Dimensions CM

User's Guide

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About the Clients

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About the Dimensions CM Clients

In addition to a comprehensive command-line interface, a developer's toolkit interface, and integration into your preferred integrated development environment (IDE), Dimensions® CM offers two client interfaces that you can use to perform Configuration Management tasks. This guide focuses on the web client and desktop client GUI interfaces. For a more detailed overall explanation of Dimensions CM see the *Introduction to Dimensions CM*.

- **Web client:** The Dimensions CM web client allows you to access a Dimensions CM database via the Internet or an intranet. With the web client, you can use your web browser to view and update detailed information about your requests, items and baselines, as well as perform tasks such as checking in and checking out item revisions and managing requests all from within your development process.

  Because the web client allows you to access products from a connected point on the Internet or an intranet, it is ideally suited for remote users, mobile users, and users in web-intensive environments, such as members of Internet programming and content development teams. In addition, the lightweight web browser interface offers the benefits of low-cost maintenance for users in all environments.

- **Desktop client:** The Dimensions CM desktop client runs on IBM-compatible PCs under the Microsoft Windows operating systems. The desktop client is based on a client-server technology. This technology provides secure, seamless client-access from a PC to a Dimensions CM server using TCP/IP.

About Accessing Objects in the Web and Desktop Clients

Products and Design Parts

The objects that you view and navigate belong to a product within the base database. A product is organized into a set of related *design parts*. Design parts are logical groupings of objects such as modules of code, specifications, and requests.

Items, requests and various other Dimensions CM objects can be viewed in terms of the design parts to which they are related. The Dimensions CM clients provide a view of the functional breakdown tree to enable you to access these objects as illustrated below.
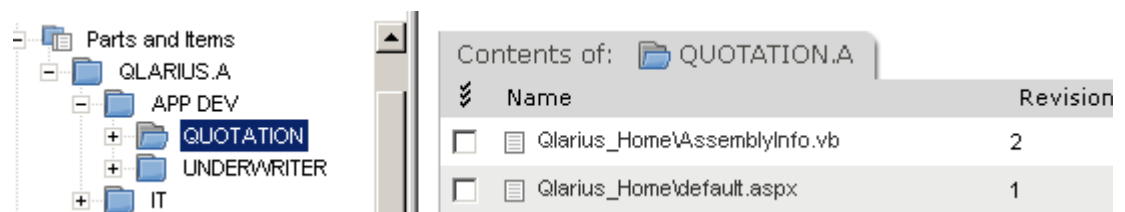
For more information about setting up products and top-level design parts, see the *Process Configuration Guide*. For more information about managing design parts, see .

Projects and Streams

You work in the web and desktop clients in the context of a project or a stream, a collection of item revisions that belong to a particular strand of development. See "Working with Projects" on page 85 and "Working with Streams" on page 53 for more details.

When you log in, you can set a particular project/stream as the default to be displayed. A project/stream has a folder structure in which the items are organized. It may have areas associated with it that contain versions of the items. There may also be baselines associated with the project or stream and a project may have related child project. You can select a project/stream as being your current one and view and select the objects related to it:

Dimensions provides a unified view of all the items and their revisions in a system-defined project referred to as the Global Project, called $GENERIC:$GLOBAL. This project references all item revisions in all products in the base database. The Global Project is maintained by Dimensions and can never be deleted. Any new item that is created in a user-defined project will automatically be included in the Global Project.

You can associate a *default work area* for a project or stream for your user. The work area can be a folder on your local machine or another network location. It can also be a location which has been defined as a *work area* (see "Areas" below) in Dimensions CM and may be shared with other users. Dimensions CM ensures that all item operations you do in the project/stream take place relative to the root folder specified by that work area. This enables users of the same project to either develop and test their code in separate locations or to use a common location.

Every item in a project has a *project filename*. Different projects can refer to the same item using different project filenames. This functionality, combined with the ability to define folder structures at the project level, allows project managers and developers to tailor the development and build folder structures to meet their own needs.

Any new revision of an item appears only in the project in which it is created. To help you manage projects and items, Dimensions CM enables you to import or export item revisions individually or in groups from one project to another, and to set up automatic replication between projects. You can also specify trunks and branches when creating new item revisions to associate them with different strands of parallel development.

To support parallel development using projects, Dimensions CM also provides interactive facilities for merging projects, and for identifying and resolving the conflicting files in the resulting merged project. See Chapter 18, "Using the Merge Tool", and Chapter 14, "Comparing and Merging Projects" for details.

For more information about projects, see Chapter 4, "Working with Projects"

Areas

A project can typically have areas associated with it to which Dimensions CM will automatically copy versions of item files when you perform certain operations. There are three types of area:

Work Area: an area associated with a project for a particular user or a number of users, so that their file operations such as check in, check out, and so on, take place in the context of that area. The same work area can be assigned to more than one user.

Deployment Area: an area associated with a project for a particular stage in their development such that item files are moved to that area when the item revisions reach a particular stage in the Global Stage Lifecycle.

Library Cache: An area that is defined in order to contain copies of item files for a project to improve the efficiency of Dimensions CM item operations when accessing a database over a remote network. When a user needs to access an item file, Dimensions CM looks in the library cache area first to see whether the file is already there before attempting to retrieve it from the remote server.

NOTE A library cache area can be used in the web client provided that the user sets the work area to a managed work area that has been defined in Dimensions as opposed to a folder on their local machine. A library cache area is assigned for your user for a given project using the Project Properties dialog box in the web client or desktop client. If the work area is not set to a managed work area, the library cache area will not be used for item file operations in the web client, although it will be used in the desktop client.

Baselines

Once a project has reached a milestone in its development, its content can be frozen in the form of a *baseline*. A baseline is a snapshot that represents a development milestone within a product lifecycle. A baseline consists of a set of item revisions organized in a design part structure or a project folder structure. A baseline can be created from a project, and can be related to an existing project. A new project can also be created from a baseline.

When a baseline is created, Dimensions CM records the status of all items that it includes. All items in a baseline are fully preserved for future use, for example, rebuilding the entire configuration, or providing the basis for a new maintenance release.

You can create baselines using a rich set of filtering criteria, including design part, item type, related requests, and status.

For more information about baselines, see Chapter 12, "Managing Baselines"

Releases and Customers

When a baseline passes testing, it may be considered ready for release to customers using the release management facilities. These facilities enable a full or delta configuration of the product to be copied from the protected Dimensions CM environment to a release folder. Dimensions CM provides templates that can be applied to the baseline in order to select the objects for release.

Dimensions CM can record details on customers that have received releases of a product and the specific releases that have been issued to them.

For more information about releases and customers, see Chapter 13, "Managing Releases"

About Relating Objects

To relate a particular class of object, you need to have the necessary privilege assigned to you via the Administration Console, Users, Roles function. The possible relationships you

can create also depend on certain conditions that are set in the Administration Console. Dimensions CM provides a number of system-defined relationship types, and there can also be user-defined relationships defined in your process model.

Possible relationship	Comment
Item/item	The system-defined item/item relationships are: ■ **Made Of.** An item is made of those item revisions from which it was created by a build process. ■ **Made Into.** An item is made into those item revisions that are built from it. ■ **Created From**. An item is created from those earlier item revision(s) from which it made by merging or editing.
Item/request	The system-defined item/request relationships are: ■ **Affected By**. An item revision can be affected by one or more requests. This means that the item(s) need to be modified to implement the changes required by the request(s). ■ **In Response To**. An item revision can be in response to one or more requests. This means that these versions of the items are intended to satisfy the required changes as requested in the request. ■ **Information.** An item revision can have an informational relationship to one or more requests. This means that the change is related for information purposes only.
Item/design part	Item/design part relationships are: ■ **Owned.** A single design part can own any number of items. This relationship indicates the part of the product in which the item belongs. ■ **Used.** An item can be used by any number of design parts. This relationship indicates that the item is reused in different parts of the product.
Request/ request	There must be a valid relationship defined in the Administration Console, Object Type Definitions between the two item types.
Request/ requirement	A one or more requests can have a **breakdown** relationship to a requirement.
Request/design part	Requests are related to design parts as **affected**.

Possible relationship	Comment
Request/baseline	Baseline/request relationships are: ■ **Affected By**. A baseline can be affected by one or more requests. This means that the baseline needs to be modified to implement the changes required by the request(s). ■ **In Response To**. A baseline can be related as in response to one or more requests. This means that the baseline contains item revisions that are intended to satisfy the required changes as requested in the request. ■ **Information.** A baseline can have an informational relationship to one or more requests. This means that the change is related for information purposes only.
Request/Project	A request can have a child relationship to a project, meaning that it is **Owned** by the project.
Project/project	A project can have child or parent projects. These are set in the Project Options dialog box. Relating a child project is called *attaching* a project.
Project/baseline	A project can have child baselines. Relating a child baseline is called *attaching* a baseline.
Requirement/baseline	A baseline can be related to a requirement.
Release to customer	A release is related to a customer to signify if the release has been supplied to them. Relating a release to a customer is referred to as *forwarding to*, and unrelating as *withdrawing from*.

About Filtering and Querying Objects

The Dimensions CM web and desktop clients provide various ways of filtering, grouping, and finding Dimensions CM objects according to your chosen criteria. The basic categories are:

Filters. These are sets of criteria you define and save for your user that you can use to retrieve groups of objects. Filters work in a slightly different way in the web client and desktop client.

Client Reports. These are sets of criteria for filtering change objects that are more flexible than a filter. You can specify criteria that include boolean operators. Queries you have created in the web client are available in the desktop client, and vice versa. Note, however, that in the web client you can only create and access queries for requests.

Request lists. These are lists of requests that you can create and save. You can subsequently add or remove requests from a request list. Request lists can be used and accessed in both the web client and desktop client.

About Privileges and Roles

The operations you can perform, and the object classes you can perform them on are defined in the Administration Console, Users and Roles function. For more details see the Process Configuration Guide. What you can do is determined by the *privileges* and/or *role assignments* that have been defined for your user.

A privilege is the ability to perform a certain operation on a particular class of object, for example to create a project, or to action a request. Also, it can be the ability to perform a general administrative function, such as to manage lifecycles or privileges.

A role is a set of privileges that can be assigned to one or more users, enabling them to carry out activities required for a certain position within the team or organization, for example Developer, or Team Leader.

For details about privileges and roles and how to use them, see the chapter Privileges and Roles in the Process Configuration Guide.

Options Affecting User Access in the Clients

User Interface Profiles

You may be able to select from a number of user interface profiles that restrict the functional areas that you are presented with, in the clients. These profiles are defined in the Administration Console and assigned to users or groups. You can select any of these profiles that are available to you in the **Set User Preferences** dialog box in the web client, or by selecting one from a list on the Status bar in the desktop client.

A user interface profile determines:

- Which object lists you can see. For example, you may or may not be able to see the Baselines inbox from within the **My Projects** view, or be able to see requests displayed by affected design parts.

- Which operations you can perform. For example, you may or may not be able to modify items using check in, check out etc. or be able to create requests.

These profiles operate independently of whatever privileges or roles you have to perform certain operations.

Request Management Only Option

In the web client you can select **Request Management only** as an option when you log in. This means that you only see Request Management functions and only the **My Current Project** and **Requests** tabs are displayed.

Role-Based Visibility of Objects

There is an option, that your administrator might have set, that can affect which objects you can see in the web client and desktop client. If an entry in the `dm.cfg` file (found in

the `DM_ROOT` folder of the Dimensions CM installation on the database server) is set to the value:

    DM_PRODUCT_USER y

the clients will only list objects that are owned by products on which the current user holds a role.

For example, supposing there are two products in your database called PAYROLL and DEMO, and a user has the role REVIEWER on a design part on product PAYROLL, but no role assignments at all on product DEMO. When this user uses the Dimensions client tools they will only see projects, requests, or baselines etc. from product PAYROLL in any lists of objects, but none from product DEMO. The one exception is that the $GENERIC:$GLOBAL project is always listed (regardless of role assignment) since all users are able to switch to the $GLOBAL project. However, when looking at objects in the $GLOBAL project they will only see those owned by product PAYROLL.

By default, this entry is not set. For details of how to set this option, see the *System Administration Guide*.

About Authentication Points

Dimensions provides the ability within the process model to define lifecycle states or attributes as *sensitive*. This means that when a user attempts to action an item or request to or from a sensitive lifecycle state, or attempts to update a sensitive attribute, this results in an authentication point, requiring an electronic signature. The user is presented with an Authentication Point dialog box, requiring them to re-enter their Dimensions password in order to complete the update. Dimensions maintains an audit trail of all failed and successful authentication attempts.

Authentication points are generated only for requests and items, and occur when you:

- Action an item or request to a sensitive lifecycle state, unless the sensitive state is the first normal lifecycle state and you are creating the object.

- Action an item or request from a sensitive lifecycle state unless the sensitive state is the first normal lifecycle state and you are creating the object.

- Modify the value of a sensitive attribute unless the modification occurs as part of creating the object.

- Delete an item or request when it is at a sensitive lifecycle state.

Authentication points are not generated for draft requests.

Customizing the Clients

You can customize various aspects of the behavior of the GUI clients. You can choose:

- Which columns are displayed in lists for the various objects

- The color settings used to indicate various states (desktop client only)

- The default for various item options (overwrite writable file, expand headers, etc.)

For further details see , and .

Chapter 2
Getting Started with Topic Streams and Pull Requests

Introduction

Topic Streams

Topic streams are temporary streams that you use for a set of defined changes, for example, to fix a defect or develop a small feature. Topic streams enable you to isolate your changes from a mainline.

Key Facts

- By default any user can create a topic stream.

- Topic streams are versioned the same as regular streams.

- Have their own icon to differentiate them from regular streams .

- Are usually only visible to the user who created them but other team members can be given access by delegating the topic stream or changing its ownership.

- After you delegate a stream that you created you can continue contributing to it. Access is controlled by the privilege *Manage Topic Streams.* All users in the ADMIN group have this privilege granted by default.

- CM Rules are disabled by default so you do not have to specify requests when delivering changes.

Differences between Topic and Regular Streams

- Topic streams have less features and are typically used for short-term work.

- You cannot create a topic stream from another topic stream.

- A topic stream and its parent stream must belong to the same CM product.

- A topic stream cannot be deployed, baselined, or added to a CM release.

- A topic stream can only be related to a single, active pull request. After the related pull request has moved to its final state, or been abandoned, you can relate another pull request.

Shelve your Personal Changes

If you need to suspend work that is in progress, or isolate work into a dedicated stream, you can shelve the changes from a work area into a topic stream.

Key Facts

- Shelving is based on the content of a local work area, not a repository.

- Shelving hides changes so that they are only visible to you and the users you share the stream with.

- After you have shelved changes you can optionally do one of the following:

  - Reset the work area to set aside the changes and use it for other work.

  - Rehome the work area to switch it from the original stream to a new topic stream.

- You can restore earlier shelved changes to the other stream's work area by merging the changes via a work area.

- You can continue work in the topic stream created by shelving by using its own work area.

Pull Requests

A pull request is a special type of review that you use to evaluate and merge a set of defined changes, typically in a topic stream.

Key Facts

- Pull requests are a collaborative process that allows a team to:

  - Review the proposed code changes.

  - Add review comments and contribute to a discussion.

  - Catch problems early before they become costly to fix.

  - Protect your mainline stream from unwanted changes, bad merges, and broken builds.

  - Approve changes and merge them into a mainline.

- Pull requests are related to two streams:

  - The *source* stream, where the pull request changes are made and reviewed, typically a topic stream.

  - The *target* stream, where the pull request changes will be merged to, typically a mainline.

- Pull requests can be related to a request, which is used to merge the pull request changes. If the target stream has CM rules enabled, a request is required for the merge to succeed.

- Pull requests have a single author and can be assigned to multiple lead and optional reviewers. When you publish a pull request, the reviewers are notified.

- The related topic stream should preferably contain a small number of changesets. If there are too many changes, the pull request becomes too large to review effectively.

- Pull requests enable you to merge changes automatically into a parent stream without involving a work area.

- Pull requests can run Micro Focus Pulse chains. Chains helps you to decide if the changes in a stream are healthy. For information about Pulse see the online help.

  Pulse administrators can configure a pull request to be automatically created when a topic stream is created. The new pull request is automatically linked to the topic stream. In Pulse go to:

  Suites | <suite name | <CM product> | Settings | Pull Requests

How do Topic Streams and Pull Requests Work Together?

A topic stream and its related pull request work together to help you manage and merge changes:

- A topic stream is created from a parent stream, which creates a pull request.

- Changes are delivered to the topic stream and related to the pull request.

- The pull request is reviewed, approved, and merged into the topic stream's parent.

Key Facts

- Reviewers use pull requests to review changes in a topic streams.

- An active pull request contains the changes in the related topic stream (but not the changes in closed pull requests).

- The request related to the pull request is used to merge the changes in the topic stream into its parent stream.

- You can view all of your pull requests in the desktop client or Micro Focus Pulse.

- In some cases you may have multiple pull requests for a topic stream, however only one can be active and in progress. For example, a topic stream may have previous, closed pull requests, each covering a range of changesets.

Code Review

When you create a pull request, you assign reviewers to it. Reviewers see the code changes on the Changes tab of a pull request. They can add comments about the changes, identify issues, make suggestions, and answer questions. When a comment is made, the pull request author and reviewers receive an email with a snippet of the code and the review comments.

Key Facts

- To get high quality reviews and good feedback:

  • Select reviewers that know the code, can identify issues, and can suggest improvements.

  • Include developers whose expertise is in other areas so they can suggest other approaches.

  • Reply to reviewers' comments, accept suggestions, or explain why an idea may not be suitable.

- Pull requests can be reviewed and voted on by reviewers (to Approve, Request Changes, or Abstain with No Opinion) which may approve the review or send it for rework.

Merge Pull Requests

When changes have been reviewed and approved, and if there are no conflicts between the topic stream and its parent, you can merge the pull request. This merges the contents of the topic stream into its parent stream without using a work area.

Key Facts

■ If Pulse has been configured to automatically merge pull requests, when the review moves to the Approved state, the pull request is automatically merged into its parent stream. Note that automatic merges can fail.

In Pulse go to Administration | Merge Policies and select the merge policy that has this option: *Automatically merge pull requests when approved*

■ The request related to the topic stream is used to merge the changes.

■ If automatic merges are not enabled you can merge a pull request manually.

■ Users who can see the Merge Pull Request button are set by the product's merge policy in Pulse, for example, *Author's* and *Reviewers*. In Pulse go to:

Suites | <suite name> | <CM product> | Settings | Pull Requests

This is not the same as having the privilege to merge, which is controlled by Dimensions CM privileges.

■ If you do not want the changes in a topic stream merged into the parent, you can close the pull request without merging.

Example

In the example below the topic stream *Feature_1* is created from the parent stream *Mainline* to address request *CR_1*. This automatically creates pull request *PR1* to gather and review the changes made in *Feature_1*. Changes are delivered into *Feature_1* and the pull request is assigned to reviewers. When all reviewers have reviewed and voted to approve the changes, the pull request is automatically merged into its parent stream, *Mainline*, creating a new changeset in that stream. *CR_1* now contains the results of the merge.
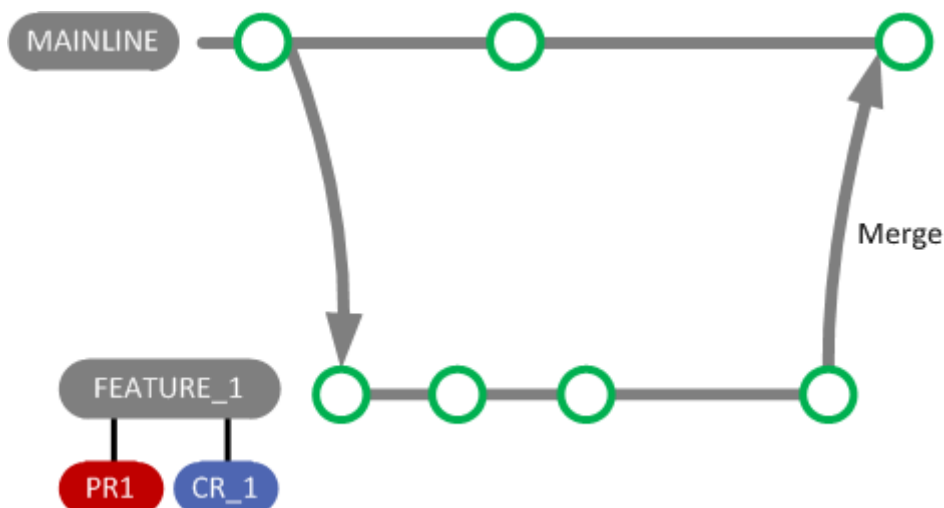
Resolve Merge Conflicts

If there are conflicts between the contents of a topic stream and its parent, you must resolve them before you can merge the pull request.

Key Facts

- A banner at the top of a pull request indicates if there are conflicts and it cannot be merged into the target stream.

- Conflicts are resolved and merged into a topic stream via a work area.

Example

In example below there are conflicts between the content of topic stream *Feature_1* and *Mainline:*

- The parent stream, *Mainline,* is merged into the work area associated with the topic stream, *Feature_1*.

- The conflicts are resolved during the merge operation.

- The merge results are delivered to the topic stream from its work area.

- Pull request *PR1* is merged, which automatically applies all the topic stream changes to the parent stream.
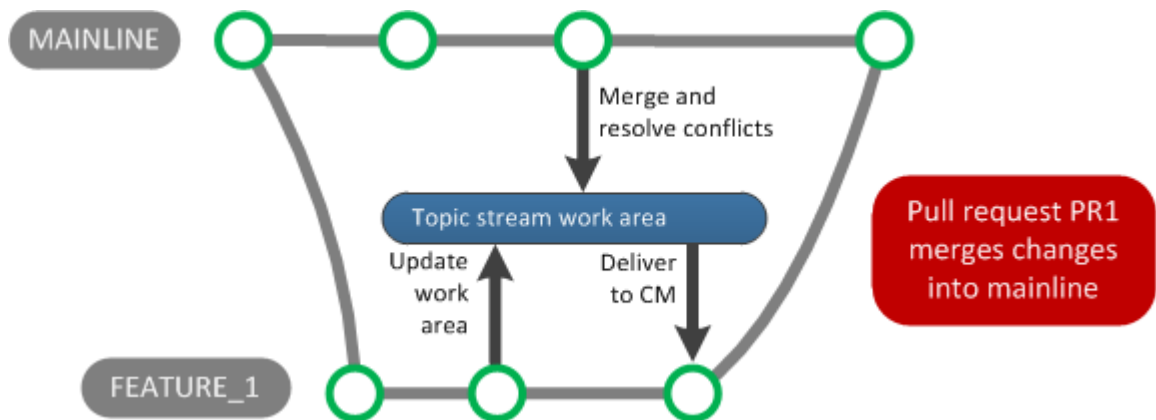
Rehome Work Areas

Rehome is a quick and easy way to switch a work area from one stream to another.

Key Facts

- Rehome fetches any required content into your existing work area so that it matches the stream you are rehoming to.

- Rehome avoids the need to fetch to a clean work area when switching to a different stream and is faster.

- Rehome preserves locally modified files and new files, for example, built outputs.

- Rehome is ideal for use with topic streams as switching work is easier.

- Rehome works for any stream, not just topic streams.

- Rehome works even if your work area is not up to date with the tip of the stream.

- If rehoming fails because of conflicting changes between the local content and the target stream, Micro Focus recommends using a clean work area.

- You cannot rehome just a sub-folder if the parent work area contains other controlled items that are not in the selected sub-folder.

Scenario

1 Amy is working on the stream *Feature_1*. She has made changes locally and delivered them to a CM repository.
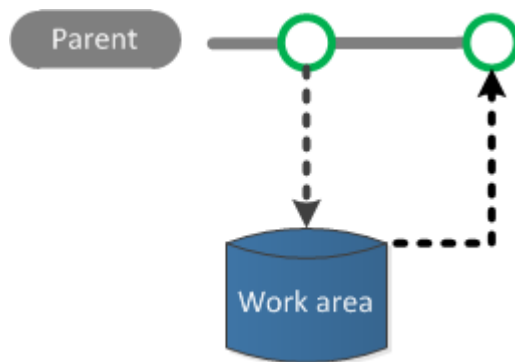
2 A request for a change comes in and Amy starts work on it by creating a new topic stream.
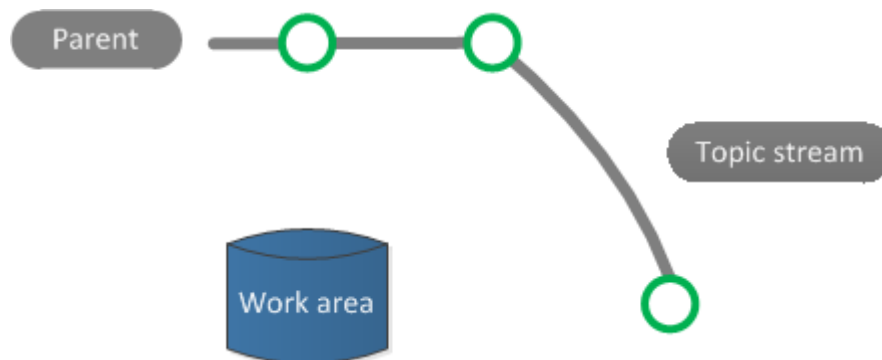
3 Amy needs a work area for the topic stream development work. She could fetch to a new local folder, but this may be slow as it fetches all the files from the topic stream.

   Instead, Amy rehomes her existing work area. The work area is updated so it is now associated with the topic stream instead of the feature stream.
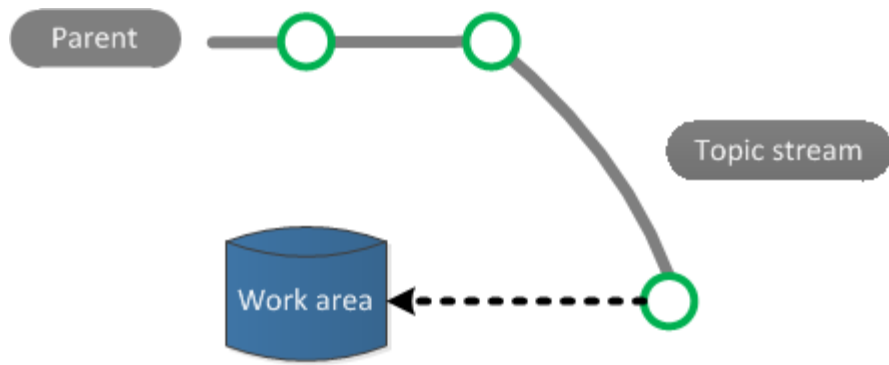
Rebase Streams

If you have a topic and parent stream that both contain changes, and you want to update the topic stream with the changes from its parent, you can rebase the topic stream.

Key Facts

- Rebase updates the content of the topic stream with the tip of the parent stream (or an earlier version).

- Rebase merges the changes from the selected parent stream version, with all the changesets in the topic stream, into a *single* changeset on the topic stream.

- Rebase is simpler and quicker than merging the streams. The rebase is performed in the repository and not via the work area.

- Rebase is particularly useful when development work on a topic stream is taking a long time and you want to test your code with the latest updates in the parent stream.

- Rebase makes reviews of changes simpler.

- Rebase only works if there are no conflicts between the topic and mainline streams.

Scenario

1 A topic stream is created from a parent stream. Deliveries are made to both streams, which creates multiple changesets:

- Parent stream changesets: *p1, p2, p3*

- Topic stream changesets: *t1,t2*
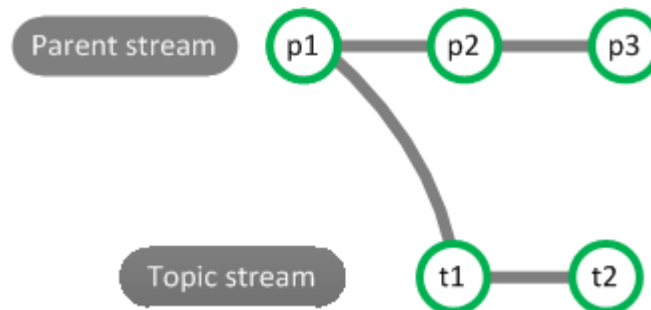
2 Solution 1: merge

- Merging changes from the parent into the topic stream via the work area creates a new changeset, *t3*, in the topic stream that includes all the changes from the parent stream.

- The pull request for the topic stream includes the results of the merge, which makes it hard to see the real changes in the topic stream.
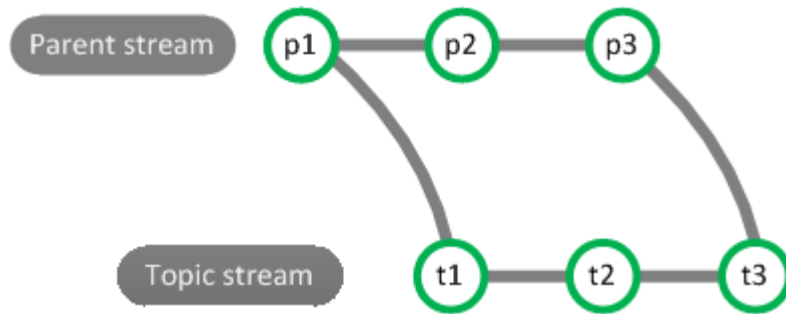
3 Solution 2: rebase

- Rebasing merges all the changesets in the parent stream (*p1, p2, p3*) into a new changeset on the topic stream, *t1´*.

- Rebase then merges the topic stream changesets (*t1, t2*) into a new changeset, *t2´*.

- The pull request for the topic stream looks cleaner as it does not include the changes from *p2* and *p3* in the parent stream.
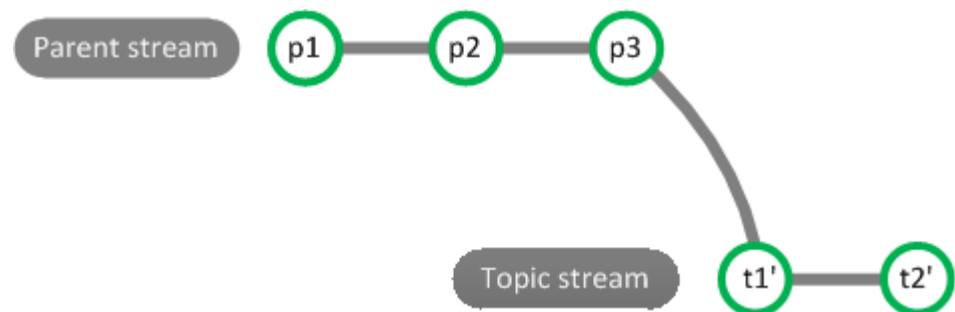
Scenarios

Basic Scenario

This scenario describes how to:

- Create a topic stream and a pull request.

- Rehome a work area.

- Make and review changes.

- Merge the changes into the parent stream using the pull request.

1 Amy launches the desktop client and opens the stream QLARIUS_MAIN with the work area C:\Work_Main.

2 Amy opens her request inbox and sees that she has been assigned QLARIUS_CR_1.

3 To create a new topic stream for the work, Amy right clicks on QLARIUS_CR_1 and selects New Topic Stream. The following fields are pre-populated by default:

- Topic stream name: the request type and ID (CR_1).

- Parent stream: the stream on which the topic stream is based (QLARIUS_MAIN). This is the stream the topic stream will be merged into.

- Request: the request that will be used to merge the changes (QLARIUS_CR_1).

- Rehome: reuse the existing work area.

4 Amy clicks Create.

- The new topic stream is created and opened in the desktop client.

- A pull request is automatically created in Pulse at the *Draft* state. The pull request has the same title as the request.

  Note: QLARIUS_MAIN has been configured to automatically create pull requests from new topic streams.

- The request QLARIUS_CR_1 is automatically related to the pull request.

- The work area is rehomed to the new topic stream so that it can be used for development work.

5 Amy makes changes to the code in the topic stream and delivers them to the repository.

- A request is not required to deliver the changes.

- A new peer review in Pulse is not created for the topic stream because changes are associated with the pull request.

6 Amy opens the pull request in the desktop client.

- On the Conversation tab Amy can see that changes were delivered to the topic stream.

- Amy has completed her development work so she selects another developer, Fred, as reviewer and moves the pull request to the *In Review* state.

7   Fred opens the pull request in the desktop client.

- Fred reviews the changes and votes to approve the pull request.

- The changes are ready to be merged into `QLARIUS_MAIN`.

8   Amy receives a notification that the pull request is approved.

- Amy opens the pull request in Pulse. There are no conflicts so she clicks Merge.

- The changes are merged into the mainline using request `QLARIUS_CR_1`.

- After the merge has completed successfully, the pull request moves automatically to the *Completed* state.

9   Amy rehomes the work area back to the mainline stream, `QLARIUS_MAIN`.

Shelving Scenario

This scenario describes how to:

- Shelve local changes into a topic stream.

- Publish a pull request and start a review.

- Add comments to a pull request and send it for rework.

- Resolve conflicts between a topic stream and its parent.

- Approve and merge a pull request.

1   Sam is assigned the request `QLARIUS_ENH_7` to add a new feature to the Qlarius application. He starts development in the work area `C:\Work_Main`, which is associated with the mainline stream, `QLARIUS_MAIN`.

2   Sam launches the web client and opens his default stream `QLARIUS_MAIN` with the work area set to `C:\Work_Main`. This work area contains all his local changes. Sam starts to make changes to the code.

3   Sam decides that his changes are not ready to deliver to the mainline stream. So he decides to branch them from the local work area into a topic stream using the shelving feature.

4   Before shelving, Sam uses the Update operation to fetch the latest repository content from the mainline into the work area. This ensures that the new topic stream will contain the most recent sources.

5   Sam selects the Folders and Items view and on the toolbar clicks Shelve.

6   In the Shelve wizard, Sam specifies a name for topic stream that is the same as the request related to the work, `QLARIUS_ENH7`. This makes it easier to identify the purpose of the stream. He also specifies a unique branch name and a description.

Sam wants to continue working on this enhancement in the current work area after shelving, so he selects the Rehome option. The work area will be associated the new topic stream after shelving.

In the Shelve wizard, Sam verifies that all parameters are set as expected, validates the file changes to be shelved, and specifies a comment for the uploaded changes.

Note: Shelving, or delivering to a topic stream, does not require a request. Request `QLARIUS_ENH_7` will be used when merging changes into the mainline.

7   After the local changes are shelved, Sam switches the web client to the new topic stream, `QLARIUS_ENH7`. The work area, `C:\Work_Main`, is rehomed to the new topic stream that he just created.

Note: `QLARIUS_MAIN` has been configured to automatically create pull requests from topic streams.

8   Sam completes the enhancements to the topic stream and delivers the changes to the repository. To start the peer review process he does the following in the web client:

- In the My Current Stream tab selects Pull Request on the side panel. The pull request opens in the main window.

- In the Requests section, relates `QLARIUS_ENH_7` to the pull request. This is the request that will be used for the merge.

- Adds Arlene as a reviewer.

- Clicks Publish. The pull request is assigned to Arlene for code review.

9   Arlene receives an email notification that there is a new pull request in her inbox ready for review. She clicks the link in the notification, which opens the pull request in Pulse. The request contains a list of all the changes that Sam made in the topic stream `QLARIUS_ENH7`. Arlene reviews the code, adds comments to the pull request suggesting changes, and votes Request Changes to send it for rework.

10 Sam receives a notification that the pull request has been sent for rework. He implements the changes proposed by Arlene. He also notices a warning in the pull request that it cannot be automatically merged because of conflicting changes in the mainline stream introduced by a different team member. To resolve the conflicts Sam:

- Merges the mainline stream `QLARIUS_MAIN` into the work area, `C:\Work_Main`, and resolves all the conflicts.

- Delivers the changes in the topic stream `QLARIUS_ENH_7` to the repository, including the changes requested by Arlene.

- Publishes the pull request again for Arlene to review.

11 Arlene is satisfied with the latest changes and votes to approve the pull request.

12 Sam opens the pull request and clicks Merge Pull Request, which automatically merges all the topic stream changes into the mainline.

13 Sam can now rehome the work area `C:\QLARIUS` and continue development on mainline changes, or branch another topic stream and work on a different task.

Quick Start

NOTE

- In the desktop client there are multiple ways to open dialog boxes. In the procedures below only one method is described.

- Some of the procedures described below can also be performed in Micro Focus Pulse.

Creating Topic Streams from Streams

You can create a new topic stream from an existing stream or project. The topic stream will be a child of the parent stream.

1 **Desktop client**

   a Open the stream on which you want to base the new topic stream.

   b On the toolbar click New and select Topic Stream.

   Web client

   a Select one of these tabs: My Current Stream, Streams.

   b Click New Stream and select Topic Stream.

   The New Topic Stream dialog box appears.

2 Enter a name for the new topic stream.

3 Select the target stream where work from the topic stream will be merged into. Default: the parent stream.

4 Select the request that will be used to merge the changes into the target stream.

5 (Desktop client only) Select an option for the work area when the stream is created:

- (Recommended) Rehome to the latest content of the parent stream in the repository.

- Rehome a specific folder to the content in the repository.

- Create a new, empty work area.

- Assign a work area later.

6 (Desktop client only) Click Next. Optionally select one or more users and groups who can access this topic stream.

7 Click Create.

Creating Topics Streams from Requests

You can create a new topic stream from a request. The topic stream will be a child of the parent stream. The request is automatically related to the new topic stream's pull request.

Desktop client only

1   Open the request list for a product or stream.

2   Right-click a request and select New Topic Stream. The New Topic Stream dialog box appears. The following fields are populated by default:

  • Topic stream name: is derived from the request ID, for example, if the request ID is QLARIUS_CR_5 the topic stream name is CR_5.

  • Parent stream: the target stream where work from the topic stream will be merged into. The topic stream content will be based on the parent stream. Default: the stream related to the request.

  • Request: the request that you selected. This request will be used to merge the changes.

  You can modify the values for these fields.

3   Select an option for the work area when the stream is created:

  • (Recommended) Rehome to the latest content of the parent stream in the repository.

  • Rehome a specific folder to the content in the repository.

  • Create a new, empty work area.

  • Assign a work area later.

4   Click Next. Optionally select one or more users and groups who can access this topic stream.

5   Click Create.

Creating Pull Requests

If Pulse has not been configured to automatically create pull requests for new topic streams, you can create them manually. You cannot add a new pull request to a stream that already has an active pull request.

1   Open the stream where you want to create a pull request (typically a topic stream).

2   **Desktop client**

On the toolbar click New and select Pull Request.

Web client

On the My Current Stream tab click Pull Request.

3   In the New Pull Request window select the following:

- The product where you want to create the pull request. Default: the product to which the stream belongs.

- A source stream. Default: the stream you selected above.

- The target stream the pull request will be merged into when the development is complete. Default: the child stream's parent, if applicable.

4   Enter a title and description.

5   Add lead and optional reviewers who can vote to approve or request changes. Choose developers who you think are most suitable to review these changes.

6   Select a request that describes the changes to be made. This request will be used to merge the changes into the parent stream. If the topic stream is related to a request, it is automatically selected.

To relate a different request, click Relate and select a request from the Relate Requests dialog box.

To unrelate a request, click Unrelate.

7   Click Create. The new pull request is at the *Draft* state.

Opening and Modifying Pull Requests

You can open a pull request. If you own the pull request you can also modify it.

1   Desktop client

- Topic stream: on the My Current Stream panel, click Pull Request.

- Regular stream: on the My Current Stream panel, click Reviews. Double click the pull request.

Web client

- Open a topic steam. On the My Current Stream tab, on the side panel click Pull Request.

The pull request is displayed in the main window.

2   On the Conversation tab you can modify these fields:

- Description

- Author (the owner of the pull request)

- Reviewers

- Request

Any changes that you make are saved automatically.

3   To edit the pull request's title, from the Actions menu select Edit Title. You can also open the pull request in Pulse.

Publishing Pull Requests

If you are the author of a pull request, when you have finished delivering your changes you can publish it for review. When you publish a pull request:

- It moves to the In Review state.

- The reviewers are notified.

1 Open a pull request.

2 Click Publish.

3 Click Publish Review. Depending on your review rules, you may want to action the related request to its In Review state. See the Pulse online help.

Reviewing and Approving Pull Requests

If you are the reviewer of a pull request you can:

- View the associated code changes.

- Add review comments and collaborate with team members.

- View the results of Pulse chains that have run on the pull request.

- Approve the pull request.

- Request changes to the code.

1 Open a pull request.

2 To view the code changes, click the Changes tab. The Contents section list all the files in the review. To review a specific file, select it from the list, or scroll down. The list of files is also displayed on the sidebar.

3 To add comments to a file:

    a Click and drag to select the lines where you want to add a comment.

    b In the Comment box enter your comments. Optionally, format the comment using the toolbar or markdown syntax.

    c Click Comment. Your comments are now visible to your team and their responses will be displayed in the same comment box. Each reviewer receives an email with a snippet of the code and the review comments.

4 To vote to approve a pull request click Approve. Enter the reasons for your approval and click Approve.

5 To ask for changes to be made, click Request Changes. Enter comments and click Request Changes. The pull request is sent back to its author for rework. The author can make additional changes and republish the pull request.

Monitoring Reviews of your Pull Requests

You can view all the pull requests that you own and monitor their progress, such as who has reviewed and made comments.

Desktop client only

1 Open a stream.

2 On the My Current Stream or User Inbox panel, click Reviews. The review catalog opens in the main window and displays all the pull requests that you own for the stream. Pull request IDs typically start with 'PR'.
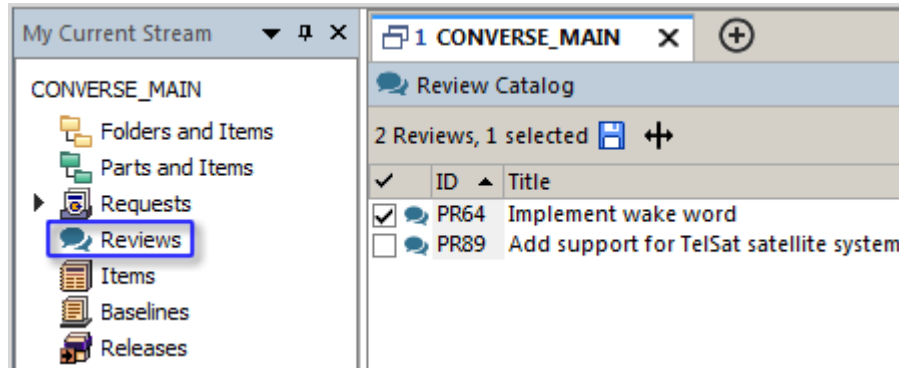
3 Double click a pull request to open it.

4 Click the Conversations tab. The Activity section displays all comments made by the reviewers of this pull request.

You can also use Pulse to display all the pull requests that you own, or a reviewer, for a product or a stream.

Manually Merging Topic Stream Changes

If Pulse has not been configured to automatically merge approved pull requests into its parent stream, you can do a manual merge if there are no conflicts between the contents of the topic stream and its target stream.

1 Open the pull request that you want to merge.

2 Click Merge Pull Request.

3 Add a merge comment and click Merge. If the merge is successful the pull request is automatically closed. If the merge fails a warning is displayed at the top of the pull request.

Rehoming Work Areas

Rehome is a quick way to switch the contents of a work area from one stream to another. Rehome fetches any content into your existing work area so that it matches the stream you are rehoming to.

Desktop client only

1   Open a regular or topic stream.

2   From the Stream menu select Rehome.

3   Select a stream or project.

4   Optionally specify a folder to rehome instead of the entire work area.

5   Click Rehome.

Rebasing Topic Streams

Rebase updates the content of the topic stream with the tip of the parent stream (or an earlier version).

Desktop client only

1   Open a topic stream.

2   Select a stream to rebase from.

3   (Optional) To rebase from an earlier version of the stream, click Select Version. Use the filters and date range to search for a specific version.

4   Click Rebase.

Shelving your Personal Changes

You can create a topic steam that is only visible to you by shelving the changes you have made in a local work area. To speed up the operation, you can limit the scope to folders that contain your changes instead of shelving the entire stream.

1 **Desktop client**

Open the stream and from the Stream menu select Shelve.

Web client

Open a stream. On the side panel select Folders and Items. On the toolbar select Shelve.

Windows Explorer

Right-click the root folder of the stream, or a subfolder, and select Dimensions | Shelve.

The Shelve wizard opens.

2 Enter a name for the topic stream, a unique branch name, and a description.

3 Select options to be applied after the shelving operation completes:

- Reset the work area to the latest content of the stream in the repository.

- Rehome the work area and associate it with the topic stream.

- (Desktop client only) Specify a different work area for the topic stream.

- (Desktop client only) Add the topic stream to your list of favorite streams.

Click Next.

4 The Shelve wizard displays:

- The path of the work area you are shelving from. You can select a different work area.

- The name of the topic stream where your changes will be shelved to.

5 The next sections of the Shelve wizard are the same as delivering changes to CM, see "Delivering Changes to a Stream" on page 66.

6 When you have competed the wizard, click Shelve.

If you have opted to reset the work area click Reset. The Update wizard opens. The stream to be used for the update is the same one that is associated with the work area. In the Advanced section the following options are selected by default:

- Reset work area changes to repository versions and paths.

- Delete locally added files (such as files added by a local build process).

To reset the work area complete the Update wizard, for details see "Updating a Work Area from a Stream" on page 62.

Restoring Shelved Work

To apply shelved changes back into a work area, merge the topic stream used for the shelving into the work area.

1   **Desktop client**

Right-click the root of the target stream, or a subfolder, and select Merge.

Windows Explorer

Right-click the root of the target stream, or a subfolder, and select Dimensions | Merge.

2   The Merge wizard opens with the following defaults:

- The source for the merge is the shelved topic stream. If you do not specify a version, the changes are merged from the latest version.
- The target is the stream you are merging into.
- The work area is the one associated with the target stream.

Modify these settings if required.

3   Complete the rest of the Merge wizard, for details see "Merging Changes across Streams" on page 142.

Sharing and Delegating Topic Streams

You can share a topic stream with other users and change its ownership. For example, you are switching to a different task and want to delegate the changes in a topic stream to another user.

Desktop client only

1   Open the topic stream that you want to delegate.

2   From the Stream menu select Delegate. The Stream Preferences dialog box opens.

3   On the Stream Access tab add or remove users and groups.

4   Click OK.

Updating Pull Requests

The latest changesets are automatically attached to pull requests. However, to check that the pull request is current, you can scan for the latest changes.

1 Open the pull request that you want to update.

2 From the Actions menu select Scan for New Changesets.

3 Click Scan.

Abandoning Pull Requests

If you are a Pulse administrator you can abandon a review if it is no longer required. This stops further review activity and cannot be reversed.

1 Open the pull request that you want to abandon.

2 From the Actions menu select Abandon Review.

3 Click Abandon Review.

Running Chains on Pull Requests

Pulse chains helps you to decide if the changes in a stream are healthy. Typically chains are configured to run automatically, though you can also run them manually.

1 Open the pull request where you want to run chains.

2 From the Actions menu select Run Chains.

3 Select chains and click Run Chains.

Changing Ownership of Pull Requests

If you are a Pulse administrator you can change the owner (author) of a pull request.

1 Open the pull request.

2 On the Conversation tab, in the Author section, click Change.

3 Select the user who will be the new author.

4 Click Change Author.

Chapter 3
Working with Streams

About Streams

Dimensions CM supports Agile development by using streams to manage and control updates between local work areas and a repository. You can work with streams in the desktop and web clients, the Windows Explorer, Visual Studio and Eclipse integrations, and the *dmcli* and *DM* developer command-line utilities.

A stream is a container in a Dimensions CM repository for a set of item revisions. Streams are used to isolate the development of features from the main code base. Typically each development team uses a child stream that has been branched from a parent mainline stream. The child stream is merged back into the mainline as required.

Streams enable an iterative process where developers:

- Use the *Update* operation to copy item revisions to a local work area from a repository.

- *Modify* the item revisions locally, build, and test.

- Use the *Merge* operation to resolve any conflicts with the mainline; build and test the merged item revisions.

- Use the *Deliver* operation to commit the merged item revisions to the repository.

A stream cannot contain parallel versions of the same item and you cannot use functions that operate on individual files, such as check out and check in.

You should use streams if your team is going to:

- Adopt, or is already practicing, Agile software development practices.

- Work in parallel on the same code for the same release.

- Manage multiple parallel streams of development with a protected mainline.

- Allow developers to easily branch and merge projects.

- Enforce a single line of descent to prevent conflicts.

- Make developers responsible for the impact of their changes on the rest of the application.

NOTE Your system administrator can configure your database to use:

- Streams only

- Projects only

- Streams and projects

Parallel Development using Streams

When multiple development teams are working in parallel on the same code base, the normal practice is to:

- Create a separate child stream for each feature, based on the parent mainline stream, and isolate it from the rest of the code base.

- When the code in a child stream is stable and ready for release, merge it back into the parent stream.

You should use child streams when:

- The expected changes are very large and may destabilize the mainline code, cause continuous integration builds to fail, and affect other teams that are working with the mainline.

- The development work on a feature may not meet the mainline release date. You should develop it in a separate child stream and only merge the changes into the release baseline when they are completed.

TIP To test the integration between the changes in a mainline (delivered by other child streams) and a child stream, you may want to regularly merge the mainline into the child stream. This enables you to resolve, fix, and test any issues before you merge the child stream into the mainline. The merge operation is then easier and safer.

The following illustration shows a typical parallel development work flow using streams (the steps are described below):
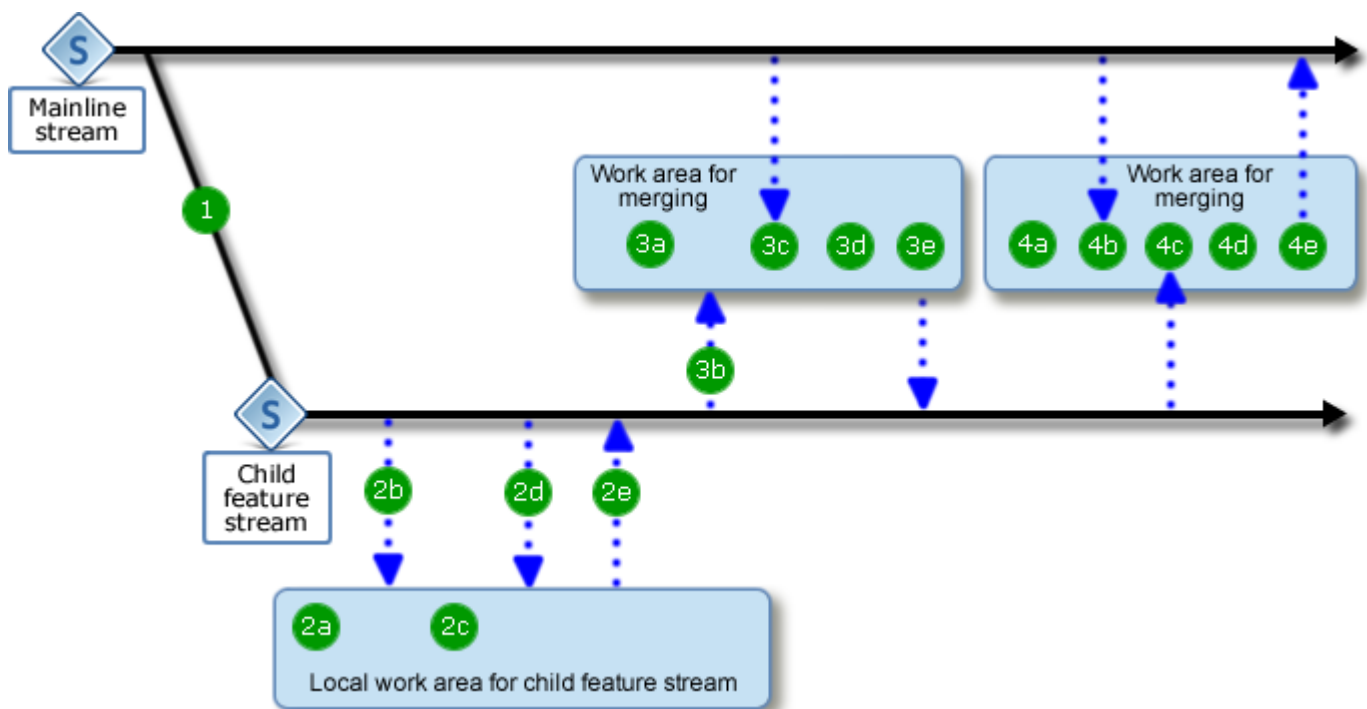
1   **Create a child stream:**

    Create a new child feature stream based a baseline or a version of the parent mainline stream.

2   **Develop the child stream:**

    a   Create a local work area for the child feature stream.

    b   Use the Update or Get operations to populate the work area with the contents of the child stream.

    c   Make changes to the files in the work area.

    d   If other members of your development team are working on the same child stream, fetch their latest changes from the repository to the work area. Resolve conflicts, build, and test the changes.

    e Deliver your changes to the child feature stream.

3   **Merge the mainline into the child stream:**

If the mainline stream is being updated in parallel by other teams, regularly merge the changes from the mainline into the child stream:

    a Create a temporary local work area for the merge operation.

    b Use the Update or Get operations to populate the work area with the content of the child stream.

    c Invoke the Merge wizard for the work area and select the mainline stream as the source and the child stream as the target of the merge operation.

    d After you have successfully merged the mainline stream changes into the local work area, build and test the code.

    e Deliver the changes to the child stream.

For more details about merging see "Merging Changes across Streams" on page 139.

4   **Merge the child stream into the mainline:**

When the child stream changes are ready to be merged into the mainline, perform the merge described above in the opposite direction:

    a Create a temporary work area for the merge operation.

    b Use the Update or Get operations to populate the work area with the content of the mainline stream.

    c Invoke the Merge wizard for the work area and select the child stream as the source and the mainline stream as the target of the merge operation.

    d After you have successfully merged the child stream into the mainline, build and test the code.

    e Deliver the changes to the mainline stream.

5   **Next steps:**

After the child stream has been delivered successfully to the mainline you can either:

- Continue to develop source code based on the child stream.

- Switch to another feature, project or release, and create a new child stream. You can optionally lock or delete previous child streams.

Creating a Stream

New Stream Types

You can create the following types of streams:

- An empty stream.

- A stream based on a release or tip baseline. These types of baselines only contain one revision of each item. To create a stream containing the items from a project, first create a tip baseline of the project and then create a new stream based on that baseline.

- A stream based on any version of another stream. The new stream is a child of the parent stream from which it was created.

- A topic stream, a temporary stream that you use for a set of defined changes, for example, to fix a defect or develop a small feature. "Shelve your Personal Changes" on page 27.

Creating a New Stream

You can create an empty stream or base a new stream on an existing stream or baseline. In the desktop client you can also base a new stream on any version of a stream.

Web client **1** Select one of these tabs:

- My Current Stream

- Streams

2 Click the New Stream button.

3 On the first page of the wizard do the following:

- If required, select another product from the product list.

- Enter the name of the stream.

- Enter the branch name to be used for all new items created in the stream.

- Enter a description of the stream.

4 Click Next and select one of the following:

- **Nothing** if you want the stream initially to contain no items.

- **Based on Stream** if you want the new stream to be populated with the item revisions from an existing stream. Select the stream from the list.

- **Based on Baseline** if you want the new stream to be populated with the item revisions from a baseline. Select the baseline from the list.

5 Select **Copy build configuration** if you have selected **Based on stream** and want its build configuration to be copied to the new stream.

6 Select **Valid request must be specified when delivering changes** if you want Dimensions to require a request to be entered when any changes are made to the stream.

7 Click **Next**. On the Attributes page select any required attribute values for the new stream.

8 Click **Next** to review a summary of the new stream's properties.

9 Click **Finish** to create the stream.

Desktop client/ **1** Do one of the following:
Windows Explorer

In the desktop client:

- Select **Stream** | **New** | **Stream**, or,

- In a Changesets dialog box right-click the stream version on which you want to base the new stream and select **New Stream**.

In Windows Explorer:

a   Right-click a folder that has not been associated with Dimensions and select **Dimensions | Associate with source contro**l. Or right-click a folder that is associated with a stream and select **Dimensions | Folder Settings**. Login if prompted.

b   In the Work Area Defaults dialog box, or the Folder Settings dialog box, click the browse button next to the **Associated Dimensions Stream** field.

c   Select **Another Stream** and from the list select **Create New**. The New Stream dialog box is displayed.

2   On the General page:

■   Select a product.

■   Enter a stream name.

■   In the **Unique Branch Name** box enter the branch name to be used for new items created in this stream.

■   Enter a description for the new stream.

■   If you want the new stream to be opened when the wizard completes select **Open using work area**. Select a work area.

■   To add the new stream to your list of Favorites select **Add the new stream to my favorites**. Favorites are shared across all clients.

3   Click **Next**.

4   Select one of the following:

■   **Nothing** if you want the stream initially to contain no items.

■   **Based on Stream** if you want the new stream to be populated with the item revisions from an existing stream. Accept the default stream or enter the name of a stream. To find a stream click **Select**, select **Another stream**, and do one of the following:

   •   Start typing the ID of a stream. Streams that contain any characters in the string are displayed. For example, to find 'QLARIUS:VS_BRANCHA' type 'vs'.

   •   Select a stream from the list. Favorite streams and recently used streams are displayed at the top.

      Optionally select a version of this stream on which to base the new stream.

      Click **OK**.

   NOTE: The new stream inherits all the revisions from the parent stream.

   Select **Copy build configuration** if you want the build configuration to be copied from the parent stream.

■   **Based on Baseline** if you want the new stream to be populated with the item revisions from a baseline. Select a baseline from the list.

5   Select **Valid request must be specified when delivering changes** if you want CM to require a request to be entered when any changes are made to the stream.

6   Click Next to review a summary of the new stream's properties.

7   Enter any required attributes on the Attributes tab.

8   Click Finish to create the stream.

Opening Streams

When you log into the web client the last stream that you used is automatically opened. You can then open a different stream.

When you log into the desktop client the default stream is automatically opened. You can open multiple streams and select a different default. If you have not specified a work area, you are prompted to do so the first time you open a stream.

The following user defaults are stored for each stream that you have previously opened:

- **Work area**: the location for items that you update from the repository, modify, and deliver back to CM.

- **Request**: related *In Response To* new item revisions you create in this stream.

- **Design part**: the owning design part for any new items that you create in this stream.

- **Branch**: the branch where new item revisions are created.

- **Library cache area**: used to improve performance over wide area networks.

Opening a Stream

1 On the toolbar click **Set Current Stream**.

2 In the Set Current Project/Stream dialog box select **stream**.

3 Select a stream from the list. You can use the **Filter** field to restrict the list.

4 Click **OK**.

Selecting a Stream Work Area

1 In the status area, click **change** next to the work area name.

2 In the Set Stream Work Area dialog box, in the **Work area** field, do one of the following:

- Click **Browse**, select a folder, and click **OK**.

- Enter the path of the folder or the name of a CM controlled work area.

  If the folder is on your local computer, enter a full pathname. For example, to use the `payroll` folder on the C: drive of a Windows computer, enter: `c:\payroll`

  If the folder is on a remote node, begin the pathname with the node name followed by two colons (::). For example, to use the `payroll` directory on the UNIX node HOST1, enter: `HOST1::/payroll`

  NOTE Do not set the work area to the top-level of the drive on your machine, for example C:\.

3 Click **OK**.

Desktop client # Opening a Stream

1 From the **Stream** menu select **Open Stream**.

2 In the **Stream** field do one of the following:

- Start typing the ID of a stream. Streams that contain any characters in the string are displayed. For example, to find 'QLARIUS:VS_BRANCHA' type 'vs'.

- Select a stream from the list. Favorite streams and recently used streams are displayed at the top.

  TIP To add a stream to your favorites, in the Recents or All sections of the list mouse over a stream and click the icon to the right. To remove a stream from the Favorites section, click the same icon.

- Click **Find** and search for a stream.

3 In the **Work area** field do one of the following:

- Enter the name of an area.

- Select an area from the list.

- Click **Find** and search for a folder.

4 Optionally make these the default stream and work area. The default stream is automatically opened when you login.

5   Click **Open**.

Selecting a Stream Work Area

1   Do one of the following:

- Select **Stream | Set Work Area**.

- In the Context toolbar, in the **Work Area** field, click **Set Work Area**.

2   In the Change Work Area for Stream dialog box do one of the following:

- ▪ Select a Dimensions CM work area from the list.

- ▪ Click **Find**, browse for a folder, and click **Select**.

- ▪ Enter the path name of a folder.

  If the folder is on your local computer, type a full pathname. For example, to use the `payroll` folder on the C: drive of a Windows computer, enter: `c:\payroll`

  If the folder is on a remote node, begin the pathname with the node name followed by two colons (::). For example, to use the `payroll` directory on the UNIX node HOST1, enter: `HOST1::/payroll`

  NOTE Do not set the work area to the top-level of the drive on your machine, for example `C:\`.

3   Click **OK**.

Updating a Work Area from a Stream

You can update your work area with the latest changes from any version of a stream that is associated with a work area. If there are conflicts you can resolve them by:

- Choosing the item revision in the work area (Use Local).

- Choosing the item revision in the repository (Use Repository).

- Allowing Dimensions to attempt to automatically merge the contents provided there are no conflicts.

If a conflict includes path differences these resolutions are also available:

- Use local path

- Use repository path

In the Update wizard use the file merge tool to manually merge the content of the files unless they are merged automatically.

NOTE If you are using a Linux client or remote area the UNIX utility *diff3* must be installed for automatic merge to function. For details see the Installation Guide for UNIX.

Web client
1   On the My Current Stream or Items tabs, in the navigation pane select the stream or folder from which you want to update the work area.

2   On the toolbar click the **Update** button. The Update wizard appears.

3   The **Update changes from this stream** box displays the name of the stream from which you invoked the update. To change the stream do one of the following:

- Click **Select** and use the Select Stream wizard to specify a stream. Optionally select a stream version.

- Enter the name of a stream, and optionally a version, in this format:

   PRODUCT:STREAM_NAME;VERSION

   For example:

   QLARIUS:JAVA_BRANCHA;5

4   The **Update this work area** box displays the work area path that will be updated. To change the work area enter its path or click **Select** and choose an area.

5   To interactively (manually) verify the merge results before applying them to the work area, select **Perform an interactive merge**.

6   To restrict the scope of the update to a specific folder and its subfolders, select **Limit the scope of the merge to this folder** and browse to the folder, or enter its repository path. If you invoked the update from a subfolder its path is displayed.

7   Click **Show Advanced**.

8 To restrict the update to particular files or folders enter wildcard filters in:

- The **Include repository file** box to only include specific file types.

- The **Exclude repository file** box to exclude specific file types.

For details about using these filters see "Including and Excluding Files and Folders" on page 69.

9 To automatically merge local and repository files whose content does not conflict, select **Auto merge non-conflicting file content**.

10 To apply the repository date and time to the files in the update select **Apply repository date and time**.

11 To log the update operation select **Enable logging** and enter the path where the log file will be saved, or click **Browse** and select a folder.

12 Do one of the following:

- If you are performing an interactive update click **Next** and go to the next step.

- If you are not performing an interactive update click **Update**. The work area is updated and the results are displayed. Go to the last step.

13 The Review page displays the changes that have been detected. For every conflict the default resolution is Ignore.

  ▪ To accept all non-conflicting changes click **Accept all non-conflicting**.

  ▪ To ignore all changes click **Ignore all**.

  ▪ To change the current resolution for a conflict, in the **Resolution** column click it and select one of the following:

    - *Merge*: manually merge the contents of the item revisions and update the work area with the resulting file.

    - *Use local*: accept the item revision in the work area.

    - *Use repository*: accept the item revision in the repository and overwrite the version in the work area.

  ▪ If a conflict includes path differences these resolutions are also available:

    - *Use local path*

    - *Use repository path*

14 Click **Update**.

15 Click **Close** to exit the wizard or click **Back** to return to the first page.

Desktop client **To set your current stream and work area in the desktop client:**

1 Do one of the following:

  ▪ Select **Stream | Open Stream**

  ▪ In the Project/Stream context bar click the list button on the right and select **Open Stream**.

