** button.

5 Click the **Exit** button to close the dialog box.

Viewing Request and Defect Status

Each Quality Center defect contains a field that displays the status of its associated Dimensions CM request.

Each Dimensions CM request contains an attribute that displays the status of its associated Quality Center defect.

The information displayed in these fields and attributes is accurate at the time of the last synchronization.

Troubleshooting

Attributes and Fields

The following Dimensions CM attributes and Quality Center fields should be created automatically when you create a link between Dimensions CM and Quality Center. If a link does not work correctly, verify that these attributes and fields were properly created.

Dimensions CM attributes (maxlength):

- PROJECT_ID (500)
- DEFECT_ID (10)
- SYNC_USER (256)
- SYNC_TIME (50)
- DEFECT_STATUS (50)
- REPLICATE_DEFECT (1)

NOTE To replicate a request to a Quality Center defect, you must set this attribute to **Y** when creating the request. See page 88.

We recommend that you create a rule making this a mandatory attribute on request creation. It should have a valid list consisting of **Y** and **N**. For details about creating rules in the Administration Console, see the *Dimensions CM online help*.

Quality Center fields (length):

- DimensionsID (40)
- Sync Time (40)
- Dim Design Part (255)
- ChangeDoc Status (40)
- Dim Link Name (40)
- Replicate To Dim (255)

NOTE To replicate a defect to a Dimensions CM request, you must set this attribute to **Y** when creating the defect. See page 87.

Synchronization Log Files

The synchronization service creates a log file for each link it synchronizes. These log files may help you determine the cause of any synchronization failures.

Location — The log files are located in the Integrations\QualityCenter-Synchronizer subdirectory of your Dimensions CM installation.

Name — The log file for each link is named as follows:

```
QC-URL_QC-Domain_QC-Project_QC-RestrictionFieldName_
    QC-RestrictionFieldValue.log
```

Supported Time and Language Environment Values

Quality Center Synchronizer does not synchronize correctly if the your operating system or database does not have the proper time and language environment values set.

Dimensions CM currently supports English and American language values.

Changing the Time of Synchronizer Restart

By default, the Synchronizer restarts every 24 hours. This automatic restart eliminates the problem that occurs on occasion when the Synchronizer hangs when attempting to call one of the Quality Center's dll's (webtdClient80.dll).

NOTE
If this restart occurs in mid-synchronization, the re-started service simply continues finishing the interrupted synchronization.

The default time is configurable by adding an environment variable "TDSynchStarter_Delay" and a value in minutes, which represents the new duration between restarts.