2 Do one of the following:

- Select the default stream.

- Select the global project.

- From the **Product** list select a product. From the **Stream** list select a stream or use the browse button to find one. You can filter this list to only display streams that contain specific items.

3 Select a work area to be associated with the stream or use the browse button to select one.

4 To make this your default stream select **Make the selected stream and work area my default**

5 Click **Open**.

Desktop client/
Windows Explorer

1 Do one of the following:

- Windows Explorer: right-click the work area root folder or any subfolder and select **Dimensions** | **Update.**

- Desktop client: Right-click the stream root folder or any subfolder and select **Update**.

The Update Work Area from Stream wizard opens.

2 The **Update changes from this stream** box displays the name of the stream from which you invoked the update. To change the stream click **Select** and select one of the options in the Select Stream dialog box. If you select **Another stream** do one of the following:

- Start typing the ID of a stream. Streams that contain any characters in the string are displayed. For example, to find 'QLARIUS:VS_BRANCHA' type 'vs'.

- Select a stream from the list. Favorite streams and recently used streams are displayed at the top.

  Optionally select a version of this stream on which to base the new stream.

- Enter the name of a stream, and optionally a version, in this format:

  `PRODUCT:STREAM_NAME;VERSION`

  For example: `QLARIUS:JAVA_BRANCHA;5`

NOTE If you do not specify a stream version the tip is used.

Click **OK**.

3 The **Update this work area** box displays the work area path that will be updated. To change the work area enter its path or click **Select** and choose an area.

4 To interactively (manually) verify the results of any file merge operation before applying them to the work area, select **Perform an interactive update**.

5 To restrict the update to a specific folder and its subfolders, select **Limit the scope of the merge to this folder** and browse to the folder, or enter its repository path. If you invoked the update operation from a subfolder, and not the root of the stream, its path is pre-populated.

6 Click **Advanced**.

7 To restrict the update to particular files or folders, enter wildcard filters in:

- The **Include repository file** box to only include specific file types.

- The **Exclude repository file** box to exclude specific file types.

For details about using these filters see "Including and Excluding Files and Folders" on page 69.

8 To apply the repository date and time to the updated files in the work area select **Apply repository date and time**.

9 (Used when shelving a stream) To create a clean work and reset the work area to the latest repository content, select **Reset work area changes to repository versions and paths**. You can also choose to delete locally added files (such as artifacts added by a local build process).

10 Select **Expand substitution variables** if required.

11 To automatically merge local and repository files whose content does not conflict, select **Auto merge non-conflicting file content**. You can also select a default character set that is used to transcode Unicode files before merging.

12 Do one of the following:

- If you are performing an interactive update click **Next** and go to the next step.

- If you are not performing an interactive update click **Update**. The work area is updated and the results are displayed.

13 On the Review Changes page expand the folder tree to display the changes that have been identified, including the conflict type (if applicable).

14 On the toolbar select a resolution for each conflict.

- To ignore a change click **Ignore**.

- To use the version of the change in the work area click **Use Local**.

- To use the version of the change in the repository click **Use Repository**.

If a conflict includes path differences these resolutions are also available:

- Use local path

- Use repository path

Your selection is displayed in the Resolution column.

 CAUTION! If you select Use local or Use Repository you may discard a change that you want to keep.

To merge the content of two file revisions that are in conflict click **Merge**. The default merge tool opens and displays the content of the revisions. After you have completed the merge successfully and exited the merge tool, the resolution is shown as Merge.

15 To view the changes that have been made to a revision, right click and select **View**.

16 Click **Update**. The results of the update operation are displayed.

17 Click **Close**.

Updating a Work Area from Requests

You can update a work area with changes from requests. The operation is similar to updating a work area from a stream.

1   Set your current stream and associated work area to the required stream and area. See "Opening Projects and Setting Defaults" on page 91.

2   Select the requests that you want to use to update your work area, right-click, and select **Update**. The Update Work Area from Request wizard opens.

3   The **Update changes from this stream** box displays the name of the stream from which you invoked the update.

4   The **Update changes from the request(s)** box displays the selected change requests. To add change requests enter their IDs, separated with a comma. To specify different change requests click **Select** and use the Request Selection wizard to specify a product and change requests.

   NOTE The requests that you specify must contain changes delivered to the same stream.

5   The **Update this work area** box displays the work area that will be updated. To change the work area enter its path or click **Select** and choose an area.

6   To interactively (manually) verify the results of any file merge operation before applying them to the work area, select **Perform an interactive update**.

7   To include item revisions related to child requests, select **Also include items related to child requests**.

8   Continue from step 6 "Click Advanced." on page 64.

Delivering Changes to a Stream

You deliver the changes in your work area to a stream in a repository using the Deliver operation. When there are conflicts between a work area and a stream, first perform an update to resolve the conflicts locally and then try delivering again.

NOTE Deliver is a lock-free operation: if two developers deliver different files at the same time both deliveries will succeed.

Web client   1   On the My Current Stream tab or Items tab, in the navigation pane, select a stream or folder.

2   Click **Deliver**. The Deliver wizard opens.

3   The **Deliver** field displays the work area path the changes will be delivered from.

4   In **Include the following types of changes** select the type(s) of changes between the repository and the work area that you want to include.

5   To restrict the deliver operation to only include specific files or folders do the following:

- In **Include local files** enter expressions to restrict which files from the work area will be delivered to the repository.

- In **Exclude local files** enter expressions to identify files in the work area that you want to exclude when delivering to the repository.

For details about using these filters see "Including and Excluding Files and Folders" on page 69.

The values you have entered for **Include the following types of changes** and **Filter using wildcards** will be saved in Dimensions against your user ID and displayed the next time you use this wizard.

6   Click **Next**.

7   If a list of *Additional streams from which to include content* is displayed, the work area from which you are delivering has been updated from other streams and/or baselines. Deselect the stream(s) or baseline(s) whose files you do not want to deliver to the parent stream and click **Next**.

    IMPORTANT! If there are conflicts between the work area and the stream you cannot continue with the deliver operation. To perform an update from the stream and resolve the conflicts click the link in the dialog box. The Update from Stream wizard opens, for details see "Updating a Work Area from a Stream" on page 62. After you have resolved the conflicts and updated your work area, try delivering again.

8   On the file list page:

- To ignore a change, deselect its check box.

- To accept a change, select its check box.

- To deselect all changes, select **Deselect all changes on all pages** (only applicable if there is more than one page).

- To select all changes, select **Select all changes on all pages** (only applicable if there is more than one page).

- To select all changes on the current page, click the ⅗ button again.

9   Click **Next**.

10   Optionally populate the following fields:

- **Comment**. Enter the default comment for any new item revisions that are created.

- **Relate to request(s)**. Use the browse button to select one or more default requests to be related in response to any new item revisions that are created. You may need to restart your process model to create new item revisions.

- **Design part for new files.** Enter the part specification for the owning design part for any new items created as a result of the deliver, or use the browse button to select it.

11   Click **Next** to view a summary and then **Finish** to complete the operation.

12   To see details of the results click **Details**.

13   Click **Close** to exit the wizard or **Back** to return to the first page.

Desktop client/
Windows Explorer

1 Do one of the following:

- Windows Explorer: right-click the folder in your work area from where you want to deliver to the stream and select **Dimensions** | **Deliver.**

- Desktop client: right-click the stream root folder or a subfolder and select **Deliver**.

2 The Deliver from this Work Area field is populated with the work area root. If you select a subfolder, its path is highlighted.

3 If you select a work area that is not associated with a stream, in the Deliver changes to this Stream field select a stream.

4 Click Advanced.

5 To restrict the deliver operation to particular files do the following:

- In **Include local files** enter expressions to restrict which files from the work area will be delivered to the repository.

- In **Exclude local files** enter expressions to identify files in the work area that you want to exclude when delivering to the repository.

For details about using these filters see "Including and Excluding Files and Folders" on page 69.

6 Select the local changes that you want to include in the delivery: additions, deletions, modifications, and moves/renames.

7 If you have defined ignore rules but want to skip them for this delivery, select Disable restrictions from .dmignore file.

8 Click **Next**.

9 If a list of *Additional streams from which to include conten*t is displayed, the work area from which you are delivering has been updated from other streams and/or baselines. Deselect the stream(s) or baseline(s) whose files you do not want to deliver to the parent stream and click **Next**.

If there are conflicts between the work area and the stream you cannot continue with the deliver operation. To perform an update from the stream and resolve the conflicts click the link in the dialog box. The Update from Stream wizard opens, for details see "Updating a Work Area from a Stream" on page 62. After you have resolved the conflicts and updated your work area, try delivering again.

10 A list of changes is displayed including each revision's work area filename, change type, and the conflict type and default resolution (if applicable).

11 On the **Default options** panel, optionally change the defaults values used when an item revision is delivered to the repository:

- **Comment**. Enter the default comment for any new item revisions that are created.

- **Relate to request(s)**. Specify one or more default requests to be related in response to any new item revisions that are created.

- **Design part for new files.** Select the part specification for the owning design part for new items created in this work area (unless overridden by any values set for a folder beneath the root folder in this work area).

- **Permissions after deliver**. Select **Make read only** or **Keep unchanged** for the permissions to be set on a file after uploading to the repository.

- **Expand substitution variables**: select Yes or No.

12 On the **Selection options** panel, optionally change the defaults values for each item revision that you select.

If you are deleting a revision, from the Removal Scope list select an option, such as delete all the item revisions from the stream. There are some restrictions, for example, you cannot delete a revision from a baseline or a revision that is related to an active request.

13 To view the changes that have been made to a revision, right click and select **View**.

14 Click **Deliver**.

Including and Excluding Files and Folders

You can use wildcard expressions to specify files to be excluded and/or included when you run the update, deliver and merge operations. For example, if your stream contains a compiled project, and the compiled sources and executables are in a folder called "debug", use the filter "*\debug" to exclude the folder from all deliveries.

You can use the following characters in expressions:

- "*" matches a complete folder tree, or a file anywhere in the folder tree.

- "?" matches any single character.

- "|" joins or concatenates multiple expressions.

Examples of exclusion filters:

- `build/bar.obj|build/bar.exe`

  Explicitly excludes the files `bar.obj` and `bar.exe` in the folder `build`.

- `obj/*`

  Excludes all files and subfolders recursively beneath the folder `obj`

- `*.obj|*.exe`

  Excludes all files with the extension `.obj` and `.exe`

- `build/*.obj|build/*.exe`

  Excludes files with the extension `.obj` and `.exe` in the folder `build` (and its subfolders).

- `build/logs`

  Excludes the folder `build/logs`.

Deleting a Stream

You can delete a stream when development work is complete.

Web client   **To delete a stream:**

1   On the Streams tab select a stream.

2   On the toolbar click **Delete**.

3   In the Delete dialog box verify that you have selected the correct stream and click **Yes**.

Desktop client   **To delete a stream:**

1   Select **Stream** | **Delete**.

2   In the Delete Stream dialog box, from the **Stream** list select a project.

3   Click **OK**.

Ignoring Files and Folders

You can exclude specific files, folders, and file types from deliveries, for example:

- backup files

- built artifacts

To exclude items you define ignore rules in a `.dmignore` file. Each location (a folder or directory) has a single `.dmignore` file but you can have multiple ignore files across a hierarchy of folders. You can also apply ignore rules recursively, for example, you can ignore all `*.tmp` files in the current folder and all child folders.

Rules are color coded when you edit them using the Dimensions CM context menu Ignore Rules option:

- Recursive rules: blue

- Regular rules: black

- Comments: green

- Clear: magenta

You can edit ignore rules in any text editor but they are not color coded.

NOTE

- Rules are case insensitive in work areas on Windows and case sensitive on Linux.

- You can use the following wildcards:

  • Asterisk (*): represents one or more characters.

  • Question mark (?): represents one character.

- To place `.dmignore` files under source control, deliver them to a stream or project. To use the same ignore rules with other work areas, fetch the `.dmignore` files. For example, there is a `.dmignore` file at the root of a stream but you only update an

empty work area from a subfolder. When you deliver changes, the file is missing and its ignore rules are not applied. To apply the rules, fetch the `.dmignore` file from the stream (or create a copy locally).

- In wizards where you deliver changes you can optionally disable ignore rules. For example, you may want to deliver all files, including those that you do not normally need to control.

- To edit `.dmignore` files in a language that corresponds to your locale, on your machine check the language settings for non-Unicode programs.

- Ignore rules are not the same as the *include and exclude local files filters* in the Merge, Synchronize, and Deliver wizards. Ignore rules only apply to local files; include and exclude filters apply to any kind of change.

- To use ignore rules with the web client you must use Web Client Tools.

- You can also ignore items when you run a shelving operation.

Ignore Rules

Use the following rules to ignore uncontrolled files and folders:

- `<folder name>`

  Ignores a specific folder, for example, to ignore the folder `foo`:

  `foo`

- `<file name>`

  Ignores a specific file, for example, to ignore the file `f.tmp`:

  `f.tmp`

- `*.<file extension>`

  Ignores all files with a specific extension, for example, to ignore files with the extension `.tmp`:

  `*.tmp`

- `r:*.<file extension>`

  Recursively ignores all files with a specific extension starting from the location of the current `dmignore` file. For example, to recursively ignore all `*.tmp` files in the current folder and all child folders:

  `r:*.tmp`

- `r:<folder or file name>`

  Recursively ignores a specific file or folder. For example, to ignore all `Debug` folders in the work area hierarchy, add the following rule to a `.dmignore` file in the work area root:

  `r:Debug`

- `:<comment>`

  Start a line with a colon (:) to add a comment, for example:

  `:This is a comment that does not affect the ignore rules`

  You can also add an inline comment after a rule by prefixing it with a colon, for example:

  `r:Debug :My comment about this rule`

- `c:`

  Clears all recursive rules inherited from parent `.dmignore` files. For example, if a parent ignore file includes:

  `r:*.xml`

  and you add `c:` to the current ignore file, then all `.xml` files in the current folder, and its child folders, are not ignored.

- Use the `?` symbol as any single wildcard character in a file or folder name or extension. For example, to recursively ignore all work area files with extensions PK3 and PK4:

  `r:*.pk?`

Ignoring File and Folders

1 In Windows Explorer, navigate to the folder where you want to ignore files and/or folders.

2 Select one or more items.

3 Right-click, select Dimensions | Ignore Rules, and select one of these options:

- *Ignore <file/folder name>*

  Ignores a specific file or folder.

- *Ignore <file/folder name> recursively*

  Ignores a specific file or folder recursively.

- *Ignore all selected*

  Ignores all selected files and folders.

- *Ignore all selected recursively*

  Ignores all selected files and folders recursively.

- *Ignore *.<file extension>*

  Ignores all the selected file types.

- *Ignore *.<file extension> recursively*

  Ignores all the selected file types recursively.

The appropriate ignore rules are added to the `.dmignore` file and you do not need to add them manually.

Editing Ignore Rules

1 In Windows Explorer, select the folder where you want to edit ignore rules.

2 Right-click, select Dimensions | Ignore Rules, and select **Edit .dmignore**.

3 Add and modify ignore rules.

NOTE If the Windows Explorer Dimensions CM integration is not installed, to add and edit ignore rules create a file called `.dmignore`. The file must have a leading and trailing dot (.).

Canceling Recursive Ignore Rules

1 In Windows Explorer, select the folder where you want to cancel all recursive ignore rules inherited from parent ignore files.

2 Right-click, select Dimensions | Ignore Rules, and select **Edit .dmignore**.

3 Enter `c:`

Undoing Changes in a Stream

You can roll back the delivery of files and folders to a stream. For example, you deliver changes but discover problems in the code and decide to remove the changes. Undo creates a new changeset with the reverted changes that preserves the full history.

NOTE

- Requires the same privileges as deliver.

- Undoes an entire changeset, not individual item revisions.

- The original request relationships are not undone.

- Only makes changes in a repository and does not affect the items in a work area.

- After completing an undo, to synchronize your work area with the repository, run an update.

- You can run undo at any location as long as the changeset does not affect items further up the hierarchy.

Limitations

- Can only undo a single changeset.

- If items in a changeset have more recent changes in a newer changeset, you cannot undo it.

Example

Assume that changeset 14 has this item revision:

```
f.txt revision #2
```

And that changeset 13 has the previous version of the same item:

```
f.txt revision #1
```

If you undo changeset 14, the revision in changeset 13 becomes the tip revision and a new changeset, 15, is created with the change:

```
f.txt revision #1
```

Desktop client and Windows Explorer integration

1   In the desktop client do one of the following:

- To undo an entire changeset, from the Stream or Project menu select Changesets.

- To undo a specific set of changes, select a folder. Right-click and select Folder Changesets.

In the Windows Explorer integration, select a folder where you want to undo changes. Right-click and select Dimensions | Changesets.

2   In the Changesets dialog, right-click a changeset and select Undo Stream/Project Version.

3   (Optional) Select requests to relate to the change and add a comment.

4   Click OK.

Web client

1   Do one of the following:

- To undo an entire changeset, select a stream or project.

- To undo a specific set of changes, select a folder.

2 On the toolbar click Changesets.

3 In the Changesets dialog select a changeset.

4 On the toolbar click Undo stream/project version.

5 (Optional) Select requests to relate to the change and add a comment.

6 Click Finish.

Reverting Changes in a Work Area

You can remove the changes in a work area associated with a stream and replace them with the previous versions. For example, you have made changes locally and delivered them to a stream, but subsequently you decide to revert the changes in the work area.

NOTE

- Only reverts the changes in a local work area, not the stream.

- To synchronize the stream with the work area, deliver the changes after you have run this operation. This creates a new changeset.

- Requires the same privileges as DELIVER.

- Reverts an entire changeset, not individual item revisions.

- The original request relationships are not removed.

Limitations

- Only works with streams, not projects.

Example

Assume that you have the following modifications in a work area that you delivered to a stream, which created changeset `CS_19`:

- `webapphelp\help.css` (moved from `webapp\help.css`)

- `contact_support.html` (a new file)

- `config.dat revision #9` (new revision)

After you revert to the previous changeset, `CS_18`, the work area content looks like this:

- `webapp\help.css` (the previous path)

- `contact_support.html` was deleted (a new file that was first delivered in `CS_19`)

- `config.dat revision #8` (the previous revision)

To synchronize the stream with the work area, deliver the changes, which creates changeset `CS_20` with this content:

- `webapp\help.css`

- `contact_support.html` (deletion)

- `config.dat revision #8`

Desktop client and Windows Explorer integration

1 In the desktop client do one of the following:

- To revert an entire changeset, from the Stream menu select Changesets.

- To revert a specific set of changes, select a folder. Right-click and select Folder Changesets.

In the Windows Explorer integration, select a folder where you want to undo changes. Right-click and select Dimensions | Changesets.

2 In the Changesets dialog, right-click a changeset and select Revert from Work Area.

3 The Select Undo Options dialog box displays the stream and changeset ID from which you are going to revert changes. To change the stream click Select and select one of the options in the Select Stream dialog box.

4 The Update this Work area field displays the work area where changes will be undone. To change the work area enter its path or click Select and choose a folder.

5 To verify the undo changes before applying them to the work area, select Perform an interactive update.

6 To restrict the undo to a specific folder and its subfolders, select Limit the Scope of the Update to this Folder and browse to the folder or enter its path. If you invoked the undo operation from a subfolder, its path is pre-populated.

7 Click Advanced.

8 To restrict the undo to particular files or folders, enter wildcard filters in:

- The Include repository file box to only include specific file types.

- The Exclude repository file box to exclude specific file types.

For details about using these filters see "Including and Excluding Files and Folders" on page 69.

9 Apply the repository date and time to the files in the work area that will be undone.

10 To automatically merge local and repository files whose content does not conflict, select Auto merge non-conflicting file content. You can also select a default character set that is used to transcode Unicode.

11 Click Next.

12 On the Review Changes page select a resolution for each conflict. Your selection is displayed in the Resolution column.

13 Click Update.

Web client

1 Do one of the following:

- To revert an entire changeset, select a stream.

- To revert a specific set of changes, select a folder.

2 On the toolbar click Changesets.

3 In the Changesets dialog select a changeset. On the toolbar click Revert from Work Area.

4 The Select Undo Options dialog box displays the stream and changeset ID from which you are going to revert changes. To change the stream click Select and select one of the options in the Select Stream dialog box.

5 The Update this Work area field displays the work area where changes will be undone. To change the work area enter its path or click Select and choose a folder.

6 To verify the undo changes before applying them to the work area, select Perform an interactive update.

7 To restrict the undo to a specific folder and its subfolders, select Limit the Scope of the Update to this Folder and browse to the folder or enter its path. If you invoked the undo operation from a subfolder, its path is pre-populated.

8 Click Advanced.

9 To restrict the undo to particular files or folders, enter wildcard filters in:

- The Include repository file box to only include specific file types.

- The Exclude repository file box to exclude specific file types.

For details about using these filters see "Including and Excluding Files and Folders" on page 69.

10 Apply the repository date and time to the files in the work area that will be undone.

11 To automatically merge local and repository files whose content does not conflict, select Auto merge non-conflicting file content. You can also select a default character set that is used to transcode Unicode.

12 Click Next.

13 On the Review Changes page select a resolution for each conflict. Your selection is displayed in the Resolution column.

14 Click Update.

Setting Stream Options and Defaults

Set stream options when you want to:

- Enable or disable deliveries to the stream.

    NOTE A user with the Workset Manager role can deliver items to a stream even when this option is set.

- Set or remove the requirement that a change request is specified when delivering to the stream.

Web client ## Setting Stream Options

1 Do one of the following:

- Select the **My Current Stream** tab.

- Select the **Streams** tab and in the content pane select a stream.

2 Click the **Open Stream** button.

3 Select the **Options** tab.

4 Select **Lock Stream** to prevent users from delivering new item revisions to the stream

5 Select **Valid request must be specified when delivering changes** to force users to specify a change request when making changes to this stream.

6 Click **OK**.

Selecting a Default Request

1 In the status area, click **settings** next to the stream name.

2 In the Set Stream Default Settings dialog box, in the **Default request** field, do one of the following:

- Click the **Browse** button, select a request, and click **OK**.

- Enter the request ID.

3 Click **OK**.

Selecting a Default Design Part

1 In the status area, click **settings** next to the stream name.

2 In the Set Stream Default Settings dialog box, in the **Default design part** field, do one of the following:

- Click the **Browse** button, select a design part, and click **OK**.

- Enter the design part ID.

3 Click **OK**.

Selecting a Library Cache Area

NOTE You can only select a library cache area if at least one has been set up for your current stream in the Administration Console.

1 In the status area, click **settings** next to the stream name.

2 In the Set Stream Default Settings dialog box, from the **Optional library cache area** list, select an area.

3 Click **OK**.

Desktop client # Selecting Stream Options

1 Open the stream.

2 Select **Stream** | **Stream Flags**.

3 Select the **Options** tab.

4 Select **Lock Stream** to prevent users from delivering new item revisions to the stream

5 Select **Valid request must be specified when delivering changes** to force users to specify a change request when making changes to this stream.

6 Click OK.

Setting the Current Stream as the Default

1 From the **Stream** menu select **Open Stream**. The **Stream** field displays the name of the current stream.

2 Select the option to make the stream the default.

3 Click **Open**.

Selecting a Stream Default Request

1 Do one of the following:

- In the **Context** toolbar, in the **Default Request** field, click the button.

- Select **Stream** | **Preferences**. In the **Default Request** field click **Find**.

2 Use the **Find Request to Work on dialog box** to find the request. See "Finding Objects" on page 205 for further details.

If you have configured Dimensions CM to accept requests from an external IDM (Issue Defect Management) tool, you will be presented with a dialog box enabling you to view and select these requests. (You will not, however, be able to view them in the desktop client content windows or be able to run any reports involving these requests.

Selecting a Stream Default Branch

1 Do one of the following:

- In the **Context** toolbar, from the **Default Branch** list select a branch.

- Select **Stream** | **Preferences**. From the **Default Branch** list select a branch. Optionally make the current configuration the default for this project. Click **OK**.

Selecting a Stream Default Design Part

1 Select **Stream** | **Preferences.**

2 In the **Design Part** field enter the name of a design part or click **Find** to search for one.

3 Click **OK**.

Selecting a Stream Library Cache Area

NOTE You can only select a library cache area if at least one has been set up for your current stream in the Administration Console.

1 Select **Stream** | **Preferences**.

2 From the **Library Cache Area** list select an area.

3 Click **OK**.

Stream FAQs

Which operations are not allowed for streams?

Any commands that allow folders or items to be changed directly cannot be used. This forces the user to always use deliver to get changes into a stream. Get, Update, and Deliver are the three core commands for streams

Examples of operations that are not available for streams and work areas that are associated with streams are:

- Check in
- Check out
- Revise Item
- Edit Item
- The Project Merge tool.

Should each developer work in their own private stream?

No, as a general rule a team of developers working on a feature should share a stream. For example, a sprint team is working on a specific feature or a maintenance team is working on a patch release. However, it is good practice for a developer to create a private stream if they are working on a change that may destabilize the team's main development stream.

Can I mix and match streams and projects?

Yes, some teams can use streams and others use projects.

Can I create a stream from a project?

No, you can only create a stream from another stream or a baseline. This avoids the potential for conflicts to be introduced into the new stream. To create a stream based on a project you need to create a tip baseline from the project and then create a stream from that baseline.

Can I merge a project and a stream?

No, you cannot merge a project into a stream but you can merge a stream into a project.

As an existing Dimensions CM user how do I convert my projects into streams?

You need to create a release or tip baseline from your current development project and then create a new stream from this baseline. This new stream represents your mainline stream from which you can create a branch stream for development work.

What happens to developers' work areas when they have converted to using streams?

After creating a new stream based on a project, each developer needs to create a new empty work area and run the Update command on that work area before they start work.

Can I use the Check-in, Check-out, Get, and Update Item commands in a stream?

No, streams use optimistic locking. The only way to populate your work area is with the Update or Get commands. You can only add files to a stream using the Deliver command.

Chapter 4
Working with Projects

In this Chapter:

About Projects

You should use projects if your team is going to:

- Primarily manage non-software assets such as documentation and hardware assets.

- Work in a regulated environment where it is necessary to pre-authorize each change before it is made.

- Follow a traditional waterfall development methodology.

- Use an SCC-based IDE for our development.

- Use remote replication.

A project is a dynamic collection of items related to a particular development activity. All item operations are done within the context of a project. Projects provide a way to organize items and control access to them. A project is used to define:

- **A view for users**. Projects are dynamic views of items needed to fulfill a certain purpose—for example, building a new enhancement into the current release or fixing a bug in an existing release.

- **Folder structure**. Within a project items are organized in a folder structure. When items are checked out of a project, corresponding physical folders/directories are created on the hard drive relative to the root folder/directory.

- **Work area**. Each user has a default work area for the project in which they are working that is either a Dimensions CM managed work area or a folder on your hard drive or on a remote node. Dimensions CM performs item file operations, such as update or deliver, relative to the root folder that is referenced by this work area.

- **Deployment areas**. Areas can be associated with a project so that item files are copied to or from those areas when item revisions are deployed to a new stage in the development lifecycle.

- **Library cache areas**. Areas can be associated with a project so that the item files are automatically copied to those areas during certain item operations to improve efficiency when a number of users are accessing items on a remote server.

- **Project filenames**. Project filenames represent the location of an item in the user's physical folder/directory and may be different from the item ID.

A project is a conceptual collection of items. At the physical level, item files are stored in item libraries. They are referenced and arranged within projects into whatever organization suits the project.

Streams are primarily designed for use with Agile working practices, see "Working with Streams" on page 53.

NOTE Your administrator may have configured your database to only allow you to use either streams or projects. For details, see the chapter *Miscellaneous Database Options* in the *Process Configuration Guide*.

About Project and Stream Relationships

A project or stream can have the following relationships with other Dimensions objects.

- **Items.** The project/stream contains a list of item revisions that are *Owned* by it.

- **Requests**. The project/stream can have requests related. When you create a request, by default it will be related to your current project or stream, but you can change the project or choose not to relate it to a project. When you select requests in the My Current Project/Stream view, the requests listed in your Inbox and the Catalog only include those related to your current project. To view all requests you need to select the User Inbox or Product Catalog. See for further details.

- **Other Projects/streams.** A project/stream can have a *Based on* relationship to one or more projects/streams. It can be *Parent* or *Child* in relation to other projects/ streams.

- **Baselines.** A project/stream created from a baseline has a *Based on* relationship to it. A baseline created from a project/stream has a *Based on* relationship to it. A baseline can be attached as a *child* in a usage relation to a project (but not a stream).

Sub-Projects and Baselines

Projects can contain other projects in a hierarchical relationship (does not apply to streams). In the My Current Project view you can see any sub-projects that are related to your current project and you can access the items within them. A sub-project has a relative path, or folder offset, defined in conjunction with its relationship to the parent. This is used to determine the location of the item files that is used in item operations such as get, check out, or check in.

NOTE This feature may not have been enabled in your UI profile.

For example there is a project called MainProject that has a project called Package1 related to it as a sub-project, with an offset path of `shared/package1`. If MainProject was set as your current project and had a root folder set to "C:\Development\MainProject", this would mean that items in the top-level folder of project Package1 would have their files checked out by default to `C:\Development\MainProject\shared\package1`. An item in Package1 with a project path of `include\header.h` would therefore be checked out to `C:\Development\MainProject\shared\package1\include\header.h`.

You could also set your current project to Package1 with the root folder set to `C:\Development\Child1`. In this case the item with a project path of `include\header.h` would be checked out to `C:\Development\Child1\include\header.h`.

A baseline can also be used as a sub-collection of items within a project. In this case, when you get the items from the baseline into your work area they are copied by default to a path relative to the root folder specified by the folder offset defined in its relationship to the parent project in the same way as for a sub-project.

About Project Options

A project has various options that determine the default behavior in relation to its item revisions and files.

The project options are:

- **Project type**:

  - **Branch:** When creating the first new revision in this project for an existing item, Dimensions adds a period before the new revision number. For example, if the revision number of an existing item is 2, the first new revision in this project will

be 2.1, and the next, 2.2 etc. (The first revision number of a *new* item created in this project however, will be 1, and the next, 2 etc.)

- **Do not Branch:** When creating the first new revision in this project for an existing item, Dimensions increments the last number by 1. For example, if the revision number of an existing item is 2, the first new revision in this project will be 3, and the next, 4, etc. If the revision number of an existing item is 2.1 the first new revision in this project will be 2.2, etc.

    It is recommended that you use this option, and that you use a single assigned branch.

- **Revision generation**:

    - **Forced:** does not allow you to override the revision strings calculated automatically by Dimensions CM when you create a new item revision.

    - **Optional (Allow users to override default revision number):** allows you to override the default revision strings generated by Dimensions CMwhen you create a new item revision.

- **Project state**:

    - **Locked:** Prevents user changes to items in a project while this option is set.

    - **Unlocked:** Permits operations on items in a project.

    By default the Workset Manager or Project Manager is able to lock or unlock a project or stream. Locking a project/stream is particularly useful when creating a baseline as this will prevent the ordinary user from updating the project/stream when baselining is in progress.

    NOTE It will still be possible for a user with the Workset Manager/Project Manager role to deliver items to a stream even when this option is set.

    A locked project/stream is not editable, meaning:

    - No new item or item revisions can be created in the workset.

    - None of the items included in the project/stream can be deleted from the physical library or removed from the workset.

    - None of the items in the project/stream can be actioned or suspended.

    - No user is allowed to alter the content of an item revision in the project/stream. The user, however, is allowed to create a new revision provided that the project/stream which is to include the new revision is not locked.

    Note that users with the *Override Process Checks* privilege, or by default the special role PRODUCT-MANAGER, will be allowed to bypass the above restrictions.

- **Use local stages**:

    This deployment-related option determines whether the stage of item revisions is "local" to this project/stream or can be affected by changes in other projects/streams. If its lifecycle states have been mapped to stages in the GSL, then the stage of an item revision will be changed when it is actioned to those states. Setting *Use local stages* for a project/stream preserves the stages of item revisions in that project/stream from changes as a result of actioning. (Note that this means that the same item revision could be at different stages in different projects/streams.)

    - If you select this option, the stage of an item revision in this project/stream is not affected as a result of actioning even when stages in the GSL are associated with

states in its lifecycle. The stage in this project/stream can only be changed as a result of promoting and demoting.

- If you do not select this option, then when the state of an item revision is changed as a result of actioning, its stage in this project/stream will also be changed.

    NOTE

    - After you have selected this option you cannot deselect it.

    - If your project is using Deployment Automation (DA), this option is always on.

- **CM Rules for items in this project**:

  - **Use item type settings**: Items in this project will obey the CM rules as defined for their item types.

  - **Always enabled**: Items in this project will behave as if the CM rules defined for their item types are all enabled regardless of whether they are enabled in the Administration Console.

  - **Always disabled**: Items in this project will behave as if the CM rules defined for their item types are all disabled, regardless of whether they are enabled in the Administration Console.

  CM Rules are described in *About Change Management Rules* in the *Process Configuration Guide*.

- **Request required to refactor**: If this option is selected, the user will be required to provide a request ID when making any refactoring changes to the project, such as moving or renaming items or project folders.

  NOTE You cannot relate refactoring changes in response to a request if the request is above the initial stage in the Global Stage Lifecycle.

- **Assigned Branches**: The list of valid branches that can be assigned to new item revisions in the project. Streams can only have one assigned branch.

- **Default branch**: The branch that is used as the default for new item revisions in the project.

These options can be set when you first create a new project, and you can change them when editing the project properties.

About Managing Projects

The following functions can be performed in relation to Dimensions CM projects:

- Create a project

- Rename or delete a project.

- Edit the project properties and options.

- Set a project as your current project.

- Assign a default branch, default request, and work area for your current project.

- Relate a project to other projects or baselines.

- Create, rename, or move project folders.

- Action Projects

- Create and modify controlled work areas and assign them to projects.

- Remove item revisions from, and export them to, a project.

- Show users, roles, and privileges and view project history.

About Project Folders

A *project folder* is a folder in the project structure that contains items.

You can do the following with project folders:

- Add a new project folder to the project structure and add items to that new folder.

- Change the location of a project folder.

- Rename a project folder.

- Delete an item from the project, provided that the item does not belong to a baseline or release.

Except for renaming a folder, these operations cannot be performed with streams as refactoring changes are made in a work area and not directly to a stream in a repository.

About Work Areas

A work area is the location you use for working with files. This location can be on a local machine or network node and is used for version management operations such as update or deliver. The folder structure is identical to the one in the project. Changing the work area for your user does not change the default for other users of the same project. A work area can be:

- A folder on your local machine, for example: `C:\myworkarea`

- A directory on a remote node specified by the syntax `<nodename>::/<directory>`. For example: `UNIX::/myworkarea`

- A managed work area that you can create using the desktop client or the Administration Console. This has the advantage that other users can use the same area as their project work area. For details, see the *Process Configuration Guide* chapter, *Area Definitions,* or see "Creating a Work Area" on page 108.

Opening Projects and Setting Defaults

When you log into the web client the last project that you used is automatically opened. You can also select a different project.

When you log into the desktop client the default project is automatically opened. You can open multiple projects and select a different default. If you have not specified a work area, you are prompted to do so the first time you open a project.

The following user defaults are stored for each project that you have previously opened:

- **Work area**: the location for items that are checked out, checked in, or copied.

- **Request**: related *In Response To* new item revisions you create in this project.

- **Design part**: the owning design part for any new items that you create in this project.

- **Branch**: the branch where new item revisions are created.

- **Library cache area**: used to improve performance over wide area networks.

Web client **To open a project:**

1 On the toolbar click Set Current Project.

2 In the Set Current Project/Stream dialog box select **project**.

3 Select a project from the list. You can use the **Filter** field to restrict the list.

4 Click OK.

To select a project work area:

1 In the status area, click **change** next to the work area name.

2 In the Set Project Work Area do one of the following:

- Click **Browse**, select a folder, and click **OK**.

- Enter the path of the folder or the name of a CM controlled work area.

 If the folder is on your local computer, type a full pathname. For example, to use the payroll folder on the C: drive of a Windows computer, enter: c:\payroll

 If the folder is on a remote node, begin the pathname with the node name followed by two colons (::). For example, to use the payroll directory on the UNIX node HOST1, enter: HOST1::/payroll

 NOTE Do not set the work area to the top-level of the drive on your machine, for example C:\.

3 Click OK.

To select a project default request:

1 In the status area, click **settings** next to the project name.

2 In the Set Project Default Settings dialog box, in the **Default request** field, do one of the following:

- Click **Browse**, select a request, and click **OK**.

- Enter the request ID.

3 Click **OK**.

To select a project default design part:

1 In the status area, click **settings** next to the project name.

2 In the Set Project Default Settings dialog box, in the **Default design part** field, do one of the following:

- Click **Browse**, select a design part, and click **OK**.

- Enter the design part ID.

3 Click **OK**.

To select a project default branch:

1 In the status area, click **settings** next to the project name.

2   In the Set Project Default Settings dialog box, from the **Project default branch** list select a branch.

3   Click **OK**.

To select a library cache area for your current project:

NOTE You can only select a library cache area if at least one has been set up for your current project in the Administration Console.

1   In the status area, click **settings** next to the project name.

2   In the Set Project Default Settings dialog box, from the **Optional library cache area** list select an area.

3   Click **OK**.

Desktop client   **To open a project:**

1   From the **Project** menu select **Open Project**.

2   In the **Project** field do one of the following:

- Start typing the ID of a project. Projects that contain any characters in the string are displayed. For example, to find 'QLARIUS:VS_BRANCHA' type 'vs'.

- Select a project from the list. Favorite projects and recently used projects are displayed at the top.

    TIP To add a project to your favorites, in the Recents or All sections of the list mouse over a project and click the icon to the right. To remove a project from the Favorites section, click the same icon.

- Click **Find** and search for a project.

3   In the **Work area** field do one of the following:

- Enter the name of an area.

- Select an area from the list.

- Click **Find** and search for a folder.

4   (Optional) Make the selections your default project and work area. The default project is automatically opened when you login.

5   Click **Open**.

To open a recently used project:

Do one of the following:

- Choose **File | Recent Streams and Projects** and select a project from the list.

- From the **Project** menu select **Open Project**. Select a recent project from the list and click **Open**.

NOTE By default, Dimensions CM stores your four most recently used projects. To change this default, use the Preferences dialog box. See "Setting the User Interface Options" on page 516.

NOTE If the associated work area folder does not exist, you are prompted with a message asking if you wish to create it. To specify a different folder, use the Change Work Area dialog box as described below.

To select a project work area:

1 Open the project.

2 Do one of the following:

- Select **Project | Set Work Area**.

- In the Context toolbar, in the **Work Area** field, click **Set Work Area**.

3 In the Change Work Area for Project dialog box do one of the following:

- Select a Dimensions CM work area from the list.

- Click **Find**, browse for a folder, and click **Select**.

- Enter the path name of a folder.

  If the folder is on your local computer, type a full pathname. For example, to use the payroll folder on the C: drive of a Windows computer, enter: c:\payroll

  If the folder is on a remote node, begin the pathname with the node name followed by two colons (::). For example, to use the payroll directory on the UNIX node HOST1, enter: HOST1::/payroll

  NOTE Do not set the work area to the top-level of the drive on your machine, for example C:\.

4 Click **OK**.

To set the current open project as your default:

1 From the **Project** menu select **Open Project**. The **Project** field displays the name of the current project.

2 Select the option to make the project the default.

3 Click **Open**.

To select a project default request:

1 Do one of the following:

- In the **Context** toolbar, in the **Default Request** field click the button.

- Select **Project** | **Preferences**. In the **Default Request** field click **Find**.

2 Use the **Find Request to Work on dialog box** to find the request. See "Finding Objects" on page 205 for further details.

If you have configured Dimensions CM to accept requests from an external IDM (Issue Defect Management) tool, you will be presented with a dialog box enabling you to view and select these requests. (You will not, however, be able to view them in the desktop client content windows or be able to run any reports involving these requests.

To select a project default branch:

1 Do one of the following:

- In the **Context** toolbar, from the **Default Branch** list select a branch.

- Select **Project** | **Preferences**. From the **Default Branch** list select a branch. Optionally make the current configuration the default for this project and not just the current session. Click **OK**.

To select a project default design part:

1 Select **Project** | **Preferences.**

2 In the **Design Part** field enter the name of a design part or click **Find** to search for one.

3 Click **OK**.

To select a project default library cache area:

NOTE You can only select a library cache area if at least one has been set up for your current project in the Administration Console.

1 Select **Project** | **Preferences**.

2 From the **Library Cache Area** list select an area.

3 Click **OK**.

About Creating Projects

You can create a project in the following ways:

- From an existing project or baseline.

- By creating an empty project and adding items later.

- By merging existing projects. See"Removing an Item Revision from a Project" on page 119

If you create a project from an existing project or baseline, the new project contains all the item revisions included in the original project or baseline.

For details of creating streams, see "Setting Stream Options and Defaults" on page 78.

Creating a New Project

Purpose Create a new project when you wish to start a new phase of development. You can create a project from scratch and add items to it afterwards. For details of creating streams, see "Setting Stream Options and Defaults" on page 78.

PRIVILEGES Create Project

Web client   **To create a new project:**

1   On the Projects tab, click New and select **Project**.

2   On the First Page of the New Project dialog box, from the **Product** list, select the product in which you want to create the project.

3   For **Project name**, type a name for the new project.

4   Select a **Type** from the list.

5   For **Description**, type a description for the new project.

6   Click Next if you want to update any options or attributes, otherwise click Finish to complete the wizard.

- **Nothing** if you want the project initially to contain no items.

- **Based on project** if you want the new project to be populated with the item revisions from a project. Select the project from the list.

- **Based on stream** if you want the new project to be populated with the item revisions from a stream. Select the stream from the list.

- **Based on baseline** if you want the new project to be populated with the item revisions from a baseline. Select the baseline from the list.

- **Copy build configuration** if you want to copy the build configuration of the **Based on** project/stream to the new project.

NOTE If the lists of streams or baselines are large, these fields will appear as text boxes with browse buttons, in which case use the browse buttons to select a stream or baseline.

7   Select any required options on the Options page:

- For **Project types**, select **Branch** or **Do not Branch**. It is recommended that you select **Do not Branch**, and that you use a single assigned branch.

- For **Change Management Rules**, select **Use item type settings**, **Always enabled** or **Always disabled**.

- Select **Request required to refactor** if you want to require the user to provide a request ID when they make refactoring changes to the project.

For details of these options, see "About Project Options" on page 87.

8   Select Finish if you want to accept the default options for the remainder of the New Project Wizard, otherwise click Next.

9   Select how you want the deployment of items in this project to be handled:

Select whether the stage of item revisions is "local" to this project/stream or can be affected when their stages are changed in other projects/streams.

- If you select **Use local stages**, the stage of an item revision in this project/stream is not affected as a result of actioning even when stages in the GSL are associated with states in its lifecycle. The stage in this project/stream can only be changed as a result of promoting and demoting.

- If you do not select this option, then when the state of an item revision is changed as a result of actioning, its stage in this project/stream will also be changed.

NOTE

- After you have selected this option you cannot deselect it.

- If your project is using Deployment Automation (DA), this option is always on.

10 Click Next if you want to update any named branches or attributes, otherwise click Finish to complete the wizard.

   ■ From the Valid **Branches** list, select branches to which future revisions in this project may be assigned.

   ■ If you want to select a branch as the default, select it from the Default branch list.

11 Click Next if you want to update any attributes, otherwise click Finish to complete the wizard.

12 Enter any required attributes on the Attributes page.

13 Click Finish.

Desktop client   **To create a new project:**

1 Do one of the following:

- Select **Project** | **New** | **Project**.

- In the Changesets dialog box for either a project or stream, right-click the project version on which you want to base the new project and select New Project.

- Select **File** | **New** | **Project**.

2 On the General page:

   ■ Select a product.

   ■ Enter a project name.

   ■ Select a project type.

   ■ Enter a description for the new project.

   ■ If you want the new project to be opened when the wizard completes select **Open using work area**. Select a work area.

   ■ To add the new project to your list of Favorites select **Add to favorites**. Favorites are shared across all clients.

3 Click **Next**.

4 Select one of the following:

   ■ **Nothing** if you want the project initially to contain no items.

   ■ **Based on Baseline** if you want the new project to be populated with the item revisions from a baseline. Select a baseline from the list.

   ■ **Based on another Project** if you want the new project to be populated with the item revisions from an existing project. Accept the default project or enter the name of a project. To find a project click **Select**, select **Another project**, and do one of the following:

      - Start typing the ID of a project. Projects that contain any characters in the string are displayed. For example, to find 'QLARIUS:VS_BRANCHA' type 'vs'.

• Select a project from the list. Favorite projects and recently used projects are displayed at the top.

Optionally select a version of this project on which to base the new project. Click **OK**.

NOTE: The new project inherits all the revisions from the parent project.

▪ **Based on another Stream** if you want the new stream to be populated with the item revisions from an existing stream. See above for guidance.

Select **Copy build configuration** if you want to copy the build configuration of the **Based on** project to the new project.

5 Click **Next**.

6 In the **Version management options** section:

• Select **Branch** if you want Dimensions to add a period before the new revision number for new item revisions created in this project.

▪ Select **Do not branch** if you want Dimensions to increment the previous revision number by one for new item revisions created in this project. It is recommended that you use this option, and that you use a single assigned branch.

▪ Select **Allow users to override default revision number** if you want the user to be able to enter a different revision number from the one generated by Dimensions when creating new item revisions in this project

7 In the **Change management rules** section:

• Select **Use item type settings**, **Always enabled** or **Always disabled**.

• Select **Request required to refactor** if you want to require the user to provide a request ID when they make refactoring changes to the project.

8 In the **Promotion** section:

• If you select **Use local stages** the stage of an item revision in this project is not affected as a result of actioning even when stages in the GSL are associated with states in its lifecycle. The stage in this project can only be changed as a result of promoting and demoting.

• If you do not select this option, when the state of an item revision is changed as a result of actioning, its stage in this project is also changed.

NOTE

• After you have selected this option you cannot deselect it.

• If your project is using the Deployment Automation (DA) deployment model, this option is always on.

See "About Project Options" on page 87 for more details of these options.

9 Click **Next**.

10 On the **Named Branches** page:

▪ In the list of Valid Branches select any branches that are to be allowed when creating new item revisions in this project.

▪ Select the default branch that you want CM to use when automatically generating the revision number for item revisions created in this project.

11 Click **Next**.

12 Enter any required attributes on the Attributes tab.

13 Click **Next**. A summary of the options you have selected is displayed.

14 Click **Finish**.

Updating a Work Area from a Project

Update from a project when you want to update files or folders in your work area with item revisions from the Dimensions CM repository.

PRIVILEGES Revise Item Content

NOTE You cannot update files from a project in the web client.

Web client **To update files from a project:**

1 On the Items tab, do one of the following:

- select one or more items in the content pane.

- select a project folder in the navigation pane.

2 Click the Update button.

3 Use the Update Items wizard to update the items and resolve any conflicts. For details, see "Updating a Work Area from a Stream" on page 62.

Desktop client **To update file from a project:**

1 Do one of the following:

- In an Items list, select one or more items and select Item | Update.

- In the My Current Project/Stream window, expand the Files and Folders node and select the folder from which the files are to be updated and select Project | Update.

2 Use the Update Wizard to update the items and resolve any conflicts. For details, see "Updating a Work Area from a Stream" on page 62.

Delivering to a Project

Purpose Deliver to a project when you want to update a group of item revisions in the Dimensions CM repository with files from your work area, or when you want to create new items from files.

The Deliver process uses an atomic commit, if any failure occurs the whole delivery is rolled back.

PRIVILEGES Revise Item Content

Web client **To deliver files:**

1 On the Items tab, do one of the following:

- If you are updating items, select the items.

- If you are creating new items, select a project folder to contain the new items.

2   Click the deliver button.

3   Use the Deliver wizard to update the items. For details, see "Delivering Changes to a Stream" on page 66.

Desktop client   **To deliver files:**

1   Do one of the following:

- In an Items list, select one or more items and select Item | Deliver.

- In the My Current Project/Stream window, expand the Files and Folders node and select the folder from which the files are to be updated and select Project | Deliver.

2   Use the Update Wizard to deliver the items and resolve any conflicts. For details, see "Delivering Changes to a Stream" on page 66.

Changing a Project or Stream ID

Purpose   Use this procedure when you want to change a project's ID.

PRIVILEGES Rename Project/Stream

Web client   **To change a project/stream ID:**

1   On the Projects tab or Streams tab, do one of the following:

- Select a project and click Open: or .

- Click the project/stream name.

2   On the General tab, Enter the new **ID**.

3   Click **OK**

Desktop client   **To change a project/stream ID:**

1   Select the project or stream.

2   Select Project | Change ID or Stream | Change ID.

3   For **New Project/Stream ID**, type the new name.

4   Click **OK**.

Relating a Project or Stream to Other Objects

Purpose   Use this feature when you want to relate a project to another project or a baseline.

Relate a project to another project when you want to use one project as a child collection of items within a parent project.

Attach a project as a subproject to your current project when you want to relate it as a child collection of items in the project.

Relate a project to a baseline when you want to use a baseline as a child collection of items within a parent project.

PRIVILEGES You will need one of the following privileges set for the project to which you want to attach/relate the other object:
Attach Project as Sub Project
Attach Baseline as Sub Project
Relate Requests to Project

Web client   **To attach a project or baseline as a sub-project to your current project:**

1   On the My Current Project tab, in the navigation pane, select the Sub-Projects node.

2   Click the Attach button and select **project** or **baseline**.

3   In the Relate dialog box, enter or select the projector or baseline, or use the browse button to select it.

4   In the **Relative path** field, enter the path to be used as an offset relative to the project root folder of the current project for item files from the **Relate to** project or baseline.

5   Click OK.

To detach a project or baseline as a sub-project from your current project:

1   On the My Current Project tab, in the navigation pane, expand the Sub-Projects node.

2   Select the project or baseline and click the detach button and select **project** or **baseline**.

3   Click OK.

To relate a project or stream to other objects:

1   On the Projects tab or Streams, select a project, click the Relate button and select **to baseline**, **to request**, or **to project**.

2   In the Relate dialog box, enter the baseline, request or project in the **Relate to** field, or use the browse button to select it.

3   If this is a baseline or project, in the **Relative path** field, enter the path to be used as an offset relative to the project root folder of the current project for item files from the **Relate to** baseline or project.

4   Click OK.

NOTE You can also use the Relationships tab of the Open Project or Open Baseline dialog boxes to relate or unrelate projects and other projects or baselines. See .

Desktop client **To attach a project or baseline as a sub-project to your current project:**

1 In the My Current Project navigation window, right-click the Sub-Project node:
Sub-Projects   and select **Attach**.

2 Select **Project** or **Baseline**.

3 Enter the project or baseline specification, or use the browse button: …   to find it

4 If required, enter the **Folder Offset**, or relative path to be used for item files in relation to the root folder for your current project.

5 Click **OK.**

To detach a project or baseline from your current project:

1 In the My Current Project navigation window, expand the Sub-Project node:
Sub-Projects

2 Right-click the project or baseline and select **Detach**.

3 Click **OK.**

To relate a project or stream to items or requests:

1 In the Product Catalog or User Inbox navigation window, click the Projects node.

2 In the content window, select the project/stream.

3 Select Relate/Unrelate.

4 In the Manage Relationships dialog box under the Specification column, select the node for the class of object you want to relate, and click the Add button. A corresponding Relationship dialog box is displayed.

5 Click the browse button: …   to find the objects you want to relate.

6 In the Find dialog box, select criteria to limit your search. For more information, see "Creating and Using Object Filters" on page 207.

7 To display the results of your search, click the Execute button.

8 On the Results tab, select the object(s) you want to relate, and click the OK button.

9 For **Relationship Type:**, select the relationship type and for **Direction**, the relationship direction.

10 Click the OK button

Creating a Project Folder

Purpose — Use this feature when you want to create a new folder in the current project structure.

This option is not available for streams.

PRIVILEGES Create Directories

Web client — **To create a new folder:**

1 On the My Current Project tab, expand the Files and Folders node in the navigation pane.

2 Select the project folder that will contain the new folder.

3 Click New.

4 In the New Project Folder dialog box, for **New Child Project Folder**, type the new folder name.

5 In the **Track changes with request(s)** field, enter or select any requests you want to use to track the refactoring operation, or leave this field blank if you want to use your project default request.

6 Click OK.

Desktop client — **To create a project folder:**

1 In the My Current Project window, expand the Files and Folders tree.

2 Select the project folder that will contain the new folder.

3 Select File | New | Folder

4 For **New Folder**, type a new folder name.

5 In the **Track changes with request(s)** field, enter or select any requests you want to use to track the refactoring operation, or leave this field blank if you want to use your project default request.

6 Click OK.

Deleting a Project Folder

Purpose   Delete a project folder when it is no longer needed.

NOTE You can delete project folders only when they do not contain item revisions and subfolders.

This option is not available for streams.

PRIVILEGES Delete Directories

Web client   **To delete a project folder from the current project:**

1   On the My Current Project tab, expand the Files and Folders node in the navigation pane.

2   Select the project folder that you want to delete.

3   Click More and select Delete.

4   In the **Track changes with request(s)** field, enter or select any requests you want to use to track the refactoring operation, or leave this field blank if you want to use your project default request.

5   Select **Delete project folders recursively** if you want to include the subfolders of this folder when you delete it.

6   Select **Remove item revisions contained within project folder(s) from project** if you want to remove the item revisions in the folder(s) when you delete the folder.

7   Click OK.

Desktop client   **To delete a project folder:**

1   In a Project tree, select a project folder.

2   Select Project | Directory | Delete.

3   In the Delete Directory dialog box, verify that you have selected the correct folder.

4   In the **Track changes with request(s)** field, enter or select any requests you want to use to track the refactoring operation.

5   Select **Delete directories recursively** if you want to include the subfolders of this folder when you delete it.

6   Select **Remove item revisions contained within directory(s) from project** if you want to remove the item revisions in the folder(s) when you delete the folder.

7   Click OK.

Renaming a Project Folder

Purpose   Rename a project/stream folder to reorganize its structure.

You can also use this option with streams that are locked.

PRIVILEGES Rename Directories

Web client   **To rename a project folder:**

1   On the My Current Project tab, expand the Files and Folders node in the navigation pane.

2   Select the project folder that you want to rename.

3   Click More and select Rename.

4   For **New Name**, type the new name for the project folder.

5   In the **Track changes with request(s)** field, enter or select any requests you want to use to track the refactoring operation, or leave this field blank if you want to use your project default request.

6   Click OK.

Desktop client   **To rename a project folder:**

1   In a Project tree, select a project folder.

2   Select Project | Directory | Rename.

3   Type the new folder name, and press Enter.

Moving a Project Folder

Purpose   Move a project folder to reorganize the folder structure of a project.

This operation is not available for streams.

PRIVILEGES
Create Directories
Delete Directories

Web client   **To move a project folder:**

1   On the My Current Project tab, expand the Files and Folders node in the navigation pane.

2   Select the project folder that you want to move.

3   Click More and select Move.

4   For **New Location**, type the name of the parent project folder that will contain the folder.

5   In the **Track changes with request(s)** field, enter or select any requests you want to use to track the refactoring operation, or leave this field blank if you want to use your project default request.

6   Click OK.

Desktop client   **To move a project folder:**

1   In a Project tree, select the project folder to move.

2   Select Project | Directory | Move.

3   For a **Parent Directory**, type the new project folder pathname.

4   In the **Track changes with request(s)** field, enter or select any requests you want to use to track the refactoring operation, or leave this field blank if you want to use your project default request.

5   Click the OK button.

Deleting a Project

Purpose   Delete a project when development work is complete and it has been used to create a baseline for a release.

PRIVILEGES

Delete Project for a project.

Web client   **To delete a project:**

1   On the Projects tab select a project.

2   On the toolbar, click Delete.

3   In the Delete dialog box, verify that you have selected the correct project and click Yes.

Desktop client   **To delete a project:**

1   Select Project | Delete.

2   In the Delete Project dialog box, from the **Project** list select a project.

3   Click OK.

Actioning a Project or Stream

Purpose   Use this operation to move the project from one lifecycle state to the next lifecycle state.

PRIVILEGES
Action Project/Stream to Next State to action a project or stream to a valid next state.
Action Project/Stream to Any State to action a project or stream to a lifecycle state without a valid transition.

Web client   **To action a project:**

1   Select one or more projects or streams.

2   Click the Action button.

3   For **New State**, select a lifecycle state:

  ■   **If you are actioning a single project**, either select **To next state** and select a valid next state from the corresponding list, or select **To specific state** and select a lifecycle state from that list. (You will require the necessary privilege to action to a state other than a valid next state.)

  ■   **If you are actioning multiple projects**, either select **Next normal state** or select **Named state** and type a lifecycle state. You must type a common lifecycle state for all projects.

4   Click the **Next** button.

5   If you want to set any attributes, type or select the values.

Required attributes are marked with a red exclamation point:

This page does not appear if you have selected multiple projects.

6   Click the **Next** button.

7   Optionally, in the **Comment** field, type a comment.

8   Click the **Next** button.

9   Use the Results page to check the result(s) of the action.

10   Click the **Close** button to close the Results page.

Desktop client   **To action a single project or stream:**

1   Do one of the following:

  ■   Select a project and select Project | Action.

  ■   Select a stream and select Stream | Action.

2   For **New Status**, select a lifecycle state, either select **Next status** and select a valid next state from the list, or select **All statuses** and select a lifecycle state from the list. (You will require the necessary privilege to action to a state other than a valid next state.)

3   Click the **Next** button.

4   If you want to set any attributes, type or select the values.

Required attributes are shown in bold.

5   Click the **Next** button.

6   Optionally, in the **Comment** field, type a comment.

7   Click the **Next** button.

8   Use the Summary page to check the details of the action to be performed.

9   Click the **Finish** button to perform the action and close the wizard.

To action multiple projects or streams:

1   Select two or more projects/streams.

2   Select Project | Action or Stream | Action.

3   In the Action Multiple Project/streams dialog box, from the **New Status** list, select the lifecycle state to which you want to action the selected projects/streams. If you leave this field blank, the projects/streams are actioned to the next normal lifecycle status.

   NOTE Lifecycles are defined with respect to the project's type. If you have selected projects of different types, you must ensure that the lifecycle state you specify is common to all these lifecycles.

4   For **Action description,** optionally type a comment.

5   Click the OK button.

Creating a Work Area

Purpose   Create a new work area when you wish to define a location to be used for the item files for a project or stream.

   PRIVILEGES Create Work Areas

   NOTE When you assign the work area to your project/stream, you need to assign the ID of the work area and not just the file path.

Web client   **To create a work area:**

1   On the My Current Project/Stream tab, select the Work Areas node in the navigation pane and click the New Area button. The New Work Area dialog box appears.

2   For **ID**, enter a name for the area.

3   Enter a Description.

4   Select a **Network node** from the list and enter the **directory** to be used as the root folder/directory for the area on this node, or browse to select it.

   NOTE If the directory does not exist, it will not be created until files are fetched to that folder/directory.

5   Enter the **Node Username** and **Node Password** for the node where the area is located in order to access the item files in that area.

6   Enter the Dimensions user that owns this area.

7 To grant permission to users and groups to access the area:

- To add a user, select the name in the **Available Users/Groups** list, and click the **>>** link to move it to the **Users/Groups granted permission to access this area** list

- To remove a user, select the name in the **Users/Groups granted permission to access this area** list, and click the **<<** link.

8 Click OK.

Desktop client **To create a work area:**

1 Right-click the **Work Areas** node in the My Current Project/Stream display bar and select **Create Work Area**.

The New Work Area dialog box appears.

2 For **Area ID**, enter a name for the area.

3 Enter a **Description**.

4 Select a **Network node** from the list and enter the root folder/directory for the area on this node, or browse to select it.

5 Enter the Node User and Node Password for the node where the area is located in order to access the item files in that area.

6 For Project or Stream Association:

- If you want to make this area the default for your current project select **Make it the default area for the current project/stream**.

- Optionally, in the **Folder offset** field, enter a relative path within this area to use as the root folder for this project.

    NOTE If this folder does not exist, it will not be created until files are fetched to that folder/directory.

7 Enter the Dimensions user that owns this area.

8 Click the Users tab to grant permission to users and groups to access the area:

- To add a user or group, select the name in the **Available Users/Groups** list, and click the **>** link to move it to the **Assigned Users/Groups** list

- To add all the users and groups, click the **>>** link to move them to the **Assigned Users/Groups** list

- To remove a user or group, select the name in the **Assigned Users/Groups** list, and click the **<** link.

- To remove all the users and groups, click the **<<** link.

9 Click OK

Assigning a Project or Stream to a Deployment Area

Purpose
Assign a project or stream to a deployment area when you want to use that area to deploy item files for a particular deployment stage.

For details, see the Deployment Guide.

For details of how to create deployment areas, see the Process Configuration Guide.

Viewing or Editing Project/Stream Properties

Purpose
View project/stream properties when you want to see details such as the status, creation date, last update date, or the user who last updated it.

Edit the project/stream properties when you wish to change any of the default settings, or the available branches for item revisions.

For details of working with stream properties, see "Setting Stream Options and Defaults" on page 78

PRIVILEGES Update Project

Web client
To view or edit project properties:

1 Do one of the following:

- For a project, select the Projects tab and do one of the following:
  - Click the name link of the project whose properties you want to view or edit
  - Select the project and click Open.
- For a stream, select the Streams tab and do one of the following:
  - Click the name link of the stream whose properties you want to view or edit
  - Select the stream and click Open.

2 On the General tab, change the **ID**, if required.

3 On the Options tab, view or edit the options.

For details of these options, see "About Project Options" on page 87.

4 On the Attributes tab, view or edit the attributes.

5 On the Relationships tab, view or edit the related projects or baselines.

6 On the Action History tab, view the history

7 Click OK.

Desktop client
To view or edit project properties:

1 Select a project.

2 Select Project | Project Flags.

3 On the General tab, select a Product ID and Project ID.

4   Optionally, select the Global project, the Default Project or the Current Project as the existing project.

5   Click the Options tab and do the following:

- Select **Branch** if you want Dimensions to add a period before the new revision number for new item revisions created in this project.

- Select **Do not branch** if you want Dimensions to increment the previous revision number by one for new item revisions created in this project.

- Select **Allow users to override default revision number** if you want the user to be able to enter a different revision number from the one generated by Dimensions when creating new item revisions in this project.

- Select **Lock Project** if you want to prevent users from creation new item revisions in this project.

- For **Change Management Rules**, select **Use item type settings**, **Always enabled** or **Always disabled**.

- Select **Request required to refactor** if you want to require the user to provide a request ID when they make refactoring changes to the project.

See "About Project Options" on page 87 for more details of these options.

6   Select the Deployment Options tab.

7   Select or deselect **Use local stages**.

- If you select **Use local stages**, the stage of an item revision in this project/stream is not affected as a result of actioning even when stages in the GSL are associated with states in its lifecycle. The stage in this project/stream can only be changed as a result of promoting and demoting.

- If you do not select this option, then when the state of an item revision is changed as a result of actioning, its stage in this project/stream will also be changed.

  NOTE

  - After you have selected this option you cannot deselect it.

  - If your project is using the Deployment Automation (DA) deployment model, this option is always on.

For details of these options, see "About Project Options" on page 87.

8   Click the Named Branches tab and select named branches to be available for future revisions.

9   Click OK.

Parallel Development Using Projects

The features in this section apply to projects. Streams do not contain parallel versions of the same items in the repository, and conflicts are resolved in the work area. For details, see "Working with Streams" on page 53.

In a project of any size, different people may need to work on the same items for different purposes. Dimensions CM provides features that allow developers to work on the same items without conflict, and to resolve and consolidate changes.

The Dimensions CM work model for parallel development uses projects and version branches to separate concurrent activities on the same items.
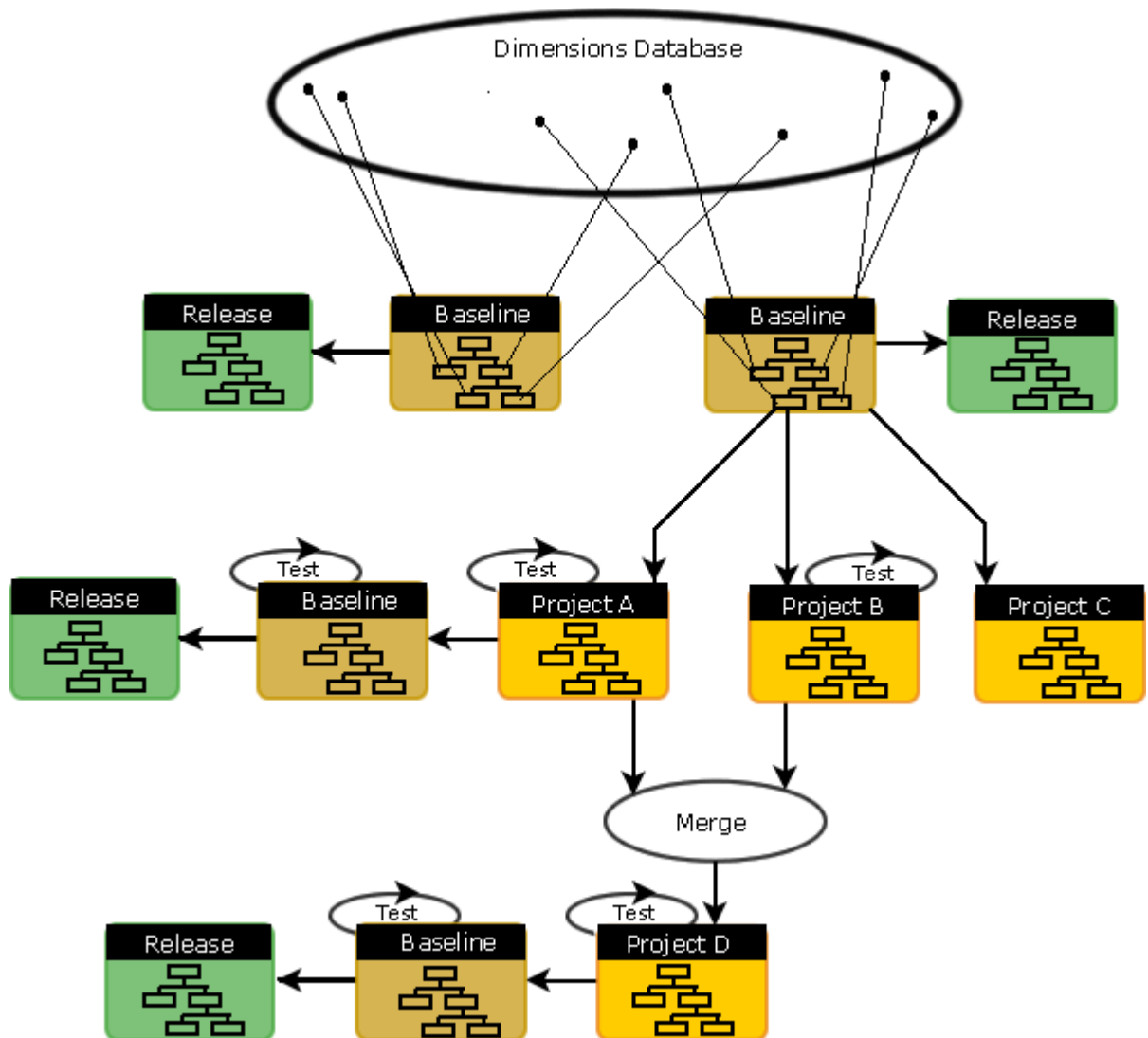
The preceding figure shows the following important points:

- You can create several projects from a baseline or existing project to support separate lines of development. A baseline typically includes all the source and derived items that constitute a previous product release. You can then edit the project by adding new item revisions to it or deleting item revisions from it.

- You can associate a list of valid version branch names with a single project, so that users can check out individual items to a named branch.

- You can then merge projects or item revisions so that mainstream development can pick up the changes made in parallel.

About Merging

Dimensions CM provides a set of features to enable you to resolve and merge changes at the item revision, project, and project levels.

Merging Item Revisions

Typically, when two or more parallel streams of development occur on the same file, it is necessary to merge the separate changes at some later point in time. Dimensions CM provides a comprehensive conflict resolution facility capable of merging any number of input files. For detailed information on comparing and merging changes to the file content of an item, see "About Comparing and Merging Item Files" on page 294.

NOTE The following figure illustrates a scenario for version development for file *foo.c*, where boxes denote branches and circles indicate revisions within branches. There are three significant development branches, MAIN, WINDOWS_XP and MAINTENANCE, and two bug fix sub-branches emanating from the MAINTENANCE branch. The figure also shows that some of the changes were later consolidated back into the MAIN branch and released into Release 2.0.
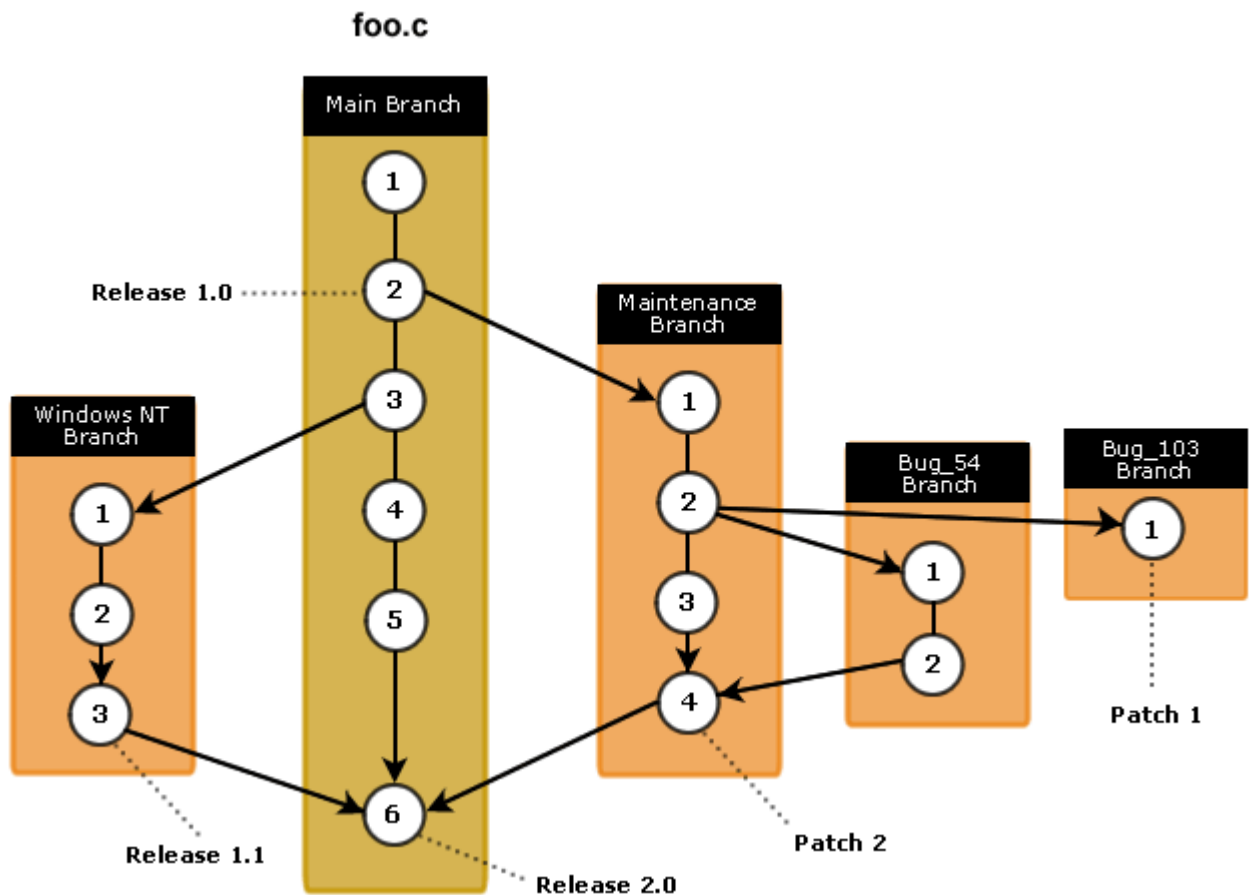
NOTE This example used named branches within the *same* project.

Merging Projects

Development changes made in parallel may need to be absorbed into mainstream, or files on local machines may need to be consolidated into version control with conflict management. This may be achieved by merging the contents of projects, baselines, and directories.

For example, two projects may be merged into a new project by including all the non-conflicting revisions and then resolving those which contain conflicting changes.

To facilitate this important project management function in an intuitive way, Dimensions provides the interactive Project Merge Tool for merging projects, baselines and file areas on disk.

The graphical Project Merge Tool clearly highlights differences between files on disk or in a project or baseline using color and icons. Based on the differences displayed you can select which changes to include and can invoke the Merge Tool to resolve any conflicts in a graphically intuitive way.

There is also a Merge function and a Resolve Conflicts function for use in merging the contents of projects.

For information on merging projects, see Chapter 14, "Comparing and Merging Projects"

Synchronizing Your Work Area

You can use the Synchronize Wizard to update your work area and the items in a project folder and keep them in step with one-another. You can also use the features of the Windows Explorer Plug-in to work with item files outside the web client or desktop client.

For more information, see Chapter 16, "Using the Synchronize Wizard"

About Parallel Development Tasks

There are two basic models for parallel development: one uses projects, and the other uses branches. This section outlines work flows based on these methods.

NOTE These are simple work flows intended to give you a sense of how Dimensions CM is commonly used. It does not explain all possible options and variations. Work flows in your organization will vary depending on your development practices, how the Dimensions CM process model is set up, role assignments, and many other factors.

Multiple Projects

If you are doing maintenance on a single product, you might start by branching off a maintenance project. You would work on it until you want to bring it back to main development, then merge the projects.

Multiple Projects and Named Branches

A more complex scenario involves doing a customer-specific release using multiple projects and named branches.

1   Start by baselining the main line of development.

2 Create a new project and named branch for the customer that consists only of items that will be changed for this customer, as well as any new items.

3 Work on both the main line and the customer branch.

4 Once the customer-specific changes are ready, baseline the customer and main line projects.

5 To get a baseline you can build from, merge the customer and main line projects.

The following figure illustrates multiple projects with branching. There are three projects: MAIN, WINDOWS_XP, and MAINTENANCE. Notice that the revision 3 in the main branch is used to start the WINDOWS_XP branch in the WINDOWS_XP project, and revision 2 in the main branch is used to start the maintenance branch in the MAINTENANCE project.

Also notice that in the MAINTENANCE project, two separate sub-branches emanate from the maintenance branch, illustrating the important point that parallel development on the same file may occur within the same project and is not necessarily restricted to occur across different projects.
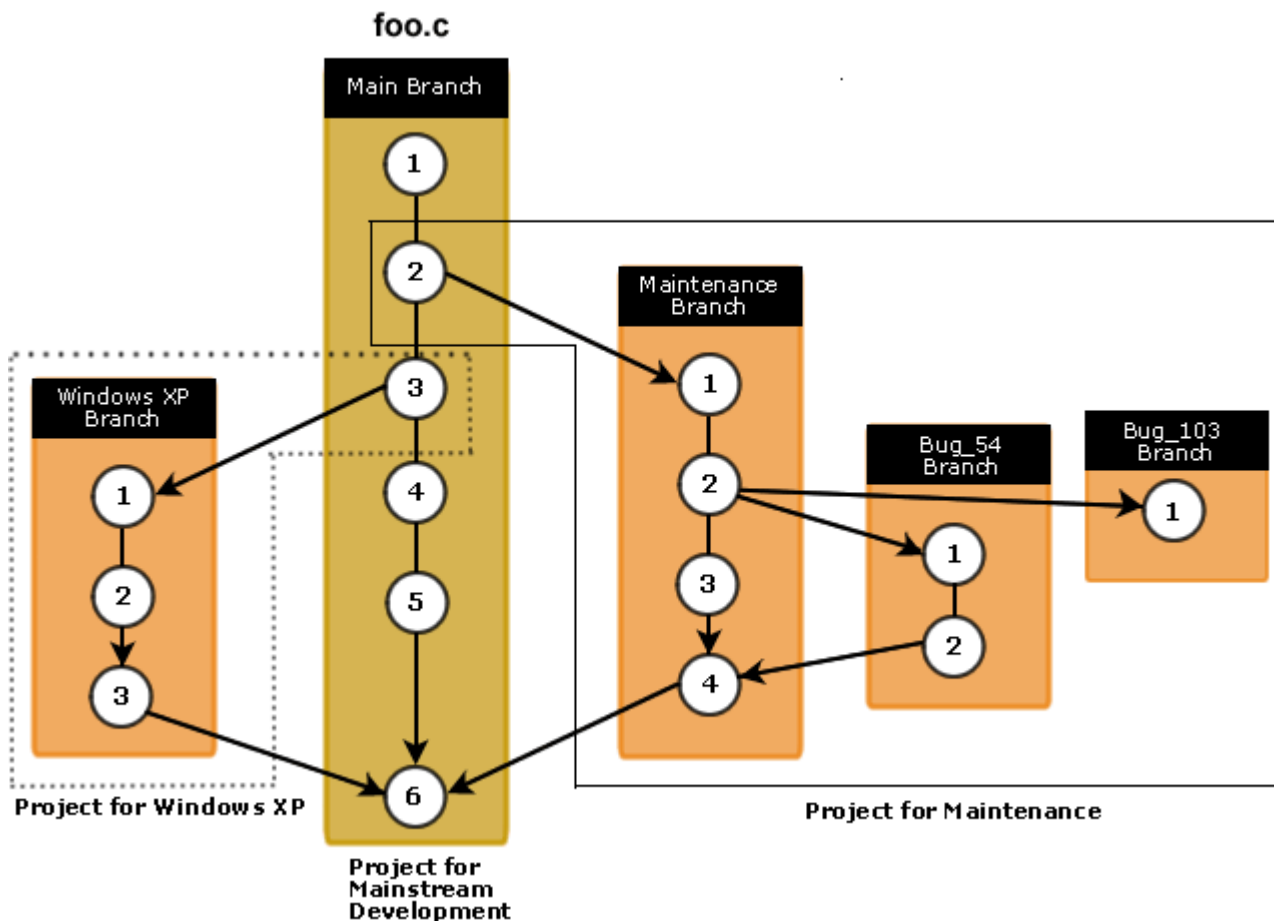
Merging Projects

Purpose
Merge projects when you want to merge parallel developments. For example, you might want to merge the Maintenance and Development, or a previous customization into the latest development release. Rather than merging at the item level, you can merge the projects, either into an existing project or into a new one.

NOTE This option is not available for streams. See Chapter 3, "Working with Streams" on page 53 for details of how to merge streams.

PRIVILEGES Add Item Revisions to Project
Remove Item Revisions from Project

Web client **To merge projects into an existing project:**

1   On the Projects tab, select the source project from which you want to merge item revisions, and click Merge.

2   Select the target project into which the source projects will be merged.

3   Enter one or more requests to relate In-response-to any new item revisions created as a result of the merge or use the browse button to select them.

4   Click OK.

To create a new merged project:

1   On the Projects tab, select one or two projects to be merged.

2   Click New and select Merged Project.

3   From the **Use project filenames from <project name> where filenames conflict** list, select the project from which you want to use item revisions in the event of a conflict.

4   For **ID**, type a name for the new project.

5   Type a **Description**.

6   From the **Create in Product** list, select the product where you want to create the new merged project.

7   Select a **Type** from the list.

8   Click OK.

Desktop client **To merge projects into an existing project:**

1   Select Project | New | Merge Project.

2   On the General tab of the Merge Projects dialog box, do the following:

  ■ For **First Project Selector,** select the first project that you want to merge.

  ■ For **Second Project Selector,** select the second project that you want to merge.

  ■ For **Target Project Selector,** select the project into which the first and second projects will be merged.

3   Select Finish if you want to accept the default options for the remainder of the New Project Wizard, otherwise click Next.

- Select **Branch** if you want Dimensions to add a period before the new revision number for new item revisions created in this project.

- Select **Do not branch** if you want Dimensions to increment the previous revision number by one for new item revisions created in this project.

- Select **Allow users to override default revision number** if you want the user to be able to enter a different revision number from the one generated by Dimensions when creating new item revisions in this project

- For **Change Management Rules**, select **Use item type settings**, **Always enabled** or **Always disabled**.

- Select **Request required to refactor** if you want to require the user to provide a request ID when they make refactoring changes to the project.

  See "About Project Options" on page 87 for more details of these options.

4   Select or deselect **Use local stages**.

- If you select **Use local stages**, the stage of an item revision in this project/stream is not affected as a result of actioning even when stages in the GSL are associated with states in its lifecycle. The stage in this project/stream can only be changed as a result of promoting and demoting.

- If you do not select this option, then when the state of an item revision is changed as a result of actioning, its stage in this project/stream will also be changed.

  NOTE

  - After you have selected this option you cannot deselect it.

  - If your project is using the Deployment Automation (DA) deployment model, this option is always on.

  For details of these options, see "About Project Options" on page 87.

5   Select Finish if you want to accept the default options for the remainder of the New Project Wizard, otherwise click Next.

6   On the Named Branches page:

- In the list of Valid Branches, select any branches that are to be allowed when creating new item revisions in this project.

- Select the default branch that you want Dimensions to use when automatically generating the revision number for item revisions created in this project.

7   Click Finish if you want to accept the default options for any attributes for project, otherwise click Next.

8   Enter any required attributes on the Attributes tab.

9   Click Finish if you want to complete the wizard without seeing the Summary page, otherwise click Next.

10   Click Finish to complete the wizard.

Importing the Related Items of a Request into a Project

Purpose   Import the related items of a request into a project when you want to merge the changes for that request into another project.

This operation is not available for streams.

PRIVILEGES Import Request into Project

NOTE This operation always creates new revisions of items regardless of any settings for the item type such as **Don't force new revision number on check in**

Desktop client   **To import the related items in response to a request into your current project:**

1   Select the project into which you want to import the request as your current project. For details, see "Opening Projects and Setting Defaults" on page 91.

2   In a request list, select the request and select Request | Import.

3   On the Welcome Page of the Import Request wizard, check the details you have selected.

   a   If you want to import item revisions related to any child requests for the selected request, select **Also import items related to child requests**.

   NOTE The parent and child requests need to be related using the *Dependent* relationship.

4   Click Next.

5   On the Item Selection page, deselect any item revisions that you do not want to be imported and click Next.

6   On the Track Changes page, select how you want to track the changes in this project resulting from the import. If you select a request, the item revisions resulting from the import will be related as *Info* to it. The request will be related as child of type *info* to the imported request.

   ▪   Select **Use existing request** to choose a request and enter the request ID or use the browse button to select it.

   ▪   Select **Prime a new request from the importing request** to be presented with the Prime Request dialog box to create the request based on the details of the importing request.

   ▪   Select **Create a new request** to be presented with the Create Request dialog box to create one.

   ▪   Select **Use the importing request** to use the importing request to also relate to any new item revisions as a result of merging conflicts. Note that this request must not be related to any project.

7   Click Next.

   ▪   If you selected **Create a new request** you will be presented with the Create Request dialog box. See "Priming a Request" on page 225 for more details.

   ▪   If you selected **Prime a new request from the importing request** you will be presented with the New Request dialog box. See "Creating a Request" on page 224 for more details.

8 If there are conflicting item revisions you will be presented with the Conflicting Item Revisions page.

Select the action you want to be taken with these conflicts:

- Select **Proceed with import without merging changes** to continue to import these item revisions when clicking Finish without invoking the Resolve Merge Conflicts dialog box. Click Finish to complete the wizard.

- Select **On Finish invoke the Resolve Merge Conflicts dialog** if you want the Resolve Merge Conflicts dialog box to be displayed listing the conflicts when you click Next. Click Next and process the conflicts. See for more details.

Removing an Item Revision from a Project

Purpose   Remove an item from a project when the item is no longer required for the current project or when the item was added to the project by mistake.

This operation is not available for streams.

PRIVILEGES Remove Item Revisions from Project

Web client   To remove items from a project:

1 On the My Current Project tab, expand the Files and Folders node in the navigation pane.

2 Select the item revision that you want to delete. If the revision you require is not visible, check that **All revisions** is selected in the filter list.

3 Click More and select Delete.

4 In the Delete dialog box, verify that you have selected the correct item(s).

5 From the **Delete the following revisions from** list, select **Project**.

6 In the **Track changes with request(s)** field, enter or select any requests you want to use to track the refactoring operation, or leave this field blank if you want to use your project default request.

7 Click Yes.

Desktop client   **To remove items from a project:**

1 Select one or more items.

2 Select Item | Remove From Project.

3 In the **Item Specification** field, verify that you have selected the correct item(s).

4 In the **Track changes with request(s)** field, enter or select any requests you want to use to track the refactoring operation, or leave this field blank if you want to use your project default request.

5 Click OK.

Exporting an Item to a Project

Purpose   Export an item revision from your current project to another project when you want to use a copy of that item in the other project. You can also export multiple item revisions.

This operation is not available for streams.

PRIVILEGES
Add Item Revisions to Project
Remove Item Revisions from Project

NOTE The project filename of an exported item is taken from the project filename in your current project.

Web client   **To export an item to a project:**

1   On the My Current Project tab, expand the Files and Folders node in the navigation pane.

2   Select one or more items. If the revision you require is not visible, check that **All revisions** is selected in the filter list.

3   Click More and select Export to Project.

4   From the **Export the following item revisions to project** list, select the target project to export the item to.

5   Verify that you have selected the correct item(s) to export.

6   In the **Track changes with request(s)** field, enter or select any requests you want to use to track the refactoring operation, or leave this field blank if you want to use your project default request.

7   Click OK.

Desktop client   **To export an item from a project:**

1   Select one or more items.

2   Select Item | Export to Project.

3   In the **Item Specification** field, verify that you have selected the correct item(s) to export.

4   Select the product and project you want to export the item(s) to. To export to your default project, select the **Use Default Project** check box.

5   If you want the item to be located in a different folder from its folder location in the existing project, type the name of the folder where you want the item(s) to be placed in the **New folder** field. If this field is left blank the folder location will be the same as in the existing project. If the folder does not exist in the new project, it will be created.

6   In the **Track changes with request(s)** field, enter or select any requests you want to use to track the refactoring operation, or leave this field blank if you want to use your project default request.

7   Click OK.

About Resolving Conflicting Item Revisions

Item revisions in the same project conflict when the same item revision has had more than one new item revision created from it, thus creating a branch in its update history.
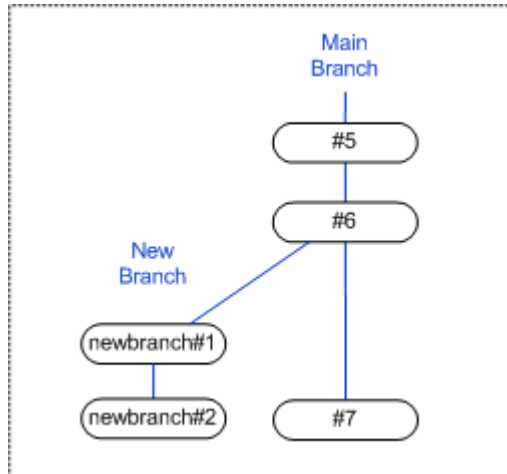
In the diagram above, revisions *newbranch#2* and *#7* conflict because they both have a common ancestor, revision *#6*. This means that to have only one current latest version of that item in the project it is necessary to merge the differences between these two revisions into one.

Dimensions CM can automatically resolve these conflicting revisions provided there are no conflicts within the contents of the files. A conflict occurs where a line has been added, deleted, or changed differently between the different versions. This means that Dimensions CM has no way of choosing which of the conflicting lines to include in the merged revision, so you must manually select it.

The Resolve option in the desktop client searches your selected project for conflicting item revisions. You then have the option to:

■   Invoke the Merge Tool manually to resolve conflicting lines in the file content for individual items.

■   Auto resolve the differences between the files for a selected item. This means that Dimensions CM attempts to automatically resolve the differences between the item files. If it is able to do this, it merges them and creates a new revision.

■   Auto resolve the differences for all of the conflicting item revisions found in the project. This means that Dimensions CM attempts to automatically merge each conflicting item to create a new revision, and lists any that it is unable to resolve. You can then select and resolve each of these by manually invoking the Merge Tool.

Resolving Conflicting Item Revisions in a Project

Purpose

Resolve conflicting item revisions after merging projects if you have received an email notifying you of conflicts when merging projects. You can resolve conflicts manually or automatically.

This operation is not available for streams.

You can resolve conflicts by manually selecting item revisions or you can resolve:

- Any conflicting item revisions within an entire project

- Any conflicting item revisions related in response to a selected request

If there are items which have conflicting lines, versions of a line that differ between different derivatives, you have to resolve them manually. For manual file merging, Dimensions CM invokes the Merge Tool. Follow the instructions in the online help for this tool or see "Using the Merge Tool" on page 399.

PRIVILEGES
Add Item Revisions to Project
Remove Item Revisions from Project

Desktop client

To manually resolve item revision conflicts:

1 In a Project containing conflicting item revisions, select one or more item revisions.

2 Select Item | Resolve Merge Conflicts.

3 In the Resolve Project Merge Conflicts dialog box, select the item specification and click Resolve.

4 On the General tab of the Resolve Merge Conflicts dialog box, from the **Item Revisions** list select the item revisions you want to merge.

5 Optionally, select a New Named Branch, and type a New Revision value, if you want to override the default values.

6 Click the Options tab and do the following if required:

- For **Request ID**, type the name of the related request, or click the browse button: … and use the Find dialog box to find it.

- From the **Status** list select a status.

- Enter a comment in the **Reason for Item Merge** field.

7 Click the Attributes tab, and type or select values.

Attributes in bold are required. Attributes in italics cannot be modified.

8 Click OK. The Merge Tool opens. Resolve all the conflicting lines between the files. Follow the instructions in the online help or see "Using the Merge Tool" on page 399.

9 When you have completed the merge, close the Merge Tool. You will be returned to the Resolve Project Merge Conflicts dialog box.

10 Repeat steps 3–9 for each item in the **Conflicting Revision Item Specifications** list.

To automatically resolve item revision conflicts:

1 Do one of the following:

  ■ For a project containing conflicting item revisions, select the top-level folder and. select Project | Resolve Merge Conflicts.

  ■ For items related in response to a request, select the request and select Request | Resolve Merge Conflicts.

  ■ For a subfolder within a project, right-click the folder in a project folder tree, and select Resolve Merge Conflicts.

2 In the Resolve Merge Conflicts dialog box:

  ■ If you have selected a project subfolder, and you want to include items in its subfolders, select **Include items related to sub folder**.

  ■ If you have selected a request, and you want to include items related to its child requests, select **Include items related to child requests**.

3 Do one of the following:

  ■ To automatically resolve one of the conflicting items, select the item specification and click **Auto Resolve**.

  ■ To automatically resolve all of the conflicting items in the list, click **Auto Resolve All**. If there are any item conflicts that Dimensions CM cannot resolve automatically, the Merge Tool opens for those items enabling you to resolve the conflict manually, in which case follow steps 5 and 6 for each of these items.

4 If Dimensions CM is able to automatically resolve the conflict, the item will disappear from the **Conflicting Revision Item Specifications** list.

5 If the conflict cannot be resolved automatically, the Merge Tool opens for you to resolve the conflict manually, in which case, do the following:

  a Resolve all the conflicting lines between the files, follow the instructions in the online help or see "Using the Merge Tool" on page 399.

  b When you have completed the merge, close the Merge Tool. You will be returned to the Resolve Project Merge Conflicts dialog box and the item will have disappeared from the **Conflicting Revision Item Specifications** list.

6 Repeat step 3 to 5 for each item in the **Conflicting Revision Item Specifications**.

Viewing Users, Roles, and Privileges for a Project or Stream

Purpose
View the role assignments for a project and the users with the project in their Inboxes. View the privileges for the project for a user.

PRIVILEGES To view other user's privileges you will need the privilege *View other User's Privileges* for the product that owns the project.

Web client
To view users, roles, and privileges:

1   Select a project or stream.

2   Click the Users, Roles an Privileges button.

3   To see which users have this project/stream in their Inbox, click the Users with Object in Their Inbox tab.

4   To see which users are assigned to a particular role for this project/stream, click the Role Assignments tab.

5   To see which privileges are enabled, click the Privileges tab.

6   If you have the *View Other User's Privileges* privilege, you can select another user whose privileges you want to view from the **User** list.

7   To view deployment privileges that apply to a specific stage or area, select a stage from the **Stage** list, and optionally, select an area from the **Area** list. Note that deployment-related privileges only apply to your current project/stream.

8   To see the rule that applies to a privilege, select the radio button for the privilege.

The details are displayed in the **Rule(s) Applied** text box at the bottom of the dialog box.

9   Click the Close button.

Desktop client
To view users, roles, and privileges:

1   Select a project or stream.

2   Select Project | Show User Roles and Privileges or Stream | Show User Roles and Privileges.

3   To see which users have this project/stream in their Inbox, click the Users with Object in Their Inbox tab.

4   To see which users are assigned to a particular role for this project/stream, click the Role Assignments tab.

5   To see which privileges are enabled, click the Privileges tab.

6   If you have the *View Other User's Privileges* privilege, you can select another user whose privileges you want to view from the **User** list.

7   To see the rule that applies to a privilege, select the privilege.

The details are displayed in the **Rule(s) Applied** text box at the bottom of the dialog box.

8   Click the Close button.

Viewing Project or Stream History

Purpose   View the update history of a project.

PRIVILEGES No special privileges required.

Web client   **To view or edit project/stream properties:**

1   On the Projects tab or Streams tab, do one of the following:

- Select a project/stream and click Open: or
- Click the project/stream name.

2   Click the Action History tab, to view details of the actions performed.

3   Click OK

Desktop client   **To view project/stream history:**

1   Select a project or stream.

2   Select Project | History or Stream | History.

3   Click Close.

Displaying a Project/Stream Pedigree

Purpose   View a project pedigree when you want to see the parent project, and any projects or projects created from it.

Desktop client   **To display a project pedigree:**

1   In a Project list, select a project or stream.

2   Select Project | Pedigree or Stream | Pedigree.

Filtering Projects or Streams

Purpose   Filter projects to limit the list of projects in the content pane to the ones you want to view.

Web client   **To filter projects/streams:**

1   On the Projects tab or Streams tab, in the **Filter** list, do one of the following:

- To show all projects/streams, select **All Projects/Streams.**

- To show only projects/streams that you updated last, select **Last Updated by Me**.

- To use a filter you previously defined, select the filter.

To create a filter:

1   On the Projects tab or Streams tab, from the **Filter** list, select New Filter.

2   For **Filter Name**, type a name for the filter.

3   Type or select filtering values in the other fields.

4   Click the OK button.

To edit a filter:

1   On the Projects tab or Streams tab, from the **Filter** list, select the filter that you want to edit.

2   From the **Filter** list, select **Edit Current Filter**.

3   To create a new filter based on the current filter, for **Filter Name,** type a new name.

4   Edit, select or type filtering values.

5   Click the OK button.

To delete a filter:

1   On the Projects tab or Streams tab, from the **Filters** list, select the filter to delete.

2   From the **Filter** list, select **Delete Current Filter**.

Ignoring Files and Folders during Deliveries

You can exclude specific files, folders, and file types from deliveries, for example:

- backup files

- built artifacts

For details see "Ignoring Files and Folders" on page 70.

Undoing Changes in a Project

You can roll back the delivery of files and folders to a project. For example, you deliver changes but discover problems in the code and decide to remove the changes. Undo creates a new changeset with the reverted changes that preserves the full history.

For details see "Undoing Changes in a Stream" on page 74.

Chapter 5
Working with Changesets

In this chapter

About Changesets

A changeset is an immutable set of change records that is created automatically every time that you deliver changes to a stream or project in a repository. Each changeset creates a new version of a stream or project. Changesets give insight into the development activity in your streams and enable you to easily identify changes. They also reduce the complexity of parallel development by making it easier to manage sets of changes. Micro Focus Pulse provides you with an intuitive visualization of changes throughout your development process.

The diagram below shows multiple streams where each circle represents a new stream version when a delivery has been made. Changeset version #0 (zero) is empty and represents the initial state of a stream or project.
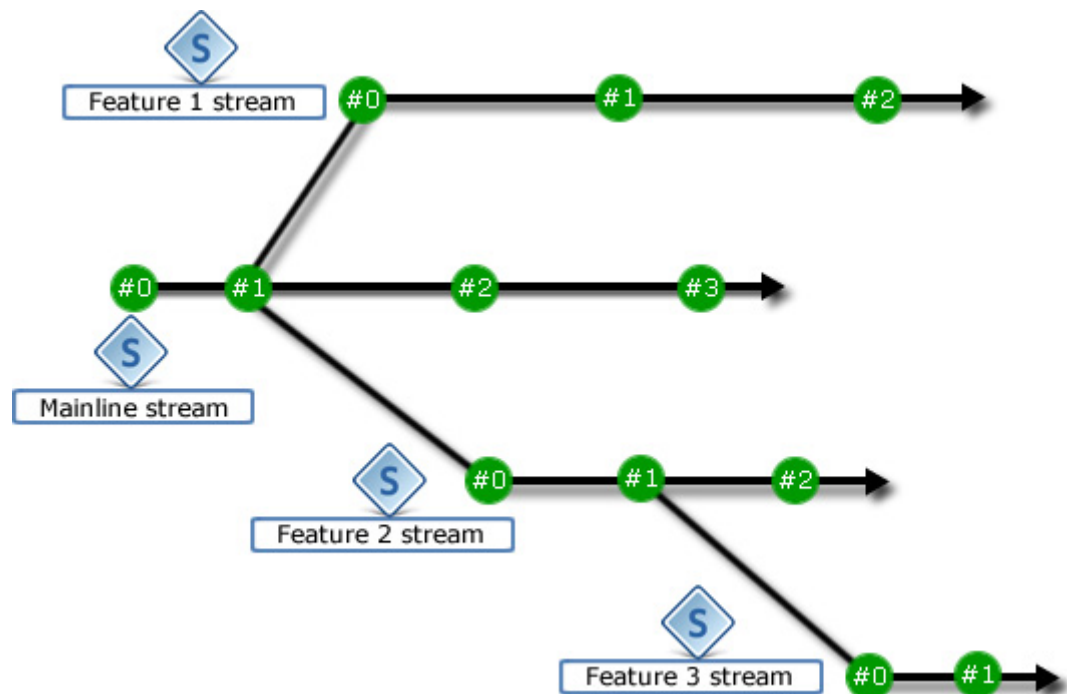
The Changesets dialog box enables you to view all of the changes that have been made to a stream or project since it was created and includes the following information:

- The stream version created by the new changeset, for example: `[123]`

- The date and time the stream version was created, for example:
  `11/22/2013 15:20:13`

- The name of the user who made the delivery, the type of delivery, and any comment entered by the user at the time of delivery, for example:
  `DELIVER by DDUCK:"Performance enhancements"`

Each item in a changeset includes the following information:

- The type of change, for example, *Modification*.

- The repository path of the file or folder.

- The item revision.

- Any related change requests.

Displaying Changesets

You can display the changesets in a stream or project in a repository.

1 Do one of the following:

- Windows Explorer: right-click a work area root folder, or subfolder, and select **Dimensions** | **Changesets**.

- Desktop client: right-click a stream or project, or a subfolder, and select **Changesets** or **Folder Changesets**.

- Web client: select any of the tabs My Current Stream, Items, Streams, or Projects. Select a stream or project, or a subfolder, and on the toolbar click **Changesets**.

     TIP Selecting a subfolder limits the scope of the changesets that are displayed.

   The Changesets dialog box opens.

2 To filter the view by a date range do one or both of the following:

- To display entries from a specified date, select the **From** check box and select the date.

- To display entries up to a specified date, select the **To** check box and select the date.

3 To filter the view by a category:

- From the **Filter** list select a category.

- Enter a value in the box.

   For example, select *Request(s)* as a filtering attribute and in the **Filter** box enter a request type, such as ENH.

4 Each changeset displays its unique ID and a label that indicates its health. Expand a changeset to view its contents. Each row displays information about one item, including:

- The change type

- The path and revision

- Related requests

- The related Pulse review (if available)

5 To open a changeset in Pulse (in an external brower), right click and select Open Details.

6 To open the review associated with a changeset in Pulse (in an external brower), right click and select Open Review.

Displaying Reviews

Micro Focus Pulse is a web-based tool that enables development teams to examine the health and quality of their changes. Reviews are part of Pulse that enable you to:

- Comment on, and review, the code changes in your development projects.

- Collaborate with team members.

- Get insight into the health of changes in your changesets and streams, such as the results of chain runs.

- Promote team work and development best practices.

- Vote to approve or reject reviews, which may cause reviews to be marked as approved or sent for rework.

Reviews are integrated into your client or IDE and enable you to:

- Display reviews in a separate view. You can manage a review, such as adding comments and changing its state. Links inside a review open in Pulse (in an external browser).

- Open the review related to a specific request or changeset.

You can configure changesets to automatically create reviews. For more information see the `Pulse help`.

1 In the desktop client, on the My Current Stream/Project panel, expand the Inbox or Catalog nodes.

2 Select Reviews. A new window opens and displays all the pending reviews or the review catalog. The views displays the review ID, title, owner, status, and creation date.

- To open a review in a separate view, right click and select Open. To open the review in Pulse (in an external browser), select Open in Browser.

- To open a review in Pulse (in an external browser), right click, and select Open in Pulse.

NOTE To use Pulse functionality it should be enabled in your database.

Inspecting Changeset Health

Changeset health is displayed visually using a combination of the expert opinions of the changes and the review state. You can use experts in Micro Focus Pulse to:

- Perform builds

- Capture built artifacts

- Deploy assets

- Examine source code and artifacts, report findings, and provide an opinion

- Perform static analysis

You can configure experts and tools to run in a sequence of steps called a chain. You can also configure changesets to automatically create reviews and run chains of experts. For details about using experts see the <u>Pulse help</u>.

Examples of changeset health:

The changeset is currently healthy and the review was successful.

The changeset is not healthy or the review failed.

The changeset is unstable.

No experts were run on the changeset and no review is available.

The changeset was aborted.

1 In the desktop client or Windows Explorer integration open the Changeset dialog box. The health icon is displayed on the left.

2 To open the review associated with a changeset, right-click and select Open Review. The review opens in Pulse.

3 To view a changeset's details, right-click and select Open Details. The changeset opens in Pulse.

NOTE To use Pulse functionality it should be enabled in your database.

Browsing and Opening Requests

You can browse and open the requests that are related to a changeset.

1   Open the Changeset dialog box.

2   Do one of the following:

- Windows Explorer: right-click the top level of a changeset and select **Browse Related Requests**. Any related change requests are displayed.

- Desktop client: right-click the top level of a changeset and select **Open Related Requests**. The Requests window displays any related change requests. Use this window to browse and open the requests, view related items, and perform other operations.

- Web client: select the top level of a changeset, or any item, and on the toolbar click **Open Request**. If there are multiple requests associated with the changeset, select one. The Open Request dialog box opens. Use this dialog box to modify the request's attributes, add or delete file attachments, and view its relationships and action history.

Fetching a Stream Version to a Local Work Area

You can use the following methods to refresh the contents of a local work area from a stream version:

- Update: allows you to review, select, and merge changes before updating a work area.

- Get: fetches the entire contents of a stream version (is quicker than Update).

IMPORTANT! You can only update, or fetch, from a stream version that is later than the version in the work area.

1   Open the Changeset dialog box.

2   Do one of the following:

- Windows Explorer and desktop client: right-click the top level of a changeset and select **Update from Stream Version**.

- Web client: select the top level of a changeset and on the toolbar click **Update from Stream Version**.

The Update wizard appears. For details see

To fetch a stream version to a work area:

1   Open the Changeset dialog box.

2   Do one of the following:

- Windows Explorer and desktop client: right-click the top level of a changeset and select **Get Stream Version**.

- Web client: select the top level of a changeset and on the toolbar click **Get Stream Version**.

The Get stream version dialog box appears.

3   In the **Folder to contain items** box enter a path or click **Browse** and select a folder.

4   Select any of the options if applicable.

5   Click **OK** or **Finish**.

Merging from a Stream Version

In the desktop client and Windows Explorer integration you can select a stream version that will be the source for a merge operation.

1   Open the Changeset dialog box.

2   Right-click the changeset (associated with the stream version) that will be the source of the merge and select **Merge from Stream Version**.

3   Continue from step 3 in .

Creating a New Stream or Project from a Stream Version

In the desktop client and Windows Explorer integration you can base a new stream or project on a specific version (of a stream or project).

1   Open the Changeset dialog box.

2   Right-click the stream version on which you want to base the new stream or project and select **New Stream** or **New Project**.

3   For a new stream continue from step 2 in .

For a new project continue from step 3 in .

Comparing Changeset Items

You can compare a changeset item revision with:

- Another revision of the same item.

- A work file on disk.

- (Windows Explorer and desktop client) Another item revision in the repository.

1 Open the Changeset dialog box.

2 Expand a changeset.

3 Do one of the following:

- Windows Explorer and desktop client: right-click a new or modified item revision and select **Compare with**. The Compare Items dialog box appears.

- Web client: select a new or modified item revision and on the toolbar click **Compare**. The Show Differences dialog box appears.

For more information see "Comparing Item Revisions and Files" on page 299.

4 Click OK.

Displaying the History of a Changeset Item

You can display the history of a changeset item revision.

1 Open the Changeset dialog box.

2 Expand a changeset.

3 Do one of the following:

- Windows Explorer and desktop client: right-click a new or modified item revision and select **History**.

- Web client: select a new or modified item revision and on the toolbar click **History**.

The History dialog box appears. Use this dialog box to view the revision history of an item and to perform actions on the item's revisions. For details see "Viewing Item History" on page 268.

Displaying the Pedigree of a Changeset Item

In the desktop client and Windows Explorer integration you can display the pedigree of a changeset item revision.

1 Open the Changeset dialog box.

2 Expand a changeset.

3 Right-click a new or modified item revision and select **Pedigree**.

The Pedigree window appears. For details see "About the Pedigree Window" on page 212.

Browsing and Opening a Changeset Item

You can browse the content of a changeset item, open the item, view related objects, and edit the item's properties.

1   Open the Changeset dialog box.

2   Expand a changeset.

3   Do one of the following:

- Desktop client: right-click an item revision and select **Open New Window.** The Items window displays the item revision. Use this window to browse the item revision, view related objects, and perform other operations.

- Web client: select an item revision and on the toolbar click **Browse**. The Open Item dialog box appears. To browse the item revision click the **Preview** tab. Use the other tabs to view and edit the item revision's properties.

Customizing Columns

You can the customize columns in the Changeset dialog box.

1   Open the Changeset dialog box.

2   Do one of the following:

- Desktop client and Windows Explorer integration: right-click a changeset column heading and select or deselect columns.

- Web client: click **Settings** and select or deselect columns. Drag the column headings to change their order. Click **OK**.

    NOTE   You cannot move the position of the *Type* column.

Customizing Preferences

In the Changeset dialog box you can customize:

- Which changesets are automatically expanded to display all changes.

- The default date range of the changesets that are displayed.

The settings that you select persist and are applied next time you open the Changeset dialog box.

To customize which changesets are automatically expanded:

1   Open the Changeset dialog box.

2   Do one of the following:

- Desktop client and Windows Explorer integration: at the bottom left click **Settings** and select **Expand**.

- Web client: click **Settings** and select **Expand**.

3 Select one of the following:

- None: do not expand any changesets.

- All changesets: expand all changesets.

- Visible changesets: only expand changesets that are currently visible in the dialog box.

To customize the default date range:

1 Open the Changeset dialog box.

2 Do one of the following:

- Desktop client and Windows Explorer integration: at the bottom left click **Settings** and select **Date Filter**.

- Web client: click **Settings** and select **Date Filter**.

3 Select a default date range.

Chapter 6

Merging Changes across Streams

In this Chapter

About Merging

You can use Dimensions CM to merge:

- Changes across streams or their folders.

- Changes from a baseline into a target stream.

- Changes from requests owned by another stream into a target stream.

Merge is similar to Update and uses a work area to apply changes and process conflicts. This enables you to safely merge, build, and test before delivering the merge results to a target stream in a repository.

When you merge two objects, for example a stream with another stream, or a stream with a baseline, Dimensions CM looks for a common ancestor. This is a point in time where the streams or work areas diverged. This is typically referred to as a three-way merge. For example, assume you have two streams that were created from the same baseline. Modifications are performed in both streams by different developers and delivered to CM. You now merge stream 1 into stream 2. Dimensions CM looks at the baseline (the common ancestor), finds the modifications that were delivered to stream 1 after that point, and merges those changes in stream 2.

The merging process uses changesets to find the common ancestor. A changeset is a logical grouping of changes that is created automatically every time that you deliver changes to a stream or project in a repository. For details see "Working with Changesets" on page 129.

NOTE

- Merging can be automatic unless an interactive (manual) merge is required or there are unresolved conflicts.

- A merge operation can be only applied to the work area of a target stream. The source must be different to the target stream (another stream, a baseline, or a request).

- An Update operation is only possible from the stream that is associated with a work area. For instance, you can use Update from Request to update a work area with request changes associated with a work area stream. Use the operation Merge from Request to apply request changes from a different stream.

- Micro Focus Pulse provides you with an intuitive visualization of changes throughout your development process. You can also open peer reviews in Pulse. Peer reviews enable you to review and comment on the changes in your development projects, collaborate with team members, and get insight into the health of your changesets and streams.

- If you are using a Linux client, the UNIX utility `diff3` must be installed for the automatic merge to function. For details see the *Installation Guide for UNIX*.

Simple Three-Way Merge

The following example describes a simple three-way merge.
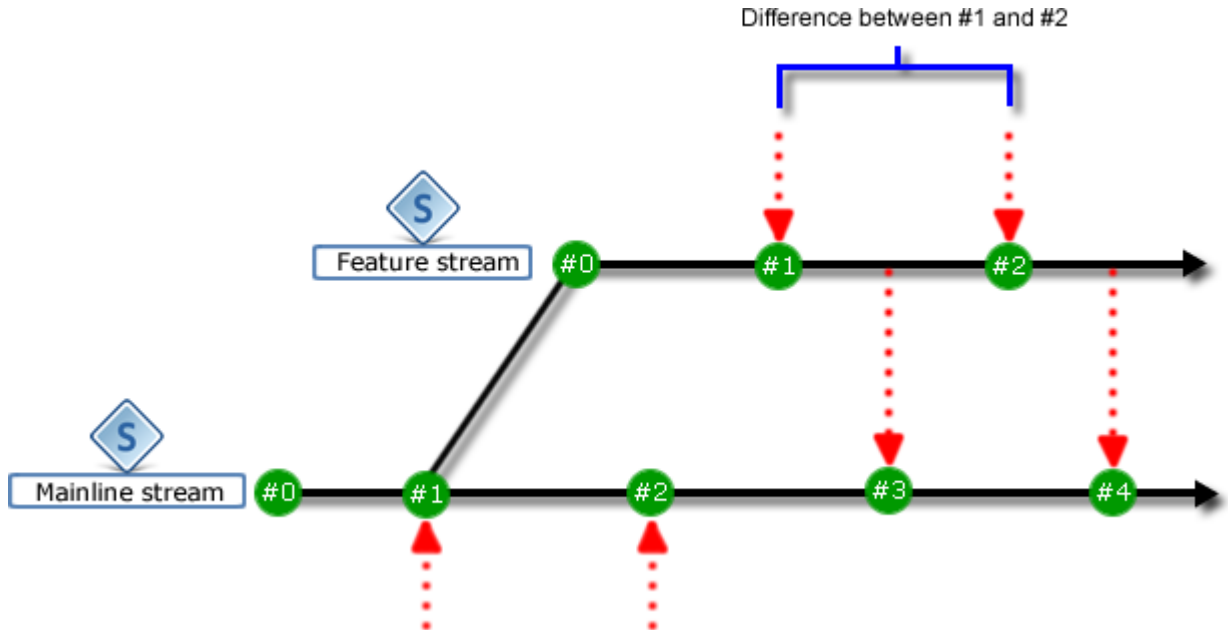
1. A mainline stream is created, which also creates a new version of the stream (#0).

2. Changes are delivered to the mainline, which creates another new version (#1).

3. Further changes are delivered to the mainline, which creates a new version (#2).

4. A new feature stream is branched off the mainline from version #1. This creates a new version (#0) of the feature stream. Note that the feature stream is based an older version of the mainline (#1) and not the most recent version (#2).This is useful when the latest stream changes are unstable, not tested, or not required for a branched stream.

5. Changes are delivered to the feature stream, which creates a new version (#1).

6. Feature stream version #1 (the source stream) is merged into mainline stream (the target stream). The common ancestor for both streams is mainline stream version #1. A new version of the mainline stream (#3) is created after the merge results are delivered.

7. Further changes are delivered to the feature stream which creates a new version (#2)

8. When the feature stream is merged again into the mainline stream, the difference between the feature stream versions #1 and #2 is calculated. The common ancestor is feature stream version #1 and only the items that have changed are merged. A new version of the mainline stream (#4) is created.

Merging Changes across Streams

1 Do one of the following:

- In the desktop client, from the Stream menu select **Merge**.

- In the desktop client right-click the root of a stream, or any subfolder or item, and select **Merge**.

- In the web client select the My Current Stream tab, select a stream, and click **Merge**.

- In Windows Explorer right-click a work area root, or any subfolder or item, and select **Dimensions | Merge**. In the Merge wizard select **Merge streams or their folders** and click **Next**.

- (Desktop client and Windows Explorer only): open a changesets dialog box, right-click a stream version, and select **Merge from Stream Version**.

The Merge wizard opens.

2 In the **Merge changes from this stream** box specify a stream that will be the source for this merge. Do one of the following:

- Click **Select** and select one of the options in the Select Stream dialog box. If you select **Another stream** do one of the following:

  - Start typing the ID of a stream. Streams that contain any characters in the string are displayed. For example, to find 'QLARIUS:VS_BRANCHA' type 'vs'.

  - Select a stream from the list. Favorite streams and recently used streams are displayed at the top.

  Optionally select a version of this stream on which to base the new stream and click **OK**.

- Enter the stream ID, and optionally a version number, in this format:

  `PRODUCT:STREAM_NAME;VERSION`

  For example: `QLARIUS:JAVA_BRANCHA;5`

  NOTE If you do not specify a stream version the changes are merged from the latest version.

3 The **Merge changes into this target stream** box displays the name of the stream from which you invoked the merge. To select a different target stream enter its name or click **Select** and choose a stream.

  NOTE You can only merge into the latest version of the target stream. Update your work area and deliver local changes before performing a merge.

4 To change the direction of the merge click **Swap**.

  NOTE After swapping you may need to change the work area to one that is associated with the target stream.

5 In the **Merge using this work area** box select the work area where the merge will be performed or enter its path.

6 To interactively review the merge results before applying them to the work area, select **Perform an interactive merge**.

7 To restrict the scope of the merge to a specific folder and its subfolders, select **Limit the scope of the merge to this folder** and browse to the folder, or enter its path. If you invoked the Merge wizard from a subfolder its path is displayed.

8 (Optional) Click **Advanced**.

9 To restrict the merge to particular files or folders enter wildcard filters in:

- The **Include repository file** box to only include specific file types.

- The **Exclude repository file** box to exclude specific file types.

For details see "Including and Excluding Files and Folders" on page 69

10 To apply the repository date and time to the files in the merge select **Apply repository date and time**.

11 To automatically merge files whose content does not conflict, select **Auto merge non-conflicting file content**. In the desktop client and Windows Explorer integration you can also select a default character set that is used to transcode Unicode files before merging.

12 (Web client only) To log the merge operation select **Enable logging** and enter the path where the log file will be saved, or click **Browse** and select a folder.

13 To merge do one of the following:

- If you are performing an automatic non-interactive merge click **Merge**.

- If you are performing a manual interactive merge click **Next**.

If you deselected interactive merge and there are no conflicts the merge completes successfully.

If there are conflicts, or you selected interactive merge, the Review Changes page is displayed. Review the list of conflicts and select a resolution for each one. Click **Merge**.

After the merge has completed successfully you are prompted to deliver the files to the repository, see "Delivering Changes to a Stream" on page 66.

Merging Changes from a Baseline into a Stream

1 Do one of the following:

- In the desktop client right-click a stream and select **Merge**. In the Merge wizard select **Merge a baseline into a stream** and click **Next**.

- In the desktop client right-click a baseline or a baseline folder and click **Merge**.

- In the web client click the Baselines tab, select a baseline, and click **Merge from Baseline**.

- In the web client select the My Current Stream tab, select a stream, and click **Merge**. In the Merge wizard select **Merge a baseline into a stream** and click **Next**.

The Merge Baseline wizard opens.

2 If you invoked the merge from a baseline, the **Merge changes from the baseline** box displays the baseline ID. This will be the source for the merge. To select a different baseline do one of the following:

- Click **Select** and use the Select Baseline dialog box to select a product and baseline.

- Enter the baseline ID in this format:

  `PRODUCT:BASELINE_NAME`

3 The **Merge changes into this target stream** box displays the name of the stream from which you invoked the merge. To select a different target stream do one of the following:

- Click **Select** and select one of the options in the Select Stream dialog box. If you select **Another stream** do one of the following:

  - Start typing the ID of a stream. Streams that contain any characters in the string are displayed. For example, to find 'QLARIUS:VS_BRANCHA' type 'vs'.

  - Select a stream from the list. Favorite streams and recently used streams are displayed at the top.

  Click **OK**.

- Enter the stream ID in this format: `PRODUCT:STREAM_NAME`

  For example: `QLARIUS:JAVA_BRANCHA`

  NOTE You can only merge into the latest version of the target stream.

4 Continue from step 5 in .

Merging Changes from Requests Owned by Another Stream

NOTE Not available in the web client.

1 In the desktop client do one of the following:

- Right-click a stream. In the Merge wizard select **Merge change requests from another stream** and click **Next**.

- Select one or more change requests, right-click, and select **Merge**.

  The Merge Request wizard opens.

2 The **Merge changes from the request(s)** box displays the selected requests. To specify different requests, click **Select** and use the Request Selection wizard to choose requests. To add change requests manually, enter their IDs separated by a comma.

  NOTE You cannot merge request changes from different streams in the same merge operation.

3 If the requests belong to the same stream, the **Include changes from this stream** box displays the stream ID. To select a different stream do one of the following:

- Click **Select** and select one of the options in the Select Stream dialog box. If you select **Another stream** do one of the following:

    - Start typing the ID of a stream. Streams that contain any characters in the string are displayed. For example, to find 'QLARIUS:VS_BRANCHA' type 'vs'.

    - Select a stream from the list. Favorite streams and recently used streams are displayed at the top.

    Click **OK**.

- Enter the stream ID in this format: `PRODUCT:STREAM_NAME`

    For example: `QLARIUS:JAVA_BRANCHA`

    NOTE You can only merge from the latest version of the stream.

4   The **Merge changes into this target stream** box displays the name of the stream from which you invoked the merge. To select a different target stream enter its name or click **Select** and choose a stream.

    NOTE You can only merge into the latest version of the target stream.

5   To change the direction of the merge click **Swap**.

6   In the **Merge using this work area** box select the work area where the merge will be performed or enter its path.

7   To interactively review the merge results before applying them to the work area, select **Perform an interactive merge**.

8   To merge all items that are related to child requests of the selected change requests, select **Also include items related to child requests**.

9   (Optional) Click **Advanced**.

10   To restrict the merge to particular files or folders enter wildcard filters in:

- The **Include repository file** box to only include specific file types.

- The **Exclude repository file** box to exclude specific file types.

    For details see "Including and Excluding Files and Folders" on page 69.

11   To apply the repository date and time to the files in the merge select **Apply repository date and time**.

12   By default only the changes associated with the request(s) that you specified will be merged. To merge all changes unselect **Cherrypick file changes**. For more details about cherrypicking see "Merging Specific Changes between Streams" on page 146.

13   To automatically merge files whose content does not conflict, select **Auto merge non-conflicting file content**. In the desktop client and Windows Explorer integration you can also select a default character set that is used to transcode Unicode files before merging.

14   (Web client only) To log the merge operation select **Enable logging** and enter the path where the log file will be saved, or click **Browse** and select a folder.

15 To merge do one of the following:

- If you are performing an automatic non-interactive merge click **Merge**.

- If you are performing a manual interactive merge click **Next**.

If you deselected interactive merge and there are no conflicts the merge completes successfully. If there are conflicts, or you selected interactive merge, the Review Changes page is displayed. Review the list of conflicts and select a resolution for each one. Click **Merge**.

After the merge has completed successfully you are prompted to deliver the files to the repository, see "Delivering Changes to a Stream" on page 66.

Merging Specific Changes between Streams

When you merge changes between streams you can select changes that are related to specific requests, commonly known as *cherrypicking*. For example, you have delivered multiple sets of changes to a stream but want to merge one specific set into a different stream.

Cherrypicking a Single Set of Changes

In this example there are two streams, RELEASE and MAINTENANCE. The MAINTENANCE stream was branched off the RELEASE stream from changeset 5. Your team has made multiple deliveries to the RELEASE stream which has created changesets 6, 7, 8, and 9. The modifications in each changeset are related to a different request:

- Request CR_1 is related to `item3;rel#4`.

- Request CR_2 is related to `item1;rel#2` and `item2;rel#4`.

- Request CR_3 is related to `item1;rel#3` and `item3;rel#5`.
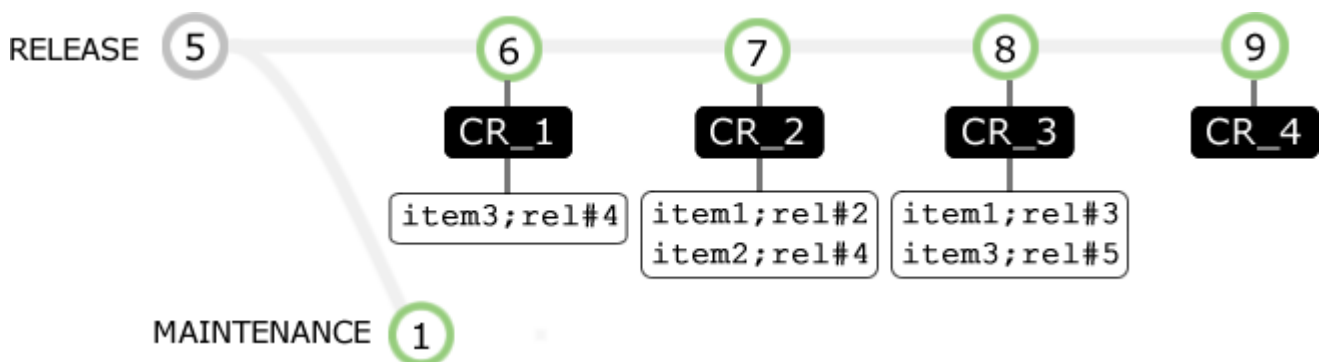
In the MAINTENANCE stream you want to:

- Merge the changes that were delivered in changeset 8 to the RELEASE stream (related to CR_3).

- Ignore the previous changes delivered to the RELEASE stream (changesets 6 and 7).

Cherrypicking CR_3 during a merge from request operation *only* includes the changes applied when changeset 8 was created:

- The difference between item1;rel#2 and item1;rel#3.

- The difference between item3;rel#4 and item3;rel#5.

The changes to item2 are not applied as it is not affected by CR_3.

The merge operation creates changeset 2 in the MAINTENANCE stream.
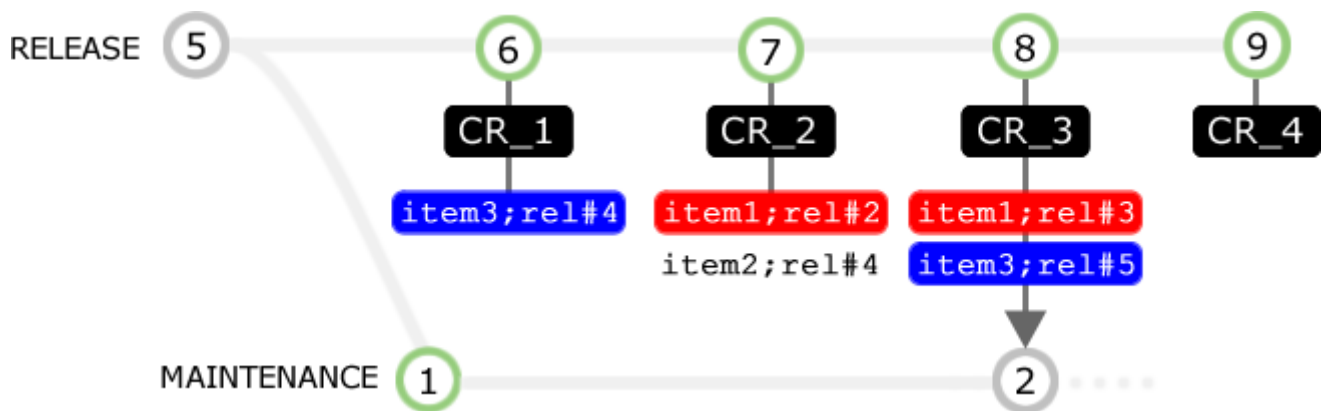
TIP

- If you perform a regular merge from request using CR_3, and do not specify the Cherrypick option, the entire contents of these files are merged:

  - item1;rel#3 (including changes in item1;rel#2)

  - item3;rel#5 (including changes in item3;rel#4)

- To apply all the changes made before changeset 8 of the RELEASE stream was created, merge from a stream version (not a request).

Cherrypicking Multiple Changes

In this example there are two streams, RELEASE and MAINTENANCE. The MAINTENANCE stream was branched off the RELEASE stream from version 6. Your team has made multiple deliveries to the RELEASE stream, creating changesets 7, 8, 9, and 10. The changes in changesets 8 and 10 are both related to the same request, CR_4.
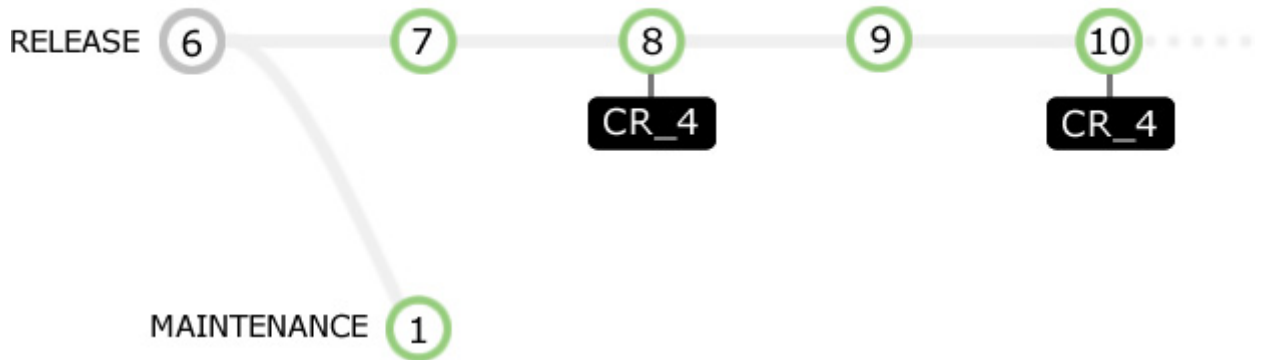
In the MAINTENANCE stream you want to:

- Merge the changes related to CR_4 in the RELEASE stream (changesets 8 and 10).

- Ignore the other changes delivered to the RELEASE stream (changesets 7 and 9).

You can cherrypick the changes delivered in changeset 8 and 10 by selecting request CR_4 during a merge operation.
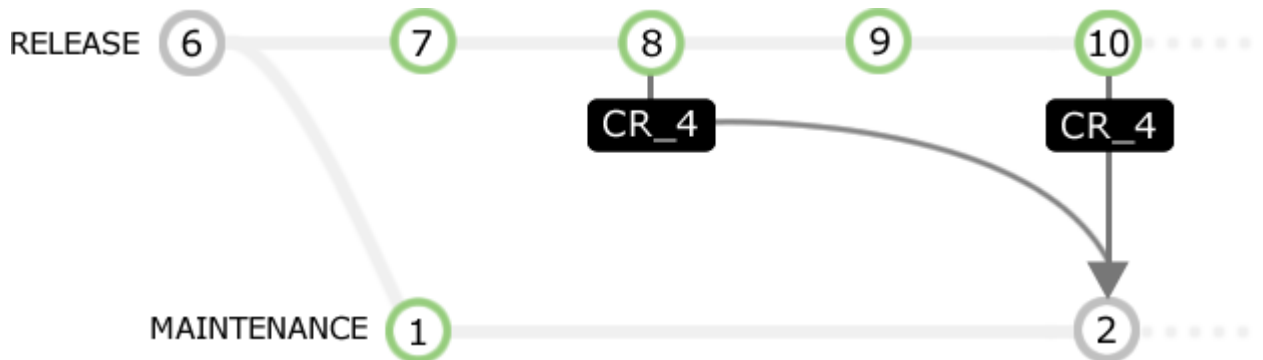
TIP You can select multiple requests when cherrypicking.

Cherrypicking Multiple Non-Consecutive Changes

The file below contains multiple changes:

- Two of the changes are related to the same request (CR_42).

- The other changes are related to different requests.

```
using System;

namespace Serena.Dim.Common {                    TASK_19
  public static class CommonIDs {
    public const uint _comIDStart = 1;
    public        uint _sysIDStart = 201;        TASK_20
    private       uint _comIDMax   = 200;
    public        uint ComIDMax {
      get { return _comIDMax;         }          CR_42      Same
      set { _comIDMax   =  Math.Max(value, _comIDStart);    request
             _sysIDStart = _comIDMax + 1; }      CR_42
    }
  }
}
```

Each delivery has created a new revision of the file and a new changeset:

Change Type	Path	Revision	Request(s)
⊟	[4] 05-Jun-2015 08:42:10, Deliver by DMSYS: "Avoid setting zero IDs to custom"		
✎ Modification	Qlarius_Underwriter/Qlarius_Underwriter/Common.cs	r2016#4	QLARIUS_CR_42
⊟	[3] 05-Jun-2015 08:23:33, Deliver by DMSYS: "Extend custom menus to 200"		
✎ Modification	Qlarius_Underwriter/Qlarius_Underwriter/Common.cs	r2016#3	QLARIUS_TASK_20
⊟	[2] 05-Jun-2015 08:17:38, Deliver by DMSYS: "Custom menu does not work as expected"		
✎ Modification	Qlarius_Underwriter/Qlarius_Underwriter/Common.cs	r2016#2	QLARIUS_CR_42
⊟	[1] 05-Jun-2015 08:12:45, Deliver by DMSYS: "Refactoring classes to Dim namespace"		
✎ Modification	Qlarius_Underwriter/Qlarius_Underwriter/Common.cs	r2016#1	QLARIUS_TASK_19
	[0] 05-Jun-2015 07:54:55, Creation by DMSYS based on the stream "QLARIUS:RELEASE_2015;4"		

- Changeset 2 contains revision r2016#2.

- Changeset 4 contains revision r2016#4.

- Both changesets are related to the same request (CR_42).

- Changeset 3 contains `r2016#3` but is related to a different request (TASK_20).

- The changesets related to CR_42 are not consecutive.

You need to:

- Merge the two changes related to CR_42 into a target file in another stream.

- Ignore the other changes.

You can cherrypick the required lines of code by specifically selecting request CR_42 during a merge from request operation.

If you *interactively* review and do not automatically merge non-conflicting file content, the change tree on the Review Changes page of the Merge wizard looks similar to this:
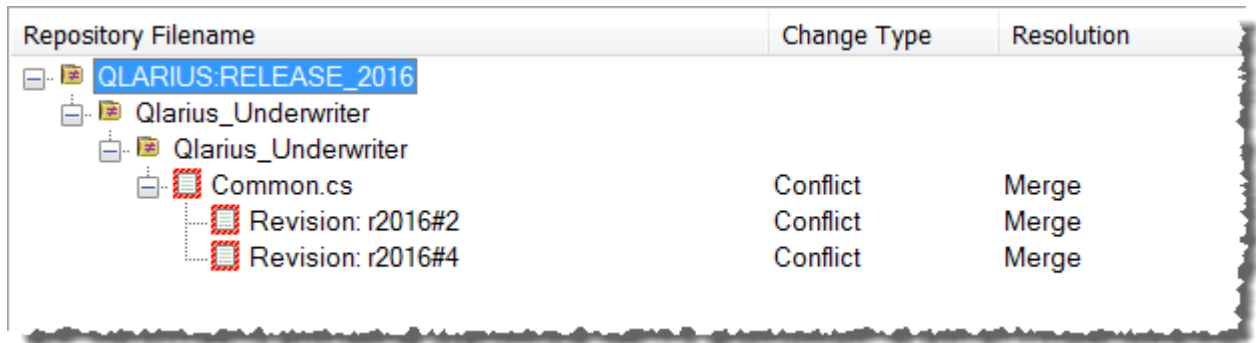
Repository Filename	Change Type	Resolution
QLARIUS:RELEASE_2016		
Qlarius_Underwriter		
Qlarius_Underwriter		
Common.cs	Conflict	<Unresolved>
Revision: r2016#2	Conflict	<Unresolved>
Revision: r2016#4	Conflict	<Unresolved>

The default resolution for both revisions is *Unresolved*. Revision `r2016#2` of the file was made before `r2016#4`. The changes applied by revision `r2016#3` need to be excluded. Two merge operations are required, one for each delivery that was related to request CR_42:

1 Merge revision `r2016#2` into the target file.

2 Save the target file.

3 Merge revision `r2016#4` with the target file saved in the previous step.

TIP To cherrypick one specific revision ignore the revisions that you do not want to merge.

If you *automatically* merge non-conflicting file conflicts, the change tree on the Review Changes page of the Merge wizard looks similar to this:

Repository Filename	Change Type	Resolution
QLARIUS:RELEASE_2016		
Qlarius_Underwriter		
Qlarius_Underwriter		
Common.cs	Conflict	Merge
Revision: r2016#2	Conflict	Merge
Revision: r2016#4	Conflict	Merge

The default resolution for both revisions is *Merge*. The changes have been merged successfully by the default merge tool into the target.

Silently Merging a Child Stream into a Mainline Stream

A simple merge occurs when:

- A branched child stream is merged from a parent mainline stream.

- Changes have only been made to a child stream.

- A mainline does not contain any conflicts.

You can use the *non-interactive* merge option if you are not expecting conflicts and do not need to review the merged changes.
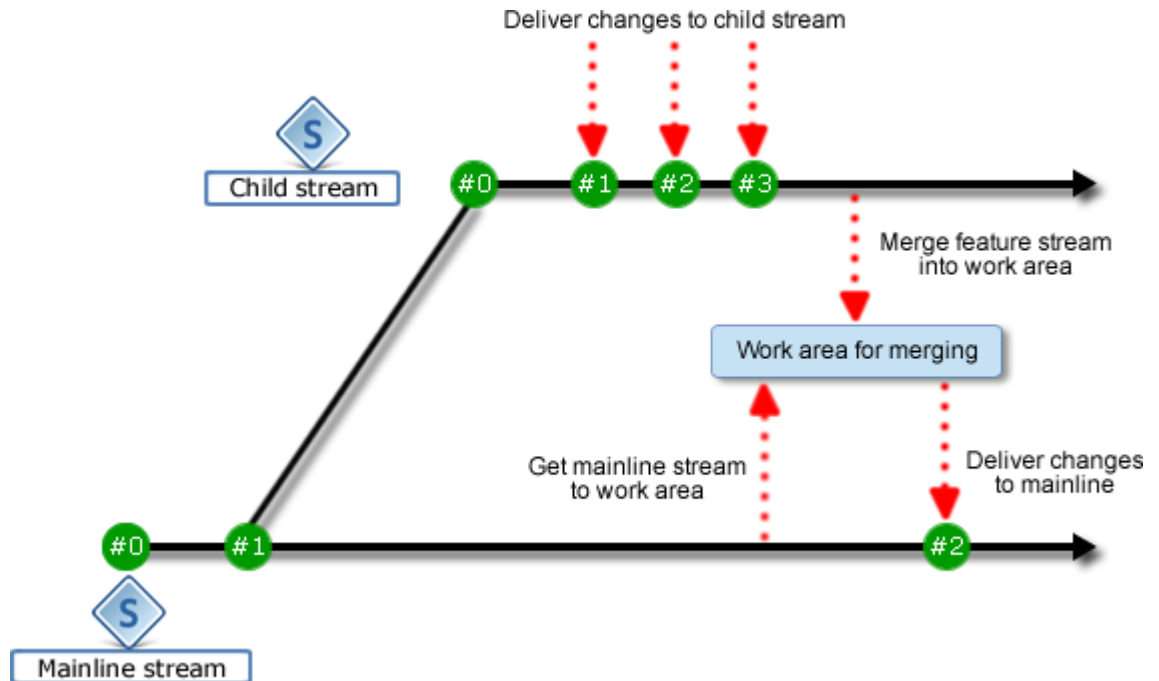
1   Populate an empty work area with the content of the mainline stream using the Get operation.

    TIP In the desktop or web client you can use an empty folder as the work area for the merge. The Merge wizard automatically populates the work area with the target stream content before merging the changes in the source stream.

2   Open the Merge wizard and select **Merge streams or their folders**. Click **Next**.

3 In the **Merge changes from the stream** box click **Select** and navigate to the child stream. This is the source of the merge.

```
Select Merge Options
    This wizard walks you through the steps needed to merge changes across streams

Merge changes from this stream:            QLARIUS:PULSE_UI_STR

Merge changes into this target stream:     QLARIUS:MAINLINE_JAVA_STR

Merge using this work area:                C:\Merge\Mainline

    ☐ Perform an interactive merge

    ☐ Limit the scope of the merge to this folder:

  [ Advanced >> ]
```

4 Select other merge options as required and click **Merge**.

5 After the merge into the mainline work area has completed successfully, optionally click **Deliver** to commit the changes to the repository.

> **TIP** It is good practice to build and test before delivering merged changes, especially after a complex merge when conflicts had to be resolved.

Merging Conflicts across Streams

Parallel development in multiple streams often causes conflicts when streams are merged. Some conflicts can be resolved automatically and others require manual intervention. A file that has been modified in multiple streams is merged automatically unless:

- There is a conflict in the file contents.

- The Merge wizard advanced option **Auto merge non-conflicting file content** is not selected.

When manually resolving a conflict you can select one of the following resolutions:

- *Use repository*: apply the changes from the source stream to the work area.

- *Use local*: keep the changes in the work area associated with the target stream.

- *Merge*: if the file was modified in both streams, manually select which changes to apply.

- *Ignore*: do not merge the changes (you can resolve them later).

If a conflict includes path differences these resolutions are also available:

- *Use local path*

- *Use repository path*

You can choose different resolutions for content and path changes. For example you can:

- Merge the contents and apply source code changes from both streams.

- Select the repository path (if the file was independently refactored to different paths in both streams).
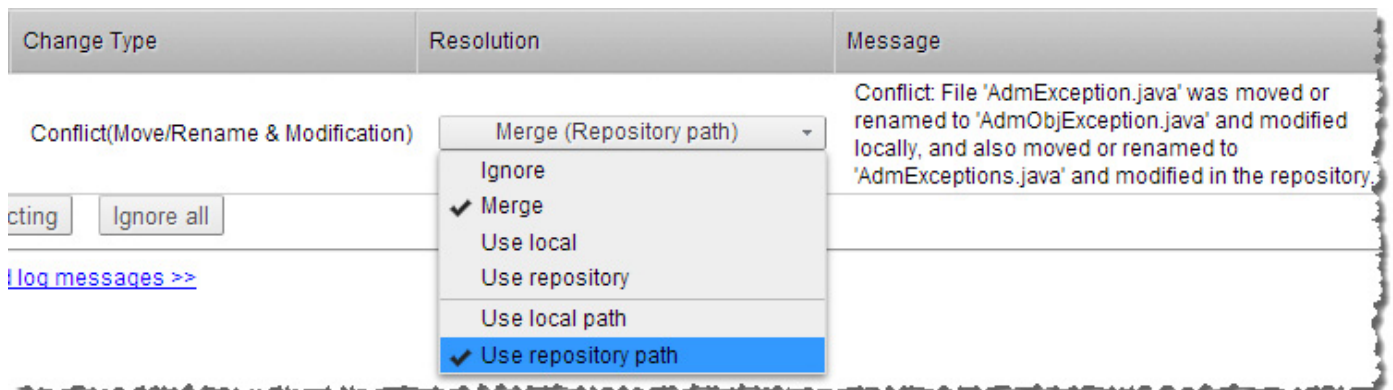
The Merge wizard minimizes the need for manual intervention by preselecting intelligent resolutions based on the origin of the changes. For example, if a file has content change in stream A and a path change in stream B, the wizard automatically resolves the conflict by using the content from stream A and the path from stream B.

Synchronizing Streams

A merging operation is performed in one direction; you apply the changes from one stream to another. However, you may need to merge changes in both directions and synchronize the two streams. You can use the following methods to synchronize streams:

- Merge in one direction and then click **Swap** in the Merge wizard to merge in the opposite direction. The target in the first merge becomes the source in the second merge. You will need also to change the work area to match the target stream for the second merge.

- Sometimes it may be faster to branch a new stream instead of merging a very large number of files. First merge the stream containing fewer changes into the other stream. Then create a new stream based on the target of the previous merge operation. The result is two identical streams from a single merge operation.

Merging Changes from a Baseline or Stream Version

If the latest (tip) stream version is not stable, or has not been tested, you can merge from a baseline or an earlier version of a stream.

Merging from a Stream Version

Stream versions are automatically created every time a delivery is made to a repository. In this use case version 2 of the child feature stream is merged into the mainline and not the latest (tip) version (#3):
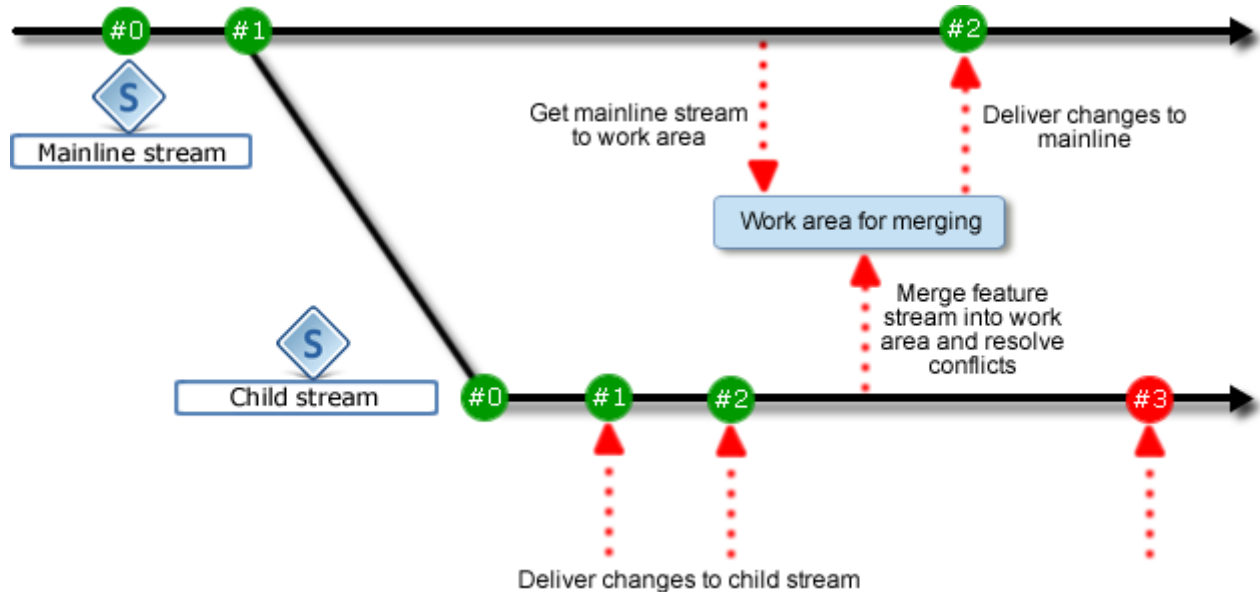
When you select a source stream in the Merge wizard, do one of the following in the **Merge changes from this stream** box:

- Click **Select**. In the Select Stream dialog box click **Select** and use the Changesets dialog box to select a stream version.

- Enter the stream ID and version number in this format:

  `PRODUCT:STREAM_NAME;VERSION`

  For example:

  `QLARIUS:JAVA_BRANCHA;2`

Merging from a Baseline

You can merge from any release baseline. The process is identical to merging from a stream version except that you:

- Choose the option **Merge a baseline into a stream** at the start of the wizard.

- Specify the baseline ID instead of the stream ID and version.

Merging Subfolders between Streams

Merging a large stream with many conflicting changes can be complex and time-consuming. It may be easier and quicker to merge smaller subfolders one at a time. Merging subfolders may also be a suitable option if the folder structure is used to separate repository contents between components and owners.

Use one of the following methods to merge multiple subfolders:

- Merge all subfolders one at a time into the target stream work area. Deliver all the merged content in one operation to the repository.

- Merge a subfolder into the target stream work area and deliver the merged content to the repository. Repeat for the other subfolders. This method is preferable for large repositories to avoid losing merge results and to isolate any merge issues that occur to smaller chunks of data. However, it may be not suitable if you need to apply all the changes to the target stream atomically, for example, to avoid the stream being in a half-merged state and breaking a continuous integration build.

To merge subfolders between streams do one of the following:

- Invoke the Merge wizard from the root of a stream. Select **Limit the scope of the merge to this folder**, click **Select**, and navigate to a stream subfolder.

- Invoke the Merge wizard from a stream subfolder. The **Limit the scope of the merge to this folder** box is pre-populated with the subfolder path.
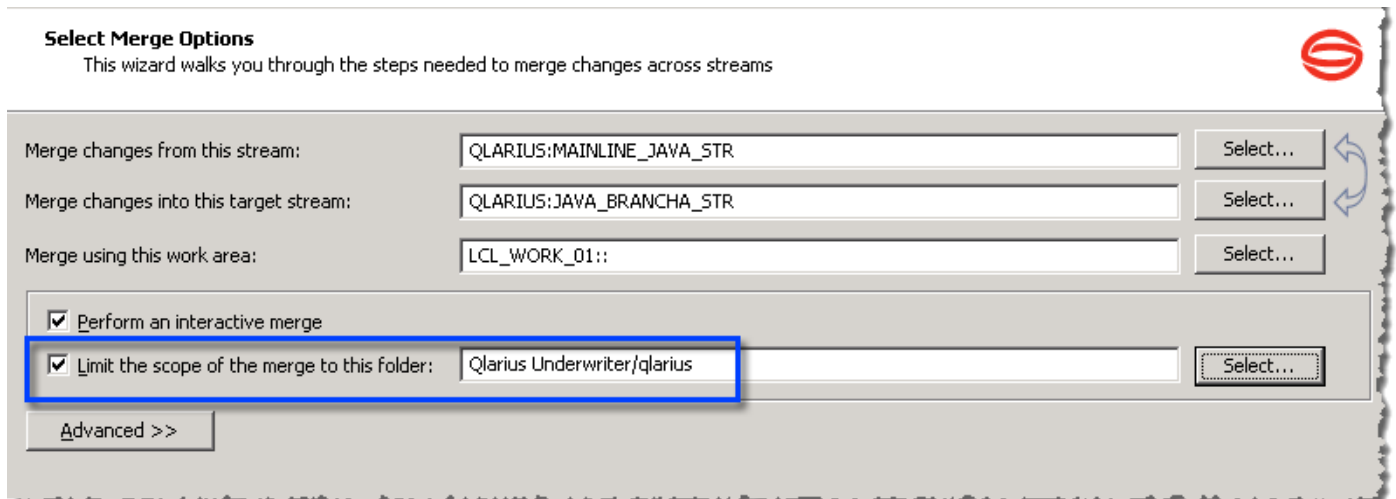
NOTE If multiple folders and files were moved, to correctly apply the changes to a target stream widen the scope of the merge to include the original and new paths. For example, the item:

`/folder1/folder2/item1.txt`

was moved to:

`/folder1/newfolder/item1.txt`

If you merge the subfolder `/folder1/folder2` the new folder will not be included in the merge. Widen the scope of the merge to `folder1`, which is the common parent folder of the old and new file paths.

Merging Changes Related to a Request from another Stream

Merging requests across streams enables you to only merge changes associated with specific requests. This is easier than invoking a full stream merge and then manually selecting files and folders to be ignored.

In the example below a bug fix in a child stream is required in the mainline stream. All the files that were modified are related to a single request, *Request_2*.
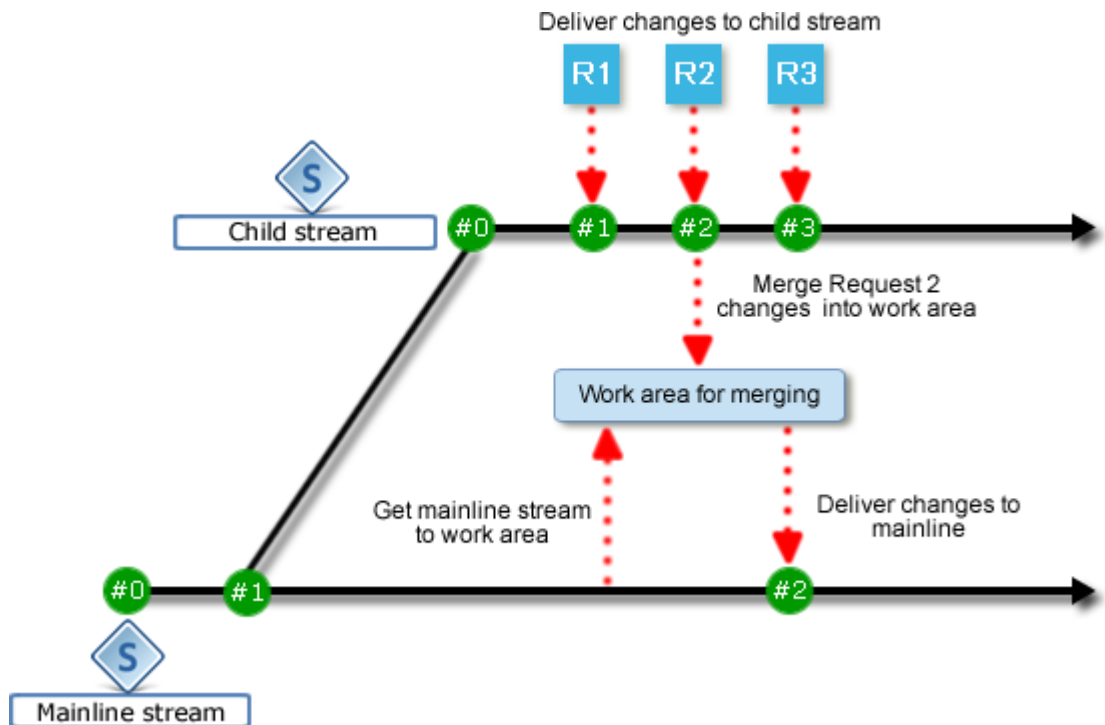
1. Populate an empty work area with the content of the mainline stream using the Get operation.

2. Open the Merge wizard and select **Merge change requests from another stream**. Click **Next**.

3. In the **Merge changes from the requests** box enter the request ID or click **Select** and use the wizard to find and select *Request_2*.

4   Select other merge options as required and click **Merge**.

5   After the merge into the mainline work area has completed successfully, optionally click **Deliver** to commit the changes to the repository.

Using a Custom File Merge Tool for Automatic Merge

NOTE Available in the desktop client and the Windows Explorer and Visual Studio integrations.

The default automatic merge tool is the GNU cross-platform *diff* utility. You can also specify a different merge tool: on your client (or an agent for remote work areas) edit the file `%DM_ROOT%\Prog\dmdiff.cmd` (or the corresponding SH file on Linux) to invoke your preferred automatic merge tool.

Using a Custom File Merge Tool for Manual Merge

NOTE Not available in the Eclipse integration.

Araxis Merge is the default tool when you invoke a manual file merge from the Merge wizard. For details about configuring your own tool see *Configuring the Default File Merge Tools* in the *System Administration Guide.*

TIP Use a three-way file merge tool so that you can see local and repository revisions, and the common ancestor, when you select changes to apply to the merge target.

Stream Merge FAQS

In the Update wizard can I update a work area from a stream that is different to the stream associated with the work area?

No. In Dimensions CM 14.x there are different Update and Merge operations. Use Update to update a work area from its associated stream. Use Merge to merge changes from another stream, a baseline, or a request.

Can I merge from an older stream version?

Yes. Dimensions CM 14.x introduces the concept of stream versions. You can select any version of the source stream to merge from.
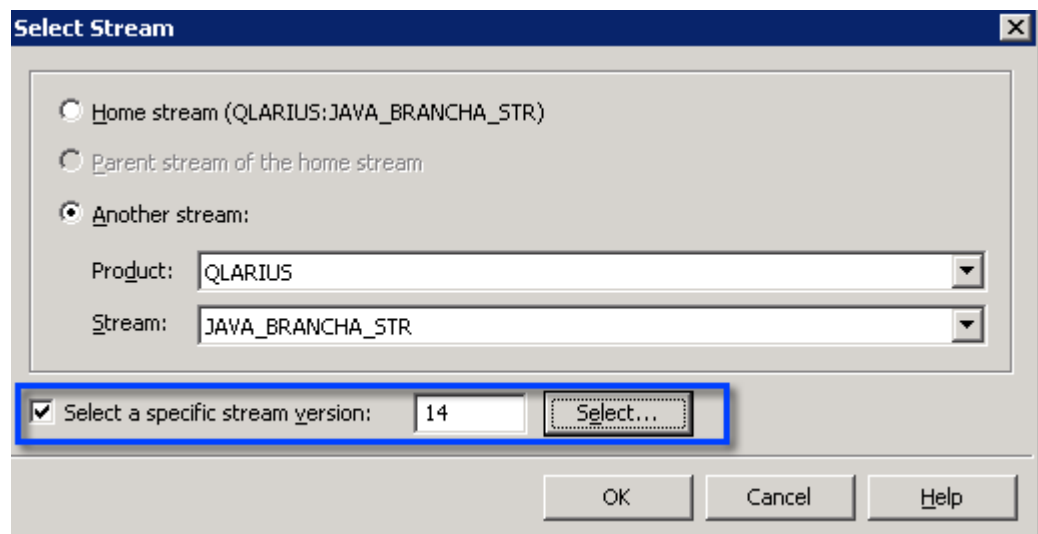
Can I merge into an older version of a stream?

No. Streams assume a single line of descent and no internal branching. To work on, or merge into, a specific stream version create a new stream based on that version of the stream.

Can I merge part of a stream, or ignore specific files, and merge them later?

Yes. You can limit the scope of a merge operation to specific folders or manually ignore files or folders. However, you may be required to resolve some refactoring conflicts again during subsequent merge operations. The following example illustrates the difference between changesets for partial and full merges:
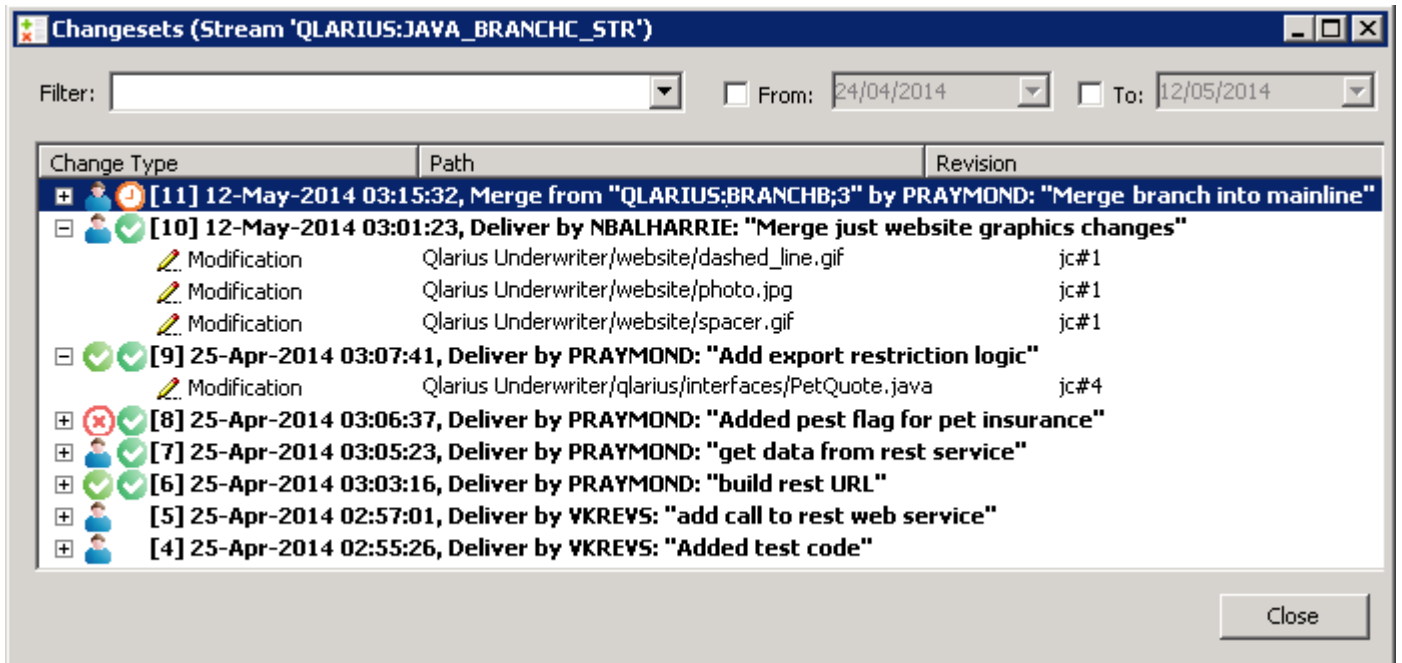
Should I always update a work area before I merge?

Yes. To minimize the possibility of unexpected conflicts when delivering merged changes it is best practice to update a work area before merging, or create a new work area for the merge. You can avoid conflicts when delivering by locking the stream you are merging to, however that may not be possible when multiple developers are working in parallel on a stream. Keeping your work area up to date also enables you to safely build and test the most recent content of a stream before delivering merged files.

Two streams have the same item located in different paths but the Merge operation does not detect the difference.

The previous resolution of the path conflict for this item was probably *Use local*. Subsequent merges use this resolution and do not detect a difference. If you merge the changes in the opposite direction the path will be applied without indicating a conflict, as it was previously resolved. To avoid this situation when you are not certain what the final path for a conflict should be, choose the resolution *Ignore*. You can resolve the conflict during a subsequent merge.

If you have already merged an item and applied the resolution *Use local*, to change the resolution at the next merge rename the file locally in your work area. This problem also occurs with other types of refactoring conflicts, for example, an item is deleted in one stream and moved in another.

I have merged streams but there are still differences, why?

A merge operation is performed in one direction; you apply the changes from one stream to another. To synchronize streams you need to perform merges in both directions in separate operations.

Check if the resolution *Ignore,* or the wrong exclusion filters, have been used during a merge or deliver operation.

When merging two streams multiple conflicts are detected with the description "File was locally added and conflicts with a new repository file of the same name". The conflict persist even after streams have been merged. Why does this happen and how do I resolve it?

This problem occurs when files with the same name were delivered in two independent streams, for example, by copying them using Windows Explorer to separate work areas (or another method that does not use a Dimensions CM client). The correct way to copy or import files across two streams is to use the Merge operation. Otherwise Dimensions CM treats these files as different items with their own history and pedigree, even though their paths overlap.

To resolve this conflict delete one of the local copies of the duplicate item, deliver the deletion to the repository, and then import the same item from the other stream using the merge operation.

I have integrated my preferred file merge tool. However, while merging files across two streams I often overwrite changes from other developers with older contents of the source code. How do I avoid this problem?

This may happen if you use a two-way merge tool. Typically these only display repository and local file revisions and cannot identify which conflicting changes to accept during conflict resolution, especially when changes are applied by other developers. The best practice is to use a three-way merge tool that can display the common ancestor revision of merged files and compare the contents of the ancestor with that of the merged files.

Check that your three-way merge tool is configured to display all files, not just the common ancestor.

In the Merge wizard I have resolved a conflict using the *Merge* resolution but the work area file is unchanged.

Until you click **Merge** to perform a merge operation, merged files are stored in a temporary location to protect your work area from partially merged results.

When should I use the option *Apply repository date and time*?

Many build systems rely on the modification timestamp of a file to decide if it should be rebuilt. To ensure that imported or merged revisions have their modification time updated and are captured by the build, do not select this option.

Select this option only if you need to preserve the original (repository) date and time of the merge.

I have upgraded my Dimensions CM client to 14.5. Can I continue to work with work areas populated with version 12.2.2 or earlier?

Before you upgrade from 12.2.2 or earlier, deliver any local changes to your repository.

After you upgrade use new work areas populated by 14.5 clients. If you cannot recreate new work area you can convert your pre-14.5 work area by running the recursive non-interactive Update or Get operations. You cannot merge into a work area populated by a pre-14.5 client until it is converted to 14.5.

If a work area, which contains local changes that conflict with a repository, cannot be converted do one of the following:

- Create a new work area using a 14.5 client and reapply your changes there.

- Use a 12.2.2 client to merge and deliver the local changes.

How can I restore content that was deleted by mistake from another stream, or baseline, and is not detected during a merge operation?

Use the MERGE command with the /OVERWRITE parameter to override the changes in the stream associated with the work area with the content of the stream you are merging from. For example, to restore the folder "test" in the stream "MY_FEATURE" from the baseline "MY_FEATURE_SPRINT8" use the following command:

```
MERGE /USER_DIRECTORY=C:\MY_FEATURE /DIR=test
    /BASELINE=MY_FEATURE_SPRINT8 /OVERWRITE
```

Chapter 7
Web Client Basics

In this Chapter:

About the Web Client

The web client is a web-based application that provides access to a Dimensions CM server and database on a network node via a web browser on Windows, UNIX, and Linux. You can use the web client to perform basic tasks such as create, modify, and action items, requests, and baselines, and also to create and manage projects and streams.

Using Java Applets

If you are using Java for version management operations such as update and deliver, you may be prompted for permission to run the applet. You may need to install the web client native components when you run a new version of the web client. On the login page click **Native components** and follow the instructions. If you do not have privileges to install the native components, consult your system administrator.

Using Web Client Tools

If your environment does not allow Java, or you are using a browser that does not support the Java plug-in, you can use Web Client Tools on Windows for version management operations such as update and deliver. Web Client Tools are disabled by default. For information about enabling and configuring the tools see the *System Administration Guide*. Web Client Tools are not supported on Linux clients.

Installing Web Client Tools

If your CM environment has been setup to use Web Client Tools you can install them from the web client login page. After you install Web Client Tools, your browser prompts you to launch them for each version management operation. You can select the option to always launch Web Client Tools.

To install Web Client Tools before logging in:

1 On the login page click *information about installing web client tools*.

2 Do one of the following:

- Install the tools.

- Click Test to verify that you have the correction version of Web Client Tools installed.

To install Web Client Tools after logging in:

1 On the toolbar click Help.

2 From the menu select Web Client Tools.

3 Click Download and Install.

Using Web Client Tools on Remote Work Areas

By default, Web Client Tools are used for local and remote work areas. With remote work areas you can use Web Client Tools or the regular web client interface for version management operations.

1 On the toolbar click the User ID.

2 Select, or deselect, Use Web Client Tools for Remote Work Areas.

Logging into the Web Client

To login you require the following information:

■ The URL and port number for the Dimensions CM web server.

■ The name of the database for the product you are working with.

■ The connection string for that database.

■ If you are accessing files and directories on a remote node, the user name and password for an account on the remote node.

NOTE

■ Do not open multiple web client sessions in different tabs or windows in the same browser. Actions performed in one tab or window may have unexpected effects in the others.

■ For details about SSO and CAC support, see the *System Administration Guide*.

■ You can access files and directories that are located on a remote network node, such as a z/OS mainframe.

To log into the web client:

1 Enter the URL in your browser in this format:

`http(s)://hostname:port/dimensions/`

where:

- `hostname` is the web server

- `port` is the web server port number

2 For **User ID**, enter a Dimensions CM user ID.

3 For **Password**, enter the password for the user.

4 If you only want to access the request management features of the web client, select **Request Management only**.

5 For **Connect to**, accept the default or select another option. The available options are configured by your administrator.

6 Click **Login**.

To log into a remote node:

1   Log into the web client.

2   To the right of the status area, click **Authentication**.

3   In the **Network Node** field, enter the name of a remote node.

4   Enter a user name and password for the remote node.

5   Click **OK**.

To log into the web client using SSO:

1   Enter the URL in your browser in this format:

`http(s)://hostname:port/dimensions/`

where:

- `hostname` is the web server

- `port` is the web server port number

2   If you are not authenticated for SSO, the Dimensions CM authentication page is displayed.

If you are logging in using a Smart Card:

a   Insert the card and click **Smart Card Log In**.

b   Select the certificate you want to use.

c   On the *Choose a digital certificate* page click **OK**.

d   If you are authenticating for the first time, enter your PIN and click **OK**.

If you are not using a Smart Card, enter your username and password and click **Log in**. If your login is successful, or you are already logged in using SSO, you do not need to enter your username and password again.

- If you only want to access the request management features of the web client, select **Request Management only**.

- For **Connect to**, accept the option that appears as the default, or select another option. The available options are configured by your administrator.

3   Click **Login**.

About the Main Window

The main window of the Dimensions web client has a number of tabs. For a description of each tab see "About the Main Window Tabs" on page 168**.**

The main parts of the window are described below.
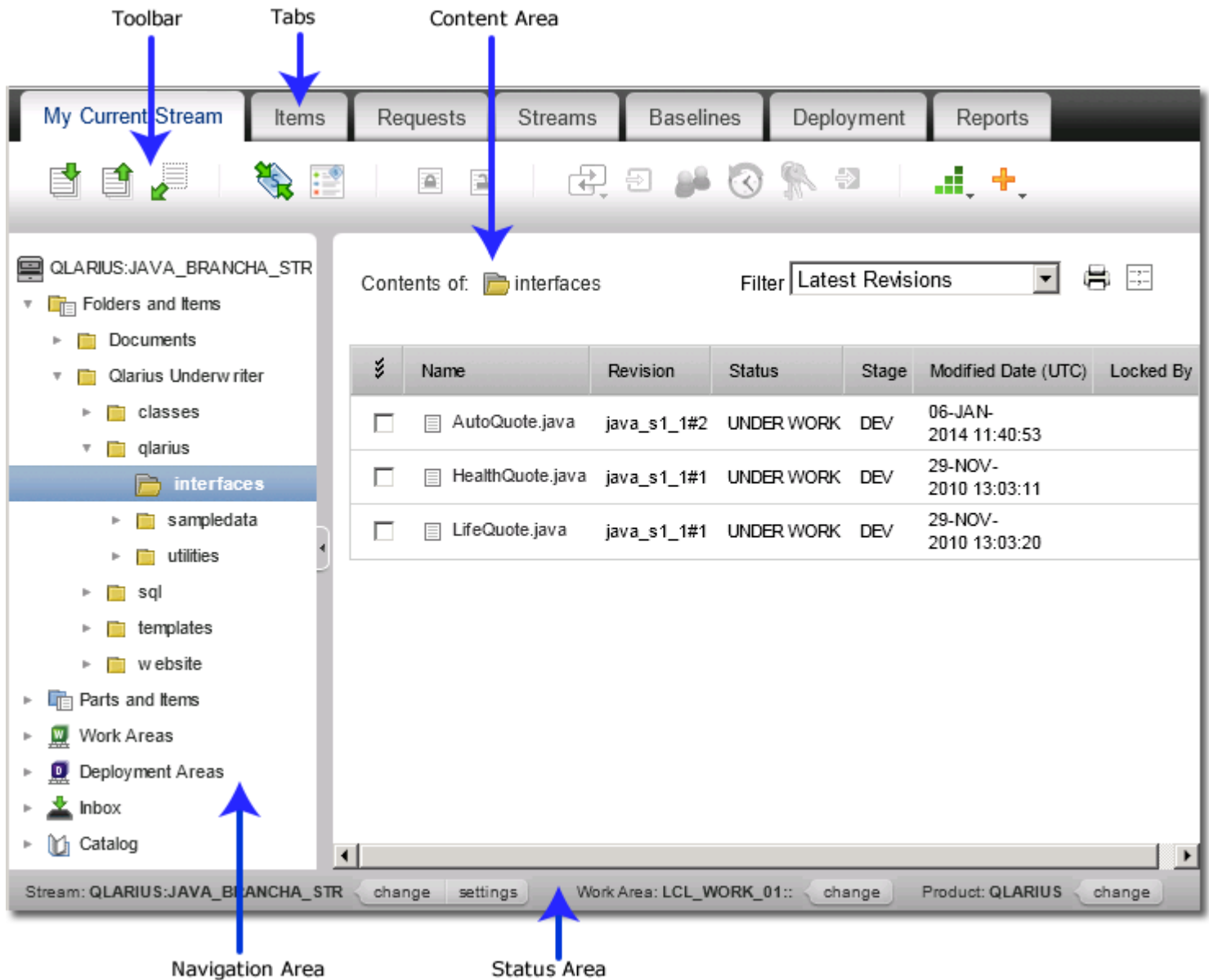
Tabs. The tabs show different views of the objects in a product. Tabs display different object lists and object trees, depending on your current task.

Toolbars. The toolbars contain buttons for all Dimensions CM commands. The available buttons change depending on which tab you are working in. The right-hand side of the toolbar contains the Logout, About, and Help links. It also contains a username link that enables you to set various user preferences.

Navigation pane. The navigation pane gives you either icons or object trees which display different types of objects in the content pane. For more information, see "Working in the Navigation Pane" on page 173.

Content pane. The content pane shows lists of objects. For example, on the Pending tab, the content pane shows either your pending items, pending requests, or pending baselines. You select objects in the content pane to work with them. For more information, see "Working in the Content Pane" on page 172.

Status area. The status area shows your user name, the current product, the current project/stream, and the associated work area. The status bar contains links that you click to:
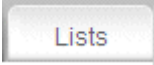
- switch the current project/stream.

- switch the current product.

- set the default project/stream settings.

- log in to a remote host or change the password for a remote host.

About the Main Window Tabs

Tabs give you different views of the objects in a product. The following table lists the tabs you can use in the Dimensions web client.

Tab	Use this tab to...	To use this tab...
My Current Project/ Stream	Work with the objects that belong to or are related to your current project/stream. Create and run reports on Dimensions CM objects using Report Builder.	Click the tab, and in the navigation pane, expand the tree and click one of the following icons to display its contents or related objects in the content pane: ■ Project folder: ■ Design part: ■ Work area: ■ Deployment area: ■ Requests: ■ Baselines: ■ Requirements: ■ Releases: ■ Sub-projects:

Tab	Use this tab to...	To use this tab...
Items	Work with items in your current project/stream, in a view that is organized either by project folders or design parts. Create and run reports on items using Report Builder.	Click the tab. To change the view of the items, select one of the tabs at the top of the navigation pane. There are two possible views of the current project/stream: ■ Select **Dirs** to display the project folder view ■ Select **Items** to display the design part view, the Inbox and Catalog To display the relevant items in the content pane, click the appropriate icon: ■ Project folder: 📁 ■ Design Part: 📁 ■ Catalog: 📖 Catalog ■ Inbox: 🖥
Requests	Work with all requests in a product or all requests that affect a design part. Create and run reports on requests using Report Builder. Create and display Request lists. Click a request list icon to perform it.	Click the tab, and in the navigation pane, do one of the following: ■ To see all requests in the product, click the Catalog icon: 📖 Catalog ■ To see the requests in your inbox, click the inbox icon: Ⓡ Inbox ■ To see the requests that affect a design part, click the design part folder: 📁 ■ To view any Request lists you have created, click the Lists tab: Lists at the top of the navigation pane, and click a Request list icon to perform it: 👤

Tab	Use this tab to...	To use this tab...
Projects	Work with all projects in a product. Create and run reports on projects using Report Builder. **Note:** This tab will not appear if your process model has been configured so that only streams are active. For details, see "About Database Options" in the Process Configuration Guide.	Click the tab, and in the navigation pane, do one of the following ■ To see all projects in the product, click the Catalog icon: Catalog ■ To see the projects in your inbox, click the Inbox icon. Inbox
Streams	Work with all streams in a product. Create and run reports on streams using Report Builder. **Note:** This tab will not appear if your process model has been configured so that only projects are active. For details, see "About Database Options" in the Process Configuration Guide.	Click the tab, and in the navigation pane, do one of the following ■ To see all streams in the product, click the Catalog icon: Catalog ■ To see the streams in your inbox, click the Inbox icon. Inbox
Baselines	Work with all baselines in a product or all baselines created from a design part. Create and run reports on baselines using Report Builder.	Click the tab, and in the navigation pane, do one of the following: ■ To see all baselines in the product, click the Catalog icon: Catalog ■ To see the baselines in your inbox, click the Inbox icon. B Inbox ■ To see the baselines created from a design part, click the design part folder:
Automation	Displays details of promotions, demotions, and automations in Deployment Automation (DA).	The **Queue** tab lists all jobs that are waiting to be executed or are scheduled for execution. The **History** tab lists events that have completed. For information about using DA with Dimensions CM see the *Deployment Guide*.

Tab	Use this tab to...	To use this tab...
Deployment	Manage and monitor promotion and deployment activities using Dimensions Deployment.	Click the tab, and in the content pane, do one of the following: ■ Click the **Pending** tab to view a list of all the objects that have been promoted but not yet deployed. ■ Click the **Queue** tab to view deployment jobs that are waiting to be executed. ■ Click the **History** tab to view the history of Promotions, demotions, deployments, and rollbacks. For information about Dimensions Deployment see the *Deployment Guide*.
Reports	Manage or run Dimensions CM reports.	To create or edit an item report or list ones you or others have already created, select the appropriate object class node (Items, Requests, Projects/ Streams, or Baselines). ■ To view an existing report, click a reports icon: in the content pane. ■ To edit a report, select the report in the content pane and click the Modify Report button in the toolbar. ■ To create a report, select the required object class node (Items, Requests, Projects/ Streams, or Baselines) and click the Modify Report button in the toolbar. For further details of how to use the Reports tab, see .

Working in the Content Pane

Purpose You use the content pane to view, select, and modify items, requests, projects, streams, baselines, or reports, and lists, depending on what you have selected in the navigation pane. Objects are displayed in a table, called an *object list*. The way you work with object lists is the same for all object types.

To select objects:

Do one of the following:

- **To select an object**, click the check box next to it: ☑

- **To select all objects in the list**, click the select all icon in the column heading: ⚡

To sort a list based on the contents of a column:

1 Click the header of the column you want to sort by.

- An up arrow ▲ indicates that rows are sorted in ascending order.

- A down arrow ▼ indicates that rows are sorted in descending order.

2 To change the sort order, click the column header.

To save and print a list:

1 Do one of the following:

- To create an HTML file, suitable for printing for example, click the HTML button.

- To create a text file with commas separating the values (CSV file), suitable for importing into spreadsheets or external reporting tools, click the CSV button. You see the list in your web browser.

2 To save the list, use your browser's save command.

3 To print the list, use your browser's print command.

To filter the objects in the list:

Select an option from the Filter list.

See "Creating and Using Object Filters" on page 177 for further details.

Working in the Navigation Pane

Purpose   In the navigation pane, you work with object trees to select what to want to display in the content pane. An *object tree* displays hierarchical objects in a tree view. The web client has three kinds of object tree: the Folder Structure tree shows the organization of the current project/stream and its related objects, the Design Part Structure tree shows the organization of the product design parts, and the Areas tree shows the associated areas.

On the Items tab and requests tab, you can switch between three views.

To navigate an object tree:

Do any of the following:

- **To expand a node**, click the plus sign (+) next to it.

- **To collapse a node**, click the minus sign (-) next to it.

- **To select an object and display its contents in the content pane**, click the icon.

- **To hide the navigation pane**, click the arrow icon on the splitter bar in the right-hand side of the navigation pane:
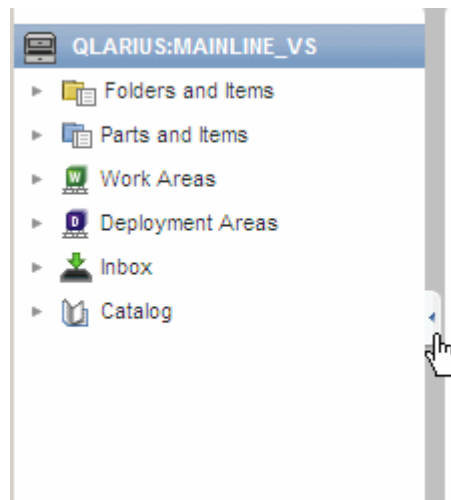
- **To show the navigation pane**, click the arrow icon on the left-hand side of the window:
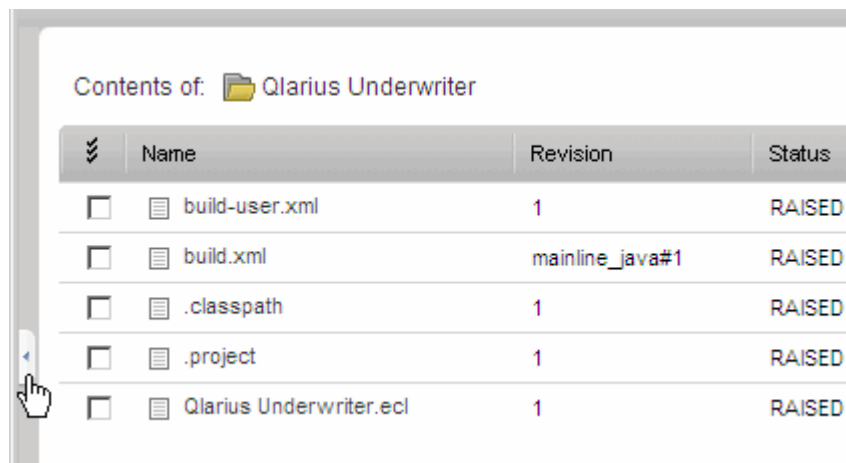
- ▪ **To switch trees on the Items tab,** click a tab at the top of the navigation pane:

  - ▪ **To select the parts tree**, click the Parts tab.

  - ▪ **To select the Project Folders tree**, click the Dirs tab.

- ▪ **To switch views on the Requests tab,** click a tab at the top of the navigation pane:

  - ▪ **To select requests**, click the Requests tab.

  - ▪ **To select request lists**, click the Lists tab.

About My Current Project/Stream

The navigation pane in the My Current Project tab or My Current Stream tab contains a view of the items and various related objects for your currently selected project/stream in a tree structure.
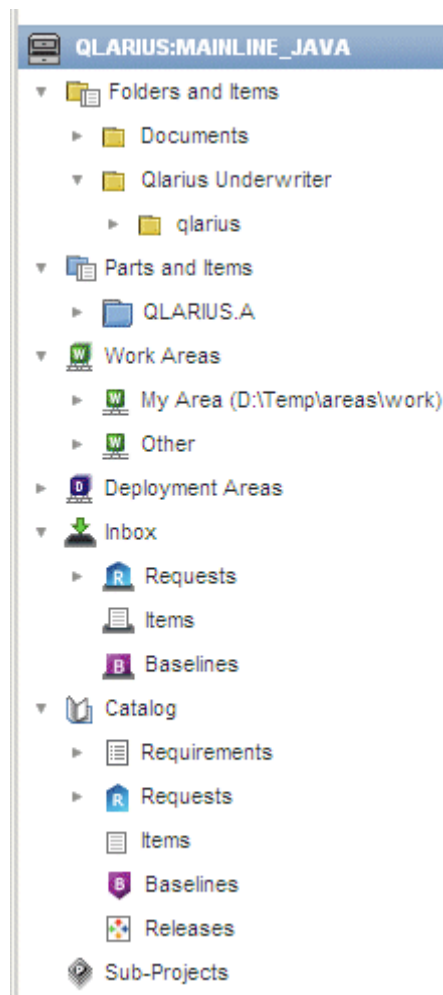
You can expand and select the various nodes to display objects in the content pane. There are a number of top-level nodes corresponding to the aspects of the project/stream that you can work with. These are:

▪ **Folders and Items**. This contains the folder structure for the current project/stream. Clicking a folder icon displays its items in the content pane.

▪ **Parts and Items**. This contains the design part structure for the current project/stream. Clicking a design part icon displays its items in the content pane.

▪ **Work Areas**. This contains a node for:

• My Area. The work area that you have associated with the current project/stream to use as your work area for item files. Clicking this node will display an explorer view if your work area is a Dimensions network node or managed work area (accessed by Dimensions networking).

• Other Areas. Other areas that are associated with the current project/stream.

▪ **Deployment Areas**. This contains a node for each stage for which Deployment areas have been defined for the project/stream. Clicking a node displays details of those areas in the content pane.

▪ **Inbox.** This contains nodes for the objects related to the current project/stream that are pending action from you. The classes of object are:

• Requests. You can expand this node and select a node for each type of request.

• Items

• Baselines.

Clicking a node displays the objects in the content pane.

▪ **Catalog.** This contains nodes for the objects in the Dimensions Product that are related to the current project/stream. The classes of object are:

• Requirements. You can expand this node and select a node for each type of requirement.

• Requests. You can expand this and select a node for each type of request.

• Items.

• Baselines.

• Releases.

Clicking a node displays the objects in the content pane.

Sub-Projects. This contains any sub-projects or baselines that are related to the current project (does not apply to streams.) Clicking a node for a sub-project expands the folder structure for that project enabling you to view the items within it.

Viewing the Files in a Work Area

Purpose
View the files in a work area when you want to see their properties or perform certain operations related to the corresponding items in the repository. You can view file contents, compare file differences, and delete files in the work area. You can also deliver file changes in an area to the stream or project in the repository. You can view the files in your current work area or another area assigned to the project or stream.

NOTE The location of the files must be in an area that has been created under Dimensions CM control and assigned to your current project or stream.

To view the contents of a work area for a project or stream:

1 On the My Current Projects/Streams tab, in the navigation pane, expand the Work Areas node.

2 To view the files in your default work area, expand the **My Area** node.

3 To view the files in other work areas assigned to the project or stream, expand the **Other** node, and expand the node for the area.

The Folders structure for the area appears beneath the area node.

4 Click a folder to view its files.

To view the contents of a file:

5 Click the name of the file in the content pane.

The Open Area File dialog box appears showing the General tab with details of the file.

6 Click the Preview tab to see the contents of the file or download a copy.

To update files from the repository:

Select one or more files and click the Update button.

For details about using this dialog box, see "Updating a Work Area from a Project" on page 99, or "Updating a Work Area from a Stream" on page 62.

To deliver files to the repository:

Select one or more files and click the Deliver button

For details of using this dialog box, see "Delivering to a Project" on page 99, or "Delivering Changes to a Stream" on page 66.

To compare files in the area:

Select one or more files and click the Show Differences button.

For details of using this dialog box, see "Comparing Item Revisions and Files" on page 299.

To delete files in the area:

Select one or more files and click the Delete button.

Creating and Using Object Filters

Purpose   Create and use filters to reduce the number of items, requests, projects/streams, or baselines that are displayed in the content pane. A filter is a set of search criteria that you use to locate and display objects that match your criteria.

The web client includes some filters for common operations, such as finding all items, requests, or baselines on your Inbox. You can also create your own filters.

To create a filter:

1   In the content pane, from the **Filters** list, select **New Filter**.

2   In the **Filter Name** field, type a name for the filter.

3   On the General tab, set values to limit the number of objects found.

     For more information about the values on each tab, click the Help button in the dialog box.

4   To search for objects by specifying attribute values, do the following:

     a   On the General tab, from the **Item Type** field, select the object type.

     b   Click the Attributes tab, and type or select values.

5   Click the OK button.

     You see the new filter in the **Filters** list.

To use a filter:

In the content pane, from the **Filters** list, select the name of the filter.

The content pane shows the objects that match the search criteria in the filter.

To edit a filter:

1   In the content pane, from the **Filters** list, select a filter.

2   From the **Filters** list, select **Edit Current Filter**.

3   On the General tab, set values to limit the number of objects found.

     For more information about the values on each tab, click the Help button in the dialog box.

4   To search for objects by specifying attribute values, do the following:

     a   On the General tab, from the Item **Type** field, select an object type.

     b   Click the Attributes tab, and type or select values.

5   Click the OK button.
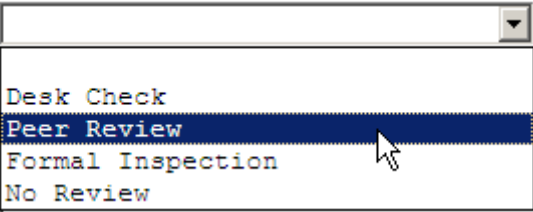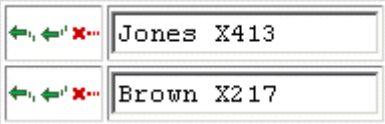
To delete a filter:

1   In the content pane, from the **Filters** list, select a filter.

2   From the **Filters** list, select **Delete Current Filter**.

About Editing Object Attributes

An object can have attributes in a number of different formats. Attributes can contain text, a number, a date, or a value that you select from a list.

The following table describes how to edit object attributes.

For this type of field...	Do this...
Text Description: Incorrect rate calculated	Click the field and type text. If the field allows multiple lines of text, text wraps to the next line. To start a new line, press ENTER.
Single selection list Desk Check Peer Review Formal Inspection No Review	Click the down arrow, and select a value from the list.
Multiple value attribute Contact details: Jones X413 Brown X217	Type or select a value. To add a value above the current one, click ←₁ To add a value below the current one, click ←' To delete a value, click ✕
Column Contact: / Tel. No.: Jones / X213 Brown / X217 Smith / X332	In each field, type or select a value. To add a value above the current value, click ←₁ To add a value below the current value, click ←' To delete a value, click ✕
Date and time Reviewed: 05-Nov-2009	Click the field and type a date in the following format: $dd\text{-}mon\text{-}yyyy$ [hh:mm:ss] You can also click the calendar button and select a date in the Calendar dialog box.

Relating and Unrelating Objects

Purpose   Relate objects when you want to show a connection between them. You can relate an object to several other objects. For example, a request might be related to several item revisions.

NOTE
You may not be able to relate items and requests when they are in certain lifecycle phases if the CM Rules have been set up to prevent this. For details, see *About Change Management Rules* in the *Process Configuration Guide*.

If a request has been deployed to a particular stage, you cannot relate additional item revisions in response to the request if they are at an earlier deployment stage.

You cannot relate requests belonging to one product with items belonging to another product.

To relate objects to a selected object:

1   In the content pane, select the object you want to relate.

2   Click the Relate button and select the object class you want to relate to the selected object.

3   In the Relate dialog box, for **Relationship type**, select a relationship.

The available relationships depend on the object type and on your process model.

4   For **Relate to**, click the browse button and use the Selection Wizard to find one or more objects.

For help with the Selection Wizard, click the Help button in the wizard.

5   Click the Save button.

To unrelate objects from a selected object:

1   In the content pane, click the name of the object from which you want to unrelate objects.

2   In the Open Request, Item, Project, stream, Baseline, or Requirement dialog box, click the Relationships tab.

3   Select the type of object you want to unrelate in the **Related Objects Class** field.

4   Optionally, use the **Filter** field to filter the list of objects shown in the Relationships tab.

5   Select the required objects in the **Children** and/or **Parents** lists., and click the Unrelate button.

6   Click the Save button.

Changing Products

Purpose   Switch products when you want to work with items, requests, and baselines that are owned by a different product.

Switching products enables you to use a product that is different than the one that owns the current project/stream. If the current project/stream is set to $GENERIC:$GLOBAL, setting a product enables you to see an actual design part structure in the navigation pane.

To switch products:

1   In the status area, click the **change** button next to the product.

2   For **Product name**, do one of the following:

- **To change to a different product**, select a product in the list.

- **To change to the product that owns your current project/stream**, select **<default>**. This will automatically switch to the product that owns the project/stream whenever you change project/streams.

3   Click the OK button.

Chapter 8
Desktop Client Basics

In this Chapter

About the Desktop Client

The desktop client is a Windows-based application that enables you to perform all the tasks described in this guide and help system. To work with Dimensions CM, you log into a database. To log in, your user ID and password must be registered on the Dimensions CM base database for your product. If you are working on multiple products that are stored in different databases, you need the connection information for each of those products.

Login Profiles

You can save your login details for a product as a *login profile*. Creating login profiles is particularly useful if you access multiple databases or different Dimensions CM server installations. A login profile saves all of your connection information, except your password.

User Interface Profiles

Your administrator may have set up one or more options that determine which functions in the desktop client are accessible when you have logged in to a session. For example there may be an option to only view functions related to change control or version control. These options do not necessarily relate to any privileges you may have to perform the functions.

If more than one UI profile has been set up for your user or group, then when you log in to the desktop client for the first time, you will be asked to choose one of these profiles as your default. You can change this profile at any point during a session.

If only one UI profile has been set up, you will not be able to change it. If no UI Profile has been set up, then you will be able to access all features of the clients.

Logging into Remote Nodes

You can access files and directories that are located on a remote network node, such as a z/OS mainframe. For example, you might be working with items that are stored on a different node than your Dimensions CM database server, or your work area might be on a remote network node.

To access these files and directories, you must log in to the remote node. You can:

- Manually log in to the remote node at any time while you are using the desktop client.

- Wait to log in to the remote node until you access a file on the node and see the Login to Remote File Node dialog box.

- Automatically log in to the remote node when you start the desktop client. To use this alternative, your Dimensions CM administrator must allow automatic login.

Automatic Login

If your administrator has set up your account to allow automatic login, you can automatically log in when you start the desktop client. When you log in automatically, you bypass the splash screen and the Login dialog box. You can still access the Login dialog

box if you need to change your connection information, for example, if you need to access a different database.

HTTP/S Network Protocol

For security reasons you may be required to login using the HTTP/S network protocol instead of the default Standard Dimensions Protocol (SDP). The Dimensions CM HTTP Connector allows a connection to a server using HTTP/S, for details see the *System Administration Guide*.

Smart Card Authentication

To use Smart Card authentication, ActivClient must installed on your machine and a valid card inserted in your card reader. For details about configuring Smart Cards see the *System Administration Guide*.

Logging into the Desktop Client

To login obtain the following information from your CM administrator:

- The name of the CM server.
- (Optional) The port number used to run CM.
- The network protocol used by the server: SDP, HTTP, or HTTPS.
- The database name of the CM product you are working with.
- The connection string for the database.
- If you are accessing files and directories on a remote node, the user name and password for an account on the remote node.

To log into the desktop client:

1 Select **Start | Programs | Serena | Dimensions CM | 14.5 | Desktop Client**.

2 (Optional) Select a **Profile**.

3 For **User ID**, enter a Dimensions CM user ID.

4 For **Password**, enter the password for the user.

5 Enter the **Server** name and, optionally the port number, to connect to:

   • SDP protocol: `<server name[:port]>`

   • HTTP protocol: `http://<server name[:port]>`

   • HTTPS protocol: `https://<server name[:port]>`

6 For **DB Name**, enter the Dimensions CM database name.

7 For **DB Connection**, enter the database connection string.

8 To login automatically in future sessions, select **Enable automatic log in**. This option is only available if it has been enabled by your administrator.

9 Click Log In.

To log into the desktop client using Smart Card authentication:

1 Select **Start | Programs | Serena | Dimensions CM | 14.5 | Desktop Client**.

2 If you are logging in using a Smart Card:

    a Select **Smart Card**.

    b If you have not previously supplied your PIN, enter it and click OK.

    c (Optional) Select a different certificate from the **Certificate** list or click **Browse** and select one. Click **OK**.

3 If you are logging in with user credentials:

    a If the Smart Card option is displayed on the Log In window, select **User Credentials**.

    b For **User ID**, enter a Dimensions CM user ID.

    c For **Password**, enter the password for user.

4 Enter the **Server** name and, optionally the port number, to connect to:

- SDP protocol: `<server name><:port>`

- HTTP protocol: `http://<server name><:port>`

- HTTPS protocol: `https://<server name><:port>`

5 For **DB Name**, enter the Dimensions CM database name.

6 For **DB Connection**, enter the database connection string.

7 To login automatically in future sessions, select **Enable automatic log in**. This option is only available if it has been enabled by your administrator.

8 Click Log In. You may be prompted to enter your PIN again.

To log into another server without exiting the desktop client:

1 From the desktop client, select File | Log Out.

2 Complete the Login dialog box as described above.

To log into a remote node:

1   Log into the desktop client.

2   Select File | Remote Node Log In.

3   If you are logging in to the remote node for the first time, do the following:

   a   Click **Add**.

   b   In the Add Remote File Node dialog box, type the name of the remote node and click the OK button.

   c   For **User ID**, type your user name for the remote node.

   d   For **Password**, type your password for the remote node.

   NOTE You can only change the password for a Windows server and a UNIX server with LDAP enabled.

4   If you are logging in to a node you have accessed previously, from the **Physical Node** list, select the node name.

5   To log in to Dimensions CM automatically in future sessions, select **Login Automatically**. This option is only available if it has been enabled by your administrator.

6   Click Login.

   NOTE For the **Save settings for all nodes** option to take effect, you need to have the option Authorize automatic remote login set for your user in the Administration Console under User and Group Registration.

To access the Login dialog box during automatic login:

Press **Ctrl** and from the Windows Start menu, select Start | Programs | Serena | Dimensions CM 14.5 | Desktop Client.

To create a login profile:

1   In the Login dialog box, from the **Profile** list select **New**.

2   Select **Save settings**.

3   Overtype the name in the Profile field with the name you want to use to identify the new profile.

4   Populate the remaining fields in the Login dialog box.

5   Click **OK**. All of your log in information except your password is stored in the profile.

To use a login profile:

1   In the Login dialog box, from the **Profile** list, select a profile.

2   In the **Password** field, type your password.

3   Click **Connect**.

To change your password:

NOTE You can only change the password for:

- a Windows server

- a UNIX server with LDAP enabled.

1 Log into the desktop client.

2 Select File | Change password.

3 In the Change Password dialog box, enter the following information:

- In the **For server/node** list, select the server node for which you want to change your password.

- For **Current Password**, type the existing password for your user.

- For **New Password**, type the new password you require.

- For **Confirm Password**, retype the new password.

4 Click **OK**.

To change your user interface profile:

1 Log into the desktop client.

2 Click the   icon on the right of the status bar and select a profile from the list.

NOTE There will only be a list available if your administrator has set up more than one UI profile for your user.

About the Main Window
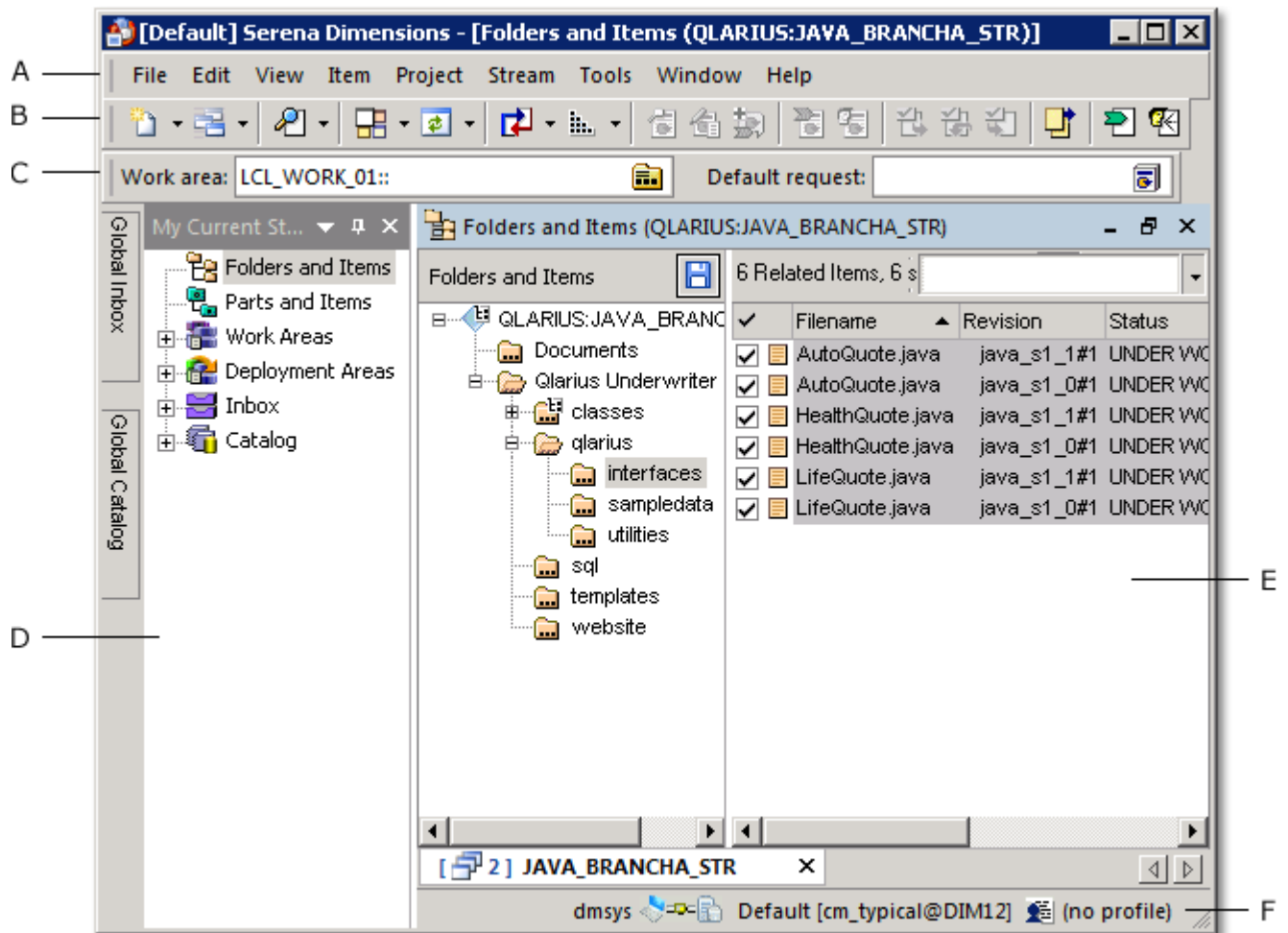
A. Menu bar: Contains menus with all CM commands. The menus change depending on which content window you are working in. You can customize the menus by adding and removing menu commands. For more information see "Customizing the Menus and Tool Bar" on page 526.

B. Toolbar: Contains buttons for commonly used commands. The available buttons change depending on which content window you are working in. You can customize the toolbar by adding or removing buttons. For more information see "Customizing the Menus and Tool Bar" on page 526.

C. Context toolbar: Contains a group of settings that you make in relation to the current project or stream:

- **Work Area**. The local work area where your work files are located.

- **Default Branch**. The default branch of the project used when you check out items to create new revisions. Not displayed for streams.

- **Default Request**. The request that by default is related to any new item revisions that you create. For more information see "About Content Windows" on page 193.

D. Navigation windows: Contain icons that you use to open content windows. For more information see "Working with the Navigation Windows" on page 192.

E. Content window: Displays different object lists and trees depending on your current task. A content window can contain:

- **Primary Object Window**. Contains object(s) that were selected using the Navigation window.

- **Related Object Windows**. Contains objects that are related to the selected primary object.

- **Object Tree Window**. Contains design parts or project/stream folders organized in a tree structure. For more information see "About Content Windows" on page 193.

F. Status bar: Shows tool tips for toolbar buttons, your current login details, and the currently selected UI profile.

Opening Streams and Projects

Streams and projects are dynamic collections of items related to particular development activities. All item operations are done in the context of a stream or project.

For more information see "Working with Projects" on page 85 and "Working with Streams" on page 53.

To open a stream or project:

1 From the **Project** menu or **Stream** menu select **Open Project/Stream**.

2 Select a stream or project from the list or click **Find** to search for one.

3 Select a work area from the list or click **Find** to select a folder.

4 Optionally make the stream/project and work area your default. The default stream or project is automatically opened when you login.

5 Click **Open**.

About the Navigation Windows

The navigation windows are located by default on the left of the main window. They contain icons and tree structures that you can navigate and select the Dimensions objects you want to work with.

NOTE Depending on the UI profile you have, the content of these windows can change, and the My Current Project/Stream navigation window may not be displayed.

The navigation windows are:

- **My Current Project/Stream:** Contains a tree structure showing your current project or stream's folder structure, any associated areas, and the catalog of related objects. Selecting objects in the Inbox and Catalog in this window show only those objects related to the current project/stream.

- **Product Catalog:** Contains icons for the object classes in Dimensions, enabling you to display all of those objects in the catalog for the current product regardless of the project/stream they are related to. There is a node for each object class.

  Clicking an icon displays a selection dialog box enabling you to specify filter criteria to determine which of the objects in the catalog you want to display in the content window.

- **User Inbox:** contains an icon for each of the object classes which can be pending an action from you regardless of the project/stream they are related to.

  - Baselines.

  - Requests.

  - Projects.

  Expanding a node and clicking an icon displays a content window listing all the objects of that class that are in your inbox.

- **Reports and Lists:** contains icons for

  - Favorite Reports.

  - My Reports.

  - Public Report.

  - My Filters.

  - My Lists of Requests.

My Current Project/My Current Stream

Contains a tree structure showing the various objects that are related to your current project or stream. You can expand the tree to reveal child objects and click an icon to display a content window for that object.
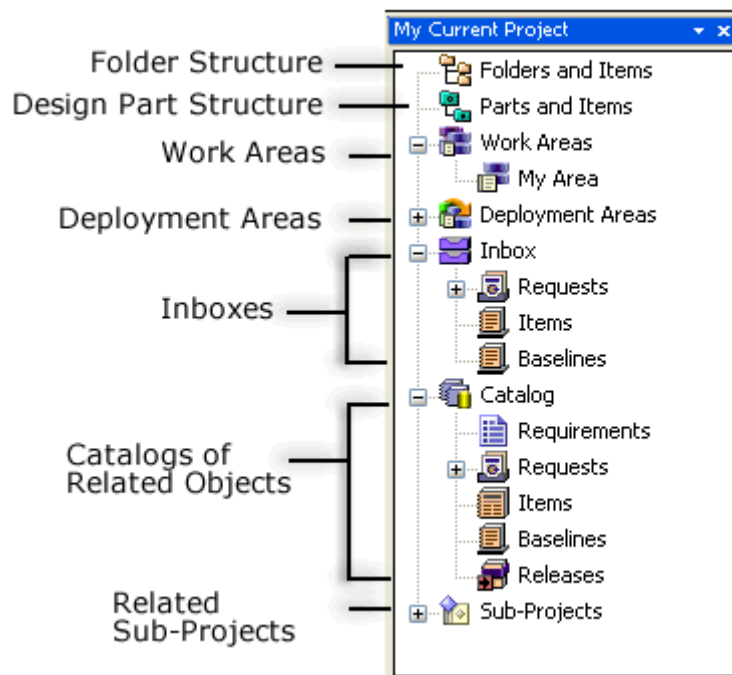
Folders and items: Clicking this icon displays a content window that contains a tree structure showing the folders and subfolders within the project or stream in which the items are organized. You can expand this tree and click a folder to display its items in the related items window.

Parts and Items: Clicking this icon displays a content window that contains a tree structure showing the design parts within the project or stream in which the items are organized. You can expand this tree and click a design part to display its items in the related items window.

Work Areas: These are the areas associated with the project or stream for particular users.

- **My Area**. Clicking this node displays an Explorer Window for your work area that is associated with the project/stream.

- **Other Areas**. Beneath this node are nodes for the work areas for other users that are associated with the project/stream (if any).

Deployment Areas: These are areas that have been defined to contain files whose items have reached a particular deployment stage. Under the Deployment Areas node there is a node for each of the **Deployment stages** in the deployment (Global Stage) lifecycle for which there are areas associated with the project/stream.

Inbox: Contains an node for each of the object classes that are related to your current project/stream for which you can have objects pending to you. Clicking on an icon will display that inbox in a content window.

Catalog: Contains nodes for the classes of object that are related to your current project/stream.

- Requirements

- Requests

  Under this node there is an icon for each request type.

- Items

- Baselines

- Releases.

Clicking an icon displays all the objects of that class or type that are related to the project in a content window.

Sub-Projects: Projects and baselines that have been attached as sub-projects to your current project. Clicking a sub-project displays the files and folders structure for that project in the content window. This does not appear if there are no sub-projects or you do not have this option in your UI profile. Also not displayed for streams.

The Global Catalogs Navigation Window

The Global Catalogs navigation window enables you to access all of the objects in a particular object class across all projects/streams within the current product. Clicking an

icon displays a dialog box enabling you to select a filtered subclass of the objects in a content window.

Click this icon.	to do this...
All Baselines	Display the Select Baselines to Open dialog box
All Customers	Display the list of customers.
All Projects/Streams	Display the Select Projects/Streams to Open dialog box
All Releases	Display the Select Releases to Open dialog box
All Requests	Display the Open Request dialog box.

Reports and Lists Navigation Window

The Reports and Lists navigation window displays the following icons:

Click this icon..	to display...
Favorite Reports	Reports from **My Reports** or **Public Reports** that you have added to your favorites list. See "Creating or Modifying a Report Using the Desktop Client" on page 472 for details on how to add reports to your favorites using the desktop client.
My Reports	Reports you have created in the web client or desktop client, either from scratch or by adopting or modifying public reports. See "Creating or Modifying a Report Using the Desktop Client" on page 472 for details on how to create reports using the desktop client.
Public Reports	Reports that have been created by other users and made generally available.
My Filters	Filters you have created using the Find dialog boxes. See "Finding Objects" on page 205 for details on how to create these filters.
My Lists of Requests	Request lists you have created. See "Managing Request Lists" on page 242 for details of creating request lists.

Working with the Navigation Windows

Use the navigation windows to open the various content windows that enable you to work with Dimensions CM objects. You can choose to always have the navigation windows visible, to hide them, or to float it in the main window with any content windows you have open. By default they are displayed to the left of the content windows.

To show or hide a navigation window select **View | [Navigation window]**.

To change the position of a navigation window click the **Window Position** button on its menu bar and select one of these options:

- Floating

- Docking

- Tabbed Document

- Auto Hide

- Hide

About Content Windows

Content windows give you different views of the objects in a product. A content window shows a primary object list or object tree in the left side of the window, and related object lists on the right. By default, the objects that are related the object in the left hand window are displayed to the right, with the most important one as a tiled pane, and the others as a group of tabbed windows. You can choose to have any of them displayed as vertically tiled panes or tabbed windows or a mixture of both.
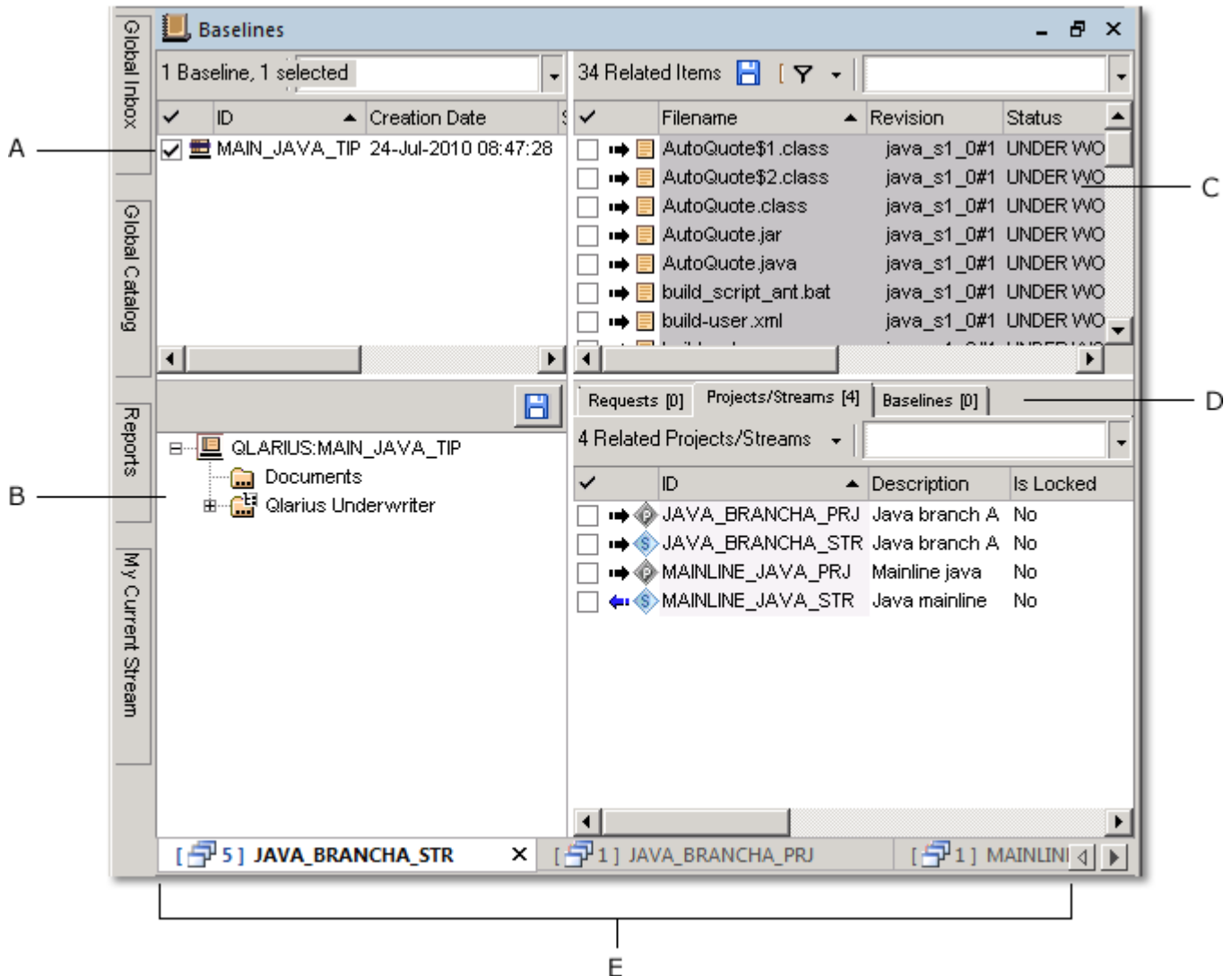
A. Primary Object list
B. Related Object tree
C. Related Object list
D. Tabbed windows
E. Open streams and projects

You open a content window by clicking an object in a navigation window. You can open multiple windows and switch between windows at any time. Each project or stream for which you have opened a content window has, by default, a tab at the bottom. The previous content windows you have opened for the active project/stream tab can be selected by clicking the tab and selecting a name from the list. The number of content windows opened for that tab is shown in brackets. You can switch to a previously opened

project/stream by clicking its tab, which displays showing the last content window you selected in that project/stream.

You can customize the desktop client so that specific windows are automatically opened when you open a project or stream. This is done using the **Initial views** tab of the Customize Views dialog box.

This is described in "Customizing Initial Views" on page 522.

The content window are:

- **Primary Object list**: a list of objects that were retrieved when you opened the content window. Selecting one of these objects displays its related objects in the Related Object windows.

- **Related Object tree**: displays hierarchical objects as a tree. There are object trees for project/stream folders and design parts. Selecting a node in this tree restricts the related object lists to those that are related to that node. For more information, see "About Object Lists and Trees" on page 195.

- **Related Object list**: displays objects in table form. There are object lists for items, requests, baselines, projects, releases, and customers. For more information, see "About Object Lists and Trees" on page 195.

- **Tabbed windows**: related object lists that are grouped within a tabbed view so that you click a tab to bring a window to the front.

- **Open Streams and Projects**: each project or stream you have opened in this session has a tab. The number in brackets shows how many content windows you have opened for that project/stream.

Working with Content Windows

Content windows are just like document windows in other Microsoft Windows applications. You can open more than one window, switch between open windows, minimize and maximize windows, and stack or cascade windows.

To switch to another open window:

Do one of the following:

- Select **Window | <Project/Stream Name> | <Window Name>** and select a content window.

  For example, to switch to an open Folders and Items window in the PRJ_INITIAL project, select Window | PRJ_INITIAL | Folders and Items (PAYROLL:PRJ_INITIAL).

- Click the tab for the project and select the window from the list.

  For example, to switch to a previously opened Folders and Items window in the VS_SIMPLE_1.0 project, right or left click the PRJ_INITIAL project tab and select **Folders and Items**.

To close a window:

Click the window Close button.

To minimize, maximize, or rearrange windows:

Do one of the following:

- **To minimize a window**, on the window title bar, click the Minimize button.

- **To reduce a window**, on the window title bar, click the Restore Down button.

- **To maximize a window**, on the content window title bar, click the Maximize button. Note that when the window is maximized the ▬ and 🗗 buttons are located on the menu bar and not the window's title bar.

- **To cascade windows**, select Window | Cascade.

- **To stack windows**, select Window | Tile Horizontally.

- **To make a window fill the entire screen**, select View | Full Screen. This results in the current window filling the entire screen and maximizing the desktop client window.

  NOTE In full screen view, the menu bar, navigation windows, and toolbar are hidden. You can still access the menu bar by moving the mouse pointer to the top of the window, which temporarily displays it, enabling you to choose a menu option.

- **To restore a full screen view to the standard view**, do one of the following:

  - Click the Close Full Screen button in the floating Full Screen toolbar:

  - Select View | Full Screen.

To open an object in a new window:

1 In an object list, right-click the object and select Open New Window. You see the object in a new content window.

   NOTE Depending on the object, you may also open a new window for an object by double-clicking on it. This depends on the setting for the object type under **Double-click behaviors** on the User Interface tab of the Preferences dialog box. For further details, see "Setting the User Interface Options" on page 516.

2 Select the object to see its related objects.

To show or hide related object lists:

- **To show related object lists**, from the View menu, select the related objects you want to see. For example, in a Request Catalog window, you can view items, requests, and parts.

- **To hide a related object list**, from the View menu, select the object again.

About Object Lists and Trees

Object lists display objects in table form. You can have a number of related object panes on the right-hand side of the content window and display them in any combination of tiled or tabbed panes. In an object list, such as an Items list, you can select objects, change the order in which objects are displayed, resize columns in the list, and save the list. You can also filter the rows in the objects list to display only rows containing a filter string in a specified column. The object window toolbar buttons enable you to perform various actions.

Object trees display hierarchical objects in a tree view. Object trees are either design part structures or project or stream folder views. You can navigate the tree and select a subfolder to view the related objects belonging to that subfolder.

Working in Object Lists

In a content window you can view, list, sort, and filter the lists of objects and related objects. If you right-click an item in the Folders and Items window you can perform operations, for example:

- get
- synchronize (projects only)
- update
- deliver
- check in (projects only)
- check out (projects only)
- undo check out (projects only)
- edit (projects only)
- merge
- browse
- compare
- display file annotations
- action, promote and demote
- delegate
- show item properties
- show item history
- show item pedigree

To select objects in a list:

Do any of the following:

- **To select a single object**, click the select button □ ▤ next to the object, or click anywhere in the row containing the object.

- **To select multiple objects**, Ctrl+click each object.

- **To select a range of objects**, click the first object in the range, then SHIFT+click the last object.

- **To select all objects in the list**, click the column heading containing the ⚡ icon:

  or click anywhere in the content window and type **Ctrl+A**.

- **To deselect multiple objects in the list**, select any single object as described above.

To sort a list based on the contents of a column:

1   Click the header of the column you want to sort by.

- An up arrow ⬆ indicates that rows are sorted in ascending order.

- A down arrow ⬇ indicates that rows are sorted in descending order.

2   To reverse the sort order, click the column header again.

To save the contents of a list:

1   Click the Save button.

2   In the Save As dialog box, type a filename.

3   Select a format:

- To save the list or tree in an HTML file, from the **Save as type** list, select HTML Files (*.html).

- (List only) To save the list in a text file with commas separating the fields, from the **Save as type** list, select CSV Files (Comma Delimited) (*.csv).

4   Click the Save button.

To switch an item list between all revisions and latest only:

Click the Expand Revisions button.

To resize list columns:

Do one of the following:

- **To manually resize a column**, drag the boundary on the right side of the column heading until the column is the width you want.

  The desktop client retains the column sizes you have set when you next log in.

- **To recalculate columns widths** for the best fit, click the Resize button.

To filter the objects in a window:

1   Click the Filter icon at the top right of the pane/window. This displays the Find dialog box.

2   Fill in the fields in the Find dialog box as described in "Creating and Using Object Filters" on page 207.

3   Click the **Apply** button. The list in the window will be replaced by the filtered list.

To filter the objects in a window using a predefined filter:

Click the list arrow to the right of the Filter icon in the toolbar at the top of the pane/window and select the name of the filter from the list.

To filter the objects in an item window for a stream to show only items revisions created in the stream:

Click the list arrow to the right of the Filter icon in the toolbar at the top of the pane/window and select **<revisions-created-in-stream>**.

To filter the objects in a window to only show those matching a string:

1   Click the list arrow at the top right of the toolbar in the pane/window. Select the name of the column to filter from the list. (Some columns cannot be filtered on in this way.)

NOTE The left-most column of the grid is, by default, the one selected for the filter.

2   Type the text to be used for filtering. Note that this is not case-sensitive, and leading and trailing spaces are removed from the string when filtering. All column values, including numeric ones, are treated as strings for the purpose of filtering.

After a short pause, the grid display will be filtered so that only rows containing that string in the specified column are displayed. The heading for the filtered column will contain an icon: to indicate that the filter operating on that column, and the title of the grid display will include the text "[Filtered]".

4 Related Items [Filtered]
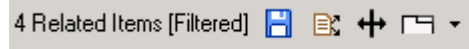
3   To remove the filtering of the grid view, delete the value in the text field.

To search for objects in a list by typing initial characters:

Click the field in the list that you want to search and type the initial character(s). This will position the cursor in the first field in the list that begins with the character(s).

To switch the display of related object windows to tabbed panes:

- **To display the selected related object window as a tabbed pane**, click the icon at the top right of the pane/window.

- **To display all the related object windows on the right as tabbed panes**, click the list button to the right of the icon: and select **Tab all views.**

To switch the display of related object windows to stacked panes:

- **To display the selected related object window as a stacked pane**, click the icon at the top right of the pane/window.

To display all the related object windows on the right as stacked panes, click the list button to the right of the icon: and select **Stack all views.**

Working in Object Trees

In a content window, you use object trees to view a project/stream folder or design part structure and select related objects so that you can perform operations on them.

To navigate an object tree:

Do any of the following:

- **To expand a folder**, click the plus sign (+) next to it.

- **To collapse a folder**, click the minus sign (-) next to it.

- **To select a folder**, click it.

To view only a portion of a Design Part tree:

1   In a Design Part tree, select the folder you want to display as the top-level folder in the tree.

2   Click the Make Root button.

The tree displays the folder you selected as the top-level node with its subfolders beneath it.

3   To view the entire tree again, in the list at the top of the tree, select the top-level design part name.

To save the contents of a tree:

1   Click the Save button.

2   In the Save As dialog box, type a filename.

3   Select a format:

- To save the list or tree in an HTML file, from the **Save as type** list, select HTML Files (*.html).

- (List only) To save the list in a text file with commas separating the fields, from the **Save as type** list, select CSV Files (Comma Delimited) (*.csv).

4   Click the Save button.

Working in the Area Views

The My Area view and Deployment Area view are content windows that display the folders and files in a work area or deployment area in a view that is similar to Windows Explorer.

The work area can be located on your local machine, or an area under Dimensions CM control that has been defined in the Administration Console. The deployment areas are areas that have been associated with your current project or stream, and a deployment stage.

For performance reasons, the icon and certain fields are not displayed by default. To display those fields (marked with an asterisk) right-click a column heading and select the field.

> **NOTE** Column headings marked with * may be slow to query on MVS work areas, depending on the number and size of files.

To access the My Area view:

Expand the Work Areas node in the My Current Project/Stream window, and select the **My Area** icon.

To access the contents of a deployment area:

1   Expand the Work Areas node in the My Current Project/Stream window.

2   In the My Current Project/Stream window, expand the Deployment Areas node.

3   Expand the Stage node for the deployment area, and expand the node for the area you want to view.

You can expand the folder tree on the left and display details of the item files in that folder, such as the revision and type of change (such as added or modified). If the area is located on an MVS operating system, the functions available are more limited, as described below in "MVS Areas" on page 201.

If you right-click files and folders in these windows you can perform operations such as:

- check out (projects only)

- check in (projects only)

- synchronize (projects only)

- update

- deliver

- browse

- compare

- merge (projects only)

- show item history

- show item pedigree

- show properties of the item file

For files that are not under Dimensions CM control, you can:

- browse (using the editor that has been assigned in the desktop client for its file extension)

- show properties of the file

If you right-click a folder in the tree, you can invoke the synchronize wizard to perform:

- synchronize (for projects only)

- update

- deliver

NOTE Item files that do not belong to your current project or stream are displayed in a gray font. You can display their properties but not perform any other operations on these files.

To perform updates between the work area and repository:

In the folder tree in the area view, right-click the folder that you want to synchronize and select the option you require:

- **Update** to update the work area with the latest changes in the repository.

- **Deliver** to update the repository with the latest changes in your work area.

- **Synchronize** to update both the work area and the repository to reflect the latest changes in both (only available for projects).

This calls the Synchronize Wizard to perform the operation. See "Introduction" on page 370 for details.

MVS Areas

If you right-click a member in this window, you can perform the following operations for members that are under Dimensions CM control:

- browse

- show item history

- show item pedigree

For members that are not under Dimensions CM control, you can:

- browse (using the editor that has been assigned in the desktop client for its extension)

- show properties

NOTE Displaying fields with column headings marked with * may be slow to query on MVS work areas, depending on the number and size of files.

Working in the Console Window

Use the Console window to type Dimensions CM commands. You can also use this window to see the commands that are sent to the Dimensions CM server as the result of actions you take using the desktop client, and to see the results of those commands. By default, the console window is hidden. To display it, select View | Console.

Whenever you perform an action that causes a command to be processed by the Dimensions CM database, the command that is generated appears in the console window. For a complete description of Dimensions CM commands, see the *Command-Line Reference Guide*.

To type commands in the console window:

1 To display the console window, select View | Console.

2 Do any of the following:

- **To type a single-line command**, click in the window and type the command syntax.

- **To type a multi-line command**, press Ctrl+Enter to start a new line.

- **To redisplay the previous command**, type a period (.).

- **To copy and paste a command** from elsewhere in the Console window, use Ctrl+C or Ctrl+Ins to copy the command and Ctrl+V or Shift+Ins to paste it.

- **To insert the contents of a command file**, type an 'at' sign (@) followed by the name of the file.

3 To submit the commands in the window, press Enter.

4 To clear the contents of the window, click the Clear button.

To save or print the contents of the console window:

Do any of the following:

- **To copy the contents** to the Windows clipboard, select text, and click the Copy button.

- **To save the contents to a file**, click the Save button. In the Save As dialog box, navigate to the folder where you want to save the file, type a filename, and click the Save button.

- **To print the contents**, click the Print button.

To move the console window:

Do one of the following:

- **To float the window** above the main window, press Ctrl, and drag the Console window title bar away from its location at the top or bottom of the main window.

- **To dock the window**, drag it above or below the main window.

- **To float the window** in the main window together with the other windows, right-click and select **Float in Main Window**. This option is disabled if Workspace Tab Mode, on the User Interface tab of the Preferences dialog box, is set to Tab per window. See page 516 for details.

Working with Reports and Lists

Use the Reports and Lists window to display the various reports and lists available in Dimensions CM. The following nodes are in the Reports and Lists window:

- The **Favorite Reports** node contains an icon for each of your own or publicly available Dimensions CM reports that you stored as your favorites, grouped by Dimensions CM object class tree node (for example, baselines, design parts, items, and requests). These are reports that have been created using either the web client or desktop client, either from scratch or by adopting or modifying public reports. They are stored on the server and are available from either client. For further details, see "Creating or Modifying a Report Using the Desktop Client" on page 472.

  NOTE For an object class tree node to appear in **Favorite Reports**, at least one report of that object class must exist.

- The **My Reports** node contains an icon for each of your own stored Dimensions CM reports, grouped by Dimensions CM object class tree node (for example, baselines, design parts, items, and requests). These are reports that you have created using the web client or desktop client, either from scratch or by adopting or modifying public reports. They are stored on the server and are available from either client. For further details, see "Creating or Modifying a Report Using the Desktop Client" on page 472.

  NOTE For an object class tree node to appear in **My Reports**, at least one report of that object class must exist.

- The **Public Reports** node contains an icon for each stored report that a Dimensions CM user has made available to other users plus standard reports available to all users. Again these are grouped by Dimensions CM object class tree node.

  NOTE For an object class tree node to appear in **Public Reports**, at least one report of that object class must exist.

■ The **My Filters** node contains an icon for each object filter you have previously defined and saved using the Find mechanism. For further details, see "Finding Objects" on page 205.These are stored in the registry on your local machine.

NOTE For a filter to appear in **My Filters**, at least one filter of an object class must exist.

■ The **My Lists of Requests** node contains an icon for each request list you have created using the Edit Request List function. For further details, see "Managing Request Lists" on page 242

To access reports and lists:

Select **View | Reports and Lists**.

To access favorite reports:

1 Expand the Favorite Reports node.

2 Expand the appropriate Dimensions CM object class node, for example, Items.

3 Do one of the following:

- **To run the report**, right-click its icon and select Run.

- **To edit the report**, right-click its icon, select Edit, and complete the Report Builder dialog box.

- **To delete the report**, right-click its icon and select Delete.

- **To remove the report from your favorites**, right-click its icon and select Remove from Favorites.

To access private reports:

1 Expand the My Reports node.

2 Expand the appropriate Dimensions CM object class node, for example, Items.

3 Do one of the following:

- **To run the report**, right-click its icon and select Run.

- **To edit the report**, right-click its icon, select Edit, and complete the Report Builder dialog box.

- **To delete the report**, right-click its icon and select Delete.

- **To add the report to your favorites**, right-click its icon and select Add to Favorites.

To access a public report:

Expand the Public Reports node and proceed as for private reports.

To access request lists:

1 Expand the My Lists of Requests node.

2 Do one of the following:

- **To display the request list,** click the icon for the request list.

- **To delete the request list**, right-click its icon and select Delete.

To access object filters:

1   Expand the My Filters node.

2   Expand the appropriate Dimensions CM object class node, for example, Items.

3   Do one of the following:

- **To display the result of the object filter**, right-click its icon and select Run.

- **To edit the object filter**, right-click its icon, select Edit, and complete the Find dialog box.

- **To delete the object filter**, right-click its icon and select Delete.

Viewing Object Properties

Use the Properties window to get a quick view of the basic attributes of a selected object. The attributes displayed in the Properties window can be customized using the Properties tab of the Customize dialog box. Details of how to do this are described in "Customizing the Properties Dialog Box" on page 523.

To view object properties:

1   In an object list or object tree, select an object.

2   Select View | Properties.

3   Do any of the following:

- **To float the Properties window** above the main window, click the Pin button. If you press the shift key when selecting the Properties menu item, the Properties window is opened already in 'float' mode.

- **To dock the Properties window** to the main window, right-click it and select **Docking view**.

- **To undock the Properties window** from the main window, right-click it and deselect **Docking view**.

- **To keep the Properties window open** above all windows in all open applications, right-click it and select **Always on top**.

- **To open an additional Properties window** for the same object, right-click it and select **Clone Dialog**.

4   When you are finished, click the window Close button.

About Object Specification

Every object in Dimensions CM has an object specification that uniquely identifies it. The object specification is displayed in most of the dialog boxes in the desktop client. In addition, for some dialog boxes, you can type the object specification.

The syntax for object specification is as follows:

Object Type	Specification
Design part	*productID*:*partID*.*variant*;*pcs*
Item	*productID*:*itemID*.*variant*-*itemType*;*revision*
Request	*productID_requestType_number*
Project	*productID*:*projectID*
Stream	*productID*:*streamID*
Baseline	*productID*:*baselineID*
Release	*productID*:*releaseID*
Customer	*customerID*
Requirement	*class_name*.*puid;objId*

Finding Objects

You can search for objects using the Find command. You can display the found objects in a content window, where you can select them and perform tasks on them. If you frequently perform a particular search, you can save the search criteria as a filter that you can run at any time.

You can also search for items by searching for specific words contained in an item revision. For more information, see "Searching and Replacing Text in Items" on page 206.

In addition to this you can create reports. Reports enable you to specify selection criteria that can include boolean operators. For more information, see "Creating or Modifying a Report Using the Desktop Client" on page 472.

To find an object:

1   Select Edit | Find, and select the type of object. For example, to search for an item, select Edit | Find | Item.

2   In the Find dialog box, select criteria to limit the number of objects found. For more information about the criteria on each tab, click the Help button in the dialog box.

     TIP You can quickly search for all objects of a particular type by clicking the Find Now tab without setting any criteria.

3   To display the list of objects that meet your search criteria, click the Find Now tab.

4   On the Find Now tab, select one or more objects.

5   To display the selected objects in a content window, click Open.

6   To close the Find dialog box, click the Close button.

Searching and Replacing Text in Items

You can search for items by text they contain, and search for and replace text in items. When you replace text in an item, the item is updated and a new revision is created.

PRIVILEGES Update Item Content privilege is required for replacing text.

To search for text in items:

1   Select Edit | Find | In Files.

2   In the **Find What** field, type a search string.

3   Limit the items to search by doing any of the following:

 - To search only items in a folder, in the **In Project Folder** field, type a folder name.

 - To search only items related to a particular request, click the Advanced button, and in the **Related Request** field, type a request specification.

 - To search only items in a particular design part, in the **Related Design Part** field, type a design part specification.

4   To further limit the items to search, set values in the remaining controls in this dialog box. For more information about the controls, click the Help button.

5   Click the Find button.

6   In the Find in Files Results dialog box, select one or more items.

7   To display the selected items in a content window, click the New Window button.

8   To close the Find in Files Results dialog box, click the Close button.

To search and replace text in items:

1   Select Edit | Find | In Files.

2   In the **Find What** field, type a search string.

3   Select the **Replace with** check box and type the replacement string in the field.

4   Limit the items to search by doing any of the following:

 - To search only items in a folder, in the **In Project Folder** field, type a folder name.

 - To search only items related to a particular request, click the Advanced button, and in the **Related Request** field, type a request specification.

 - To search only items in a particular design part, in the **Related Design Part** field, type a design part specification.

5   In the **Comment on extract** field, type the reason for the text replacement.

6   Click the Find button. The Find in Files Results dialog box shows the items in which text was replaced. The revision numbers of the items are changed according to your process model rules.

Creating and Using Object Filters

Create and use filters to reduce the number of objects that are displayed in a content window. A filter is a set of search criteria that you use to locate and display objects that match your criteria.

You create a filter by using the Find dialog box to specify search criteria, and then saving the criteria as a filter that you can run at any time. The Find dialog box may also appear when you click the browse button to select objects in certain dialog boxes.

To create a filter:

1   Do one of the following:

- Select Edit | Find, and select the object class. For example, to search for baselines, select Edit | Find | Baseline.

- In a content window that contains the object class you want to filter, click the icon in the toolbar at the top of the pane/window.

2   In the Find dialog box, select criteria to limit the number of objects found. For more information about the criteria on each tab, click the Help button.

3   Click the General tab, and click the Create button next to the **Filter Sets** list.

4   For **Enter the name of the new Filter Set**, type a name for the filter.

5   Select the **Based Upon Current Set** check box, and click the OK button. In the Find dialog box, you see the new filter in the **Filter Sets** list. To save the filter in the Filtered Views, click Save.

6   Click the Close button.

To use a filter:

1   In the Navigation window, click Filtered Views.

2   Click the icon for a previously saved filter. You see the objects that meet the search criteria in the content window.

To modify a filter:

1   Select Edit | Find, and select the object type. For example, to search for items, select Edit | Find | Item.

2   From the **Filter Sets** list, select a filter. You see the Find dialog box with the filter's criteria.

3   Set additional criteria, or change the existing criteria. For more information about the criteria on each tab, click the Help button.

4   Click the Save button.
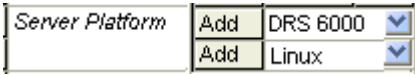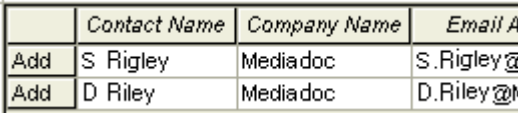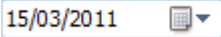
To delete a filter:

1   Select Edit | Find, and select the object type.

2   From the **Filter Sets** list, select a filter.

3   Click the Remove button.

About Editing Object Attributes

An object can have attributes in a number of different formats. Attributes can contain text, a number, a date, or a value that you select from a list.

The following table describes how to edit object attributes.

For this type of control...	Do this...
Text field Attributes / Values Lines of Code	Click the field and type text. If the field allows multiple lines of text, text wraps to the next line. To start a new line, press ENTER.
Selection list Severity 3	Click the down arrow, and select a value from the list.
Multiple value field Server Platform Add DRS 6000 Add Linux	Click the down arrow, and select a value from the list, or enter a value for a text field. To add another value, click the Add button, and complete the new field. To delete a value, select it and press DELETE.
Multiple column multiple value Contact Name / Company Name / Email A Add S Rigley Mediadoc S.Rigley@ Add D Riley Mediadoc D.Riley@N	In each column, click the down arrow, and select a value from the list or enter a value for a text field. To add another row, click the Add button, and complete the details for that row. To delete a value, select it and press DELETE.
Date and time field 15/03/2011	Use the date picker or Click the field, and type a date in the following format: *dd-mon-yyyy* [*hh*:*mm*:*ss*]

Relating and Unrelating Objects

Relate objects when you want to show a connection between them. You can relate an object to several other objects. For example, an item might be related to several other items.

You can relate objects by using the Relate/Unrelate menu command for each object type. You can also relate objects by dragging the object to be related onto another object in a content window.

PRIVILEGES To relate one object class to another particular object class you need to have the necessary privilege assigned to you via the Administration Console Privilege Assignments function.

NOTE
You may not be able to relate items and requests when they are in certain lifecycle phases if the CM Rules have been set up to prevent this. For details, see *About Change Management Rules* in the *Process Configuration Guide*.

If a request has been deployed to a particular stage, you cannot relate item revisions in response to the request if they are at an earlier deployment stage.

You cannot relate requests belonging to one product with items belonging to another product.

To view related objects:

In a content window, select an object in the left-hand pane. The related objects are shown in the related object windows on the right-hand side.

NOTE The related objects on the right will only reflect the selection of a single object in the left-hand pane. If you select more than one object on the left, the related objects view will not be updated to reflect that selection.

The type of relationship an object has with the selected object is indicated by its icon.

Icon	Description
❑ ➡ ▤	A right-pointing arrow indicates that the object has a child relationship toward the selected object.
❑ ⬅ ▤	A left-pointing arrow indicates that the object has a parent relationship toward the selected object.
❑ ✄ ▣	A chain symbol in an object list indicates that the design part is being reused by the selected design part.
📷	In a design part tree, this icon indicates a design part that is being reused by the design part above it.

To relate objects:

1   In a content window, do one of the following:

- **To relate an item to an object**, select the item, and select Item | Relate/ Unrelate.

- **To relate a request to an object**, select the request, and select Request| Relate/ Unrelate.

- **To relate a baseline to an object**, select the baseline, and select Baseline | Relate/Unrelate.

- **To relate a design part to an object**, select the design part, and select Part | Relate/Move.

- **To relate a project to an object**, select the project, and select Project | Relate/ Unrelate.

- **To relate a stream to an object**, select the stream, and select Stream | Relate/ Unrelate.

- **To relate a requirement to an object**, select the requirement, and select Requirement | Relate/Unrelate.

- **To relate a release to a customer**, select the release, and select Release | Forward.

- **To relate a customer to a release**, select the customer, and select Forward Release.

The Manage Relationships dialog box appears.

2   In the Manage Relationships dialog box under the Specification column, select the node for the class of object you want to relate and click the **Add** button.

An <object class> to <object class> relationship dialog box is displayed for the classes of object you have selected.

If you are relating items to requests, and you have configured Dimensions CM to accept requests from an external IDM (Issue Defect Management) select the node called **External Requests**. On clicking Add, you will be presented with a dialog box enabling you to view and select them.

3   Click the browse button to find the objects you want to relate.

4   In the Find dialog box, select criteria to limit your search. For more information, see "Creating and Using Object Filters" on page 207.

5   To display the results of your search, click the Find Now tab.

6   On the Find Now tab, select one or more objects, and click the **OK** button. The object(s) will now be added to the **<object class> objects to relate to** list in the <object class> to <object class> Relationship dialog box.

7   If you want to change the relationship type for an object, click the link in the **Relationship** column, and select another relationship type. (This may or may not be possible depending on the class of object.)

8   If you want to change the direction of the relationship for an object, click the link in the **Direction** column, and select another direction. (This may or may not be possible depending on the class of object.)

9   Click the OK button.

10   Repeat steps 1 to 8 if you want to relate more objects.

11   To confirm the changes, click the **OK** button.

   NOTE No processing actually takes place until you have clicked the **OK** button.

To relate objects by dragging and dropping:

1   Select **Tools** | **Preferences**.

2   In the Preferences dialog box, click the Miscellaneous tab.

3   Under **Drag & Drop**, select **Always enable user input**, and click OK.

   Setting this option displays the Relationships dialog box when you drag an object onto another object in a content window.

4   In a content window, select one or more objects and drag and drop them onto another object.

   You see the Manage Relationships dialog box with the newly selected object(s) shown in bold. Depending on the object class, the default relationship types and directions may be shown as links. You can drag additional objects from the content window into the dialog box.

5   If you want to change the relationship type for an object, click the link in the **Relationship** column, and select another relationship type. (This may or may not be possible depending on the class of object.)

6   If you want to change the direction of the relationship for an object, click the link in the **Direction** column, and select another direction. (This may or may not be possible depending on the class of object.)

7   To relate the objects, click the **OK** button.

To unrelate objects:

1   In a content window, do one of the following:

   - **To unrelate an item from an object**, select the item, and select Item | Relate/Unrelate.

   - **To unrelate a request from an object**, select the request, and select Request| Relate/Unrelate.

   - **To unrelate a baseline from an object**, select the baseline, and select Baseline | Relate/Unrelate.

   - **To unrelate a design part from an object**, select the design part, and select Part | Relate/Unrelate.

   - **To unrelate a project from an object**, select the project, and select Project | Relate/Unrelate.

   - **To unrelate a stream from an object**, select the stream, and select Stream | Relate/Unrelate.

   - **To unrelate a customer from a release**, select Release | Withdraw.

   - **To unrelate a release from a customer**, select the customer, and select Withdraw from Customer.

2 In the Manage Relationships dialog box in the **Relationships** list, select the object(s) you want to unrelate and click the Remove button. The selected object(s) are shown struck through.

3 To commit the changes, click the **OK** button.

About the Pedigree Window

The Pedigree window shows the history of an object and the objects created from it.

For items, the Pedigree window shows how item revisions are related in time and origin. For example, you can see which revision was used to create a new branch.

NOTE In some circumstances, Dimensions CM may create pseudo merge entries in the pedigree. This will occur, for example when a revision is created in a branch from a revision on another branch, and then the next revision is created from a revision on a different branch.

For baselines and projects/streams, the Pedigree window shows how projects/streams, baselines, and releases are related in time and origin. For example, you can see which projects were included in a baseline and which baseline was used to create a release. The Pedigree window also shows which releases were forwarded to a customer.

The Pedigree window displays the following icons:

Icon	Description
	Item revision
	Item revision currently checked out
	Item revision does not belong to current project/stream.
	Project or stream
	Baseline
	Release
	Customer

Working in the Pedigree Window

Use the Pedigree window to see how objects are related in time and origin. You can view the pedigree of items, projects, and baselines (which shows related releases). You can also select an object in the Pedigree window to perform some tasks with it, such as checking it out.

To open the Pedigree window:

Do one of the following:

- In an Items list, select an item, and select Item | Pedigree.

- In a Projects and streams list, select a project/stream, and select Project | Pedigree or Stream | Pedigree.

- In a Baselines list, select a baseline, and select Baseline | Pedigree.

To save a pedigree display as a file:

1   In the Pedigree window, click the Save button in the toolbar.

2   In the Save Pedigree Display dialog box, select the folder in which you want to save the file and enter the filename.

3   Click Save.

To change the appearance of the Pedigree window:

Use the following toolbar buttons:

Use this button...	To do this...
	Resize the pedigree to fit the window
	Magnify or reduce the pedigree
	Show or hide the window background
	Change the color of the text
	Change the color of the connecting lines
	Show or hide the time and branch axes
	Switch the time axis and branch axis
	Select all objects
	Deselect all objects

Use this button...	To do this...
	Use straight connecting lines
	Use rounded connecting lines
	Use arc connecting lines

Using Shortcuts

Use shortcuts to work more quickly. You can use the right-click menu for objects to quickly access the most common object commands. You can use the keyboard to access menu commands and to navigate through dialog boxes. You can also use keyboard shortcuts for common Dimensions CM commands.

To access commands on the right-click menu:

In a content window, right-click an object, and choose a command from the menu.

To access menu commands using the keyboard:

- To access a menu command, hold down ALT and type the underlined letter in each menu and submenu for the command.

    For example, to select File | New | New Item, press ALT+F+N+I.

- To navigate a dialog box using the keyboard, press TAB to move focus to the next control, or press ALT and type the underlined letter in the control name.

- To access a command using a keyboard shortcut, type a shortcut from the following table.

Press	To
Shift+Del	Cut the selected text
Ctrl+Ins	Copy the selected text to the clipboard
Shift+Ins	Paste the clipboard contents
F1	Open the Help system
F2	Toggle the Navigation window
Ctrl+Shift+F2	Open the Project Structure window
F3	Toggle the Console window
Ctrl+Shift+F3	Open the Items Inbox window
Ctrl+Shift+F4	Open the Item Catalog window
F5	Refresh the current window
Shift+F5	Refresh all open windows
Ctrl+Shift+F5	Open the Design Part window

Press	To
F6	Move focus to the next content window
Shift+F6	Move focus to the previous content window
Ctrl+Shift+F6	Open the Request Catalog window
Ctrl+Shift+F7	Open the Requests Inbox window
Ctrl+Shift+F8	Open the Projects/Streams Catalog window
Ctrl+Shift+F9	Open the Baselines window
Ctrl+Shift+F10	Open the Baseline Catalog window
Ctrl+Shift+F11	Open the Release Catalog window
Ctrl+Shift+F12	Open the Customer Catalog window
Ctrl+A	Select all the objects in an object list
Ctrl+B	Preview the selected request
Ctrl+C	Copy the selection to the clipboard
Ctrl+D	Add a request action description to the selected requests
Ctrl+Shift+D	Delegate the selected requests
Ctrl+Shift+F	Toggle full screen view on and off
Ctrl+G	Get the selected items
Ctrl+H	View the history of selected requests
Ctrl+Shift+H	View the history of selected items
Ctrl+I	Check in the selected items
Ctrl+L	Log out
Ctrl+O	Check out the selected items
Ctrl+P	Print the contents of the Console window
Ctrl+Shift+P	Display the Properties window
Ctrl+R	Show users and roles for the selected requests
Ctrl+Shift+R	Show users and roles for the selected items
Ctrl+S	Save the contents of the Console window to a file
Ctrl+T	Action the selected requests
Ctrl+Shift+T	Action the selected items
Ctrl+U	Update the selected items
Ctrl+V	Paste the clipboard contents
Ctrl+W	Change the project
Ctrl+Shift+W	Change the project root folder
Ctrl+X	Cut the selected text to the clipboard

Chapter 9
Managing Changes

In this Chapter

About Requests

A *request* in Dimensions® CM represents a change request made against a product or part of a product. It may capture a defect, enhancement, or other work that needs to be completed on items that belong to the product.

Dimensions CM can be configured to use requests, or issues or defects as they may be called, from another IDM (Issue Defect Management) tool external to Dimensions CM. These issues can then be used to relate to item revisions in order to track changes. See "About Item Relationships" on page 263 for further details. This chapter describes Dimensions CM internal requests and how to use the features available for them.

You can use requests to plan, track, authorize, and control all work on the product.

For each type of request, the process model includes:

- A project-organization-specific layout and format.

- System-defined and user-defined attributes.

- Rules on behavior and relationships between request types and item types.

- A lifecycle that maps the organization's process for handling the request type.

In the web client and desktop client you can perform the following change management tasks:

- Create a new request.

- Relate requests to items, baselines, other requests, and design parts.

- Relate an item to a request.

- Edit request attributes.

- Add an action description to a request, or edit an existing description.

- Add attachments to requests, or edit an existing attachments list.

- Action a request to remove it from your Inbox.

- Delegate or request ownership of a request to or from another Dimensions CM site.

- Move a request to a different design part.

- Preview and print the contents of a request.

- View the action history and revision history of a request.

- View the users, roles, and privileges for a request.

NOTE You can also merge the changes associated with a request into a stream, for details see "Merging Changes across Streams" on page 139.

About Request Lists

When you start Dimensions CM, you can open any one of the following lists.

- **Draft list**. Includes private requests not yet created (similar to draft emails).

- **Inbox**. Includes requests assigned to you. Requests appear on your Inbox based on your role and the life cycle for this request type as defined in the process model. Your inbox appears in two contexts:

  - **My Current Project/Stream**: Requests in this inbox are only those related to the current project or stream.

  - **User Inbox**: Requests in this inbox include those related to any project or stream.

- **Catalog**: Includes all requests in the Dimensions CM primary catalog (i.e. not in the secondary catalog). This appears in two contexts:

  - **My Current Project/Stream**: Requests in this catalog are only those related to the current project or stream.

  - **Product Catalog**: Requests in this catalog include those related to any project or stream.

- **Secondary Catalog list**. Includes all requests that have reached the end of their normal lifecycle, or are in an off normal end state. You can transfer requests to the secondary catalog from the Primary Catalog list, enabling you to tidy up your primary view by moving requests that no longer active.

  Dimensions CM preserves relationships to other requests, design parts and items when requests are transferred to the secondary catalog.

  You cannot update requests in the Secondary Catalog list but you can query them.

  Only a user with the required privilege can transfer requests between the two catalogs. Additional rules govern when a request can or cannot be transferred.

- **Request lists**. You create these lists for your own purposes from the Inbox, the catalog list, or other pre-existing request lists. You can append or remove individual requests to a request list. You can delete existing lists and create new ones.

Opening Request Lists

Purpose   Use this operation to open a request list.

Desktop client   **To open a list based on selection criteria:**

1   Select File | Open | All Requests.

The Open Request dialog opens.

2   On the Request Lists tab, for **Product**, select an product.

3   For **Type**, select a request type.

4   Select one of the following:

- **Catalog List**: This list includes all active requests to which you have access.

- **Secondary Catalog List:** This list displays all requests placed in the Secondary Catalog.

  NOTE In the secondary catalog view, you can only see related requests if those requests are also themselves in the secondary catalog.

- **Draft List:** This list displays all requests that you originated and kept as draft.

- **Request List:** These are lists that you created. Click this button to select a request list.

5   To filter the list that you have selected, click the request Filter tab. For **request ID**, type a filter string consisting of a Request ID containing a "%" as a wildcard character.

You can also enter a set of request IDs as a comma-separated list.

6   Click the ![button] button. The requests that match the filter string are displayed.

7   To open only a subset of the filtered requests list, select IDs from the list. To deselect any requests that you have selected, click the Reset Selection button.

8   Click the OK button.

Selecting Requests

Purpose Select requests when you want to perform operations on them, such as actioning a request, or when you want to preview properties or attributes.

You can select a request to view it, copy it, or action it.

NOTE If the request is not owned by your site, indicated by a greyed icon, you will only be able to view its details. You will not be able to perform any operations that attempt to update it apart from Request request.

Web client **To select requests:**

1 Do one of the following:

- **To select a request from your Inbox**, click the Requests tab, and click the Inbox icon in the navigation pane.

- **To select a request from your Inbox for the current project**, click the My Current Project tab, expand the Inbox node in the navigation pane, and click the requests icon.

- **To select from requests in a design part**, click the Requests tab, expand the functional breakdown tree, and click a design part folder.

- **To select from all the requests in the product**, click the Requests tab, and click the catalog icon.

- **To select from all requests related to the current project**, click the My Current Project tab, expand the Catalog node in the navigation pane, and click the requests icon.

2 In the content pane, do one of the following:

- **To select a request**, click the check box next to it: ☑

- **To select all requests in the list**, click the Select All icon in the column heading: ⇊

Desktop client **To select requests:**

1 Do one of the following to display a list of requests in a content window:

- **To list all requests in your Inbox**, In the User Inbox navigation window, expand the tree and select the Requests node: 🗐 Requests

- **To list requests from your Inbox for the current project/stream**, In the My Current Project/Stream navigation window, expand the Inbox node: 🗐 Inbox and select the Requests node: 🗐 Requests . Optionally, to select requests of a particular type, expand the Requests node and select a request type.

- **To list the requests in a design part**, In the My Current Project/Stream navigation window, click the Parts and Items icon: 🗐 . Select the Product and design part in the Design Part to Open dialog box. Open the design part tree, navigate to the design part and select the design part icon: 📷 . The related requests are displayed on the right of the content window.

- **To select from all requests in the product**, in the Product Catalog navigation window, click the Requests icon: 🗐 Requests . Use the Open Request dialog box to specify which requests you want to view. See "Opening Request Lists" on page 220.

- **To select from all requests related to the current project/stream**, In the My Current Project/Stream navigation window, expand the Catalog node: 🗐 Catalog and select the Requests node: 🗐 Requests . Optionally, to select requests of a particular type, expand the Requests node and select a request type.

2 In a request list, do one of the following:

- **To select a single request**, click the button ☑️ ➡️🗐 next to the request, or click anywhere in the row containing the request.

- **To select multiple requests**, Ctrl+click each request.

- **To select a range of requests**, click the first request in the range, then SHIFT+click the last request.

- **To select all requests in the list**, click the column heading ⥥ or click anywhere in the content window and type Ctrl+A.

Finding Requests

Purpose   Find requests when you want to search for requests based on the values in various fields of those requests.

Desktop client   **To find or search for requests:**

1 Select Edit | Find | Requests

2 On the General tab, enter any search criteria for the general details

3 On the Descriptions tab, enter any search criteria you want to use to match against the Detailed description:

- Select **Case sensitive search** if you want the case to be taken into account when matching the search expressions

- Select **Match any** if you want a match to be found if the detailed description matches any of the search strings you are entering below.

- Select **Match all** if you only want a match to be found if the detailed description matches all of the search strings you are entering below.

- Enter one or more search expressions in the text box:

  • % matches any string of zero or more characters.

  • _ (underscore) matches any single character.

  • Double Quotes: can be used to match phrases, or groups of words separated by spaces or line breaks.

  • / can be used to escape the %, _ or " characters.

  For examples, see "Description Matching Examples" on page 223.

  Repeat these instructions for searching on All action descriptions.

4 Use the Options tab to limit the search by specifying various options. For more information, click the Help button in the dialog box.

5 Use the Relationships Tab to limit the search by specifying request relationships. For more information, click the Help button in the dialog box.

6 Use the Dates Tab to limit the search by specifying creation, modification, or action dates. For more information, click the Help button in the dialog box.

7 Use the Attributes Tab/Page to limit the search by specifying attribute values. For more information, click the Help button in the dialog box.

8 To display the list of objects that meet your search criteria, click the Find Now tab.

9 To save the search criteria as a filter, see "Creating and Using Object Filters" on page 207.

10 On the Find Now tab, select one or more objects.

11 To display the selected objects in a content window, click Open.

12 To close the Find dialog box, click the Close button.

Description Matching Examples

The following are examples of how to specify search criteria for the detailed description or action descriptions.

- If you enter the expression:

    StartsWith%

  this will find all requests where the description starts with 'StartsWith'

- If you enter the expressions:

    word "search% phrase"

    "ExactPhrase"

  and you have selected **Match any**,

  this will find all requests with:

    The description equal to 'word')

    or

    The description starting with 'search' and then some text that ends with ' phrase'

    or

    The description equal to 'Exact Phrase'

- If you enter the expression:

    Text with /% Percent

  this will find all requests with a description equal to 'Text with % Percent'. (The percent character is escaped and therefore is not treated as a wildcard).

Creating a Request

Purpose When you create a request, it is added to the repository and assigned to the initial lifecycle state.

New requests that are submitted as draft are initially added to your draft list and assigned the status *To Be Defined*. You can leave a request on your draft list if you don't have all the necessary information when you create it. As the originator, only you have access to a request while it is on your draft list. It remains in your draft list until you submit it.

TIP You can also create a request by priming it, which means creating a request based on the details of an existing request. See "Priming a Request" on page 225.

PRIVILEGES Create Request (REQUEST_CREATE)

Web client **To create a request:**

NOTE You can save a request as draft without having to complete all the mandatory fields. If you click the **Submit as Draft** button the request is added to your draft list even if there are mandatory fields that have not been entered.

1   On the Requests tab, in the navigation pane, click the New button.

2   Select a request type from the list.

3   For **Title**, type a title.

4   For **Description**, type an explanation of the problem.

5   For **Affected Design Part**, type the design part name, or click Browse and do one of the following:

   a   On the first page of the Select Design Part wizard, click Next.

   b   On the second page, for **Part Spec**, select the design part(s).

   c   Click the Finish button.

6   Optionally, for **Related Baselines**, type the baseline name(s), or click the Browse button to select them.

7   Optionally, in the **Owning project** field, enter the specification of a project or use the browse button to select it.

   NOTE When a request is created with an owning project, the Stage ID for the request is set to the initial stage in the Global Stage Lifecycle.

8   Optionally, for **Related Requirements**, type the requirement name(s) for any requirements you want to relate, or click the Browse button to select them.

9   Optionally, in the **File Attachments** field, attach files to the request.

10   To set attributes, click the Attributes tab, and type or select values.

11   Do one of the following:

   ■   To create the request, click the **Submit** button.

   ■   To create the request as draft, so that it is not yet visible to other users, click the **Submit as Draft** button.

Desktop client **To create a request:**

1 Select File | New | Request.

2 On the General tab of the New request dialog box, from the **Product** list, select the product for which you are creating a request.

3 From the **Type** list, select the request type.

4 Optionally, in the **To be addressed in project** field, if you want to relate the request a project/stream other than the current one, enter the specification of the required project/stream or use the browse button to select it.

   NOTE When a request is created with an owning project/stream, the Stage ID for the request is set to the initial stage in the Global Stage Lifecycle.

5 For **Title**, type the request title.

6 If you want to base the details of the new request on an existing request:

   ▪ Select the **Based on request** check box

   ▪ Enter the request ID or use the browse button to find the request

   ▪ Select the **Relationship** that the new request will have with the existing request.

7 To describe the problem, click **Edit Detailed Description**. Your default editor for this request type opens. Type an explanation in the editor, and save and close the file.

8 To add the request to your Draft list, select **Submit as draft**.

9 If you want to lock the ownership of the new request to prevent it from being requested by another replication site, select **Lock ownership to this site**.

10 To set attributes, click the Attributes tab, and type or select values.

11 To set relationships, click the Relationships tab, and in each field type or select values.

12 Optionally, to attach files, click the Attachments tab, and type or select filenames.

13 Click the Create button.

Priming a Request

Purpose Prime an existing request to create a new request based on details from an existing request. Whether a request can be primed from another request of the same or a different type, and which attributes are copied to the new request, is defined in the Administration Console | Object Types | Prime Mappings.

NOTE The detailed description of the new request will either be copied from the detailed description of the existing request, or from one of its other attributes, depending on what has been defined in the Prime Mapping in the Administration Console.

The new request could be:

▪ Created in the same or a different product.

▪ A different request type.

▪ Related to the original request.

PRIVILEGES Create Request (REQUEST_CREATE)

Prime Mapping must have been defined in the Administration Console between the request type(s) involved.

Web client   **To prime a request:**

NOTE You can save a request as draft without having to complete all the mandatory fields. If you click the **Submit as Draft** button the request is added to your draft list even if there are mandatory fields that have not been entered.

1   Select the Requests tab.

2   Optionally, select a request.

3   Click the Prime button on the toolbar and choose a type for the new request from the list.

4   In the Prime Request dialog box, do the following:

- For **Title**, type a title, or leave the value as <default> if you want the title to be the same as the priming request, and this attribute has been specified in the Prime Mappings for the request type(s).

- For **Description**, type an explanation of the problem, or leave the value as <default> if you want it to be the same as the priming request, and this attribute has been specified in the Prime Mappings for the request type(s).

- If you have not selected a request from which to prime the new one, use the browse button to select it, or enter the request ID in the **Priming Request** field.

5   In the **Affected Design Part(s)** field, check the design part(s) that were copied from the originating request.

6   Optionally, for **Related Baselines**, type the baseline name(s), or click the Browse button to select them.

7   Optionally, in the **Owning project** field, enter the specification of a project or use the browse button to select it.

   NOTE The request will be owned by this project. The Stage ID for the request will be set to the initial stage in the Global Stage Lifecycle.

8   Optionally, for **Related Requirements**, type the requirement name(s) for any requirements you want to relate, or click the Browse button to select them.

9   Optionally, in the **File Attachments** field, attach files to the request.

10   On the Attributes tab, check the user-defined attributes that were copied from the original request.

   NOTE It is necessary to enter the required request in the **Priming Request** field on the General tab before selecting the Attributes tab. If the **Priming Request** is entered or changed on the General tab after the Attributes tab has been selected, the Attributes tab will not be updated with the attribute values mapped from the new priming request. This is because the details of a particular tab are saved when another tab is clicked, and then restored when returning to that tab

   NOTE An attribute is only copied if it has been specified in the Prime Mapping in the Administration Console for the request type(s) involved. You can change these attributes if you wish.

NOTE The detailed description of the new request is either copied from the detailed description of the priming request, or from another attribute, depending on what has been specified in the Prime Mappings defined in the Administration Console.

NOTE If an attribute is mandatory, and it has not been specified in the Prime Mapping, you will need to enter it in the Attributes tab.

11 Do one of the following:

- To create the request, click the **Submit** button.

- To create the request as draft, so that it is not yet visible to other users, click the **Submit as Draft** button.

Desktop client **To prime a request:**

1 In a request list, select a request.

2 Select Request | Prime.

3 On the General tab of the Prime request dialog box, do the following:

- From the **Type** list, select the request type.

- If required, change the project/stream in the **To be addressed in project** field.

  NOTE The request will be owned by this project/stream. The Stage ID for the request will be set to the initial stage in the Global Stage Lifecycle.

- For **Title**, type the request title.

- To describe the problem, click **Edit Detailed Description**. Your default editor for this request type opens. Type an explanation in the editor, and save and close the file.To add the request to your Draft list, select **Submit as draft**.

- If you want to lock the ownership of the new request to prevent it from being requested by another replication site, select **Lock ownership to this site**.

  The **Prime Details** field displays the details of the request on which the new primed request is to be based.

4 Click the Relationships tab, and in the **Related Parts** field check the design part(s) that have been copied from the originating request.

5 Optionally enter or change the related baselines in the **Related Baselines** field.

6 On the Attributes and Attachments tabs, specify any user-defined attributes and file attachments that you require.

  NOTE An attribute is only copied if it has been specified in the Prime Mapping in the Administration Console for the request type(s) involved. You can change these attributes if you wish.

  NOTE The detailed description of the new request is either copied from the detailed description of the priming request, or from another attribute, depending on what has been specified in the Prime Mappings defined in the Administration Console.

  NOTE If an attribute is mandatory, and it has not been specified in the Prime Mapping, you will need to enter it in the Attributes tab.

7 Click the Create button.

Showing Users, Roles, and Privileges for Requests

Purpose

You can view the current role assignments for a request, and view the users who currently have that request on their Inboxes. You can also view the privileges for a user for the request.

PRIVILEGES To view other user's privileges you will need the privilege *View other User's Privileges* for the product that owns the request.

Web client

To view the users and roles for a request:

1 On the requests tab, select a request.

2 Click the Users, Roles and Privileges button.

3 To see which users have this request in their Inbox, click the Users with Object in Their Inbox tab.

4 To see which users are assigned to a particular role for this request, click the Role Assignments tab.

5 To see which privileges are enabled, click the Privileges tab.

6 If you have the *View Other User's Privileges* privilege, you can select another user whose privileges you want to view from the **User** list.

7 To view deployment privileges that apply to a specific stage or area, select a stage from the **Stage** list, and optionally, select an area from the **Area** list.

8 To see the rule that applies to a privilege, select the radio button for the privilege.

The details are displayed in the **Rule(s) Applied** text box at the bottom of the dialog box.

9 Click the Close button.

Desktop client

To view the users and roles for a request:

1 In a request list, select a request.

2 Select Request | Show User Roles and Privileges.

3 To see which users have this request in their Inbox, click the Users with Object in Their Inbox tab.

4 To see which users are assigned to a particular role for this request, click the Role Assignments tab.

5 To see which privileges are enabled, click the Privileges tab.

6 If you have the *View Other User's Privileges* privilege, you can select another user whose privileges you want to view from the **User** list.

7 To view deployment privileges that apply to a specific stage or area, select a stage from the **Stage** list, and optionally, select an area from the **Area** list.

NOTE If the privilege has a ⚠ icon, this means that the user's permission cannot be resolved. You will need to select a **Stage** and **Area** above in order to determine whether the user has that privilege or not.

8 To see the rule that applies to a privilege, select the privilege.

The details are displayed in the **Rule(s) Applied** text box at the bottom of the dialog box.

9 Click the Close button.

Deleting a Request

Purpose
Delete a request when it is no longer needed or when you have created it in error.

PRIVILEGES Delete Request (REQUEST_DELETE)

NOTE Only draft requests can be deleted.

Web client
To delete a request:

1 On the requests tab, select one or more requests.

2 Click the Delete button.

3 Click the Yes button.

Desktop client
To delete a request:

1 In a request list, select one or more requests.

2 Right-click and select Delete.

Browsing and Printing a Request

Purpose
Browse a request when you want to view and print a read-only copy of a document.

PRIVILEGES Browse Request

Web client
To preview and print a request:

1 On the Requests tab, select the request and click the Open button, or click the request name.

2 In the Open Request dialog box, click the Preview tab.

3 To print the request, click the Open in New Window button. In the resulting window, use your web browser's commands.

4 When you have finished viewing the request, click Cancel.

Desktop client
To browse and print a request:

1 In a request list, select a request.

2 Select Request| Browse:

The request opens in the default editor for this request type.

3 To print the request, use the editor's commands.

4 When you are finished viewing the request, exit the editor.

Actioning a Request

Purpose Action a request when you want to move a request to another lifecycle state. *Actioning* moves an object, such as a request or an item, to another lifecycle state. Only users with the appropriate role for a given state can action to another state.

When you action a request from your Inbox, it is removed from your list and moved to the Inbox of users who have roles for the next lifecycle state.

If you are actioning a request to a lifecycle state that is associated with a stage in the Global Stage Lifecycle, it will also be promoted to that stage, and if there are any default areas associated with the project/stream, the related item files will automatically be deployed to those areas.

NOTE

- When you action a request to or from a lifecycle state that is sensitive, thus requiring an electronic signature, you will be presented with an Authentication Point dialog box. In this case, enter your Dimensions CM password and click OK.

- If you are actioning requests that are related to Dimensions RM requirements, there are special considerations that you need to be aware of. Please see "Dimensions CM Requests and Dimensions RM Requirements" on page 491 for details.

- If the role on the next transition for the request has an Assignment Type of Delegation Candidate, it cannot be actioned unless a user is delegated. For details, see Assigning Roles in the Common User Interface

PRIVILEGES
Action request to next state (REQUEST_ACTION_NEXTSTATE) to action a request to a valid next state.
Action request to any state (REQUEST_ACTION_ANYSTATE) to action a request to a lifecycle state without a valid transition.

Web client **To action a request:**

1 Select one or more requests.

2 Click the Action button.

3 For **New State**, select a lifecycle state:

- **If you are actioning a single request**, either select **To next state** and select a valid next state from the corresponding list, or select **To specific state** and select a lifecycle state from that list. (You will require the necessary privilege to action to a state other than a valid next state.)

- **If you are actioning multiple requests**, either select **Next normal state** or select **Named state** and type a lifecycle state. You must type a common lifecycle state for all requests.

4 Click the **Next** button.

5 If you want to set any attributes, type or select the values.

Required attributes are marked with a red exclamation point:

This page does not appear if you have selected multiple requests.

6 Click the **Next** button.

7 Optionally, in the **Comment** field, type a comment.

8 Click the **Next** button.

9 If you want to delegate the request to another user, select a **Role to delegate** and **Capability**, and move the required user(s) to the **Assigned Users** list. If you also want to delegate the items that are related to the request, select **Delegate related items**. For more details, see "Delegating a Request" on page 238.

10 Click the **Next** button.

11 Use the Results page to check the result(s) of the action. If a request has a sensitive lifecycle state, the buttons **Authenticate and Continue** and **Ignore and continue** appear in the Message column. If you want to complete the actioning of that request, click the **Authenticate and Continue** button and enter your password. If you do not want to authenticate the request, but you want to continue actioning other requests, click the **Ignore and continue** button.

12 Click the **Close** button to close the Results page.

Desktop client **To action a request:**

1 In a request list, select one or more requests.

2 Select Request | Action.

Verify the values that are pre-populated.

3 For **New Status**, select a lifecycle state. Either select **Next status** and select a valid next state from the list, or select **All statuses** and select a lifecycle state from the list. (You will require the necessary privilege to action to a state other than a valid next state.)

4 Click the **Next** button.

5 If you want to set any attributes, type or select the values.

Required attributes are shown in bold.

6 Click the **Next** button.

7 Optionally, in the **Comment** field, type a comment.

8 Click the **Next** button.

9 If you want to delegate the request to another user, select the role from the **Select the role to delegate** and choose between **Primary**, **Secondary**, or **Leader** and move the required user(s) from the **Available users** list to the **Assigned Users** list. If you also want to delegate the items that are related to the request, select **Delegate related items**. For more details, see "Delegating a Request" on page 238.

10 Click the **Next** button.

11 Use the Summary page to check the details of the action to be performed.

12 Click the **Finish** button to perform the action and close the wizard.

To action multiple requests:

1 In a request list, select two or more requests.

2 Select Request | Action or click the Action Request button:

3 From the **New Status** list, select a lifecycle state or leave it blank to action the request to the next normal lifecycle state.

If you have the necessary privilege, and want to action the request to any lifecycle state, click the **All Statuses** option, and then select a lifecycle state.

4 Optionally, in the **Action Description** field, type a comment.

5 Click OK

Adding an Action Description to a Request

Purpose   Use this operation to add an action description to a request.

PRIVILEGES Add/edit detailed description

Web client **To add an action description:**

1 From the Requests tab, select one or more requests.

2 Click the Action Description button.

3 For **Reason for Action**, type the action description, and click the OK button. The description is appended to any previous action descriptions for the request.

To view all the action descriptions for a request:

1 On the Requests tab, select a request and click the Open button, or click the request name.

2 In the Open request dialog box, click the Preview tab.

3 Scroll down to the Action Message field.

Desktop client **To add an action description:**

1 In a request list, select a request.

2 Select Request | Add Action Description.

3 In your default editor, type a request action description.

4 Save the file and exit the editor. The description is appended to any previous action descriptions for the request.

Moving a Request

Purpose   Use this operation to move a request from the main catalog to the secondary catalog, or from the secondary catalog to the main catalog.

PRIVILEGES Move Request between primary and secondary catalog

Desktop client   **To move a request:**

1   In a request list, select a request.

2   Select Request | Move | Move To Main Catalog or Request | Move | Move To Secondary Catalog**.**

3   Click the OK button. The results of the move are displayed in the Console window. If you can't move the request, an error message is displayed.

About Editing Requests

You can edit the description, attributes, or relationships of requests that are in your Inbox. The rules defined in the process model determine whether you can edit a request at any state in its lifecycle.

The request must be owned by your site in order for you to edit it.

You can edit requests in the following ways:

- Edit the description of a request. See page 233 for details.

- Edit the list of files attached to a request. See page 236 for details.

- Edit the attributes of a request. See page 237 for details.

- Edit the action description of a request. See page 234 for details.

- Unrelate currently related design parts, items, or other requests. See"Relating and Unrelating Objects" on page 209.

Editing a Request Description

Purpose   Use this operation to edit a request's detailed description.

PRIVILEGES Add/edit detailed description
The request must be owned by your site.

Web client   **To edit a request's description:**

1   On the Requests tab, select a request and click the Open button:, or click the request name.

2   In the Open request dialog box, on the General tab, edit the **Description** field.

3   Click Save.

Desktop **To edit a request's description:**

1 In a request list, select a request.

2 Select Request | Edit | Detailed Description.

3 In your default editor, edit the detailed description, save the file, and exit the editor.

Editing a Request Action Description

Purpose Use this operation to edit a request's action description.

PRIVILEGES Add/edit detailed description
The request must be owned by your site.
Only the user who added the original action description can edit it unless they have the *override_process_check* privilege.

Web client **To edit a request's action description:**

1 On the Requests tab, select a request and click the Edit Action Description button.

2 In the Edit Action Description dialog box, edit the **Description** field.

3 Click Save.

Desktop **To edit a request's action description:**

1 In a request list, select a request.

2 Select Request | Edit | Action Description.

3 In your default editor, edit the action description, save the file, and exit the editor.

Attaching Files to Requests

Purpose Attach files to include documents with information on the request.

PRIVILEGES Update Request Attachments

The request must be owned by your site.

Web client **To attach files to requests:**

1 On the Requests tab, select a request and click the Open button or click the request name.

2 For **File attachments**, in the **Filename** field, do one of the following:

■ Type the path and filename.

■ Click the Browse button and select a file.

3 In the Description field, type a description for the attachment. If you do not add a description, Dimensions adds the following default text:
Attachment created <date> by <user ID>

4 To add another attachment, click the Insert Row button and repeat steps 2–3.

5 Do one of the following:

- To save changes, click the Save button.

- To save changes and action the request to its next normal state, click the Save & Action button.

Desktop client **To attach files to requests:**

1 In a requests list, select a request.

2 Select Request | Edit | Attachment List.

3 Do one of the following:

- Click the Add button, or double-click the first empty cell in the **Filename** column, and do one of the following:

  - Type the filename.

  - Click the Browse button: … and select the file.

- In Windows Explorer, drag and drop a file onto the attachments list.

4 Double-click in the **Description** field, and type a description for the attachment. If you do not add a description, Dimensions adds the following default text: *Attachment created <date> by <user ID>*

5 Repeat steps 3–4 for each file that you want to attach.

6 Click the OK button.

Viewing and Saving Request Attachments

Purpose Use this operation to view the contents of request attachments or to save copies to your local work area.

PRIVILEGES Browse Request

Web client **To view and save request attachments:**

1 On the Requests tab, select a request and click the Open button, or click the request name.

2 In the **File Attachments** field, click an attachment's filename or its icon.

3 The file opens in the default product for the file type.

4 To save the file, use the product's commands.

Desktop **To view and save request attachments:**

1 In a request list, select a request.

2 Select Request | Browse Attachments.

3 Do one of the following:

- To browse an attached file, select its row and click OK. The file opens in the default product for the file type, and the Browse Attachments dialog box closes.

- To save a copy of an attached file, select its row, and click the Save button. Navigate to a folder, and click the Save button in the Save As dialog box.

Editing a Request Attachment List

Purpose   Use this operation to edit the list of files attached to a request.

PRIVILEGES Update Request Attachments

The request must be owned by your site.

Web client   **To edit a request attachment list:**

1   On the Requests tab, select a request and click the Open button, or click the request name.

2   On the General tab, to change the description of an attachment, click its **Description** field and type the new description.

3   To delete an attachment, click its Remove Row button.

4   To add a new attachment, click the Insert Row button and in the **Filename** field, do one of the following:

- Type the path and filename.

- Click Browse and select a file.

Add a description for the attachment. If you do not add a description, Dimensions adds the following default text:

Attachment created <date> by <user ID>

5   Do one of the following:

- To save changes, click Save

- To save changes and action the request to its next normal state, click Save & Action.

Desktop   **To edit a request attachment list:**

1   In a request list, select a request.

2   Select Request | Edit | Attachment List.

3   To change the description of an attachment, double-click its **Description** field and type the new description.

4   To remove an attachment, select its row and click the Remove button.

5   To add a new attachment, do one of the following:

- Click the Add button, or double-click the first empty cell in the **Filename** column, and do one of the following:

  - Type the filename.

- Click the Browse button: [...] and select the file.

  ■ In Windows Explorer, drag and drop a file onto the attachment list.

  Add a description for the attachment. If you do not add a description, Dimensions adds the following default text: *Attachment created <date> by <user ID>*

6 Click the OK button.

Editing the Attributes of a Request

Purpose   Edit request attributes to set or change attribute values.

PRIVILEGES Update Request

In addition, the attribute update rules defined in the process model determine which attributes you can edit.

The request must be owned by your site.

NOTE When you edit an attribute that is sensitive, thus requiring an electronic signature, you will be presented with an Authentication Point dialog box. In this case, enter your Dimensions CM password and click OK.

Web client   **To edit request attributes:**

1 On the Requests tab, select a request and click the Open button, or click the request name.

2 In the Open Request dialog box, click the Attributes tab, and type or select values. Required attributes are marked with a red exclamation point: ❗

3 Click the Save button.

Desktop client   **To edit request attributes:**

NOTE The behavior when editing multi-valued attributes for multiple requests depends on the setting of the variable DM_DISABLE_MULTIPLE_EDIT_ATTRS. See the *System Administration Guide* for details.

1 In a catalog list, select a request.

2 Select Request | Edit | Attributes.

3 On the Attributes tab, type or select values. Attributes in bold are required in order to action the request. Attributes in italics cannot be modified.

4 Click the OK button.

Delegating a Request

Purpose   Delegate a request when you want to assign a request to another user. When you delegate a request, you change the role assignments for it. You can also delegate the request to another Dimensions CM site.

For more information about roles and role responsibilities, see "About Privileges and Roles" on page 21.

PRIVILEGES Delegate Request

In addition, your process model must define a list of candidate users.

The request must be owned by your site.

Web client   **To delegate a request:**

1   On the Requests tab, select one or more requests.

2   Click the Delegate button

3   In the first page of the Delegate wizard, select the **Capability** and the **Role to Delegate**.

4   Click Next.

5   Do one of the following:

- To add a user, select the user in the **Candidate users authorized for role assignment** list, and click the Add button.

- To delete an assigned user, select the user in the **Users currently assigned role** list, and click the Delete button.

- To replace an assigned user, select the new user in the **Candidate users authorized for role assignment** list, select the user you want to replace in the **Users currently assigned role** list, and click the Replace button.

6   If you want to also delegate the related items, select **Delegate related items**.

7   To close the Delegate Wizard, click Cancel.

Desktop client   **To delegate a request:**

1   In a request list, select one or more requests. You can select multiple requests if they belong to the same product.

2   Select Request | Delegate or click the Delegate request button:

3   If you have selected multiple requests, deselect any that you do not want to delegate, and select the Roles tab

4   From the **Select the role to delegate** list, select the role that you want to delegate.

5   For Users, select the level of responsibility for the role:

- To assign a role with sole responsibility for the issue, select Leader.

- To assign a role with primary responsibility for the issue, select Primary.

- To assign a role where there will be more than one user with responsibility, select **Secondary**.

6 If you also want to delegate items that are related to the request(s), select **Delegate related items**.

7 In the **Available users** list, select the user(s) to which you want to delegate the role and click Assign. You can select multiple users.

To replace all the users in the **Assigned users** list with the selected user in the **Available users** list, click Replace.

To remove the role assignment from a user, select the user in the **Assigned users** list, and click Remove.

8 Click Close. The user that has been assigned to the request receives an email informing them that this change request is in their box.

Delegating Ownership of Requests

Purpose   Delegate ownership of a request when it is owned by a Dimensions CM site and you want to delegate ownership to another Dimensions CM site for them to be able to update it. When you delegate a request, the ownership is assigned the next time a replication is run that includes the new site.

For more information about request replication, see the *System Administration Guide*.

PRIVILEGES Perform replication operations

In addition, Replication must be enabled for your site via the Administration Console Network Administration function.

Web client   **To delegate ownership of requests:**

1 On the Requests tab, select one or more requests.

2 Click the More button and select Replication Options | Delegate Ownership.

3 Select the site in the **Delegate owning site** list.

4 Click OK

To cancel delegated ownership for requests:

1 On the Requests tab, select one or more requests.

2 Click the More button and select Replication Options | Cancel Ownership Delegation.

3 Click Yes.

Desktop client   **To delegate ownership of requests:**

1 In a request list, select one or more requests.

2 Select Request | Replication | Delegate Ownership.

3 In the **Delegate Owning Site** list, select the site to which you want to delegate ownership of the request(s) and click OK.

To cancel the delegation of ownership of requests:

1   In a request list, select one or more requests.

2   Select Request | Replication | Cancel Ownership Delegation.

3   In the Cancel Delegation dialog box, Click OK.

Requesting Ownership of Requests

Purpose   Request ownership of a request when it is owned by another Dimensions CM site and you want to request ownership of it for your own site in order to be able to update it. When you request a request, the ownership is assigned the next time a replication is run that includes your site.

For more information about request replication, see the *System Administration Guide*.

PRIVILEGES Update Request

Replication must be enabled for your site via the Administration Console Network Administration function.

Web client   **To request ownership of requests:**

1   On the Requests tab, select one or more requests.

2   Click the More button and select Replication Options | Take Ownership.

3   Click Yes.

To cancel requests for ownership of requests:

1   On the Requests tab, select one or more requests.

2   Click the More button and select Replication Options | Cancel Ownership.

3   Click Yes.

Desktop client   **To request ownership of requests:**

1   In a request list, select one or more requests.

2   Select Request | Replication | Take Ownership.

3   In the Request request dialog box, click OK.

To cancel requests for ownership of requests:

1   In a request list, select one or more requests.

2   Select Request | Replication | Cancel Ownership.

3   In the Cancel Request dialog box, Click OK.

Locking the Ownership of Requests

Purpose
Lock the ownership requests when you want to prevent them from being requested by other Dimensions CM sites. Unlock requests when you want to cancel the ownership lock that has been placed upon them.

For more information about request replication, see the *System Administration Guide*.

PRIVILEGES Perform Replication Operations

Web client
To lock ownership of requests:

1 On the Requests tab, select one or more requests.

2 Click the More button and select Replication Options | Lock Ownership.

3 Click Yes.

To unlock ownership of requests:

1 On the or Requests tab, select one or more requests.

2 Click the More button and select Replication Options | Unlock.

3 Click Yes.

Desktop client
To lock ownership of requests:

1 In a request list, select one or more requests.

2 Select Request | Replication | Lock Ownership.

3 In the Lock Ownership dialog box, click OK.

To unlock ownership of requests:

1 In a request list, select one or more requests.

2 Select Request Replication | Unlock Ownership.

3 In the Cancel Lock dialog box, Click OK.

Managing Request Lists

Purpose A request list, is a group of requests that you can name and save for your own purposes. It consists of any requests in the catalog that you want to include, and you can add or remove more requests at any time.

Displaying a Request List

Purpose Use this operation to display the requests in a request list.

PRIVILEGES No privileges required.

Web client **To display a request list:**

1 Select the Requests tab.

2 At the top of the navigation pane, select the Lists tab.

3 Select the request list in the navigation pane.

The requests are displayed in the content pane.

Desktop client **To display a request list:**

1 In the Oueries and Lists window, expand the My Lists of Requests node:

　　My Lists of Requests

2 Click the icon for the request list.

The requests are displayed in a content window.

Creating a Request List

Purpose Use this operation to create a new request list.

PRIVILEGES No privileges required.

Web client **To create a request list:**

1 On the Requests tab, at the top of the navigation pane, select the Lists tab.

2 Click the New button.

3 Enter an ID for the **Request list ID**

4 Enter the request IDs, separated by commas, or use the browse button to select them.

5 Click OK.

To create a request list by selecting requests in the, request, or Filtered Views tab:

1 Select the request(s) in the content pane.

2 Click the Request List button.

3 Enter the name of the new request list in the **Request list ID** field.

4 Click OK.

Desktop client **To create a request list:**

1 In a requests list, select one or more requests.

2 Select Request | Edit Request List.

3 For **Existing/New Request List**, type the name of the new request list.

4 Click the OK button.

Editing a Request List

Purpose Use this operation to add, replace, or remove requests in a request list.

PRIVILEGES No privileges required.

Web client **To append requests to a request list from the Lists tab:**

1 On the Requests tab with the Lists tab selected, select the request list in the navigation pane.

2 Click the Append button.

3 Enter the request IDs, separated by commas, or use the browse button to select them.

4 Click OK.

To append to a request list by selecting requests in the Requests, or My Current Project tab:

1 Select the request(s) in the content pane.

2 Click the Request List button.

3 Select the name of the Request List in the **Request list ID** field.

4 Click OK.

To remove requests from a request list:

1 On the Requests tab with the Lists tab selected, select the request list in the navigation pane.

2 In the content pane, select the requests you want to remove from the request list.

3 Click the Remove button.

4 In the Remove from Request List dialog box, click Yes.

Desktop client **To edit a request list:**

1 In a requests list, select one or more requests.

2 Select Request | Edit Request List.

3 For **Existing/New Request List**, select a request list.

4 Do one of the following:

- To add the selected requests, select Append to List.

- To remove the selected requests, select Remove from List.

- To replace all requests with the new list, select Overwrite.

5 Click the OK button.

Deleting a Request List

Purpose   Delete a request list when it is no longer required.

PRIVILEGES You can delete a request list only if you created it.

Web client   **To delete a request list:**

1 On the Requests tab with the Lists tab selected, select the request list in the Navigation pane.

2 Click the Delete button.

3 In the Delete dialog box, click Yes.

Desktop client   **To delete a request list:**

1 Select Request | Delete Request List.

2 In the Delete request List dialog box, select the request list to delete.

3 Click the OK button.

Viewing Request History

Purpose   View the history of a request to see its update and action history. The request history shows what updates were made to the request, when they were made, and the user that performed them.

In the desktop client, you can also view details of project structure changes made in response to the request.

PRIVILEGES No privileges required.

Web client   **To view the history of a request:**

1 On the Requests tab select a request and click the Open button or click the request name.

2 On the Edit request dialog box click the Action History tab.

Desktop client   **To view the item change and refactoring history related to a request:**

1 Expand your Inbox or the Catalog in the navigation pane.

2 Select the requests node or a request type node.

3 In the left-hand pane select a request.

4 In the right-hand pane select the Changes tab. Changes to items or folders that are related to the selected request are displayed on this tab. By default only related changes in your current project or stream are displayed.

To display changes for the request for all projects/streams:

Click the [8] button. When this is selected, an additional Project column is displayed with the name of the project or stream.

By default, only the latest revision of each item is displayed.

To select an earlier revision:

1 Click the revision ID. An arrow appears to the right.

2 Click the arrow and select the revision from the list

To display changes to multiple revisions of the same items:

Click the Expand Revisions button.

To view requests related in response to an item revision:

Right-click the item revision and select Open In-Response-To Requests.

The related requests are displayed in a new window.

NOTE You can also view refactoring changes in the Request History dialog box—see below.

To view the history of a request:

1 In a requests list select a request.

2 Right-click and select History.

The Request History dialog box is displayed showing change history for the request.

To view the deployment history of a request:

Click the Deployment History button. This will take you to the Web Client Deployment tab with the History tab displayed.

Filtering Requests

Purpose Filter requests to limit the list of requests in the Requests tabs to the ones you want to view.

PRIVILEGES No privileges required.

Web client **To filter requests:**

In the Requests tab, on the **Filter** list located at the top right of the content pane, do one of the following:

- To show all requests, select **All requests.**

- To show only requests that you updated last, select **Last Updated by Me**.

■ To use a filter you previously defined, select the filter.

To create a filter:

1 On the Requests tab, from the **Filter** list, select New Filter.

2 For **Filter Name**, type a name for the filter.

3 Type or select filtering values in the other fields.

4 To filter based on user-defined attributes, from the **Type** list, select a request, click the Attributes tab, and type or select values.

5 Click the OK button.

To edit a filter:

1 On the Requests tab, from the **Filter** list, select the filter that you want to edit.

2 From the **Filter** list, select **Edit Current Filter**.

3 To create a new filter based on the current filter, for **Filter Name,** type a new name.

4 Edit, select or type filtering values.

5 To filter based on user-defined attributes, from the **Type** list, select a request, click the Attributes tab, and type or select values.

6 Click the OK button.

To delete a filter:

1 From the **Filters** list in the or Requests tab, select the filter to delete.

2 From the **Filter** list, select **Delete Current Filter**.

About Linking Version Management and Change Management

You can combine version management and change management by setting up relationships between requests and revisions of items or the baselines containing item revisions. Three relationships are available:

■ **Affected:** Changes described in the request affect the related revision of the item or baseline.

■ **In Response To:** The item revision or baseline that was created deals with the related request.

■ **Information:** The item revision or baseline contains information pertaining to the request, or the request contains information pertaining to the contents of the item revision.

Rules can be set up in the Administration Console that control the actions that can be performed on requests and items and the relationships between them. These are described in *About Change Management Rules* in the *Process Configuration Guide*.

About Relating requests

You can specify a relationship between one request and another. You can specify a system-defined relationship or a user-defined relationship.

The system-defined relationship are as follows:

- **Dependent:** requests that are dependent on other requests for closure.

- **Info**: requests that point to other requests.

User-defined relationship can be defined in the Administration Console for use by all users. For additional information on relating objects, see "Relating and Unrelating Objects" on page 209.

Requests and Deployment

You can promote, demote, or deploy one or more requests in relation to the associated deployment areas for a project/stream. For details see the Deployment Guide.

For details of how to create deployment areas see the Process Configuration Guide.

NOTE The behavior when editing multi-valued attributes for multiple requests depends on the setting of the variable DM_DISABLE_MULTIPLE_EDIT_ATTRS. See the *System Administration Guide* for details.

Chapter 10
Managing Design Parts

In this Chapter

About Design Parts

To represent how a project/stream is organized, both from a management and technical perspective, Dimensions CM models the system as logical structure of elements called *design parts*. Design parts are logical groupings of objects, such as modules of code, specifications, and documents. Each design part represents a conceptual component of the system. You can have as few or as many design parts as are necessary to represent the project/stream.

Grouping items within a meaningful design part structure makes it easier for people to understand how things fit together and what role they have to play in the success of the project/stream.

For example, the Payroll product can be divided into the following design part structure:

- Applications

  - Algorithms

  - Bonus

  - Holiday

- Reports

- User Documentation
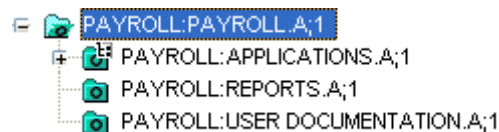
Each of these parts can be divided into smaller parts, as shown for Applications.
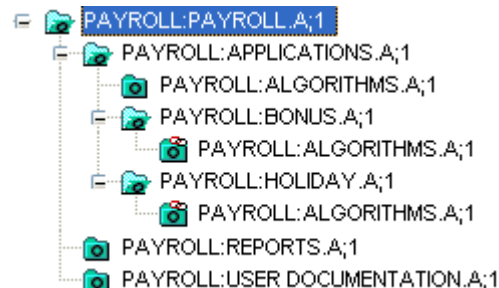
The top-level design part of the product is created when the product is defined. For more information on defining products, see the *Process Configuration Guide*.

About Design Part Relationships

Design parts are organized into a product by defining relationships between them. Dimensions has two predefined types of relationship between design parts: breakdown and usage.

- **Breakdown relationships** describe design parts that have a component relationship. The component design part can be thought of as a child, while the design part that includes it is the parent.

A child design part inherits the roles and permissions from its parent. This determines the roles users need to perform actions on items owned by the design part at different points in the process.

■ **Usage relationships** express dependencies between design parts, to show where design parts are re-used. To visually indicate that a design part is related by Usage, the design part icon shows a link.

A design part can have the following relationships with other Dimensions objects.

■ **Items.** Each design part owns a set of items associated with that part of the product, such as a functional specification document, a test specification, source code files, test data, and a class library.

■ **Requests.** A design part is related to the requests that affect the design part.

■ **Baselines.** A design part is related to the baselines that include the design part.

About Design Parts and Requests

All requests affect one or more design parts. The scope of work for a request is determined by the design part that it affects. If the request affects a design part at the lowest level of the design structure, the scope of the request is narrowed to that part of the design structure.

Because roles are assigned to users with respect to the design part structure of a product, the design part governs which users have access to the request.

Ideally, requests are assigned to the correct design part when they are created. However, this does not always happen because the person submitting the request may not know which design part the request affects. Therefore, a few users are normally given roles at the top-level design part that permit them to change the relationship between the request and the design part.

Selecting a Design Part

Purpose   Select a design part so you can perform an operation on it.

Web client   **To select a design part:**

1   Do one of the following:

■ Click the Items tab. If the design part structure is not displayed, click the Items tab at the top of the navigation pane.

■ Click the Requests tab.

The design part structure tree displays blue folders.

2   In the navigation pane, select a design part.

Desktop client   **To select a design part:**

1   **To select from the design parts related to your current project/stream**: In the My Current Project/Stream navigation window, click the Parts and Items icon. Select the Product and design part in the Design Part to Open dialog box.

2   In the Design Part tree in the content window, select a design part.

> **NOTE** In the design part tree, you can only select one design part at a time. If you want to select multiple design parts, select the design parts from a design part list shown in the related object windows for items, requests, or baselines.

Viewing Items Owned By a Design Part

Purpose   View items owned by a design part.

Web client   **To view items owned by a design part:**

1   Click the Items tab or Requests tab.

2   Select a design part.

Desktop client   **To view items owned by a design part:**

Select a design part.

> **NOTE** If the Items window is not displayed, select View | Items.

Viewing Users and Roles for a Design Part

Purpose   View the role assignments for a design part.

> **PRIVILEGES** To view other user's privileges you will need the privilege *View other User's Privileges* for the product that owns the design part.

Desktop client   **To view users and roles for a design part:**

1   Select a design part.

2   Select Part | Show User Roles and Privileges.

3   To see which users are assigned to a particular role for this design part, click the Role Assignments tab.

4   To see which privileges are enabled, click the Privileges tab.

5   If you have the *View Other User's Privileges* privilege, you can select the user whose privileges you want to view from the **User** list.

6   To see the rule that applies to a privilege, select the privilege.

The details are displayed in the **Rule(s) Applied** text box at the bottom of the dialog box.

7   Click the Close button.

About Creating Design Parts

Use the following guidelines to help you create the design part structure of your product:

■ Have a rough sketch of the tree structure of the product so that you know which part is the parent of each new design part.

■ Have a general idea of the purpose of each new design part, in order to provide a brief description of its function.

■ For each new design part, you need to know its part specification. The part specification is:
productID:*partID*.*variant*;*pcs*

  • The *partID* is the name you give the part. It is the most significant component of the specification.

  • The *productID* is assigned when the product is created. For more information on creating products, see the *Process Configuration Guide*.

  • Use *variant* to identify that this is a variant of another design part. The variant is inherited from the parent design part. Unless directed by your administrator to change this value, leave it at its default value. For more information, see "About Variant Design Parts" on page 253.

  • The *pcs* (part change status) indicates the modification level of the design part. The PCS is inherited from the parent design part. Unless directed to change this value, leave it at its default value. For more information, see "About Part Change Status (PCS)" on page 255.

■ Know which category to assign each design part. Categories are defined in the process model. Work with your administrator to determine which categories to use. For more information on design part categories, see the *Process Configuration Guide*.

About Variant Design Parts

Create a variant of a design part when you want the new part to be similar in structure to the source design part, but vary in its definition. For example, if you have an Output Screens design part, you might create a variant for each language: Output Screens Kanji, Output Screens Spanish, and so on.

The advantage of variant design parts is that they enable you to define a logical structure and still support clearly defined variations for different applications, with each variation following the same basic structure. For example, if the source design part has child design parts in the tree, the new variant design part also has the same child design parts.
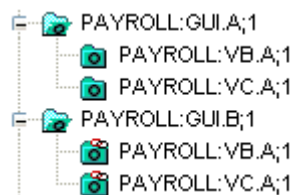
All variants of one design part must be at an equivalent position in the tree structure. A variant design part uses the same part ID as the source design part.

You can perform all the same operations on a variant design part as you can on the source design part.

Creating a Design Part

Purpose   Create a new design part when you want to add a new logical element to the design part structure.

PRIVILEGES Create Design Part

Desktop client   **To create a design part:**

1   Select File | New | Design Part.

2   On the General tab of the New Design Part dialog box, verify that the **Parent Part Specification** is correct, or click Browse and find a different design part.

3   From the **Category** list, select a category. Categories are created in the Administration Console. For more information, see the *Process Configuration Guide*.

   NOTE Do not choose PRODUCT from the **Category** list as it is reserved for the product's top-level design part. Dimensions CM issues an error message if you try to create a part with this category.

4   For **New Part ID**, type a name for the design part.

   NOTE You cannot enter a part ID that contains a colon (":") or semicolon (";") character.

5   For **Description**, type a brief description of the design part.

6   Click the Attributes tab, and complete any required fields.

7   Click Create.

Creating a Variant Design Part

Purpose   Create a variant design part when you want to create a new design part that has the same logical structure as the source design part.

PRIVILEGES Create Design Part

Desktop client   **To create a variant design part:**

1   Select a design part.

2   Select Part | New Variant.

3   On the General tab of the New Design Part Variant dialog box, for **New Variant**, type a name for the variant design part. This name differentiates the variant specification from the source specification.

4   For **Description**, type a brief description of the design part.

5   Click the Attributes tab, and complete any required fields.

6   Click Create.

About Part Change Status (PCS)

The part change status (PCS) is an alphanumeric indicator used for version control. It indicates the modification level of the design part. The PCS of a design part is by default inherited from its parent design part. Design part operations can only be performed on the current version of a design part.

When you update the PCS, the original PCS changes to the Closed state and the new PCS is set to the Open status. Closed PCS versions are inaccessible except for certain baseline reports.

The part change status enables you to change the design part structure when you otherwise could not. When you create a release baseline, Dimensions CM freezes all the items included in the baseline, and the design part structure used for the baseline. Changing the part change status of the relevant design parts, enables you to modify the design part structure after a release baseline has been made from the existing design parts.

Updating the Part Change Status (PCS)

Purpose   Update the part change status of a design part when you want to change the design part structure and you are otherwise restricted from making these changes.

PRIVILEGES Update Design Part (PART_UPDATE).

Desktop client   **To update the PCS of a design part:**

1   Select a design part and select Part | Update PCS.

2   On the General tab of the Update Design Part PCS dialog box, for **New PCS**, type the new value.

3   Click the Attributes tab, and complete any required fields. The values you enter in the Attributes tab are assigned only to the new PCS. They do not affect these attributes for the previous PCS.

4   Click Create. If the change is not visible, select View | Refresh | Current.

Renaming a Design Part

Purpose
:   Use this procedure to change the name of a design part.

PRIVILEGES Rename Design Part

Desktop client
:   **To rename a design part:**

1 In a design part tree, select the design part.

2 Click again on the design part name. An edit box appears.

3 Type the new name.

4 Click on another part of the window. The name is now changed.

Editing Design Part Attributes

Purpose
:   Use this procedure to change one or more design part attributes.

PRIVILEGES Update Design Part

Desktop client
:   **To edit design part attributes:**

1 Select one or more design parts.

NOTE All the design parts must belong to the same product and be of the same category.

NOTE The behavior when editing multi-valued attributes for multiple design parts depends on the setting of the variable DM_DISABLE_MULTIPLE_EDIT_ATTRS. See the *System Administration Guide* for details.

2 Select Part | Edit Attributes.

3 In the Edit Design Part Attributes dialog box, change attribute values as required.

4 Click OK.

Moving Design Parts

Purpose
:   Move a design part to place it under a different parent in the design part structure. When you move a design part, you also move all the subordinate design parts.

You cannot move a design part in the following situations:

- If the design part is suspended
- If the new parent design part is suspended
- If the design part has any open requests related to it
- If the new parent design part belongs to another product.

PRIVILEGES Relate Design Part to Design Part

Desktop client   **To move a design part:**

    1   Select the design part you want to move.

    2   Select Part | Move.

    3   In the Move Design Part dialog box, for **Parent Design Part**, type a design part specification, or click Browse and find a design part.

    4   Click OK.

Suspending Design Parts

Purpose   Suspend design parts when they are no longer needed but you do not want to delete them. For example, you could suspend a design part that had been used for a specific purpose and was no longer used. Suspended design parts still appear in Dimensions CM but you cannot relate requests to them. Once they are suspended you cannot unsuspend them.

You cannot suspend a design part that is referenced by any open requests.

PRIVILEGES Suspend Design Part

Desktop client   **To suspend a design part:**

    1   Select one for more design parts.

         NOTE All the design parts must belong to the same product and be of the same type.

    2   Select Part | Suspend.

    3   Verify that you selected the correct design part(s), and click OK. The design parts are visible, but you cannot use them.

Deleting Design Parts

Purpose   Remove a design part when it is no longer useful or you've created it in error. You cannot remove a design part in the following situations:

- If it is the top-level design part or its variant within the product.
- If the design part is related to a request.
- If the design part has child design parts.
- If the design part owns any items.
- If the design part is in a baseline.

PRIVILEGES Delete Design Part

Desktop client   **To delete a design part:**

    1   Select one or more design parts.

    2   Select Part | Delete.

In the Delete Design Part dialog box, verify that you selected the correct design parts, and click OK. If the change is not visible, select View | Refresh | Current.

Chapter 11

Managing Versions

In this Chapter

About Managing Versions

Version management is the process of storing and tracking changes to product components over time. In Dimensions® CM, you manage the versions of product components by working with items and item revisions.

About Items and Item Revisions

An *item* is an object that represents the physical implementation of an application component. For example, an item in a software application could be source code, an executable file, a specification, or a user guide. An item in a web site could be an HTML file, a script, or an image file.

An *item revision* is a specific version of an item. Whenever you modify an item, a new revision of the item is created and stored in Dimensions CM. The revision stores the state that the item is in after being modified. The file associated with the item revision is stored in operating system libraries controlled by Dimensions CM. Every revision is tracked and stored separately so you can make sure revisions are not accidentally lost. Every revision has a full set of attributes that are stored in the Dimensions CM repository, such as modification date, reason for change, and author's name, so you can trace the history of all changes to an item.

A *directory item* is an entire folder, including subfolders and files, that is compressed and stored in Dimensions CM as a single item.

A *virtual* item is one that does not have its associated data file stored in Dimensions CM. When you create a new item you have the option to create a virtual item with no file content. Virtual items are primarily used for controlling hardware configuration items, rather than software. You can use a virtual item to track all information about the hardware item using revisions, attributes, and relationships.

About Working with Items

Basic version management tasks you can perform with Dimensions CM are:

- Create an item

- Check out item revisions

- Check in item revisions

- Get copies of items

- Action item revisions to a next lifecycle state.

In addition to these, Dimensions CM provides a number of other features for processing items.

Some functions that can be performed with items that belong to projects cannot be performed with items that belong to streams. Basically, any commands that allow folders or items to be changed directly, either in terms of content or refactoring, cannot be used with streams. For further details about streams and the differences between streams and projects, see "Working with Streams" on page 53.

Functions available for items are:

Web client   In the web client, you can do the following version management tasks:

- **Preview an item:** Preview and print the contents of an item revision.

- **Copy an item:** Get a copy of an item revision.

- **View history:** View the action and revision history of an item.

- **Show users, roles, and privileges**: View the role assignments for an item and the users who have the item on their Inboxes. Also view the privileges that are assigned for this item.

- **Create an item:** Create a new item by adding a file to Dimensions CM.

- **Check out and check in an item:** Check out an item into your work area to edit it, and check it in when you are finished.

- **Revise an item:** Update an item using a file in your work area without checking it out first.

- **Edit attributes:** Change the attributes of an item.

- **Action an item:** Move an item revision from one state in the lifecycle to the next state.

- **Delete an item:** Delete item revisions from the project or from Dimensions CM.

- **Deliver items:** Upload files from your work area into Dimensions CM to create new items or to update existing items.

- **Suspend an item:** Suspend an item revision to prevent further work on it.

- **Change item type:** Change the type of an item.

- **Move an item:** Move an item revision to a different design part.

Desktop client   In the desktop client, you can do the following version management tasks:

- **Preview an item**: Preview and print the contents of an item revision.

- **Get copy of an item:** Get a copy of an item revision.

- **View history and pedigree**: View the action and revision history of an item, and see how item revisions are related.

- **Show users, roles, and privileges**: View the role assignments for an item and the users who have the item on their Inboxes. Also view the privileges that are assigned for this item.

- **Create an item:** Create a new item from an existing file.

- **Check out and check in an item:** Check out an item into your work area to edit it, and check it in when you are finished.

- **Edit or revise an item:** Edit an item without checking it out first, or update an item using a file in your work area.

- **Edit attributes:** Change the attributes of an item.

- **Action an item:** Move an item revision from one state in the lifecycle to the next state.

- **Delete an item:** Delete an item revision from Dimensions CM.

- **Remove an item from the project:** Remove an item revision from the current project.

- **Suspend an item:** Suspend an item revision to prevent further work on it.

- **Change item type:** Change the type of an item.

- **Move an item:** Move an item revision to a different design part.

About Item Specification

Every item is identified by an item specification:

productID:*itemID.variant-itemType*;*revision*

- The `productID` is the name of the product that contains the item.

- The `itemID` is a unique identifier for the item. Depending on your process model rules, the item ID might be automatically generated from the item project filename, or it might be a unique ID typed when the item is created.

- The `variant` is the item variant. A variant is an alternative implementation of an item, usually created to meet different standards or customer requirements.

- The `itemType` is the item type. For example, a source file might have the type SRC. Item types are defined in the process model.

- The `revision` is the revision of the item. The revision might be a number (1 or 1.1) or a mixture of numbers and letters (A1A). If an item is in a named branch, the revision shows the branch name. For example, the revision `winnt#1` indicates that this is revision 1 of an item in the *winnt* branch. The branch name and revision ID are separated by a pound sign (#).

About Revision Branches

A *branch* is a chain of revisions that follows its own separate update path. Branches allow application versions to be developed in parallel. For example, a software application might have separate development branches, one for the next upgrade of the application and one to rename the application. When work has been completed, the two branches can be merged back into the main development path.
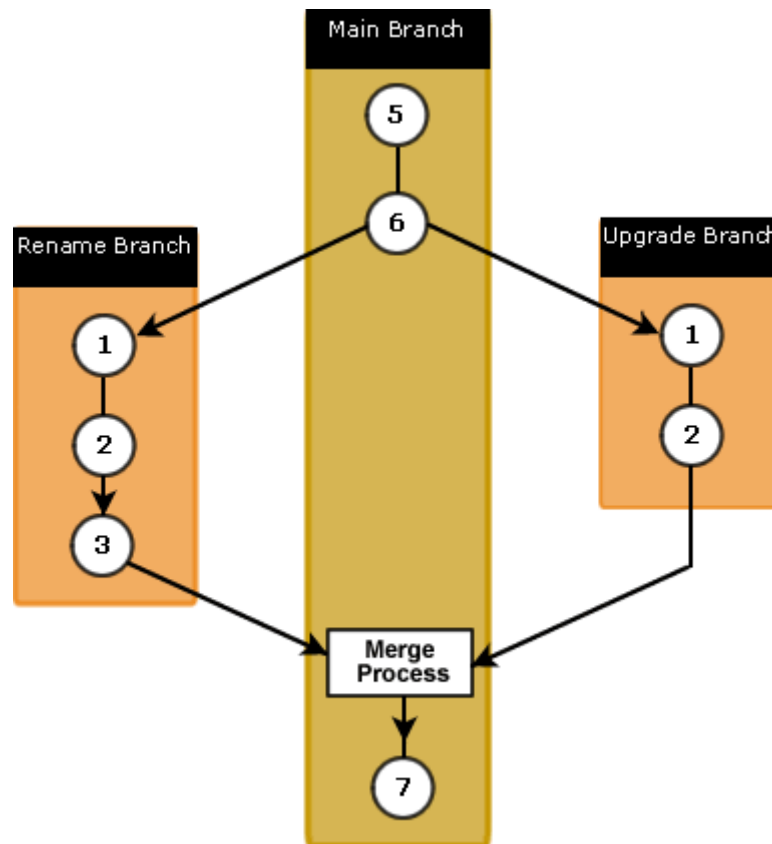
In Dimensions CM, branches are set up at the project level. Any revision that is modified in that project or created in that project follows the branch rules for the project.

Note that this does not apply to streams, because there can only be one branch in a stream.

If an item in a project has a revision of 1, and the project is not set up to branch, the revision ID of the item is increased as follows: 2, 3, 4.

If the project is set up for an unnamed branch and the item type uses the standard level numbering scheme, the revision ID of an item whose revision is initially 1 is increased as follows: 1.1.0, 1.1.1, 1.1.2, 1.1.3.

If the project is set up for the named branch *upgrade*, the revision ID of the item is increased as follows: *upgrade#1*, *upgrade#2*, *upgrade#3*, *upgrade#4*.

A revision ID might indicate multiple branches. For example, in a project set up for an unnamed branch, an item with the revision ID *upgrade#1* would be increased as follows: *upgrade#1.1.0*, *upgrade#1.1.1*, *upgrade#1.1.2*.

About Item Relationships

Items are related to other Dimensions CM objects, such as requests, items, baselines, and releases. Item relationships enable you to trace the creation and release of various components in a product.

An item revision can participate in the following types of relationships:

- Items are owned by a single design part and can be used by other design parts. Item-design part relationships apply to all revisions of an item.

- Item revisions are related to the projects/streams, baselines, and releases that include them.

- Item revisions are related to the items used to build them or the items built from them. For example, a source file is related to the object file built from it, and an executable file is related to its object files.

- Item revisions are related to the earlier revisions that were merged or altered to create them.

- Item revisions are related to the requests that affect them, such as bug reports and change requests.

  NOTE If you have configured Dimensions CM to accept requests from an external IDM (Issue Defect Management) tool, item revisions will be related to these requests in the desktop client instead of internal Dimensions CM requests. These requests can be viewed in the desktop client Manage Relationships dialog box for a selected item by selecting External Requests. You can also have them displayed in content windows for a selected item by including External Requests for the item view using the Customize Views menu. See "Customizing the Content Windows" on page 518.

- An item revision can participate in user-defined relationships, which are defined in the process model. For example, a design specification document can be related to a source file, or a chapter can be related to a book.

You can view item relationships and, for some relationships, change or unrelate them.

For more information about relating items to other Dimensions CM objects, see "Relating and Unrelating Objects" on page 179 (web client) or "Relating and Unrelating Objects" on page 209 (desktop client).

Selecting Items

Purpose   Select items when you want to perform operations on them, such as checking them in or out, or when you want to view item properties or attributes. By default, an Items list shows only the latest item revisions for your current project/stream.

You can select any revision of an item to preview it, get a copy of it, or check it out. If you check out a revision to edit it, the next revision is allocated according to your process model rules.

Web client   **To select an item:**

1   Do one of the following:

- **To select items from your Inbox related to the current project**, click the My Current Project tab, expand the Inbox node and then click the Items icon.

- **To select from items in a project folder**, click the My Current Project, expand the Folders and Items node, and then click a project folder.

- **To select from items in a design part**, click the Items tab, select the Items tab at the top of the navigation pane and then click a design part folder.

■ **To select from all items in a project**, in the My Current Project tab, expand the Catalog node and select the Items node.

■ **To select from all items in the product**, click the items tab, and then click the Catalog icon.

2 In the content pane, do one of the following:

■ **To select an item**, click the check box next to it: ☑

■ **To select all items in the list**, click the select all icon in the column heading: ⅋

To select an earlier revision of an item:

1 On the My Current Project tab or Items tab, from the **Filter** list, select **All Revisions**.

2 In the content pane, select the revision you want.

Desktop client **To select an item:**

1 Do one of the following:

■ **To select from your Inbox**, In the User Inbox window, select the Items node.

■ **To select items from your Inbox related to the current project/stream**, In the My Current Project/Stream window, expand the Inbox icon and select the Items node.

■ **To select from items in a project/stream folder**, in the My Current Project/ Stream window, click the Folders and Items icon. Expand the folder tree in the content pane and select a folder icon.

■ **To select from items in a design part**, From the Product Catalog window, or the My Current Project/stream window, expand the design part tree, navigate to the design part and select the design part icon.

■ **To select from all items in a product**, in the Product Catalog navigation window, select the Items node. Complete the Select Product and Design Part to Open dialog box to select which items to list.

■ **To select from all items in a project/stream**, in the My Current Project/Stream window, expand the Catalog node and select the Items node.

2 In an Items list, do one of the following:

■ **To select a single item**, click the icon: ☐ ▤ next to the item or click anywhere in the row containing the item.

■ **To select multiple items**, Ctrl+click each item.

■ **To select a range of items**, click the first item in the range, then SHIFT+click the last item.

■ **To select all items in the list**, click column heading.

To select an earlier revision of an item:

NOTE Earlier revisions of an item will only appear if they belong to the project/stream.

1 In an Items list, click the revision ID.

An arrow appears to the right.

2 Click the arrow, and then select the revision you want.

Previewing and Printing an Item

Purpose   Preview an item revision when you want a fast way to look at the contents of an item revision without first checking it out or getting a local copy of it.

The item revision opens in the editor assigned to that item's format.

In the web client the editor is determined by the MIME type associated with the item format. This association is specified in the Administration Console. In the desktop client this assignment is determined by your Windows association for the file's extension, unless an editor has been associated with the item format in the Editors tab of the Preferences dialog box. For more information about assigning an editor, see "Assigning Editors and Browsers" on page 513.

While you have an item revision open in your editor, you can print it.

NOTE You cannot preview a directory item.

NOTE When you preview a virtual, or placeholder, item, you will just see the item header with the appropriate variables substituted.

PRIVILEGES Browse Item

Web client   **To preview and print an item:**

1   On the My Current Project tab or Items tab, click the name of the item.

2   In the Open Item dialog box, click the Preview tab.

    You see the contents of the item revision in the editor assigned to the item format.

3   To print the item, use the editor's print command.

4   To return to the Open Item dialog box, exit the editor.

To preview an item file in a work area:

1   On the My Current Project tab, expand the Work Areas node, and click the node for the work area.

2   Expand the folder tree and select the folder in which the file is located.

3   Click the name of the file in the content pane.

    The Open Area File dialog box appears showing the General tab with details of the file.

4   Click the Preview tab.

    You see the contents of the file in the editor assigned to the item format.

Desktop client   **To preview and print an item:**

1   In an Items list, select the item.

2   Select Item | Browse.

    You see the contents of the item revision in the editor assigned to the item format.

3   To print the item, use the editor's print command.

4   To return to Dimensions CM, exit the editor.

Getting Copies of Items

Purpose   Get a copy of an item revision so you can view it without checking it out. When you get a copy of an item revision, Dimensions CM leaves the revision in its current state (checked in or checked out) and creates a read-only copy in your work area.

You can also add an entire folder in the form of a directory item. When you get a copy of a directory item, the subdirectories and items contained within it are expanded and copied to their relative locations in your work area.

PRIVILEGES   Browse Item

NOTE   In Windows, the maximum supported length of file path for a gotten file in the work area is 260 characters.

Web client   **To get copies of items:**

1   On the My Current Project tab or Items tab, in the navigation pane, select the project folder in which the item(s) are located.

2   Do one of the following:

- To get copies of individual items, select one or more items.

- To get a copy of the entire project folder, do not select any items.

3   Click the Get Copy button.

4   Do one of the following:

- If you have selected a single item, for **Place Copy in location**, enter the full path of the file in your work area to which you want the file to be copied, or use the browse button to select it.

- If you have selected multiple items or a project folder, for **Place copies in folder** or **Copy contents of**, enter the full path of the folder in your work area to which you want the file or folder to be copied, or use the browse button to select it.

5   Select the options you require for the file(s) that are to be copied:

- Select **Get copy only if file modified timestamp is later** if you want to only overwrite workfiles when the file-modified timestamp on the revision in the repository is later than the file-modified timestamp on the file in the work area.

  NOTE   Dimensions metadata already optimizes the processing of revisions and files that do not need to be updated, so normally you should not check this check box.

- For **If writeable workfile exists**, choose between Overwrite and Don't overwrite

- Select **Expand substitution variables** to perform item header substitution.

- If you have selected a project folder and you want to get copies of the contents of its subfolders, select **Include subdirectories of <name>**.

- If you do **not** want Dimensions CM to write metadata files to the work area for the copied files/folders, deselect **Write Metadata.**

6   Click the OK button.

Desktop client **To get copies of items:**

1 Do one of the following:

- In an Items list, select one or more items. Select Item | Get, or click the Get Item button.

- In the Folders and Items tree, right-click a folder and select Get (recursive).

2 If you have selected a single item, for **Name of File to Contain Item**, do one of the following:

- Enter the full path and filename.

- Click Browse and navigate to the folder containing the file. If you are creating a new file, enter a filename.

3 If you have selected multiple items:

- For Folder to contain items, enter the full file path or Click Browse and navigate to the folder.

- If you want to review or change the list of items you have selected, click the Items tab, and deselect any item revisions you do not want to get.

4 Select the options you require for the files that are to be copied:

- **Expand substitution variables**

- **Automatically overwrite files**

- **Apply system date/time to files.**

- If you do **not** want Dimensions CM to write metadata files to the work area for the copied files/folders, deselect **Write Metadata.**

5 Click the OK button.

Viewing Item History

Purpose View the history of an item to see the various transactions that have occurred such as revision creation, or actioning. The revision history shows when an item was revised and the person who created the revision. The action history shows when an item was actioned and the person who actioned it.

In the desktop client, you can view an item's pedigree to see how successive revisions of an item are related in time and origin. The pedigree shows all events, including branches and merges. You can also view the item's deployment history in the Deployment tab of the web client by clicking the Deployment history button.

To view the deployment history of an item in the web client, use the Deployment tab. For details, see the Deployment Guide.

PRIVILEGES No privilege required.

Web client **To view the action history of an item:**

1 On the My Current Project tab or Items tab, click the name of the item.

2 In the Open Item dialog box, click the Action History tab.

To view the revision history of an item:

1 On the My Current Project tab or the Items tab, select the item.

2 Click the History button.

Desktop client **To view the history of an item:**

1 In an Items list, select the item.

2 Select Item | History.

> **NOTE** You can compare the content of item revisions from this dialog box. For details, see "Comparing Item Revisions and Files" on page 299.

The History dialog displays the history of various operations that have been performed on the item, such as checked in, actioned, or exported into another project.

> **NOTE** In some circumstances, Dimensions CM may create pseudo merge entries in the history. This will occur, for example when a revision is created in a branch from a revision on another branch, and then the next revision is created from a revision on a different branch.

To filter the content of the Item History dialog box:

1 From the **Filter** list select a category.

2 In the **Filter** box enter the text string that you want to use as a filter. The item history list is filtered to only include entries that contain that string.

To filter the content of the Item History dialog box based on the Change Type:

1 From the **Filter** list click Change Type and unselect a change type that you want to remove from the item history list. To include the change type again, reselect it.

2 Repeat step 1 to unselect additional change types.

3 To reselect all change types select All changes.

To filter the content of the Item History dialog box based on a date range:

1 To only display entries in the list from a specified date, select the **From** check box and select the date.

2 To only display entries in the list up to a specified date, select the **To** check box and select the date.

To sort the content of the Item History dialog box based on the columns:

Click the column header to sort by that column. Click the column again to reverse the sort order.

To add or remove columns from the display in the Item History dialog box:

Right-click the column header and select a field from the list to either hide or display that column. Fields already displayed have a tick against them.

To view the deployment history of an item:

Click the **Deployment History** button. This will take you to the web client Deployment tab with the History tab displayed showing deployment/build event entries for the item.

To compare item revisions:

Do one of the following:

- Right-click a single revision and select **Compare with** to compare that revision with another item revision or file.

- Select the item revisions, right-click, and select **Compare selected revisions**.

See "Comparing Item Revisions and Files" on page 299 for further details.

To open one or more item revisions in a new window:

Select the item revisions, right-click, and select **Open new window**.

To view the pedigree of an item:

Right-click and select **Pedigree**.

You see the item in the Pedigree window. For more information, see "Working in the Pedigree Window" on page 213.

Viewing Users, Roles, and Privileges for an Item

Purpose   You can view the current role assignments for an item and view the users who currently have that item on their Inboxes. You can also view the privileges for a user for the item.

PRIVILEGES To view other user's privileges you will need the privilege *View other User's Privileges* for the product that owns the item.

Web client   **To view the users, roles, and privileges for an item:**

1   On the My Current Project tab or the Items tab, select the item.

2   Click the Users, Roles and Privileges button.

3   To see which users have this item in their Inbox, click the Users with Object in Their Inbox tab.

4   To see which users are assigned to a particular role for this item, click the Role Assignments tab.

5   To see which privileges are enabled, click the Privileges tab.

6   If you have the *View Other User's Privileges* privilege, you can select another user whose privileges you want to view from the **User** list.

7   To view deployment privileges that apply to a specific stage or area, select a stage from the **Stage** list, and optionally, select an area from the **Area** list.

8   To see the rule that applies to a privilege, select the radio button for the privilege.

     The details are displayed in the **Rule(s) Applied** text box at the bottom of the dialog box.

9   When you are finished, click the Close button.

Desktop client **To view the users, roles, and privileges for an item:**

1   In an Items list, select the item.

2   Select Item | Show User Roles and Privileges.

3   To see which users have this item in their Inbox, click the Users with Object in Their Inbox tab.

4   To see which users are assigned to a particular role for this item, click the Role Assignments tab.

5   To see which privileges are enabled, click the Privileges tab.

6   If you have the *View Other User's Privileges* privilege, you can select the user whose privileges you want to view from the **User** list.

7   To view deployment privileges that apply to a specific stage or area, select a stage from the **Stage** list, and optionally, select an area from the **Area** list.

    NOTE If the privilege has a ⚠ icon, this means that the user's permission cannot be resolved. You will need to select a **Stage** and **Area** above in order to determine whether the user has that privilege or not.

8   To see the rule that applies to a privilege, select the privilege.

    The details are displayed in the **Rule(s) Applied** text box at the bottom of the dialog box.

9   When you are finished, click the Close button.

About Creating New Items

You create a new item by adding a file to Dimensions CM. When you create an item, you identify the file to add, specify the item type, and fill in other attributes that help identify the item.

You can also create a new item that is not based on a file. For example, you might create an item to represent hardware that cannot be physically represented in Dimensions CM. Or you might create a placeholder item for content that is still to be written. If your process model defines an item format template for the item type you are creating, it determines the initial content of the item when you preview it or get a copy of it.

An *item format template* is a text file that defines the initial content of an item that is created without content. Item format templates can include substitution variables, which are expanded dynamically when an item is copied or previewed. For more information, see "About Using Header Substitution Variables" on page 272.

You can add multiple items by using the Deliver function for a project or stream, or the Synchronize function for a project. Multiple items located in a folder structure in your work area can be added to the project/stream under a corresponding folder structure. See "Creating Multiple Items" on page 275.

About Setting the Item Type

When you create a new item, you must specify an item type, such as an object file, source file, or documentation. Based on the item type and rules in your process model, Dimensions CM automatically specifies certain attributes for the newly-created item. When you create a new item by adding a file, Dimensions CM automatically selects an item type based on the file extension. You can change the item type.

If you are creating an item without adding a file, you must select an item type.

About Setting the Item Data Format

Your process model may specify multiple data formats for a given item type. This enables Dimensions CM to handle different kinds of items differently even though they share the same item type.

For example, in a software application you could distinguish files on the basis of language (for program sources) or execution platform (for executable program files) to use different build processes for items of the same type but different formats. Thus, an item of type SRC and format C would be compiled using a C compiler, and an item of type SRC and format CBL would be compiled using a COBOL compiler.

If an item type has a list of associated data formats, you must select one of those formats when you create an item of that type. If an item type has no associated data formats, you can type in any format, even ones not defined in the process model.

About Setting the Item ID and Project Filename

When you create an item by adding a file to a project, Dimensions CM uses the project folder structure and the name of the file to create a project filename. The project filename determines the name of the item file when it is accessed from or to your work area. For example, if you add a file named *cabin.c* to a project folder named *src*, the new item project filename is *src\cabin.c*. You can change the default project filename.

In the desktop client, if you create an item without adding a file, you must type a project filename for the new item.

If your process model has been set up to automatically generate a unique item ID, this will be based on the project filename and extension. For example, if you add a file named *cabin.c* the item ID will be set to *CABIN C*. Dimensions CM may add an integer to the item ID to make sure it is unique within the product. If the process model has not been set up to automatically generate the item ID, you must enter one, and make sure it is unique within the product.

About Using Header Substitution Variables

You can include configuration management information in the form of a file header for certain types of items. For example, in a C program, the file could include a header section giving details about the file such as its filename, revision, lifecycle status, and item ID.

In Dimensions CM, you can add a header that contains substitution variables that refer to attributes of an item revision. The variables are expanded dynamically when you get a copy of, preview, or build the item.

For example, you could show the specification of an item in the item file. The following header:

```
%PCMS_HEADER_SUBSTITUTION_START%
                        Name:
                        %PID%
%PCMS_HEADER_SUBSTITUTION_END%
```

Would produce this text:

```
                        Name:
                        PAYROLL:BONUS C.A-SRC;1
```

You can embed multiple headers anywhere in a file.

There is also a reversible header expansion syntax available to allow expanded files to be edited and then delivered back into Dimensions, without losing the original file structure. For more information, see the *Process Configuration Guide*.

NOTE Dimensions CM does not carry out Item header substitution when performing an Update from a stream.

Creating a New Item

Purpose   Create a new item by adding an existing file to Dimensions CM.

You can also create new items by delivering files. For more information, see "Delivering to a Project" on page 99.

You can also add an existing folder as a directory item. The contents of a folder, including its subdirectories and files, are compressed and stored in Dimensions CM.

> **NOTE**
> This will add the folder as a single item. If you want to add multiple files as separate items, see "Creating Multiple Items" on page 275.
>
> Dimensions CM does not maintain metadata for directory items. Operations that rely on metadata, such as deliver, update, and synchronize may not work as expected for directory items.

Your process model may require you to relate a new item to a request.

This operation is not available for items in streams

PRIVILEGES Create Item

NOTE When you first create a new item, it will only appear in your own inbox and not in the inbox of any other user.

NOTE If you specify a lifecycle state that has been set to 'sensitive' in your process model, the sensitive state is ignored and the item is created at the initial state of the lifecycle. For example, assume that you have three states, A, B, and C, and B has been set to sensitive. If you try to create a new item at status B, it is created instead at the initial state, A.

NOTE You cannot use the following characters in the item ID:

- "."

- ";"

- "-"

- """

- "@"

- "`"

- ":"

Web client **To create a new item from a file or folder:**

1 On the My Current Project tab or Items tab, in the navigation pane, select the project folder to which you want to add an item.

2 Click the Add Item button.

3 For **Location to add from**, choose between **item file**, **directory label,** or **virtual item.**

  If you choose **directory label**, the folder and all its files and subdirectories will be stored in Dimensions CM as a single item.

  If you choose **virtual item**, an item with no content is created. Virtual items are primarily used for controlling hardware configuration items, rather than software.

  In the location field, If you have chosen **item file** or **directory label**, type the pathname of the file or folder you want to add, or click the browse button to find it.

4 Select the action to be subsequently taken for the files in the work area from **After item added**, **Leave workfile as read only** or **Delete workfile**.

5 For **Owning Design Part**, type the name of the design part, or click the browse button to find it.

6 If required, in the **Related Requests** field, type the name of the related request, or click the browse button to find it.

7 To select an item type other than the default, which is based on the file extension, click the **Advanced Options** link, and select an item type.

8 If you have chosen **virtual item** above, enter a **Project Filename**. (Click the **Advanced Options** link if you cannot see this field.)

9 To set attributes, click the Attributes tab, and type or select values.

  Required attributes are marked with a red exclamation point:

10 Click the OK button.

After creation, the item appears in your Inbox. It will not appear in any other user's Inbox until it has been actioned to them.

Desktop client **To create a new item from a file or folder:**

1 Do one of the following:

  - In a Design Part tree, select a design part.

  - In a Project tree, select a project folder.

2 Select **File | New | Item**, or click the Create Object button and select **New Item**.

3   Do one of the following:

- If you want to create a **virtual item** (an item with no content), select **Create a virtual item.** Virtual items are primarily used for controlling hardware configuration items, rather than software.

- If you want to create an item from a file or folder in your work area, select **Create item using specified workfile/ folder**.

   In the field below, type the pathname of the file or folder you want to add, or click the browse arrow ▶ to find it. If you choose a directory, the item will be a **directory item**. This means that the folder and all its files and subdirectories will be stored in Dimensions CM as a single item.

4   If required, for **Owning Design Part**, type the name of the design part, or click the browse button and use the Find dialog box.

5   For **Item Type**, accept or select an item type.

6   If you want to change any of the default values for the item, select the **Advanced** tab and change the values.

   NOTE If you change the values for the **Filename** or **Folder** fields Dimensions CM may automatically update the values of **Item Type**, **Item Format** or **Owning Design Part** based on what you have changed. It is advisable to select the General tab again to check these fields.

   If you are creating a virtual item, in the **Filename** field, type a project filename for the new item, including a file extension.

7   To set attributes, click the Attributes tab, and type or select values.

   Attributes in bold are required. Attributes in italics cannot be modified.

8   Click the Create button.

After creation, the item appears in your Inbox. It will not appear in any other user's Inbox until it has been actioned to them.

Creating Multiple Items

Purpose   Create a number of new items by adding files in your work area to a project/stream in Dimensions CM.

The most straightforward way to do this is to have the project root folder set to a folder in your work area and upload (deliver) the new files from a folder structure beneath that folder that corresponds to their required location in the project.

In the case of a stream, you add new items by performing a deliver from a work area to which new files have been added.

Web client   **To create multiple new items from files in your work area**

1   Copy the item files to the folder(s) in your work area corresponding to where you want them to belong within the project folder structure. For details, see "About Work Areas" on page 91

2   In the web client, select the required project. Make sure your Project Default Design Part, Project Default Request, and Project Default Branch are set to the required values if necessary. For details, see "Opening Projects and Setting Defaults" on page 91.

3   On the My Current Project tab or Items tab, in the navigation pane, select the project folder under which you want to add the items. and click the Deliver button.

4   On the first page of the Deliver Items wizard:

- If there are files in subfolders of the selected folder that you also want to deliver, select **Include contents of sub-directories in deliver**.

- Make sure **Include items in deliver that do not currently exist in Dimensions** is selected.

- Enter a **Revision Description** to be used for the new items.

5   Click Next.

6   On the second page of the Deliver Items wizard:

- Check that the files in the **Project paths of items to be created** list are correct.

- Deselect any items you do not want to be updated in the **Project paths of items to be updated** list.

7   Click Finish.

Desktop client   **To create multiple new items from files in your work area:**

1   Copy the item files to the folder(s) in your work area corresponding to where you want them to belong within the project/stream folder structure. For details, see "About Work Areas" on page 91

2   In the desktop client, select the required project/stream and ensure that the default Work area corresponds to the correct root folder. Also, make sure your Default Design Part, Default Request, and Default Branch are set to the required values if necessary. For details, see "Opening Projects and Setting Defaults" on page 91.

3   In the My Current Project/Stream window, expand the Files and Folders node and select the folder below which the new items are to be added.

4   Right-click the folder and select Deliver.

The first page of the Synchronize Wizard is displayed. For more details of how to use this tool, see "Using the Synchronize Wizard with a Project" on page 373.

5   Verify the Folder and Associated Dimensions Project and click Next.

The window will display *Checking for work area differences* while processing takes place. When Dimensions CM has finished comparing the differences, the next page of the wizard is displayed containing a folder structure.

6   On the Defaults tab:

- Enter a Comment for check in.

- If necessary, enter a Request under work for the new items to be related as In Response To

- If necessary, enter the Design part that will own the new items.

7 Click Next.

Some processing will take place and command messages appear for the items to be added.

8 Click Synchronize.

When it has completed, the wizard should display, at the end of the list of commands, "Synchronization is now complete". For details, see "Using the Synchronize Wizard with a Project" on page 373 or "Delivering Changes to a Stream" on page 66.

9 Click **Close**.

About Editing Items

When you edit an item, Dimensions CM creates a new revision of the item and updates the revision ID according to your process model rules. For example, in the following figure, the process model rules determine that Revision 2 is automatically increased to Revision 3.

Dimensions repository
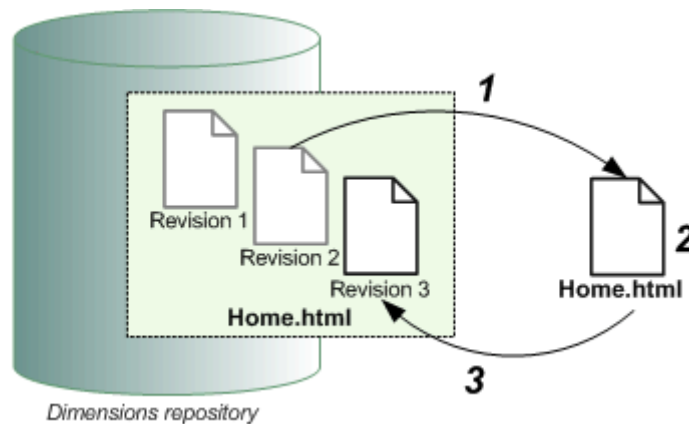
When you check out an item, the new revision is reserved in Dimensions CM. After you modify the revision in your work area, you check it in.

In the desktop client, you can use the Edit command to edit an item without checking it out first. When you use the Edit command, the item is automatically checked out and a new revision is reserved in Dimensions CM. The revision is checked back into Dimensions CM when you exit the editor. For more information, see "Editing an Item" on page 283.

You can also modify an item by revising it from a file in your work area, without first checking out the item. Dimensions CM creates a new revision of the item from the contents of the file, and the item revision ID is updated according to your process model rules. In the desktop client, you use the Revise command. For more information, see "Changing an Item ID" on page 284. In the web client, you can use the Deliver command to do this. For more information, see "Delivering to a Project" on page 99.

In the case of a stream, you do not modify items individually in the repository. You modify items in the stream by modifying the files in the work area and then performing a deliver of the changes.

About Changing the Revision ID

Your process model determines how new revisions of an item are numbered. Generally, when you check out, edit, or revise an item, the revision ID is automatically incremented. Your process model may allow you to choose a different revision ID. For example, if the next revision of Home.html would be revision 3, you might be able to change it to revision 4.

If your current project is set up to use named branches, the branch name is included in the revision ID. For example, a new revision in the Windows NT branch would be given the revision *winnt#1*, where *winnt* is the branch name and *1* is the revision ID. For more information about branches, see "About Revision Branches" on page 262.

Your process model may allow you to check out, edit, or revise an item without changing the revision ID. Generally, this is allowed only when an item is in its initial lifecycle state and has not yet been actioned or included in a baseline. For example, you might modify an item without changing the revision when you are working on an item during multiple editing sessions.

NOTE Editing an item revision without changing the revision ID changes the content of that revision in all projects that include the revision.

About Overriding the Project Filename

When you check out or get a copy of an item revision, it is placed in your work area. By default, an item revision is placed in a location relative to its path in the project, and the newly-created file is given the item project filename.

For example, on a Windows computer, if your root folder is *c:\payroll* and the item project filename is *src\cabin.c*, the item is copied into a file named *c:\payroll\src\cabin.c*.

Similarly, on a UNIX computer, if your root directory is */usr/home/payroll*, the item *src/cabin.c* is copied into a file named */usr/home/payroll/src/cabin.c*.

When you check out or get a copy of an item revision, you can override either both the folder into which the item is placed and the item filename. For example, if you were examining an earlier revision of an item, you might want to place the copy in a different location than the latest revision.

If the default location of an item would be *c:\payroll\src\cabin.c*, you could place the item in *c:\temp\src\cabin.c* (to change the folder) or in *c:\payroll\src\cabincopy.c* (to change the filename).

Checking Out an Item

Purpose   Check out an item revision when you want to edit it. The item revision is copied into your work area and locked in Dimensions CM so no one else can modify it.

In the desktop client, when you check out a directory item, its directories and file contents are uncompressed and reconstructed in your work area.

Your process model may require you to relate an item to a request when you check it out.

This operation is not available for items in a stream.

PRIVILEGES Revise Item Content

NOTE In Windows, the maximum supported length of file path for a checked out file in the work area is 260 characters.

NOTE You cannot check out an item in response to a request if the request is above the initial stage in the Global Stage Lifecycle.

Web client **To check out an item:**

1 On the My Current Project tab or Items tab, in the navigation pane, select the project folder in which the item(s) are located.

2 Do one of the following:

- To check out copies of individual items, select one or more items.

- To check out the entire project folder, do not select any items.

3 Click the Check Out button.

4 Do one of the following:

- If you have selected a single item, for **Check out to location**, enter the full path of the file in your work area to which you want the file to be copied, or use the browse button to select it.

- If you have selected multiple items or a project folder, for **Check out to folder** or **Check out contents of <name>**, enter the full path of the folder in your work area to which you want the file or folder to be checked out, or use the browse button to select it.

5 For If writeable workfile exists, select **overwrite** if you want existing files to be overwritten by the file from the repository.

6 For **Branch**, accept or select a branch.

7 If required, in the **Relate to requests** field, type the name of the related request, or click the browse button to find it.

8 If you have selected a project folder and you want to check out the contents of its subfolders, select **Include subdirectories of <name>**.

9 If you want Dimensions CM to expand item header substitution variables, select **Expand substitution variables.** Note that this will only occur if **Enable item header substitution** is set for the item type in the Administration Console. Also, you should specify reversible substitution variables to prevent the variables from being overwritten by the expanded values when the items are delivered back to the repository.

10 If you do **not** want Dimensions CM to write metadata to the work area for the copied files/folders, deselect **Write metadata.**

11 Click the OK button.

In the content pane, the icon changes indicating the checked out item revision.

NOTE The **Status** column is set to $TO_BE_DEFINED. This means that the status of the newly created item revision has not yet been set. It will be set to a definite value in the Check In dialog box when the item revision is checked back in.

Desktop client **To check out an item:**

1 In an Items list, select one or more items.

You can select multiple items. If you do, you cannot change item attributes or edit certain other item properties, such as the branch and revision.

2 Select Item | Check Out, or click the Check Out button.

3 For **New Named Branch**, accept or select a branch.

4 For **New Revision**, accept or type a revision ID.

5 If you want to change the location of the item file or the name from the default value, enter the path in the **Workfile to contain item** field or click the browse button to select it.

6 If required, for **request ID**, type the name of the related request, or click the browse button and use the Find dialog box.

7 If you want Dimensions CM to expand item header substitution variables, select **Expand substitution variables.** Note that this will only occur if **Enable item header substitution** is set for the item type in the Administration Console.

8 If you want to overwrite files if they already exist, select **Automatically overwrite files**.

9 Click the OK button.

In the content window, the icon for the checked out item revision shows a special symbol:

NOTE The **Status** column is set to $TO_BE_DEFINED. This means that the status of the newly created item revision has not yet been set. It will be set to a definite value in the Check In dialog box when the item revision is checked back in.

Checking In an Item

Purpose Check in an item revision when you have finished editing it and want to update Dimensions.This operation is not available for items in a stream.

PRIVILEGES Revise Item Content

Web client **To check in an item:**

1 On the My Current Project tab or Items tab, select one or more checked out item revisions.

You can select multiple items. If you do, you cannot change item attributes.

2 Click the Check In button.

3 In the **Description** field, type a description of the changes you made.

4 To set attributes, click the Attributes tab and type or select values.

Required attributes are marked with a red exclamation point:

5 Click the OK button.

Desktop client   **To check in an item:**

1   In an Items list, select one or more checked out item revisions.

You can select multiple items. If you do, you cannot change item attributes or status.

2   Select Item | Check In, or click the Check In Item button.

3   In the **Comment** field, type a description of the changes you made.

4   To set attributes, click the Attributes tab and type or select values.

Attributes in bold are required. Attributes in italics cannot be modified.

5   Click OK.

If Dimensions CM has determined that there are other revisions of the item that need to be merged with your changes, you may be presented with a Tip Conflicts dialog box. This will happen if:

■   Your administrator has set the option DM_DISABLE_BRANCH_CHECKINS in the dm.cfg file for the server. For details, see the *System Administration Guide*.

and/or

■   You have set the option **Check for tip conflicts when checking-in or updating items** in Tools | Preferences | Tip Conflict Options. See "Setting the Tip Conflict Options" on page 517.

Select the option you require on completing the merge:

■   Select **Merge my changes and check-in now** to invoke the Merge Tool and for the merged file(s) to be saved to a temporary file, and for the temporary file to be used for the check in.

Select **Update my local workfile content after merging** to have the files in your work area overwritten with the resulting temporary merged file after completing the merge. If this option is not set, the files in your work area will remain as they were before the check in/update and the temporary file will be discarded once the check in is complete.

■   Select **Merge with my workfiles, and check-in later** to invoke the default merge tool and have the merged file overwrite the file in your work area, but not be checked in to the repository, enabling you to carry on working with this merged file.

If you attempt to check in or revise the file later, the local metatada will have recorded that a merge was performed. Dimensions CM will check whether there have been any subsequent changes in the repository, and if not, check in or revise the merged file (without invoking the default merge tool). If there have been changes in the repository, the Merge Tool will be invoked.

■   Select **Do not perform an interactive merge but check-in my changes as the tip** to check in the version of the file in your work area as the tip revision without invoking the default merge tool.

■   Select **Ignore the conflict and continue with the check-in** to check in the version of the file in your work area as a branch revision without invoking the default merge tool.

NOTE This option does not appear if your administrator has set the symbol DM_DISABLE_BRANCH_CHECKINS in the dm.cfg file.

- Select **Don't show this message again; always assume my current selection**, if you do not want this dialog box to be displayed again. You can subsequently change the options in this dialog box by selecting Tools | Preferences | Tip Conflict Options, and you can also re-enable the display of this dialog box.

Click OK.

Depending on the options you have previously selected, you may be presented with the default merge tool. Follow the instructions in the online help for the Merge Tool, or see for more details.

On completion of the merge the action specified will be taken.

If you have selected multiple items, and Dimensions CM subsequently detects that another merge is required, the specified action will be taken again, and you will not be presented with the Tip Conflicts dialog box.

Undoing an Item Check Out

Purpose   Undo a check out when you have an item revision checked out and you want to discard your changes. When you undo a check out, the item remains unchanged in Dimensions CM.

This operation is not available for items in a stream.

PRIVILEGES Revise Item Content

Web client   **To undo an item check out:**

1   On the My Current Project tab or Items tab, select one or more checked out item revisions.

2   Click the Undo Check Out button.

3   Click the OK button.

Desktop client   **To undo an item check out:**

1   In an Items list, select one or more checked out item revisions.

2   Select Item | Undo Check Out, or click the Undo Check Out button.

3   If you want Dimensions CM to perform a get of the item file to the work area after undoing the check out:

- Select **Automatic get**.

- If you want the item file to be copied to a different workfile from the location to which it was checked out, enter the filename and path in the **Workfile containing the item** field, or use the browse button to select it.

- If you want to apply item header substitution to this file, select **Expand substitution variables**. Note that you should specify reversible substitution variables to prevent the variables from being overwritten by the expanded values when the items are delivered back to the repository.

4   Click the OK button.

Editing an Item

Purpose

In the desktop client, you can edit an item without first checking it out. When you use the Edit command, the revision is automatically checked out, opened in the editor associated with that item format, and then checked in when you exit the editor.

Use the Edit command when you want to make a quick change to a revision. If you need to edit a revision over an extended period of time, check it out first.

Your process model may require you to associate an edited item with a request.

This operation is not available for items in a stream.

NOTE You cannot edit a directory item.

PRIVILEGES Revise Item Content

Desktop client **To edit an item:**

1   In an Items list, select the item.

2   Select Item | Edit.

The item is automatically checked out while you are editing it.

3   For **New Named Branch**, accept or select a named branch.

4   For **New Version**, accept or type a new revision ID.

5   In the **Reason** field, type a description of the changes you are making.

6   Click the OK button.

The item revision opens in the editor associated with that item format.

7   When you are finished making changes, save the file and exit the editor.

The revision is automatically checked in and the revision ID is changed according to your process model rules.

Editing Item Attributes

Purpose

Edit item attributes to set or change various system or user-defined attribute values.

PRIVILEGES Update Item

The attribute update rules defined in the process model determine which attributes you can edit.

NOTE When you edit an item attribute that is sensitive, thus requiring an electronic signature, you will be presented with an Authentication Point dialog box. In this case, enter your Dimensions CM password and click OK.

Web client **To edit item attributes:**

1   On the My Current Project tab or Items tab, click the name of the item, or click the More button, and select Open.

2   On the General tab of the Open Item dialog box, you can edit:

- **Item ID**

- **Item Format**

- **Item Type**

- **Item Description**

3 To edit any user-defined attributes, click the Attributes tab.

4 If required, select a **Role Section** from the list to view only attributes for that role.

5 To edit the attributes, type or select values.

Required attributes are marked with a red exclamation point:

6 Click the Save button.

Desktop client **To edit item attributes:**

1 In an Items list, select one or more items.

You can select multiple items if they belong to the same product and have the same item type.

NOTE The behavior when editing multi-valued attributes for multiple items depends on the setting of the variable DM_DISABLE_MULTIPLE_EDIT_ATTRS. See the *System Administration Guide* for details.

2 Select Item | Edit Attributes.

3 If required, edit the text field for the **Item Description**.

4 On the Attributes tab:

5 If required, select a **Role Section** from the list to only view the user-defined attributes for that role.

6 To edit the attributes, type or select values.

Attributes in bold are required. Attributes in italics cannot be modified.

7 Click the Apply button to save the changes.

Changing an Item ID

Purpose Use this procedure when you want to change the item ID. Note that is a different procedure from changing the item's project filename. See "Changing the Project Filename of an Item" on page 285 for details of this.

This operation is not available for items in a stream.

NOTE You cannot use the following characters in the item ID:

- "."

- ";"

- "-"

- """

- "@"

- "`"

- ":"

PRIVILEGES Rename Item

Web client **To change an item ID:**

1 On the My Current Project tab or Items tab, click the name of the item.

2 In the Open Item dialog box, on the General tab, enter the new item ID in the Item ID field.

3 Click the Save button.

Desktop client **To change an item ID:**

1 In an Items list, select the item.

2 Select Item | Change ID.

3 For **New Item ID**, type the new item identifier.

4 Click the OK button.

Changing the Project Filename of an Item

Purpose Use this procedure when you want to change the project filename of an item or the project folder. Note that is a different procedure from changing the item ID. See "Changing an Item ID" on page 284 for details of this.

This operation is not available for items in a stream.

PRIVILEGES Rename Item

Desktop client **To change the project filename of an item:**

1 In an Items list, select one or more items.

2 Select Item | Rename.

3 For **New folder**, type the new project folder if required.

4 For **New filename**, type the new filename (this is only possible if you have selected a single item.

5 In the **Track changes with request(s)** field, enter or select any requests you want to use to track the refactoring operation, or leave this field blank if you want to use your project default request.

6 Click the OK button.

Revising an Item

Purpose Revise an item when you want to create a new revision using the contents of a file in your work area. Revising an item is similar to using the Edit command in that you do not need to check out the item first. When you revise an item, the revision ID is changed according to your process model rules.

This operation is not available for items in a stream.

Your process model may require you to relate a request to the revised item.

PRIVILEGES Revise Item Content

Web client **To revise an item:**

1   In an Items list, select one or more items.

You can select multiple items. If you do, you cannot change item attributes or edit certain other item properties, such as the branch and revision.

2   Click the Revise button.

3   For **Check in From Directory**, type the pathname of the file or folder you want to use as the source, or click the browse button to find it.

4   If required, in the **Relate to Request** field, type the name of one or more related requests, or click the browse button use the Find dialog box.

5   If required, type a **Description** for the item revise.

6   Click the OK button.

Desktop client **To revise an item:**

1   In an Items list, select one or more items.

You can select multiple items. If you do, you cannot change item attributes or edit certain other item properties, such as the branch and revision.

2   Select Item | Revise.

3   For **Revise item using workfile**, type the pathname of the file or folder you want to use as the source, or click the browse button to find it.

4   If required, in the **Request ID** field, type the name of a related request, or click the browse button use the Find dialog box.

5   If required, type the reason for the item revise.

6   Click the OK button.

If Dimensions CM has determined that there are other revisions of the item that need to be merged with your changes, you may be presented with a Tip Conflicts dialog box. This will happen if:

■   Your administrator has set the option DM_DISABLE_BRANCH_CHECKINS in the dm.cfg file for the Dimensions CM server. For details, see the *System Administration Guide.*

and/or

- You have set the option **Check for tip conflicts when checking-in or updating items** in Tools | Preferences | Tip Conflict Options. See "Setting the Tip Conflict Options" on page 517.

Select the option you require on completing the merge:

- Select **Merge my changes and check-in now** to invoke the Merge Tool and for the merged file(s) to be saved to a temporary file, and for the temporary file to be used for the revise.

  Select **Update my local workfile content after merging** to have the files in your work area overwritten with the resulting temporary merged file after completing the merge. If this option is not set, the files in your work area will remain as they were before the revise and the temporary file will be discarded once the revise is complete.

- Select **Merge with my workfiles, and check-in later** to invoke the default merge tool and have the merged file overwrite the file in your work area, but not be checked in to the repository, enabling you to carry on working with this merged file.

  If you attempt to check in or revise the file later, the local metatada will have recorded that a merge was performed. Dimensions CM will check whether there have been any subsequent changes in the repository, and if not, and check in or revise the merged file (without invoking the default merge tool). If there have been changes in the repository, the Merge Tool will be invoked.

- Select **Do not perform an interactive merge but check-in my changes as the tip** to check in the version of the file in your work area as the tip revision without invoking the default merge tool.

- Select **Ignore the conflict and continue with the check-in** to check in the version of the file in your work area as a branch revision without invoking the default merge tool.

  NOTE This option does not appear if your administrator has set the symbol `DM_FORCE_MERGE` in the `DM.CFG` file. For details, see the *System Administration Guide*.

- Select **Don't show this message again; always assume my current selection**, if you do not want this dialog box to be displayed again. You can subsequently change the options in this dialog box by selecting Tools | Preferences | Tip Conflict Options, and you can also re-enable the display of this dialog box.

Click OK.

Depending on the options you have previously selected, you may be presented with the default merge tool.

On completion of the merge the action specified will be taken.

If you have selected multiple items, and Dimensions CM subsequently detects that another merge is required, the specified action will be taken again, and you will not be presented with the Tip Conflicts dialog box.

Actioning an Item

Purpose   Action an item revision when you want to move it from its current state to one of the next available lifecycle states. You action an item revision when the work for the current lifecycle state is complete. An item revision must be checked in before you can action it.

When you action an item from your Inbox, it may be removed from your Inbox and moved to the Inboxes of users who have roles for the next lifecycle state.

If you are actioning items to a lifecycle state that is associated with a stage in the Global Stage Lifecycle, they will also be promoted to that stage, and if there are any default areas associated with the project/stream, the item files will automatically be deployed to those areas.

PRIVILEGES
Action Item to Next State to action an item to a valid next state.
Action Item to Any State to action an item to a lifecycle state without a valid transition.

NOTE When an item is actioned to another state, any users who have a role assigned for that state receive an email notification. The user who performed the action however, does not receive an email even if they had a role on the item at that state.

NOTE When you action an item to or from a lifecycle state that is sensitive, thus requiring an electronic signature, you will be presented with an Authentication Point dialog box. In this case, enter your Dimensions CM password and click OK.

Web client   **To action an item:**

1   From the My Current Project tab or Items tab, select one or more items. If you select multiple items, you cannot change item attributes.

2   Click the Action button.

3   For **New State**, select a lifecycle state:

   ▪   **If you are actioning a single item**, either select **To next state** and select a valid next state from the corresponding list, or select **To specific state** and select a lifecycle state from that list. (You will require the necessary privilege to action to a state other than a valid next state.)

   ▪   **If you are actioning multiple items**, either select **Next normal state** or select **Named state** and type a lifecycle state. You must type a common lifecycle state for all items.

4   If you want to initiate a build for the item(s), check the **Start build after action** check box.

   NOTE Only items that are associated with a target definition file have this build option. For further details on building items, see "About Dimensions Build" on page 420.

5   Click the **Next** button.

6   If you want to set any attributes, type or select the values.

   Required attributes are marked with a red exclamation point:

   This page does not appear if you have selected multiple items.

7   Click the **Next** button.

8   Optionally, in the **Comment** field, type a comment.

9   Click the **Next** button.

10   If you want to delegate the item to another user, select a **Role to delegate** and **Capability**, and move the required user(s) to the **Assigned Users** list. For more details, see "Delegating an Item" on page 290.

11   Click the **Next** button.

12   Use the Results page to check the result(s) of the action. If an item has a sensitive lifecycle state, the buttons **Authenticate and Continue** and **Ignore and continue** appear in the Message column. If you want to complete the actioning of that item, click the **Authenticate and Continue** button and enter your password. If you do not want to authenticate the item, but you want to continue actioning other items, click the **Ignore and continue** button.

Be sure there are errors or warnings from the Action, you can view these by clicking the **Details** button, and then proceed to the Build Item dialog box by clicking the **Continue** button.

13   Click the **Close** button to close the Results page.

Desktop client   **To action a single item:**

1   In an Items list, select one or more items. If you select multiple items, you cannot change item attributes.

2   Select Item | Action, or click the Action Item button.

3   For **New Status**, select a lifecycle state. Either select **Next status** and select a valid next state from the list, or select **All statuses** and select a lifecycle state from the list. (You will require the necessary privilege to action to a state other than a valid next state.)

4   Click the **Next** button.

5   If you want to set any attributes, type or select the values.

Required attributes are shown in bold.

6   Click the **Next** button.

7   Optionally, in the **Comment** field, type a comment.

8   Click the **Next** button.

9   If you want to delegate the item to another user, select the role from the **Select the role to delegate** and choose between **Primary**, **Secondary**, or **Leader** and move the required user(s) from the **Available users** list to the **Assigned Users** list. For more details, see "Delegating an Item" on page 290.

10   Click the **Next** button.

11   Use the Summary page to check the details of the action to be performed.

12   Click the **Finish** button to perform the action and close the wizard.

To action multiple items:

1   In an Items list, select two or more items. If you select multiple items, you cannot change item attributes.

2   Select Item | Action, or click the Action Item button.

3   From the **New Status** list, select a lifecycle state or leave it blank to action the item to the next normal lifecycle state.

If you have the necessary privilege, and want to action the item to any lifecycle state, click the **All Statuses** option, and then select a lifecycle state.

4   Optionally, in the **Action Description** field, type a comment.

5   Click the **OK** button.

Delegating an Item

Purpose   Delegate an item when you want to assign an item to a user who does not currently have a role for the item. If an item is in your Inbox, you can delegate it to enable another user to action the item in your place. If you have the necessary privilege, you can delegate an item to override the existing privileges. For example, you could delegate an item to a backup person.

For more information about roles and role responsibilities, see "About Privileges and Roles" on page 21.

PRIVILEGES Delegate item

In addition, your process model must define a list of candidate users.

Web client   **To delegate an item:**

1   On the My Current Project tab or Items tab, select one or more items.

2   Click the Delegate button.

3   Use the Delegate wizard to assign a role to a candidate user.

For help with the Delegate wizard, click the Help button in the wizard.

Desktop client   **To delegate an item:**

1   In an Items list, select one or more items.

You can select multiple items if they belong to the same product and have the same item type.

2   Select Item | Delegate, or click the Delegate Item button.

3   If you have selected multiple items, deselect any you do not want to delegate, and then select the Roles tab.

4   From the **Select the role to delegate** list, select the role that you want to delegate.

5   Select the level of responsibility for the role:

- **To assign a role with sole responsibility**, select **Leader**.

- **To assign a role with primary responsibility for an item**, select **Primary**.

- **To assign a role where there will be more than one user with responsibility**, select **Secondary**.

6 In the **Available users** list, select the user(s) to whom you want to delegate the role and click Assign. You can select multiple users.

To replace all the users in the **Assigned users** list with the selected user in the **Available users** list, click Replace.

To remove the role assignment from a user, select the user in the **Assigned users** list, and click Remove.

7 Click the Close button.

The user receives an email informing them that the item is on their Inbox.

Deleting an Item Revision

Purpose   Delete an item revision to remove it from the Dimensions CM repository. If you delete an item with only one revision, you delete the item itself from Dimensions CM.

You cannot delete a revision that is being used by other objects. For example, you cannot delete a revision that has been included in a release or archive baseline. To prevent an item revision from being used in the product without deleting it, suspend it. For more information, see "Suspending an Item" on page 292.

An item revision can also be deleted from a project. For more information, see "Removing an Item Revision from a Project" on page 119.

This operation is not available for items in a stream.

PRIVILEGES Delete item

Web client   **To delete an item revision:**

1 On the My Current Project tab or Items tab, select one or more item revisions.

2 Click the More button and select Delete.

3 In the Delete dialog box, verify that you have selected the correct item revisions.

4 For **Delete revision from**, select **Repository**, and click the OK button.

Desktop client   **To delete an item revision:**

1 In an Items list, select one or more item revisions.

2 Select Item | Delete.

3 In the Delete Item or Delete Multiple Items dialog box, verify that you have selected the correct revision(s), and click the OK button.

Suspending an Item

Purpose   Suspend an item revision when you want to prevent it from being used in further work on an application. You cannot modify a suspended revision or include it in a baseline or release, but you can create new revisions from it.

PRIVILEGES Suspend item

NOTE Suspended items will be included when you create a revised baseline if they are referenced by requests used to revise the baseline.

NOTE If you subsequently want to unsuspend the item revision, you will need to action it from SUSPENDED to another lifecycle state. You will need to have the necessary privilege to do this. For details, see "Actioning an Item" on page 288.

Web client   **To suspend items:**

1   On the My Current Project tab or Items tab, select one or more item revisions.

2   Click the More button and select Suspend.

3   In the Suspend dialog box, verify that you have selected the correct item revision(s), and click the Yes button.

The **Status** column in the Items list changes to SUSPENDED.

Desktop client   **To suspend an item:**

1   In an Items list, select the item.

2   Select Item | Suspend.

3   In the Suspend Item dialog box, verify that you have selected the correct item revisions, and click the OK button.

The **Status** column in the Items list changes to SUSPENDED.

Locking an Item

Purpose   Lock an item in a stream when you want to prevent changes to that item from being delivered to the stream.

PRIVILEGES
Item Lock/Unlock to lock and unlock items
Item Break Lock to unlock an item locked by another user

NOTE You can only lock items in a stream.

Web client   **To lock items:**

1   On the My Current Project tab or Items tab, select one or more item revisions.

2   Click the Lock button.

3   In the Lock Ownership dialog box, verify that you have selected the correct item revision(s), click Yes.

The **Name** column in the Items list now contains a lock icon.

To unlock items:

1 On the My Current Project tab or Items tab, select one or more locked item revisions.

2 Click the Lock button.

3 In the Unlock Ownership dialog box, verify that you have selected the correct item revision(s), and click Yes.

The lock icon disappears from the **Name** column in the Items list.

Desktop client **To lock items:**

1 In an Items list, select one or more items.

2 Select Item | Lock.

3 In the Lock Item dialog box, click OK.

The item icon(s) now have a lock symbol.

To unlock items:

1 In an Items list, select one or more locked items.

2 Select Item | Unlock.

3 In the Unlock Item dialog box, click OK.

Changing Item Type

Purpose Change the type of an item if you have created it with the wrong type, or if you wish to recategorize it as a different item type.

Item types are defined in the process model.

PRIVILEGES
Update Item
Manage Object Type

Web client **To change item type:**

1 On the My Current Project tab or Items tab, click the name of the item.

2 In the Open Item dialog box, on the General tab, select the new item type in the **Item type list**.

3 Click the Save button.

Desktop client **To change item type:**

1 In an Items list, select one or more items.

2 Select Item | Change Type.

3 From **New Type**, type or select an item type.

4 Click the OK button.

Moving an Item to a Different Design Part

Purpose Move an item and all of its revisions to a different design part when you want the item to be owned by a different design part. For example, you might move an item if it was inadvertently created in the wrong design part.

You do not need to move an item to create a usage relationship with another design part. In the desktop client, see "Relating and Unrelating Objects" on page 209. In the web client, see "Relating and Unrelating Objects" on page 179.

PRIVILEGES Move Item to Another Design Part

Web client **To move an item to a different design part:**

1 On the My Current Project tab or Items tab, click the name of the item.

2 In the Open Item dialog box, on the Relationships tab, select **Parts** in the **Related object class**.

3 Unrelate the existing design part and relate the new design part. See Relating and Unrelating Objects for details.

4 Click the Save button.

Desktop client **To move an item to a different design part:**

1 In an Items list, select one or more items.

2 Select Item | Move to part.

3 For **Parent Design Part**, type the name of the design part to own the item, or click the browse button and use the Find dialog box.

4 Click the OK button.

Items and Deployment

You can promote, demote, or deploy one or more items in relation to the associated deployment areas for a project/stream.

For details, see the Deployment Guide.

For details of how to create deployment areas, see the Process Configuration Guide.

About Comparing and Merging Item Files

Dimensions allows individual files to be worked on in parallel. This means that the same file can be modified by many people at the same time, resulting in branches that each contain different versions or derivatives. At some point these derivative files need to be combined into a single new target file containing all the changes. This is called merging.

Merging can involve item revisions stored in Dimensions CM and/or local workfiles. The versions of a file involved in a merge consist of:

■ An **ancestor**. This is the common version of the file from which the different branches originated, and with which they are all being compared.

■ A **target**. This is the output file containing the resulting contents of the merged files.

■ A **starting revision/file**. If this is an item revision, it is the revision on whose branch the target file will be added on completion of the merge.

■ Other **derivatives**. These are the revisions or files that have been created in parallel and are being compared with the common ancestor.

Dimensions uses a Merge/Difference tool to help you carry out this process. It provides a visual means of comparing the contents of a number of files, identifying the differences and conflicts, and in the case of a merge operation, allowing you to select different lines individually for inclusion in the target.

When different versions are compared line-by-line with a common original version, the possibilities for each line are:

■ Added

■ Deleted

■ Changed

■ Unchanged.

When more than two files are compared, it is necessary to choose one of the versions as the common reference, referred to as the common ancestor, against which all other files (derivatives) are compared. If you want to merge these files back into a single version, referred to as the target, you will need to manually resolve the conflicts between them. A conflict occurs where a line has been added, deleted, or changed differently between different derivatives. You will need to decide, for each conflict, which version to include in the target. You can use item files or files in your work area for this process.

The Dimensions CM desktop client uses the Merge Tool for this purpose.

The tool invoked for differencing and merging depends on the platform you are using:

■ Windows: the Merge Tool is invoked.

■ UNIX: the *mgdiff* tool is invoked. Note that you cannot compare more than two files using this tool. Use the Help option for details of how to use it. UNIX users can also choose to plug in their own differencing tools, such as *xxdiff*. For further details, read the *merge_exec* script in your client installation.

Merging Item Revisions and Files

Purpose   Merge item revisions to combine the updates made to each of them in parallel into a single new revision.

Once you have specified details for the new item revision, Dimensions CM invokes either the Merge Tool or, in the case of UNIX platforms, the *mgdiff* tool, to enable you to perform the merging of the contents of the item files.

For items in a stream this operation can only be performed in the context of an Update operation.

PRIVILEGES Revise Item Content

Web client

To merge item revisions:

NOTE If you have not selected the **Install native code** option, you will receive an error message when Dimensions CM attempts to invoke the merge tool.

1 On the My Current Project tab or Items tab, select one or more item revisions (of the same item).

NOTE If you are working on a UNIX platform, you will not be able to merge more than two item revisions or files.

2 Click the More button and select Merge Item revision. The Merge dialog box appears.

3 In the **Base** field, you can choose between an item revision and a workfile for the base for the merge operation. Click the link to toggle between these two options.

4 Verify under the **Revisions** section that you have selected the correct item revisions to be included in the merge.

- If you want to add a revision, click the **Add revision** link and select a revision from the list.

- If you want to remove a revision, click the icon next to the name.

5 In the **Workfiles** field, click the **Add workfile** link to include a work file in the merge, and click the ⬚ button to choose it. Repeat this for any other workfile you want to include. If you want to remove a workfile, click the ▬ icon next to the name.

6 Select the option for the merged file:

- **New revision** to create a new item revision to contain the merged contents.

- **Existing revision** to update the item pedigree to indicate that an existing item revision contains the result of the merge. Leave the resulting **Target revision** field as the default of the latest revision or select another revision in the **Target revision** field.

- **Workfile** to use a file in a work area. In the resulting **Output file** field, type the pathname of the file, or use the browse button to select it.

7 If necessary, complete the fields in the Merge Options tab.

8 If required, on the Attributes tab, type or select any values.

9 When you have completed the dialog box, click OK. If you have selected **Existing Revision** as the target for the merge, this will complete the update and exit from the dialog box, otherwise, it will invoke the merge/difference tool for the platform you are using:

- Windows: the Merge Tool is invoked.

- UNIX: the *mgdiff* tool is invoked. Use the Help option for details of how to use this tool.

10 When you have finished, exit the merge tool. In the Results dialog box, click Continue to check in the target file, and then click Close.

Desktop client **To merge item revisions:**

1 Do one of the following:

If you want to start the merge from...	Do the following...
An item revision	In an Items list, select the required item revision, and select Item | Merge.
An item that has conflicting revisions	Select the item and select Item | Resolve Merge Conflicts. On the first page of the Merge wizard, select the revision that you want to use as the starting revision from the list.
A file in your project work area	Expand the Work Areas node in the My Current Project window, and select the My Area icon. Navigate to the required file, right-click, and select Merge. If the selected file is under Dimensions CM control, the Merge Wizard is opened with **Item-based merge** selected and the appropriate revision displayed, otherwise it is opened with **File-based merge** selected.
Any local workfile	Select an item and select Item | Merge. On the first page of the Merge wizard, select **File-based merge** and use the browse button to select a file.

2 Verify your selection and click **Next >**.

3 On the Merge Target page, select the option for the output/target, to contain the contents of the merge:

- **Create a new revision** to create a new item revision for the merged contents. Select the **branch** and the **revision** if you want to override the default values.

- **Mark revisions as already merged with selected item** to update the item pedigree to indicate that the selected revisions have been merged without invoking the Merge Tool.

- **Merge to a file** to use a local file for the output of the merge. Type the pathname of the file, or use the browse button to select it.

Note that if you selected **File-based merge** on the first page, you will only see the option **Merge to a file**.

4 Click **Next >**

5 If you have selected a revision as the starting revision/file, select the other revision(s) that you want to be included in the merge in the **Merge with these revisions** list.

6   Select any workfiles you want to include in the merge by clicking **Add...** and browsing for the file. Repeat this for any additional files. If you want to remove a file from the list, select it and click **Remove**. Use Ctrl + Click to select and remove multiple files.

7   To continue completing the options for the merge, click **Next >.**

If you want to complete the merge at this point by ending the Merge wizard and launching the merge tool, click **Finish**. (Note, however, that if you have selected a new revision as the target, the next two pages determine some options and attributes for the new item revision that you may need to supply. For example, there may be mandatory attributes for the item type.)

Follow the instructions in the online help for the Merge Tool, or see Chapter 18, "Using the Merge Tool" on page 399 for more details.

If you selected an item revision on the first page of the Merge wizard, the Options page is displayed.

8   Enter the details you require:

- Optionally, for **Request ID**, type the IDs of one or more requests, separated by a comma, to relate *In Response to* the new item revision, or click the browse button and use the Find dialog box.

- Choose a status for the new revision from the **Status** list.

- If you want item substitution variables to be expanded, select **Expand substitution variables.**

- If you want the merge to be performed automatically, provided there are no conflicts, check **Automatic Merge**.

- Enter a comment in the **Reason for Item Merge** field.

9   If you want to dismiss the Merge wizard and start the merge process, click **Finish**, otherwise click **Next >**.

10   On the Attributes tab, type or select any values you want to enter.

11   If you want to dismiss the Merge wizard and start the merge process, click **Finish**, otherwise, click **Next >.**

12   Verify the details you have selected for the merge. You can return to change the details on previous pages by clicking **< Back**.

13   Click **Finish**. The Merge Tool opens, unless you chose **Automatic Merge** and there were no conflicts, or you selected **Mark revisions as already merged with selected item**.

14   Follow the instructions in the online help for the Merge Tool, or see Chapter 18, "Using the Merge Tool" on page 399 for more details.

Comparing Item Revisions and Files

Purpose   Compare item revisions and files to view the differences between them without merging their content.

Once you have specified details for the new item revision, Dimensions CM invokes either the Merge Tool or, in the case of UNIX platforms, the *mgdiff* tool, to enable you to view the differences between the items or files.

PRIVILEGES Browse Item.

Web client   **To compare item revisions:**

NOTE If you have not selected the **Install native code** option, you will receive an error message when Dimensions CM attempts to invoke the merge tool.

1   On the My Current Project tab or Items tab, select one or more item revisions (of the same item).

NOTE If you are working on a UNIX platform, you will not be able to merge more than two item revisions or files.

2   Click the More button and select Show Differences.

3   In the Show Differences dialog box, verify that you have selected the correct item revisions.

4   Complete the options on the Show Differences dialog box, choosing the item revisions and/or workfiles you want to compare

- In the **Revisions** field, click the ➕ icon to add another item revision, and choose one from the list.

- In the **Workfiles** field, click the ➕ icon to add another workfile file, and click the ⋯ button to choose it.

- Click the ➖ icon to remove an item revision or workfile from your selection.

5   When you have completed the dialog box, click the OK button. This will invoke the merge/difference tool for the platform you are using:

- Windows: the Merge Tool is invoked.

- UNIX: the *mgdiff* tool is invoked. Use the Help option for details of how to use this tool.

6   When you have finished, exit the merge tool, and in the Results dialog box click Close.

To compare files in a work area with item revisions:

1   On the My Current Project tab, expand the Work Areas node and click the node for the work area.

2   Expand the folder tree and select the folder in which the file is located.

3   Click the More button and select **Show Differences**.

The Show Differences dialog box appears showing the differences.

To compare item revisions using the History dialog box:

1   On the My Current Project tab or the Items tab, select the item.

2   Click the History button.

3   In the Revision History dialog box, select the revision that you want to use as the basis for a comparison.

4   Click the More button and select **Show Differences**.

5   Complete the options on the Show Differences dialog box, choosing the item revisions and/or workfiles you want to compare

   ■   In the **Revisions** field, click the ✚ icon to add another item revision, and choose one from the list.

   ■   In the **Workfiles** field, click the ✚ icon to add another workfile file, and click the ... button to choose it.

   ■   Click the ━ icon to remove an item revision or workfile from your selection.

6   When you have completed the dialog box, click OK. This will invoke the merge/ difference tool for the platform you are using:

   ■   Windows: the Merge Tool is invoked. Use the Help option or see "Using the Merge Tool" on page 399 for details on how to use and configure this tool.

   ■   UNIX: the *mgdiff* tool is invoked. Use the Help option for details of how to use this tool.

7   When you have finished, exit the merge tool, and in the Results dialog box click Close.

Desktop client   **To compare item revisions:**

1   In an Items list, select the item revision or revisions you want to compare. Click the Expand Revisions button if you cannot see the revision you require.

2   Select Item | Compare.

3   Do one of the following:

   ■   To compare the revision with a different revision of the same item, select it from the **Another Revision** list.

   ■   To compare the revision with a file in your work area, select **A workfile** and click the Browse button to find it.

   ■   To compare the revision with a revision of a different item in the repository, select **Another item**, click the browse button, and use the Find dialog box to search for it.

4   Click OK. This will take you into the merge tool.

5   Follow the instructions in the online help for the Merge Tool, or see "Using the Merge Tool" on page 399 for more details.

To compare item revisions using the History dialog box:

1   Select an item and select Item | History.

2   To compare an item revision with its previous revision:

   TIP If the Created from Rev column is not displayed, right-click a column heading and select **Created From Rev.**

   Right-click the row containing the revision and select **Compare with <created from revision>**. This will take you directly to the merge tool to compare the two revisions.

NOTE If you right-click a row where **Revision** and **Created from Rev** are the same, you will only see the option **Compare with...**

3 To compare an item revision with another revision or file:

    a Right-click the row containing that revision in the **Revision** column, and select **Compare with...**

    b The Compare Items dialog box is displayed for the selected revision. See *To compare item revisions* above.

Chapter 12
Managing Baselines

In this Chapter

About Baselines

How Can I Use Baselines to Manage my Development?

At product development milestones, you can capture and record the versions of some or all of the items in a design part or a project/stream by saving them as a *baseline*. In Dimensions® CM, a baseline is a snapshot of a design part or a project/stream at a particular time. Baselines ensure that the design parts and items included in the baseline can be reliably recreated in the future. For example, create a baseline before starting a maintenance cycle or assigning further development activities.

Concept   Baseline Template

A baseline template is a set of rules that determine which items to include or exclude in a baseline. For example, you might include a baseline template rule *FINAL (latest edit revision at the final state in the lifecycle) for the item type SRC, which would mean that you want to include only versions of the items in your project/stream that have reached the Approved state for items of type SRC. There is a number of such rules that can be defined in a baseline template, and you can define different rules for different item types. For detailed information about baseline templates and rules, see the Appendix "Baseline and Release Templates" in the Process Configuration Guide.

When Would I Create a Baseline?

You can create baselines for a variety of purposes. Dimensions provides various categories of baseline that use different methods of determining which item revisions they include and whether they contain more than one revision of the same item. There are a number of categories of baseline that meet particular purposes. These are:

- **Tip:** Create a tip baseline when you want to freeze the state of a project or stream at a particular point. A tip baseline captures the latest revisions of a stream or project and any sub-projects that are related to it.

- **Release:** Create a release baseline to define and build a test or release configuration of the product. A release baseline uses a template to control the rules that are used to determine which item revisions are included in the baseline.

- **Revised:** Create a revised baseline from an existing one when you are updating the versions of the files using related requests to track the updates. A revised baseline has basically the same contents as the baseline it is created from except for any item revisions, which have been removed, replaced or added using requests or requirements related as Affected, or in-Response-to.

- **Merged:** Create a merged baseline to compare two baselines to see how the product has developed during the period the design baselines were created.

- **Design:** Use a design baseline to compare two baselines to see how the product has developed during the period the design baselines were created.

- **Archive:** An archive baseline is a special release baseline that you use in conjunction with the Archive and Retrieval Tool.

The following table summarizes these categories

Category	Requires a template?	Only one revision of each item?
Tip	N	Y
Release	Y	Y
Revised		Y
Merged		Y
Design		
Archive		

About Design Baselines

A design baseline represents the current product design structure, or a selected part of it, within the scope of the current project/stream or design part, including all the revisions for each item.

A design baseline does not use a baseline template.

Design baselines provide managers with audit capabilities. You can compare two baselines to see how the project/stream has developed during the period the baselines were created.

Developers can continue to modify items included in a design baseline.

Dimensions includes the following in a design baseline:

- The design part defined in the project/stream and all its descendent design parts, even if they are suspended.

- The part change status (PCS) of the design part.

- All item revisions that are either owned or used by any of the design parts.

- The current status of each item.

IMPORTANT! A design baseline contains suspended design parts but does not include item revisions that are checked out.

About Release Baselines

A release baseline represents a snapshot of a design part or a project/stream at a particular time. A release baseline uses a baseline template that selects a single version of each item that matches the criteria in the template, and that is also contained in the specified design part or project/stream. For example, you can create a release baseline that includes the following:

- All EXE (executable) item types that are at the RELEASED state.

- Any OBJ (object) and SRC (source) item types that are used to build the EXEs.

These rules define a baseline template. For more information, see the Appendix *Baseline and Release Templates* in the *Process Configuration Guide.*

Create a release baseline to define and build a test, or release, of your product.

Dimensions includes the following in a release baseline:

- The design part defined in the project/stream and all its descendent design parts, even if they are suspended.

- The part change status (PCS) of each design part.

- All item revisions that are either owned or used by any of the design parts, restricted by the baseline template.

- The current status of each item.

You cannot delete item revisions that belong to a release baseline unless the release baselines containing them are deleted. However, you can action an item revision that is included in a release baseline. You can also create a new revision from an item revision belonging to a baseline.

You can revise a release baseline or merge two release baselines. For more information, see "About Revising and Merging Baselines" on page 323.

About Tip Baselines

A tip baseline consists of a snapshot of the tip revisions of all the items in a project or stream regardless of what design parts those items belong to. A tip baseline does not use a baseline template. It can be considered as a type of release baseline that is scoped by project/stream as opposed to a design part. If a project has sub-projects attached to it, then a separate baseline will be created for each of those sub-projects and will be related to the tip baseline. If any baselines are attached as a sub-project, they will also be related to the tip baseline.

About Archive Baselines

An archive baseline is a restricted variant of a release baseline that uses a baseline template that includes all of the revisions of some or all of the item types.

You can use the resulting baseline to preserve the product at a milestone using Dimensions ART. You cannot use an archive baseline to revise baselines, merge baselines, or for any configuration build or release purposes.

For more information on Dimensions ART, see the *System Administration Guide*.

About Revised Baselines

A revised baseline consists of the contents of a release baseline where item revisions have been replaced, added, or removed based on their relationship to a group of specified requests or requirements.

For example if you create a revised baseline and specify requests CR_1 and CR_2 for the **Update baseline using** field, and CR_3 and CR-4 for the **Remove from baseline** field then:

- Item revisions related as In-response-to CR_1 and CR_2 will replace revisions of the same items in the baseline.

- Revisions of items not already in the baseline that are related In-response-to CR_1 and CR_2 will be added to the baseline provided they fall within the scope of the original baseline (the design part/project/stream and the baseline template).

- Item revisions related as Affected to CR_3 and CR_4 will be removed from the baseline.

For more details, see "About Revising and Merging Baselines" on page 323.

About Merged Baselines

A merged baseline consists of one or more release baselines merged together so as to contain only one item revision for each item, and to include only items belonging to the specified parent design part for the new merged baseline. The baselines that are being merged must contain only one revision of each item.

NOTE You can also merge changes from a baseline into a target stream, for details see "Merging Changes across Streams" on page 139.

Baseline Types and Templates

A *baseline type* defines the attributes and lifecycle of the baseline.

A *baseline template* is a set of rules that determine which items to include or exclude in a baseline, either based on the item type, revision, status, and relationships, or alternatively based on a group of requests to which items are related.

Baseline types and templates are defined in the Dimensions CM Administration Console. For more information, see the *Process Configuration Guide*.

About Baseline Lifecycles

Baselines have lifecycles that are determined by the baseline type. Each baseline type can have a different lifecycle. The administrator uses the Administration Console to define the lifecycle and the roles that move the baseline from one state to another. Roles are assigned to Dimensions CM users so they can action the baseline to each state in the lifecycle.

An example of a typical baseline lifecycle is shown in the following diagram.
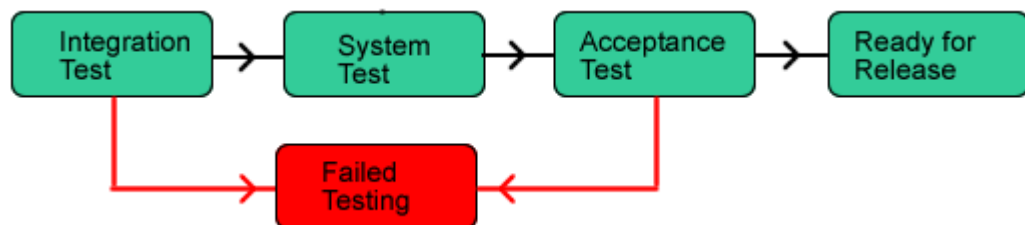
Users with the appropriate roles can action the baseline along the lifecycle. With each completed action, an email message is sent to the user with the next role in the lifecycle and the baseline is added to the user's Baselines inbox.

About Baseline Relationships

A baseline can have the following relationships with other Dimensions objects.

- **Items.** The baseline contains a list of item revisions and their status at the time of the revision. Items can be in more than one baseline.

- **Design parts.** The baseline contains a list of the design parts and their status in the baseline.

- **Releases and customers.** A baseline can be used as the basis for a release when it is released to an external or internal customer. The release may also be related to specific customers to record who the release went to.

- **Projects/Streams.** The baseline has a *Based on* relationship to the project/stream from which it was created. It can also have an *Used by* relationship to a project/ stream when it is used as a child collection of items within that project/stream.

- **Requests.** A baseline can have an *Affected*, *In Response to,* or *Info* relationship to one or more requests.

- **Baselines.** A release baseline has relationships to the baselines that were used to create it during a merge operation.

Baselines and Deployment

There are two deployment models for baselines:

- *Dimensions Deployment*: promotes, demotes, or deploys one or more baselines in relation to the associated deployment areas for a project/stream.

- *Deployment Automation* (DA): automates the deployment of baselines through various pre-production stages to final production. Deployment Automation helps you meet the deployment challenge by providing tools that improve deployment speeds while simultaneously improving their reliability.

For details see the *Deployment Guide*.

For details of how to create deployment areas, see the *Process Configuration Guide*.

About Working with Baselines

The following figure shows a typical workflow when working with a baseline.

NOTE The administrator defines the baseline template in the Administration Console. For more information, see the *Process Configuration Guide*.
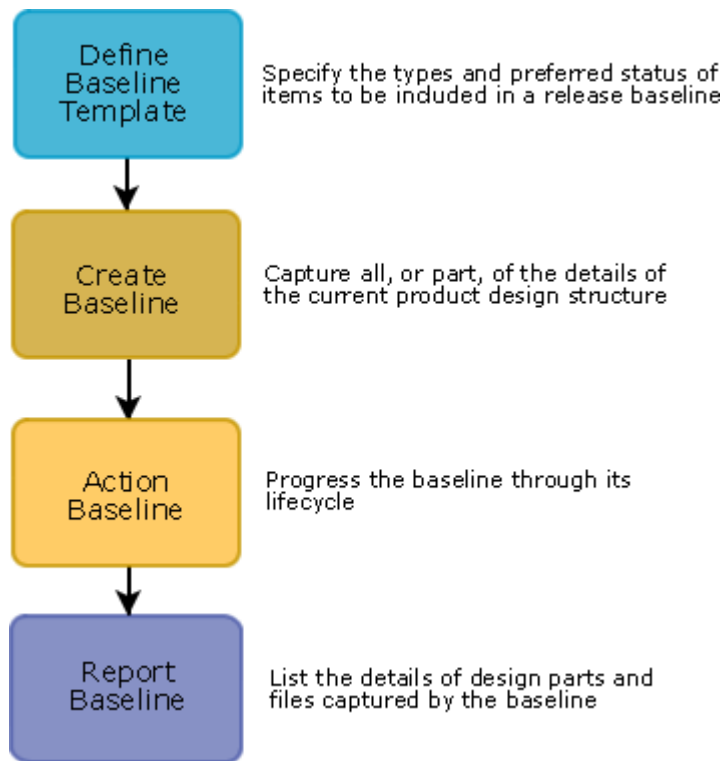
For more information on reports, see the *Reports Guide*.

Web client In the web client, you can do the following:

- **View items:** View the items included in a baseline.

- **Show users, roles, and privileges:** View the role assignments and privileges for a baseline and the users who have the baseline in their Inboxes.

- **View history**: View the action and update history of a baseline

- **Action baselines:** Move baselines from one state in the lifecycle to the next state.

- **Edit attributes:** Change a baseline's attributes.

- **Create a baseline:** Create a new baseline from a project.

- **Create revised baselines and create merged baselines:** Use existing release baselines to create revised and merged baselines.

- **Delete a baseline:** Delete a baseline that was created prematurely or is no longer needed.

Desktop client In the desktop client, you can do the following:

- **View items:** View the items included in a baseline.

- **Show users, roles, and privileges:** View the role assignments and privileges for a baseline and the users who have the baseline in their Inboxes.

- **View history and pedigree:** View the action and update history of a baseline and see the objects related to the baseline.

- **Action baselines:** Move baselines from one state in the lifecycle to the next state. Move the items in a baseline from one state to another.

- **Edit attributes:** Change a baseline's attributes.

- **Create a baseline:** Create a new baseline from a project/stream or a design part.

- **Create revised baselines and create merged baselines:** Use existing release baselines to create revised and merged baselines.

- **Delete a baseline:** Delete a baseline that was created prematurely or is no longer needed.

Selecting a Baseline

Purpose   Perform an operation on a baseline.

Web client   **To select a baseline:**

1   Do one of the following:

- **To select a baseline from your Inbox**, click the baselines tab and click the Inbox icon in the navigation pane.

- **To select a baseline from your Inbox for the current project**, click the My Current Project tab, expand the Inbox node in the navigation pane, and click the baselines icon.

- **To select from all the baselines in the product**, click the baselines tab, and click the catalog icon.

- **To select from all baselines related to the current project**, click the My Current Project tab, expand the Catalog node in the navigation pane, and click the baselines icon.

2   In the content pane, do one of the following:

- **To select a baseline**, click its check box.

- **To select all baselines in the list**, click the Select All icon in the column heading.

Desktop client   **To select a baseline:**

1   Do one of the following to display a list of baselines in a content window:

- **To list baselines related to your current project/stream**: In the My Current Project/Stream navigation window, expand the Catalog node and click the Baselines node.

- **To list baselines in your inbox related to your current project/stream:** In the My Current Project/Stream navigation window, expand the expand the Inbox node and click the Baselines node.

- **To list all baselines in your inbox:** In the User Inbox navigation window, click the Baselines node.

- **To select from all baselines:** In the Global Catalogs navigation window, click the All Baselines node. Complete the Select Baselines to Open dialog box to select the product and baseline(s) to want to list.

2   In the Baselines window, do one of the following:

- **To select a single baseline**, click the button ☐ ▦ next to the baseline, or click anywhere in the row containing the baseline.

- **To select multiple baseline**, Ctrl+click each baseline.

- **To select a range of baselines**, click the first baseline in the range, then SHIFT+click the last baseline.

- **To select all baselines in the list**, click the column heading, or click anywhere in the content window and type Ctrl+A.

Viewing Items in a Baseline

Purpose   View the items included in a baseline.

PRIVILEGES No special Privileges required.

Web client   **To view items in a baseline:**

1   Do one of the following:

- Select a baseline and click Open.

- Click the baseline name.

2   In the Open Baseline dialog box, click the Items tab.

Desktop client   **To view items in a baseline:**

Select a baseline in a Primary Object list in a content window. The items in the baseline are displayed in the Related Items window. See "About Content Windows" on page 193 for more details on viewing related objects. Selecting a specific folder in the folder tree restricts the list of items in the Related Items window to only those belonging to that folder. Selecting a design part in the design part tree window restricts the list of items in the Related Items window to only those owned by that design part.

Viewing Users, Roles, and Privileges for a Baseline

Purpose   View the role assignments for a baseline and the users with the baseline in their Inboxes. View the privileges for the baseline for a user.

PRIVILEGES To view other user's privileges you will need the privilege *View other User's Privileges* for the product that owns the baseline.

Web client   **To view users and roles:**

1   Select a baseline.

2   Click the Users, Roles an Privileges button.

3   To see which users have this baseline in their Inbox, click the Users with Object in Their Inbox tab.

4 To see which users are assigned to a particular role for this baseline, click the Role Assignments tab.

5 To see which privileges are enabled, click the Privileges tab.

6 If you have the *View Other User's Privileges* privilege, you can select another user whose privileges you want to view from the **User** list.

7 To view deployment privileges that apply to a specific stage or area, select a stage from the **Stage** list, and optionally, select an area from the **Area** list.

8 To see the rule that applies to a privilege, select the radio button for the privilege.

The details are displayed in the **Rule(s) Applied** text box at the bottom of the dialog box.

9 Click the Close button.

Desktop client **To view users and roles:**

1 Select a baseline.

2 Select Baseline | Show User Roles and Privileges.

3 To see which users have this baseline in their Inbox, click the Users with Object in Their Inbox tab.

4 To see which users are assigned to a particular role for this baseline, click the Role Assignments tab.

5 To see which privileges are enabled, click the Privileges tab.

6 If you have the *View Other User's Privileges* privilege, select the user whose privileges you want to view from the **User** list.

7 To view deployment privileges that apply to a specific stage or area, select a stage from the **Stage** list, and optionally, select an area from the **Area** list.

NOTE If the privilege has a ⚠ icon, this means that the user's permission cannot be resolved. You will need to select a **Stage** and **Area** above in order to determine whether the user has that privilege or not.

8 To see the rule that applies to a privilege, select the privilege.

The details are displayed in the **Rule(s) Applied** text box at the bottom of the dialog box.

9 Click the Close button.

Viewing Baseline History

Purpose   View the action and update history of a baseline.

PRIVILEGES No special Privileges required.

Web client   **To view baseline history:**

1   On the Baselines tab, do one of the following:

- Select a baseline and click Open.

- Click the baseline name.

2   Click the Action History tab, to view details of the actions performed on the baseline.

3   Click OK

Desktop client   **To view baseline history:**

1   Select a baseline.

2   Select Baseline | History.

3   Click Close.

To view the deployment history of a baseline:

Click the Deployment History button. This will take you to the Web Client Deployment tab with the History tab displayed.

Viewing Baseline Deployment History

You can view baseline deployment history in the web client. Depending on the deployment model used by the baseline's parent product (Dimensions Deployment or Deployment Automation), the web client Deployment view or Automation view are displayed. For details see the *Deployment Guide*.

1   In a content window select any baseline.

2   From the Baseline menu select History.

3   In the History dialog box select Deployment History or Automation History.

Viewing Baseline Pedigree

Purpose   View the objects related to a baseline. These objects include the parent project/stream, parent baselines, releases, and the customers created for these releases.

PRIVILEGES No special Privileges required.

Desktop client   **To view baseline pedigree:**

1   Select the baseline.

2   Select Baseline | Pedigree.

You see the Baseline Pedigree window that contains all the objects related to the baseline. Objects use the following icons:

Baseline

Release

Project/
stream

Customer

For more information on the Pedigree window toolbar, see "About the Pedigree Window" on page 212

Actioning a Baseline

Purpose Use this operation to move the baseline from one lifecycle state to the next lifecycle state.

NOTE *Dimensions CM Deployment* model only: if you are actioning a baseline to a lifecycle state that is associated with a stage in the Global Stage Lifecycle, it will also be promoted to that stage. If there are any default areas associated with the project/stream, the item files will automatically be deployed to those areas.

PRIVILEGES
Action Baseline to Next State to action a baseline to a valid next state.
Action Baseline to Any State to action a baseline to a lifecycle state without a valid transition.

Web client **To action one or more baselines:**

1   Select one or more baselines.

2   Click the Action button.

3   For **New State**, select a lifecycle state:

- **If you are actioning a single baseline**, either select **To next state** and select a valid next state from the corresponding list, or select **To specific state** and select a lifecycle state from that list. (You will require the necessary privilege to action to a state other than a valid next state.)

- **If you are actioning multiple baselines**, either select **Next normal state** or select **Named state** and type a lifecycle state. You must type a common lifecycle state for all baselines.

4   If you want to initiate a build for the items in the baseline, check the **Start build after action** check box.

NOTE Only items that are associated with a target definition file have this build option. For further details on building items, see "About Dimensions Build" on page 420.

5   Click the **Next** button.

6   If you want to set any attributes, type or select the values.

Required attributes are marked with a red exclamation point:

This page does not appear if you have selected multiple baselines.

7   Click the **Next** button.

8   Optionally, in the **Comment** field, type a comment.

9   Click the **Next** button.

10   Use the Results page to check the result(s) of the action.

11   Click the **Close** button to close the Results page.

Desktop client   **To action a single baseline:**

1   Select the baseline.

2   Select Baseline | Action | Baseline.

3   For **New Status**, select a lifecycle state, either select **Next status** and select a valid next state from the list, or select **All statuses** and select a lifecycle state from the list. (You will require the necessary privilege to action to a state other than a valid next state.)

4   Click the **Next** button.

5   If you want to set any attributes, type or select the values.

Required attributes are shown in bold.

6   Click the **Next** button.

7   Optionally, in the **Comment** field, type a comment.

8   Click the **Next** button.

9   Use the Summary page to check the details of the action to be performed.

10   Click the **Finish** button to perform the action and close the wizard.

To action multiple baselines:

1   Select two or more baselines.

2   Select Baseline | Action | Baseline.

3   In the Action Multiple Baselines dialog box, from the **New Status** list, select the lifecycle state to which you want to action the selected baselines. If you leave this field blank, the baselines are actioned to the next normal lifecycle status.

NOTE Lifecycles are defined with respect to the baseline's type. If you have selected baselines of different types, you must ensure that the lifecycle state you specify is common to all these lifecycles.

4   For **Action description,** optionally type a comment.

5   Click the **OK** button.

Actioning Baseline Items

Purpose   Use this operation to action items in a baseline to a new lifecycle state.

PRIVILEGES
Action item to next state to action the items to a valid next state.
Action items to any state to action the items to a lifecycle state without a valid transition.

Web client   **To action baseline items:**

1   Select a baseline.

2   Click the Action Baseline Items button.

3   In the Action Baseline Items dialog box, change the **Item Specification Filter,** if necessary. You can use the following wildcards in this field:

- Use an underscore (_) to match exactly one character. For example, d_g matches dog or dig.

- Use an asterisk (*) or percent sign (%) to match any number of characters. For example, d*g matches dog or drag or dreaming.

4   From the **New Status** list, select the next status for the items.

NOTE If you do not have the *Action baselines to any state* privilege, the new status must be reached from the current status by a single normal lifecycle transition. If you leave the **New Status** field blank, Dimensions CM automatically selects the next normal lifecycle status.

5   For **Action description,** optionally type a comment.

6   Click the OK button.

Desktop client   **To action baseline items:**

1   Select the baseline.

2   Select Baseline | Action | Baseline Items.

3   In the Action Baseline Items dialog box, change the **Item Specification Filter,** if necessary. You can use the following wildcards in this field:

- Use an underscore (_) to match exactly one character. For example, d_g matches dog or dig.

- Use an asterisk (*) or percent sign (%) to match any number of characters. For example, d*g matches dog or drag or dreaming.

4   From the **New Status** list, select the next status for the items.

NOTE If you do not have the *Action baselines to any state* privilege, the new status must be reached from the current status by a single normal lifecycle transition. If you leave the **New Status** field blank, Dimensions CM automatically selects the next normal lifecycle status.

5   For **Action description,** optionally type a comment.

6   Click the OK button.

Editing Baseline Attributes

Purpose
Use this procedure to change one or more baseline attributes. If you select more than one baseline, they must all be in the same product and have the same baseline type. For more information, see "About Design Baselines" on page 305.

PRIVILEGES Update Baseline Properties

Web client
To edit baseline attributes:

1 Do one of the following:

- Select a baseline and click Open.

- Click the baseline name.

2 In the Open Baseline dialog box, click the Attributes tab.

3 Change the attribute values.

4 Click the Save button.

Desktop client
To edit baseline attributes:

1 Select one or more baselines.

2 Select Baseline | Edit Attributes.

3 If you selected multiple baselines, in the Edit Baseline Attributes dialog box, click the Attribute tab.

4 Change the attribute values.

5 Click the OK button.

Creating a Baseline Scoped by Design Part

Purpose   Use this operation to mark a milestone and create a snapshot of a project/stream based on a design part structure.

CAUTION! Do not create more than one baseline at a time. If you create multiple baselines simultaneously you may corrupt the baselines and they will not contain the correct data.

PRIVILEGES Create Baseline

Web client   **To create a new baseline:**

1   From the Baselines tab, or the My Current Project tab with the **Baselines** node selected, click the New button and choose **Baseline**.

2   In the New Baseline dialog box, on the General tab, verify that any values that have been pre-populated are correct.

3   For **Baseline ID**, type a name or label for the baseline. This name must be unique within the product.

4   From the **Type** list, select a baseline type. The values in this list are set up in the process model.

5   For **Parent design part**, type a part specification, or click the browse button and use the Find dialog box. If you are creating the baseline from a design part, this field is pre-populated.

6   For **Part Levels**, do one of the following:

   ■ To include items from all design parts below the parent, select **All**.

   ■ To specify the number of levels in the design part hierarchy from which items will be included, select **From Top to Level** and type an integer value.

7   In **Related Requests**, optionally enter any requests you want to relate to this baseline as *In Response to*.

8   If you are creating a design baseline, skip to step 9.

   If you are creating a release or archive baseline, from the **Template** list, select a template.

9   If the project you want to base the baseline on is different from the one selected, select it in the **Projects** list. You can use the **Filter** field to enter a text string, restricting the projects in the list to those whose names contain the string. If you do not want to restrict the baseline to a specific project, select $GENERIC:$GLOBAL.

10   If you want to select items based on related requests or requirements, click the **Relationships tab** and do the following:

   ■ Select **Requirements** or **Requests.**

   ■ Use the browse button to select one or more requirements or requests whose related items are to be included in the baseline.

   ■ If you do not want to include item revisions for requests that are related to the requests selected by the template, deselect **Traverse Relationships**.

- If you want to include item revisions related as Info, select **Include item revisions related as Info to requests.**

- If you want to include items related to closed requests, select **Include closed requests**.

IMPORTANT! Note that all items that are related to a request as `In Response To` will be included—even if they are not in the project/stream specified in the **Projects** list.

NOTE The requirements or requests specified here only affect the content of the baseline if you have selected a request baseline template. If you have selected an item baseline template, the requirements or requests will merely be related as In Response to the baseline, and will have no effect on the items to be included in the baseline.

11 Click the Attributes tab, and complete any required fields.

12 Click the Save button.

Desktop client **To create a new baseline:**

1 Do one of the following:

- Select File | New | Baseline.

- Right-click a top-level design part, and choose New Baseline. For more information, see "Selecting a Design Part" on page 251.

2 In the New Baseline dialog box, on the General tab, verify that the values are correct.

3 For **Create baseline from design part**, type a part specification for the parent design part to scope of the baseline, or click the browse button and use the Find dialog box. If you are creating the baseline from a design part, this field is pre-populated.

4 From the **Product** list, select a product with which the baseline will be associated. If you are creating the baseline from a design part, this field is pre-populated.

5 For **Baseline ID**, type a name or label for the baseline. This name must be unique within the product.

6 From the **Type** list, select a baseline type. The values in this list are set up in the process model.

7 If you are creating a design baseline, skip to step 8.

If you are creating a release or archive baseline, from the **Template** list, select a template.

8 For **Part Levels**, do one of the following:

- To include items from all design parts below the parent, select **All**.

- To specify the number of levels in the design part hierarchy from which items will be included, select **From Top to Level** and type an integer value.

9 If you want to select items based on related requests or requirements, click the **Relationships tab** and do the following:

- Select **Requirements** or **Requests.**

- Use the browse button to select one or more requirements or requests whose related items are to be included in the baseline.

- If you do not want to include item revisions for other requests related to the selected requests, deselect **Traverse Relationships**.

- If you want to include items related to closed requests, select **Include closed requests**.

- If you want to include item revisions related as Info, select **Include item revisions related as Info to requests.**

IMPORTANT! Note that all items that are related to a request as `In Response To` will be included—even if they are not in the project/stream specified in the **Projects** list.

NOTE The requirements or requests specified here only affect the content of the baseline if you have selected a request baseline template. If you have selected an item baseline template, the requirements or requests will merely be related as In Response to the baseline, and will have no effect on the items to be included in the baseline.

10 Click the Attributes tab, and complete any required fields.

11 Click the Create button.

Creating a Tip Baseline

Purpose Use this operation to create a snapshot of a project or stream to preserve its state of development.

PRIVILEGES Create Baseline

NOTE Item revisions that are in an off normal state are not included in the baseline.

Web client **To create a tip baseline:**

1 From the Baselines tab, or the My Current Project/Stream tab, click the New button and choose **Tip Baseline**.

2 In the New Baseline dialog box, on the General tab, verify that any values that have been pre-populated are correct.

3 For **Baseline ID**, type a name or identifier for the baseline. This name must be unique within the product.

4 From the **Type** list, select a baseline type. The values in this list are set up in the process model.

5 If the project/stream you want to base the baseline on is different from the one selected, select it in the **Projects** list. You can use the **Filter** field to enter a text string, restricting the projects/streams in the list to those whose names contain the string.

6 If you want any subprojects or baselines attached to the project to also be included in the baseline, select **Traverse child collections**. (This is not applicable to streams.)

7 In **Related Requests**, optionally enter any requests you want to relate to this baseline as *In Response to*.

8   Click the Attributes tab, and complete any required fields.

9   Click the Save button.

Desktop client   **To create a tip baseline:**

1   Select File | New | Tip Baseline.

2   In the New Tip Baseline dialog box, on the General tab, verify that the values are correct.

3   From the **Product** list, if required, select another product.

4   For **Baseline ID**, type a name or label for the baseline. This name must be unique within the product.

5   From the **Type** list, select a baseline type. The values in this list are set up in the process model.

6   In **Related Requests**, optionally enter any requests you want to relate to this baseline as *In Response to* or use the browse button to select them.

7   If required, under **Project/Stream Selector**, select another product from the **Product** list, and select another project or stream from the **ID** list.

Alternatively, select **Use Global** if you want to use the Global Project in order to not restrict the baseline to a specific project/stream.

8   If you also want to baseline any sub-projects or baselines that are attached to the project, select **Also baseline attached sub-projects and baselines**. (This option only appears for a project when there are sub-projects or baselines.)

9   Click the Attributes tab, and complete any required fields.

10   Click the Create button.

Changing a Baseline ID

Purpose   Follow this procedure when you want to change a baseline's ID.

PRIVILEGES Rename Baseline (BASELINE_RENAME)

Web client   **To change a baseline ID:**

1   Do one of the following:

- Select a baseline and click Open.

- Click the baseline name.

2   In the Open Baseline dialog box, enter the new baseline ID.

3   Click the Save button.

Desktop client   **To change a baseline ID:**

1   Select the Baseline.

2   Select Baseline | Change ID.

3   For **New Baseline ID**, type the new baseline identifier.

4   Click the OK button.

About Revising and Merging Baselines

You can create a revised release baseline or merge two release baselines into one baseline.

IMPORTANT! You must use a release baseline to create a revised or merged baseline. You cannot use a design baseline or an archive baseline. For more information, see "When Would I Create a Baseline?" on page 304.

Revising Baselines

A revised baseline is created by applying requests to a previous baseline. Applying the requests affects the original baseline based on the relationship of the item revision to the request. There are two groups of requests that you can use to revise a baseline:

■   **Update baseline using**, requests used to update the baseline with item revisions

■   **Remove from baseline**, requests used to remove item revisions from the baseline

When creating a revised baseline using the **Update baseline using** list, modifications to the original baseline, based on the relationship of the item revisions to the requests, are made as follows:

■   Requests with item revisions that are related as *Affected* only will have no effect on the new baseline.

■   Requests with item revisions that are related to them as *Affected* and *In Response* will have any previous versions of those same items already in the original baseline replaced with the *In Response* revision, regardless of whether or not the revision of the item in the original baseline matches the revision related to the request as *Affected*.

■   Requests with item revisions that are related as *Affected* and *In Response* where the Item ID of the *In Response* item is not already in the original baseline at any revision will have the *In Response* revision added to the revised baseline.

■   Requests with *In Response* revisions only will have the *In Response* revisions added to the baseline.

■   If a request relates to refactoring changes those changes are processed as described in "Project Structure Changes" on page 324.

When creating a revised baseline using the **Remove from baseline** list, any item revisions in the original baseline that are related as *Affected* to the requests will be removed from the new baseline.

If two or more item revisions are on different branches, Dimensions CM issues a warning and processing continues without changing the revision of that item in the baseline.

For example, if you create a new baseline for a maintenance release from the main development branch, it may contain unwanted features and untested code. However, if

you revise a previous release baseline, the only changes introduced are those contained in the requests included in the baseline.

Every revised baseline has only *one* revision of any item, so it can be used like any other release baseline, for example, to create a test or release configuration of the product.

You can also use a revised or merged baseline to create another revised baseline. Because the contents of this baseline are no longer determined directly by the rules of a baseline template, its template ID is *REVISED*.

Project Structure Changes

When you create a revised baseline, it will include change information for all project structure or refactoring changes related to the specified requests. When you perform actions that involve refactoring, such as renaming a project folder, or exporting an item to the project, and you specify a request in the **Track changes with request(s)** field, those changes will be recorded against that request. Specifying those requests in the **Update baseline using** list will result in the changes being applied to the revised baseline.

Recorded Project Structure Changes

When project structure change control is enabled, the following changes to project structure are recorded against change requests:

Change	Description
Item addition and removal	An item revision is added or removed from a project. The change is recorded in one of the following: ■ The change request that lead to the structure change ■ The default change request
Item rename	An item is renamed or moved in the project structure.
Directory creation, deletion, and rename	A directory is created, deleted, or renamed in the project structure.

How Project Structure Change Requests are Used

When you create a revised baseline, the new baseline will include all the structural changes tracked by the specified requests. It is important to note that the structural changes will only be applied if they relate to the project whose context matches that within which the baseline is being revised. Structural changes outside of this context will be ignored.

How the Create Revised Baseline Operation Interprets Structure Changes

When you create a revised baseline, the operation interprets different types of structure changes in the following ways:

■   Item additions related to update requests are interpreted as new candidate items to be added to the baseline.

- Item and directory renames related to update requests are interpreted as candidate changes to the baseline file/folder structure.

- Item removals related to update or remove requests are interpreted as candidates for removal from the new baseline.

- Directory removals related to update or remove requests are interpreted as candidate changes to the baseline structure.

For more information on revised baselines, see the *Dimensions CM User's Guide*.

Notes on Structure Changes when Creating Revised Baselines

When you create a revised baseline:

- The operation ignores directory or item removals if the items or directories were not in the original baseline or have not since been added in the context of a structure change.

- All structure changes are performed in their original sequence to ensure integrity is maintained when item and directory renames are interleaved.

- If the operation encounters a rename or removal change to a directory path, it avoids renaming or removing the wrong directory by ensuring that there have been no directory additions or renames to the same path since the baseline was created. For example, if:

  - The original baseline included the directory "/source".

  - The original "/source" directory has since been deleted.

  - A new directory named "/source" has been added, with different content.

  - This new /source directory was renamed to "/files".

  Then the Create Revised Baseline operation detects that the original "/source" directory is not the same as the new /source directory, and fails with an error.

Merging Baselines

A merged baseline is created by selecting a top level design part, and specifying two or more existing baselines from which item revisions are to be included. Each input baseline must be either a release baseline or an earlier merged or revised baseline. All the baselines must reference the same product that will be specified for the new baseline.

The baselines in a list are considered in the order specified in that list. Every item in each baseline is checked and ignored if:

- it is not in the new baseline's project or design part structure.

- any revision of the same item has already been added to the new baseline.

If these checks are passed, the item revision is added to the new baseline. This continues until all items in all the baselines in the list have been dealt with.

This processing rule means that, for any item in the merged baseline, the revision added will be the one found in the first baseline in the list that contains that item. Therefore, in order to obtain a merged baseline with satisfactory contents, you would normally list the input baselines by creation date, in ascending order (the most recent baselines first and the oldest last).

A merged baseline typically has the same scope, or list of design parts, as the baselines used to create it. However, if you select a design part that is different from the source baselines, items that are in the source baselines that are not owned by the design part of the merged baseline are not included in the new baseline.

Every merged baseline has no more than one revision of any item, so it can be used like any other release baseline. For example, to create a test or release configuration of the product.

You can also use a revised or merged baseline to create another merged baseline. Because the contents of such a baseline are no longer determined directly by the rules of a baseline template, its template ID is MERGED.

NOTE For more information about merging baselines see *CMB – Create Merged Baseline* in the *Command Line Reference*.

Creating a Revised a Baseline

Purpose   Use this operation to create a new baseline by revising an existing baseline. The revised baseline includes or excludes the changes made to items in response to a set of requests or requirements.

CAUTION! Do not create more than one baseline at a time. If you create multiple baselines simultaneously you may corrupt the baselines and they will not contain the correct data.

PRIVILEGES Create Baseline

Restrictions
- When multiple revisions of the same item are In Response To one or more requests or requirements, the latest revision by pedigree will be selected. If two or more item revisions are on different branches, creating a revised baseline causes Dimensions to issue a warning and continue processing without changing the revision of that item in the baseline.

- The maximum number of requests/requirements that can be specified when creating a revised baseline is 496.

Web client   **To create a revised baseline:**

1   Select the baseline on which you want to base the revised baseline.

2   Click the New button and choose Revised Baseline.

3   For **New Baseline ID**, type a name or label for the baseline. This name must be unique within the product.

4   From the **Type** list, select a baseline type. The values in the list are set up in the process model.

5   If you want to use Requirements to revise the baseline, select **Requirements**, otherwise leave the selection as **Requests**.

6   For **Update baseline using**, list the requests or requirements related to item revisions you want to add to the baseline. The item revisions must have an In Response To relationship to the requests.

To list the requests/requirements, do one of the following:

- Type, or paste, one or more IDs separated by a comma. For example, `PAYROLL_CR_2, PAYROLL_PR_3`

- Click Browse and search for requests using the Select Request wizard or Select Requirement wizard.

7   For **Remove from baseline**, list the requests/requirements related to item revisions that you want to remove from the baseline. The item revisions must have an Affected relationship to the requests/requirements.

List the documents as described in the previous step.

NOTE You must have at least one request/requirement in either the **Update baseline using** field or the **Remove From baseline** field.

8   Select the **Traverse Relationships** check box to search for item revisions included in requests related to the listed requests.

9   From the **Project** list, choose the project from which you want to include item revisions.

To modify the projects shown in the list, enter a text string in the **Filter** field. Only projects containing that string will be listed. To display all projects, clear the field.

10   Click the Attributes tab and specify user-defined attributes that have been set up in the process model for the baseline type.

11   Click the Save button.

12   Check your Dimensions CM server email for any errors. The following errors are possible:

- If the requests in the **Requests to Update Baseline With** list include more than one revision of an item, Dimensions CM reports an error and does not create the revised baseline.

- If any revision to be deleted is the same as one that is to be added or substituted, Dimensions CM reports an error and does not create the revised baseline.

Desktop client **To create a revised baseline:**

1 Select the baseline you want to revise.

2 Select Baseline | New | New Revised Baseline.

3 In the Revise Baseline dialog box, verify that the values are correct.

4 For **New Baseline ID**, type a name for the revised baseline. This name must be unique within the product.

5 If you want to use Requirements to revise the baseline, select **Requirements**, otherwise leave the selection as **Requests**.

6 For **Update baseline using**, list the requests or requirements related to item revisions you want to add to the baseline. The item revisions must have an In Response To relationship to the requests.

To list the requests, do one of the following:

■ Type, or paste, one or more request/requirement IDs separated by a comma. For example, PAYROLL_CR_2, PAYROLL_PR_3.

■ Click the Browse button and search for requests/requirements using the Find Requests or Find Requirements dialog box.

7 In the **Remove from baseline** field, list the requests or requirements related to item revisions that you want to remove from the baseline. The item revisions must have an Affected relationship to the requests.

List the documents as described in the previous step.

NOTE You must have at least one request/requirement in either the **Update Baseline using** field or the **Remove From Baseline** field.

8 Select the **Traverse Request Relationships** check box to search for item revisions included in requests related to the listed requests.

9 Click the Attributes tab, and specify user-defined attributes that have been set up in the process model for the baseline type.

10 Click the OK button.

11 Check your Dimensions CM server email for any errors. The following errors are possible:

■ If the requests in the **Requests to Update Baseline With** list include more than one revision of an item, Dimensions CM reports an error and does not create the revised baseline.

■ If any revision to be deleted is the same as one that is to be added or substituted, Dimensions CM reports an error and does not create the revised baseline.

Creating a Merged Baseline

Purpose   Use this operation to merge two or more baselines into a new baseline.

PRIVILEGES Create Baseline (BASELINE_CREATE)

Web client   **To merge baselines:**

1   Select one or more baselines that you want to include in the merged baseline.

2   Click New and choose Merged Baseline.

3   For **Baselines**, type any additional baselines you want to include, or click Browse and search for baselines using the Select Baseline wizard.

4   For **Baseline ID**, type a name or label for the baseline. This name must be unique within the product.

5   From the **Type** list, select a baseline type. The values in the list are set up in the process model.

6   For **Parent Design Part**, type the top-level design part, or click the Browse button and search for design parts using the Select Design Part wizard. The parent part specification has the following format:
productID:*partID*.*variant*;*pcs*

7   Click the Attributes tab and specify user-defined attributes that have been set up in the process model for the baseline type.

8   Click the Save button.

9   Check your Dimensions CM server email for any errors.

Desktop client   **To merge baselines:**

1   Select two or more baselines that you want to merge.

2   Select Baseline | New | Based on Merged.

3   On the General tab of the Merge Baseline dialog box, verify that the values are correct.

4   For **Baseline ID**, type a name for the revised baseline. This name must be unique within the product.

5   From the **Type** list, select a baseline type. The values in the list are set up in the process model.

6   For **Parent Part Specification**, type the top-level design part, or click the Browse button and search for design parts using the Find dialog box. The parent part specification has the following format:
productID:*partID*.*variant*;*pcs*

7   Click the Attributes tab, and specify user-defined attributes that have been set up in the process model for the baseline type.

8   Click the OK button.

9   Check your Dimensions CM server email for any errors.

Deleting a Baseline

Purpose   Use this operation when a baseline is no longer required.

PRIVILEGES   Delete Baseline

You cannot delete a baseline if:

- it has been used to make a release, unless you delete the release first. For more information, see "Deleting a Release" on page 342.

- it has been used to create an archive unless you retrieve the archive first. For more information, see the *System Administration Guide*.

- it is currently promoted beyond the first stage in the GSL.

CAUTION! To delete multiple baseline at the same time, use a Dimensions CM command file—this guarantees that each baseline is deleted in turn.

Web client   **To delete a baseline:**

1   Select the baseline.

2   Click Delete.

3   In the Delete dialog box, verify that you have selected the correct baseline, and click the OK button.

Desktop client   **To delete a baseline:**

1   Select the baseline.

2   Select Baseline | Delete.

3   In the Delete Baseline dialog box, verify that you have selected the correct baseline, and click the OK button.

4   Check your Dimensions CM server email for any error messages resulting from this operation.

Baseline Consistency Checks

Introduction

Baseline consistency checks enforce additional verifications on the requests that are used to create a revised baseline (CRB) or a request template baseline (CBL). These checks ensure that:

- The requests used to create a new baseline provide a complete set of changes.

- Any dependent changes are not missing.

- The changes have been fully implemented.

Enabling the Baseline Consistency Checks

To enable baseline consistency checks on your Dimensions CM server installation:

1 Add the following variable to the configuration file %DM_ROOT%\dm.cfg on the server:

DM_ENABLE_BASELINECHECKS Y

2 Restart the Dimensions listener.

What do the Checks Validate?

When a new revised baseline or request-driven baseline is created, the checks described below are run to validate the consistency of the changes used to create the baseline.

Ensure all Requests are at an Implemented State

To be accepted for use, any requests that are provided as an input when a new baseline is created must be at a frozen or closed state. Any requests that are still under work or being tested are detected and rejected.

Ensure all Requests are Owned by the Correct Project or Stream

Any requests that are provided as an input when a baseline is created must be one of the following:

- Related to the project or stream from which the baseline command is being run.

- Not be related to any project or stream.

Requests related to a different project or stream are invalid and will be rejected.

Ensure Requests are not being Re-Used

If you attempt to create a new baseline using a request that has already contributed content to a previous baseline, that request is rejected. This check, and others described below, consider the baseline being created as well as the chain of baselines that led to the current one.

For example, consider the following scenario:
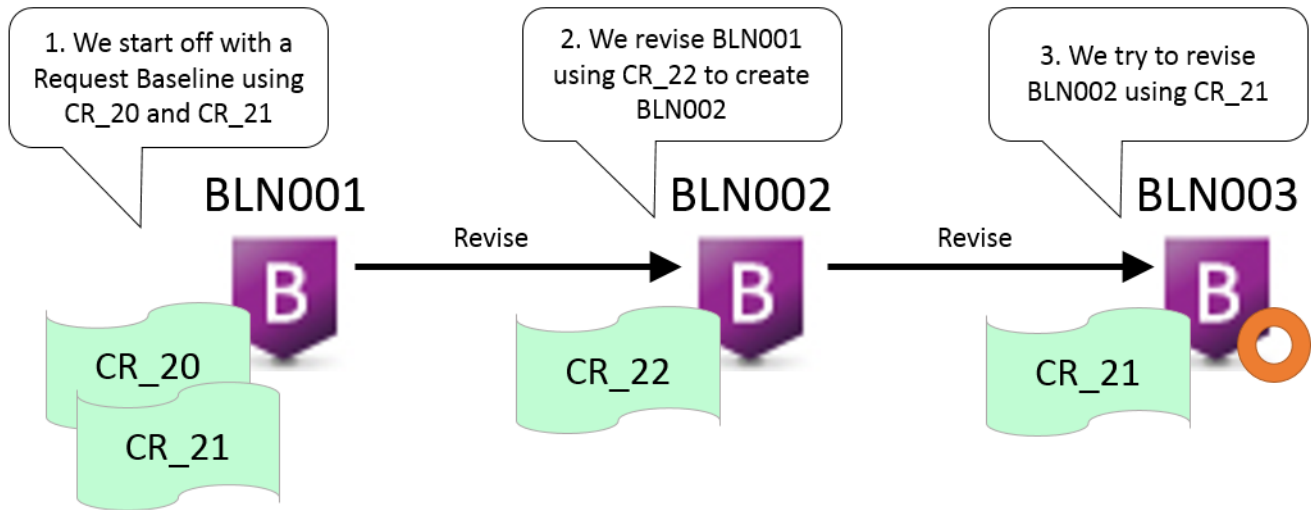
The creation of BLN003 fails because the consistency checks find that CR_21 was used in a previous baseline in the chain of baselines that leads to the one being revised (BLN003).

Ensuring Requests provide a Consistent Set of Changes

To ensure that the request list represents a consistent and complete set of changes, the consistency checker validates the requests and their items against the following criteria to check that there are no requests missing:

- For each request specified, all the related items (in response to, affected or as a result of refactoring) are examined to determine if they, or any of their predecessors, are related to other requests not already specified in the create baseline command.

- If any of those requests refer to items revisions that have not already been included in the baseline, or any of its previous baselines, the requests are displayed and the command fails.

- For every item being included, any changes that occurred after the latest change related to any specified request are ignored. For example, if a file was modified on Monday against CR_2 and renamed on Tuesday against CR_3 and you attempt to revise a baseline using CR_2, the rename (which occurred later against CR_3) is not included.

Filtering of Item Revisions

To ensure that only relevant items are considered in the consistency check, the following additional criteria are used to filter out any items that are irrelevant:

- Only those item revisions that are present in the project or stream against which the baseline command is being run are considered. Items that are not present are ignored.

- If a revision of an item is already in the baseline being revised, or any baseline in the chain that led to the one being revised, that revision and all its predecessors are filtered out. Only items that have never been in any of the baselines, or had revisions subsequently created, are considered.

▪ Items that are not in the baseline being revised, or any baseline on the chain that led to the one being revised, and are not present in the project or stream against which the baseline command is being run, are ignored.

Overriding the Consistency Checks

To override any issues identified by the consistency checks and to force the baseline to be created, add the /FORCE qualifier to the command that you submit. This qualifier generates warnings for consistency checks that are violated, however the baseline is created. Only users with the privilege that allows them to override process checks can run this command.

Examples

Example 1: Ensuring a Consistent Set of Changes
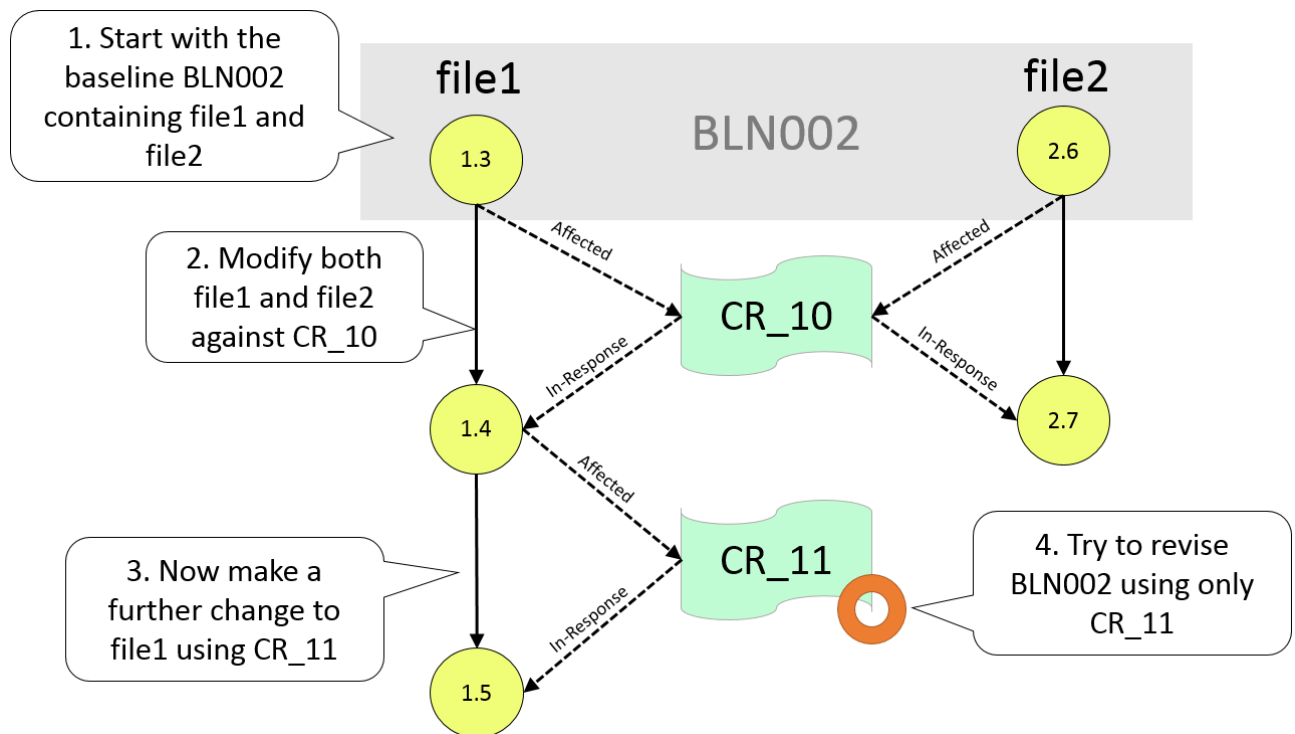
The change made to `file2` (when a change was also made to `file1`) will be missing unless CR_10 is included. The consistency checks warns that the baseline cannot be created only using CR_11 as it will be missing the dependent change made using CR_10.

Example 2: Refactoring Changes (Moves, Renames, and Deletions)
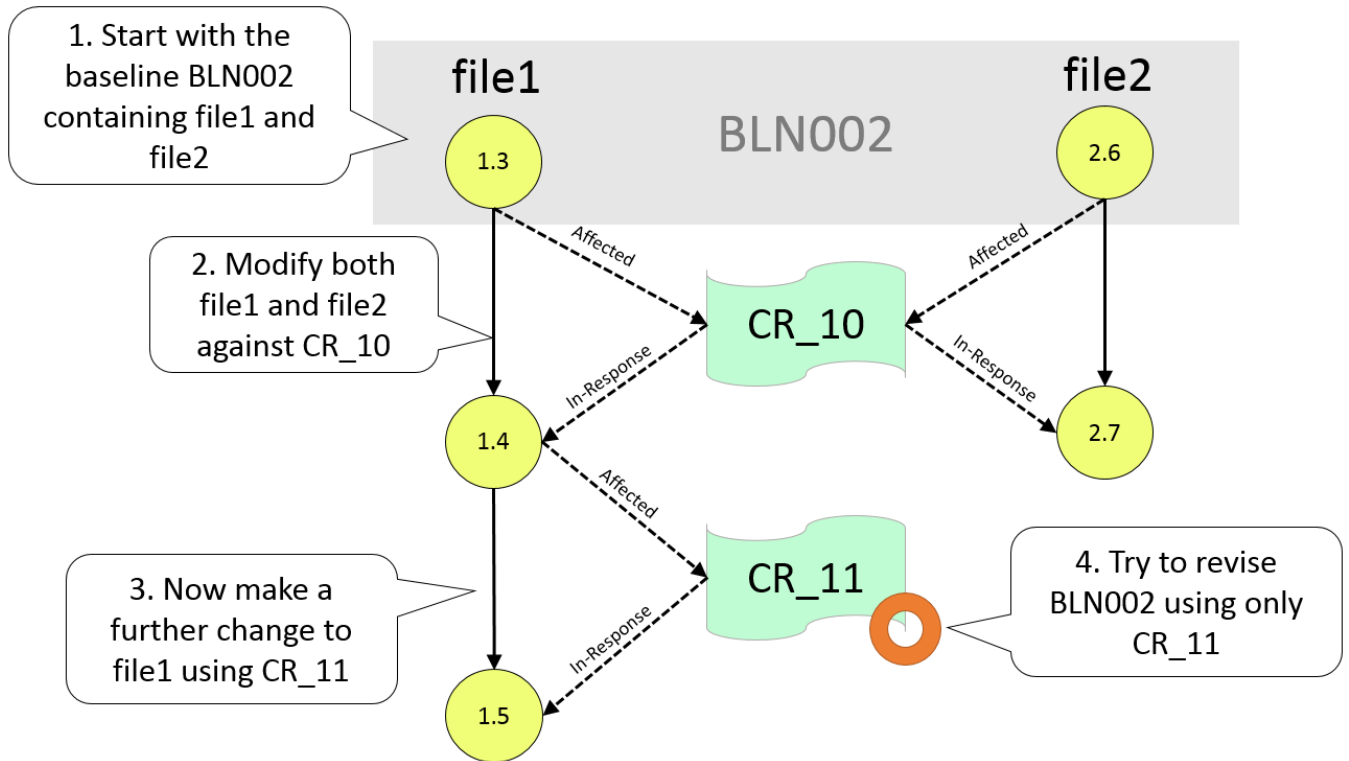
To get a consistent set of changes the new baseline should be created with reference to CR_22 and CR_23. If you run the following create revised baseline command:

```
CRB BL003 /BASELINE1=BL002 /UPDATE_CHDOC=CR_23
```

the consistency checks will detect that request CR_22 is missing and the command will fail.

If you re-run the baseline command and specify CR_22 and CR_23, the baseline will be created successfully because the changes referred to by CR_22 (on which CR_23 is dependent) are now included.

Opening Deployment Automation from a Baseline

Web client

1   Select the Automation or Baseline tab.

2   Select a baseline.

3   On the toolbar do one of the following:

- Baseline tab: select More | Open in DA
- Automation tab: select Open in DA

Desktop client

1   In a content window select any baseline.

2   From the Baseline menu select Open in DA.

Chapter 13
Managing Releases

In this Chapter

About Releases and Customers

A *release* in Dimensions® CM is a snapshot of the design structure or a baseline that you can use, for example, to package and ship to a customer, or use in integration testing.

A *customer* is the recipient of one or more releases. You show this in Dimensions by relating a release to a customer or a customer to a release. Relating customers to releases is usually called forwarding, and unrelating them is called withdrawing.

When you create a release, Dimensions creates a directory external to the Dimensions database that includes copies of all the files from a product configuration, or those files that satisfy the criteria in the release template. To ensure that items within a release are compatible, they must first be included in a release baseline. For more information, see Chapter 12, "Managing Baselines"

There are two types of releases:

- **Release:** a complete copy of a baseline. Dimensions copies all of the items in the baseline to the release directory, creating relative directories as necessary.

- **Delta:** includes only the items that have changed since you created a previous release. Dimensions checks each item specification against the contents of the previous release. If there is an exact match, including the revision number, Dimensions skips the item.

Dimensions maintains a history of the items included in a release. It does not record the location of the release directory. Once Dimensions creates the copy of the configuration, it exercises no further control over the release directory or its contents.

About Release Templates

When you create a release, you can select a release template. A release template is a set of user-defined rules that do the following:

- Select which parts of the product structure to include.

- Select which item types to include.

- Specify where to place the selected items in the release directory.

As a result, a release that uses a template may look completely different from the same release that does not use a template. The template can restrict which items to copy based on which design parts own the items, and also based on item type. The template can also override a project/stream directory structure.

You can use different release templates on the same baseline to create different releases, such as test configurations of subsystems.

You can reuse a release template:

- On the same baseline to produce multiple versions of the release.

- On a different baselines to create unique releases

- On different products.

If you use a template to create a release, you cannot change or remove the template until you remove all releases using the template.

You create release templates in the Administration Console. For more information, see the *Process Configuration Guide*.

About Release Relationships

A release can have the following relationships with other Dimensions objects:

- **Items:** The release is related to the items that it includes. The items can be a subset of the items contained in the baseline.

- **Baselines:** The release has a relationship to the baseline from which it was created.

- **Customers:** The release can have a relationship to one or more customers. In Dimensions CM, relating customers to releases is referred to as forwarding, and unrelating them as withdrawing.

About Forwarding a Release to a Customer

Forwarding a release establishes a relationship between a release and a customer. You can use this relationship to keep track of which releases were sent to which customers.

You can forward a release to multiple customers or forward multiple releases to a customer. The process of forwarding a release is similar to relating any two other objects. For more information, see "Relating and Unrelating Objects" on page 209.

About Withdrawing a Release from a Customer

Withdrawing a release from a customer removes the relationship between a release and a customer. Withdraw a release when a customer no longer wants to use a release.

The process of withdrawing a release is similar to unrelating any two other objects. For more information, see "Relating and Unrelating Objects" on page 209 for the desktop client, and "Relating and Unrelating Objects" on page 179 for the web client.

Selecting a Release

Purpose   Select a release so you can perform an operation it.

PRIVILEGES No special Privileges required.

Web client   **To select a release:**

1   Do one of the following:

- **To find all releases in the product:** On the Baselines tab, click the Manage Releases button.

- **To find releases related to the current project:** In the My Current Project tab, expand the Catalogs node, and click the Releases node.

2 On the Releases tab, do one of the following:

- **To select a release**, click the check box next to it.

- **To select all releases in the list**, click the select all icon in the column heading:
  ⥥

Desktop client   **To select a release:**

1 Do one of the following:

- **To find all releases in the product**: In the Product Catalog navigation window, click the Releases icon. In the Select Releases dialog box, select a product and one or more releases.

- **To find releases related to the current project/stream**: In the My Current Project/Stream navigation window, expand the Catalogs node and click the Releases icon.

2 Do one of the following:

- **To select a single release**, click the button ▭⇥▤ next to the release, or click anywhere in the row.

- **To select multiple releases**, Ctrl+click each release.

- **To select a range of releases**, click the first release in the range, then SHIFT+click the last release.

- **To select all releases in the list**, click the column heading ⥥

  or click anywhere in the content window and type Ctrl+A.

Creating a Release

Purpose   Create a snapshot of a product configuration or a baseline that you can use, for example, to package and ship to a customer, or use in integration testing.

If you are creating a release on a z/OS mainframe node, Dimensions CM automatically creates the target data sets, and you do not have to pre-allocate them. However, it is worth noting the target location so that you know where the files are stored.

PRIVILEGES Create Release

If the baseline for the release includes items that do not belong to the product, you might need additional privileges.

Be sure that you have permissions to create the directories on the workstation or server where Dimensions will create the directories.

Web client   **To create a release:**

1 On the Baselines tab, click the Manage Releases button.

2 On the Releases tab, click the New button.

3 For **Release ID**, type a name for the release. The name must be unique within the product. Dimensions CM does not record variants, versions, or revisions for a release, therefore make the name as specific as possible. For example:
`Release 2.1.0.4 for USA`

4 If applicable, from the **Release Template ID** list, select a template. The administrator creates release templates in the Administration Console.

5 For **Description**, optionally add a description of the release.

6 For **Baseline to be Released**, type the name of the baseline from which you want to make the release, or click the browse button to select it.

7 For **Release Directory**, do one of the following

- To select a release directory, click the Browse button, or type in an absolute path or path relative to the project root folder.

- If this field is left blank the Release object will be created but no files will be transferred. This may be useful if the release is used as a basis for a delta release.

8 If this is a delta release, select the **Delta Release** check box, and for **Previous Release**, type the release name.

9 Click OK. Dimensions CM sends an email notifying you when the operation is completed.

Desktop client **To create a release:**

1 Select the baseline from which you want to create the release.

NOTE If you select multiple baselines, the first baseline in the list is used.

2 Select File | New | Release.

3 In the New Release dialog box, check that the correct baseline is displayed in **Baseline to be Released**. If necessary, click Browse and select a baseline.

4 If this is a delta release, select the **Delta Release** check box, and for **Previous Release**, type the release name.

5 For **Release ID**, type a name for the release. The name must be unique within the product. Dimensions CM does not record variants, versions, or revisions for a release, therefore make the name as specific as possible. For example:
`Release 2.1.0.4 for USA`

6 If applicable, from the **Release Template ID** list, select a template. Your administrator creates release templates in the Administration Console.

7 For **Release Directory**, do one of the following:

- To select a release directory, click the Browse button.

- To use the current project/stream directory, leave this field blank.

8 For **Description**, optionally add a description of the release.

9 Click the Create button. You can view the progress of the operation in the Console window. Dimensions CM sends an email notifying you when the operation is completed.

Deleting a Release

Purpose Delete a release when it is no longer required.

You cannot delete a release if it is related to a customer. Withdraw the release from the customer first.

When you delete a release, Dimensions CM removes the release from the database, but does not remove the release directory. You need to remove the release directory manually.

PRIVILEGES Delete Release

Web client **To delete a release:**

1 On the Baselines tab, click the Manage Releases button.

2 On the Releases tab, select one or more releases.

3 Click the Delete button.

4 In the Delete dialog box, check that the release specifications are correct.

5 Click OK.

Desktop client **To delete a release:**

1 Select one or more releases.

2 Select Release | Delete.

3 In the Delete Release dialog box, check that the release specifications are correct.

4 Click OK.

Selecting a Customer

Purpose Select a customer so you can perform an operation on it.

PRIVILEGES No special Privileges required.

Web client **To select a customer:**

1 On the Baselines tab, click the Manage Releases button.

2 Select the Customers tab.

3 Do one of the following:

- **To select a customer**, click the check box next to it.

- **To select all customers in the list**, click the select all icon in the column heading.

Desktop client **To select a customer:**

1   In the Product Catalog window, click the Customers icon:
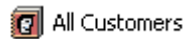
   All Customers

2   Do one of the following:

   ■ **To select a single customer**, click the button next to the customer: , or
      click anywhere in the row.

   ■ **To select multiple customers**, Ctrl+click each customer.

   ■ **To select a range of customers**, click the first customer in the range, then
      SHIFT+click the last customer.

   ■ **To select all customers in the list**, click the column heading

      or click anywhere in the content window and type Ctrl+A.

Creating a New Customer

Purpose   Add customers when you are ready to forward a release to an internal or external
           customer.

           PRIVILEGES No special privileges required.

Web client **To create a customer:**

1   On the Baselines tab, click the Manage Releases button.

2   On the Customers tab, click the New button.

3   For **Name**, type a name for the customer.

4   For **Location**, type the customer's physical location.

5   For **Project**, type the name of the project.

   NOTE The combination of customer name, location, and project must be unique in the
   Dimensions CM database.

6   Optionally, for **Contact Details**, type the customer's contact details.

7   Optionally, for **Comments**, add more information about the customer.

8   Click OK.

Desktop client **To create a customer:**

1   Select File | New | Customer.

2   On the General tab of the New Customer dialog box, for **Name**, type the customer's
    name.

3   For **Location**, type the customer's physical location.

4   For **Project**, type the name of the project.

   NOTE The combination of customer name, location, and project must be unique in
   the Dimensions CM database.

5   Optionally, for Contact, type the customer's contact details.

6   Optionally, click the Comments tab and add more information about the customer.

7   Click the OK button.

Editing a Customer

Purpose   Edit a customer when customer information changes.

If any releases are related to a customer, you can only edit the contact and comment information.

PRIVILEGES No special privileges required.

Web client   **To edit a customer:**

1   On the Baselines tab, click the Manage Releases button.

2   On the Customers tab, select the customer.

3   Click Open.

4   Edit the fields in the Open Customer dialog box.

5   Click OK.

Desktop client   **To edit a customer:**

1   Select a customer.

2   Select Release | Edit.

3   Edit the information in the Edit Customer dialog box.

4   Click the OK button.

Deleting a Customer

Purpose   Delete a customer when it is no longer required.

You cannot remove a customer that is related to a release. Withdraw the release from the customer first.

PRIVILEGES No special privileges required.

Web client   **To delete a customer:**

1   On the Baselines tab, click the Manage Releases button.

2   On the Customers tab of the Manage Releases dialog box, select one or more customers.

3   Click the Delete button.

4   In the Delete dialog box, check that the customer(s) are correct.

5 Click OK.

Desktop client **To delete a customer:**

1 Select one or more customers.

2 Select Release | Delete.

3 In the Delete Customer dialog box, verify you have selected the correct customers.

4 Click the OK button.

Forwarding a Release to a Customer

Purpose Forward a release to a customer when you want to record the fact that the release has been supplied to that customer.

PRIVILEGES Forward Release to Customer

Web client **To forward one or more releases to a customer:**

1 On the Baselines tab, click the Manage Releases button.

2 On the Releases tab, select the release(s).

3 Click the Forward to Customer button.

4 In the Forward Release to Customer dialog box, select the customer.

5 Click OK.

To forward a release to one or more customers:

1 On the Baselines tab, click the Manage Releases button.

2 On the Customers tab, select the customer(s).

3 Click the Forward Release button.

4 In the Forward Release to Customer dialog box, select the release.

5 Click OK.

Desktop client **To forward releases to one or more customers:**

1 Select the release(s), and select Release | Forward Release.

2 In the Manage Relationships dialog box, click the Add button.

3 Enter the names of the customers or

   a Click the browse button and use the Find dialog to select them. For more information, see "Finding Objects" on page 205.

   b To display the results of your search, click the Find Now tab.

   c On the Find Now tab, select one or more customers, and click the OK button.

4 Click OK. The customer(s) will now be added to the **Relationships** list.

5   Click the OK button.

To forward one or more releases to a customers:

1   Select the customer(s), right-click and select Forward to customer.

2   In the Manage Relationships dialog box, click the Add button.

3   Enter the names of the releases or

    a   Click the browse button and use the Find dialog to select them. For more information, see "Finding Objects" on page 205.

    b   To display the results of your search, click the Find Now tab.

    c   On the Find Now tab, select one or more releases, and click the OK button.

4   Click OK. The release(s) will now be added to the **Relationships** list.

5   Click the OK button.

Withdrawing a Release from a Customer

Purpose   Withdraw a release from a customer when you want to remove the record of the fact that the release has been supplied to that customer.

PRIVILEGES Forward Release to Customer

Web client   **To withdraw a release from one or more customers:**

1   On the Baselines tab, click the Manage Releases button.

2   On the Releases tab, select the release and click the Open button or click the name link.

3   Select the Relationships tab.

4   Select the customer(s) and click the Withdraw Release button.

5   Click OK.

To withdraw one or more releases from a customer:

1   On the Baselines tab, click the Manage Releases button.

2   On the Customers tab, select the customer and click the Open button or click the name link.

3   Select the Relationships tab.

4   Select the release(s) and click the Withdraw from Customer button.

5   Click OK.

Desktop client **To withdraw a release from one or more customers:**

1 Select the release, and select Release | Withdraw release.

2 In the Manage Relationships dialog box in the **Relationships** list, select the customer(s) from which you want to withdraw the release and click the Remove button.

3 To commit the changes, click the **OK** button.

To withdraw one or more releases from a customer:

1 Select the customer, right-click and select Withdraw from customer.

2 In the Manage Relationships dialog box in the **Relationships** list, select the release(s) that you want to withdraw from the customer and click the Remove button.

3 To commit the changes, click the **OK** button.

Chapter 14

Comparing and Merging Projects

In this Chapter

About Conflicts Between Derivatives

The Project Merge Tool identifies conflicts when a change to an item or folder in one derivative differs from a change made to the same item or folder in another derivative. This means that conflicts are only detected for merges with at least two derivatives. Here are some examples where conflicts would be reported:

- If an item addition is reported in more than one derivative but is different between the derivatives.

- If an item is deleted from one derivative and is marked as a modification in another.

- If an item is modified in more than one derivative but is different between the derivatives.

- If an item has been moved in more than one derivative but has been moved to a different location in each derivative.

Starting the Project Merge Tool

The Project Merge Tool is a Microsoft Windows-based application that enables you to compare and merge folders/directories, projects, and baselines.

You can start Project Merge Tool in the following ways:

- From the Dimensions CM desktop client

- From the Windows desktop or taskbar

Upload Rules for New Items

When folders on disk are being merged with a Dimensions CM project, and new items are created, Dimensions CM uses the upload rules that have been set for the product that owns the project to which those items are being added. The upload rules determine the data formats and item types from the file patterns matching defined in the rules. For details of how to define/change upload rules, see the *Process Configuration Guide* chapter "Upload Rules".

Starting the Project Merge Tool to Merge folders

Purpose   Merge two or more folders and resolve conflicts, with the result being a single folder. Folders can be projects or baselines, or folders/directories in a work area.

Constraints   Upload rules need to be defined for any item types that will be added to the repository as a result of the merge.

You cannot merge the $GENERIC project.

To start the Project Merge Tool from the Dimensions CM desktop client:

1   Do one of the following:

If you want to ...	Do this ...
Base the merge on an entire project.	Select the project as your current project, and select Tools	Merge
Base the merge on a subfolder of a project.	Select the subfolder of the project and select Project	Merge.
Base the merge on a baseline.	Select the baseline and select Baseline	Project	Merge.

2   On the Ancestor tab of the Project Merge dialog box, from the **Object Type** list, select **Baseline**, **File Based**, or **Project**.

3   To specify the ancestor, do one of the following:

- In the **Specification** field, type a project or baseline specification, or click Browse to find a project or a baseline.

- In the **Folder** field, type a folder name, or click Browse to find a folder.

4   Click the Derivatives tab.

5   To specify a derivative, do the following:

   a   From the **Object Type** list, select **Baseline**, **File Based**, or **Project**, and do one of the following:

      • In the **Specification** field, type a project or baseline specification, or click Browse to find a project or a baseline.

      • In the **Folder** field, type a folder name, or click Browse to find a folder.

   b   Click Add. The derivative is added to the Object Type table.

   c   Repeat steps a and b for each folder you want to merge with the ancestor folder.

6   Click the Target tab.

7   To specify the target, from the **Object Type** list, select **File Based** or **Project**.

8   If you selected **File Based**, for the **Folder** field, type a folder name, or click Browse to find a folder.

9   If you selected **Project**, do one of the following:

- For **Specification**, type a project specification.

- Click Browse to find a project.

- Click New Project to create a new project and

   a   On the General tab:

      ■ Select the **Product** to which the project will belong

- Enter the Project ID

- Select a Type

- Enter a Description

b On the Options tab, enter the project options. For details, see "About Project Options" on page 87.

c On the Named Branches tab, enter any named branches and select the default branch.

d On the attributes tab, enter any attributes.

NOTE If you create a new target project, you need to set the Dimensions CM upload rules. For more information, see "About Upload Rules" on page 358.

10 Click OK. The target folder is not created until you resolved all the conflicts between the ancestors and the derivatives and save the folder in Project Merge Tool.

To start Project Merge Tool from the Windows command line:

1 Start the Dimensions CM desktop client or SCC (Source Code Control).

2 Select Start | Run.

3 In the Run dialog box, type one of the following:

- `projectmerge` *`ancestor_dir derivative_dir`* `-target` *`dir`*

  where:

  `ancestor_dir` is the name of the ancestor folder.

  `derivative_dir` is the name of the derivative folder. You can enter multiple folder names to compare.

  `-target` *`dir`* is the location of the merged folder.

- `projectmerge -config` *`file`*

  where *`file`* is the name of the configuration file. For more information, see "Creating Project Merge Configuration Files" on page 361.

- `projectmerge -target` *`dir`*

  where *`dir`* is the location of the target folder.

  In the Select Directories dialog box, type the directories you want to compare, or click Browse to find the directories. The first folder is the ancestor and the second folder is the derivative. You can only add one derivative folder.

4 Click OK.

The Project Merge Tool starts and you can merge the folders.

Starting Project Merge Tool to Compare Folders

Purpose Compare folders to view differences between two baselines, projects, or folders/ directories.

To start the Project Merge Tool from the Dimensions CM desktop client:

1 Do one of the following:

- Select Tools | Compare.

- Select Project | Compare.

- Select Baseline | Project | Compare.

2 On the Ancestor tab of the Project Compare dialog box, from the **Object Type** list, select **Baseline**, **File Based**, or **Project**.

3 To specify the ancestor, do one of the following:

- In the **Specification** field, type a project or baseline specification, or click Browse to find a project or a baseline.

- In the **Folder** field, type a folder name, or click Browse to find a folder.

4 To specify the derivative, click the Derivative tab, and do one of the following:

- In the **Specification** field, type a project or baseline specification, or click Browse to find a project or a baseline.

- In the **Folder** field, type a folder name, or click Browse to find a folder.

5 Click OK.

To start the Project Merge Tool from the Windows command line:

1 Start the Dimensions CM desktop client or SCC (Source Code Control).

2 Select Start | Run.

3 In the Run dialog box, type one of the following:

- `projectmerge` *ancestor_dir derivative_dir*

  where:

  ancestor_dir is the name of the ancestor folder.

  derivative_dir is the name of the derivative folder.

- `projectmerge -config` *file*

  where *file* is the name of the configuration file. For more information, see "Creating Project Merge Configuration Files" on page 361.

- projectmerge

  In the Select Directories dialog box, type the directories you want to compare, or click Browse to find the directories. The first folder is the ancestor and the second folder is the derivative. You can only add one derivative folder.

4 Click OK.

The Project Merge Tool starts and you can compare the folders.

Merging Folders

About Resolving Conflicts

When merging folders, you must resolve all the conflicts before saving the target folder. To resolve conflicts, you can do one of the following:

- Manually select the item revisions in the derivative or ancestor that you want to include in the target folder.

- Start the Merge Tool to resolve conflicts between the selected files.

Move and Rename Detection

The Project Merge Tool has additional logic to detect, report, and act upon relocation of items and folders due to moves and renames, treating them as true relocations. This is in contrast to older versions of the Project Merge Tool that represented relocations as two separate events, a deletion at the old location and an addition at the new.

This additional functionality is only enabled for projects and baselines providers, and only if no more than two derivatives are specified. Note that folder moves are detected by interpreting the paths of moved items, and so consequently detection of relocated empty folders is not supported.

To demonstrate how this can affect change detection, consider the following simple baseline structure:
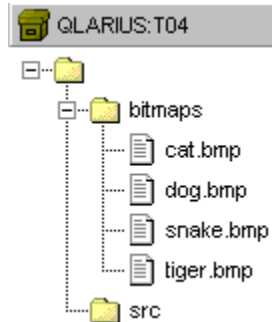
In a derived project, rename and update snake.bmp to reflect a change in file format to snake.jpg. Additionally, move the bitmaps folder under src and rename to images. When comparing that baseline and project using older versions of the Project Merge Tool, you would have seen:
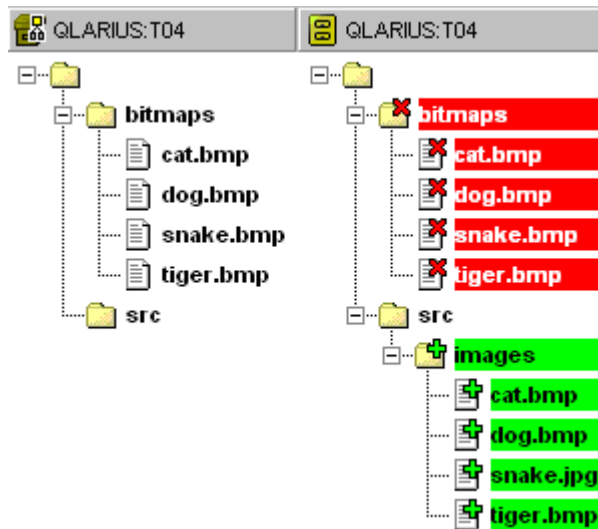
Although only one item and folder was acted upon, all rows are marked as changed. Because the original folder location is marked as a deletion, and the new folder location is marked as an addition, it implies that all children underneath are of the same change type. This in turn means that the fact that `snake.bmp` was updated and renamed is obfuscated by the inherited parent folder state.

And so, with the correct interpretation, the same data is represented like this:
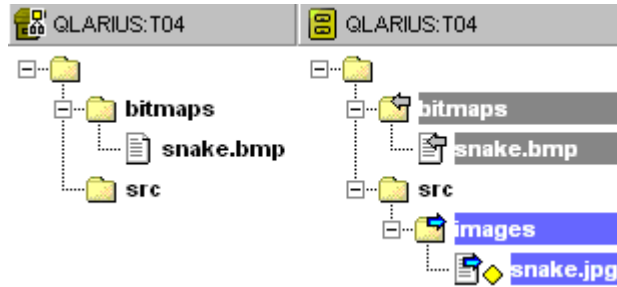
About Upload Rules

When merging folders, you can upload files from a folder outside of the Dimensions database and preserve them in a Dimensions project. In order to determine the design part, format, and item type for these new items, the Project Merge Tool uses the Dimensions CM upload rules.

Before saving a target folder, define the upload rules. For more information, see the Process Configuration Guide.

Chapter 15
Viewing File Annotations

In this chapter

About the Annotations View

The Annotations view annotates the lines of code in your source files. Annotations make it easier to find when a change was introduced. You can also see who made a change and why. Each annotation displays the item revision and the name of the user who delivered the change. Hover over an annotation to view additional information about an item revision such as:

- The date and time of the delivery.

- Its related change requests.

- Any comments added by the user.

The Annotations view is available in the desktop and web clients and the Windows Explorer integration. You can also use the ANNOTATE command in the DMCLI command-line client to list file annotations.

Using the Annotations View

This section describes ways that you can use the Annotations view.

Opening the Annotations View

When you open the Annotations view you can see who has modified blocks of code and why. Each user's commits are highlighted with the same color.

To open the Annotations view:

1 Do one of the following:

- Web client: open an item and select the Annotations tab.

- Windows Explorer integration: right-click a file and from the Dimensions menu select **View Annotations**.

- Desktop client: right-click a file and select **View Annotations**.

2 Scroll to a block of code that has been modified.

3 In the left pane place the cursor over an item revision. A tool tip displays the following information:

- The item revision.

- The date the modification was made.

- The ID of the user who made the modification.

- The ID of any related change request.

- Comments added by the user when the item revision was delivered.

In the web client, to keep the tool tip in focus press F2.

Opening a Request Related to Changes

You can open a change request that is related to specific changes in a file.

To open a request related to changes in a file:

Do one of the following:

- Web client: select an annotation and on the toolbar click **Open Request**.

- Desktop client and Windows Explorer integration: right-click an annotation and select **Open <change request ID>**.

Opening an Item Revision Associated with a Change

In the desktop client you can open the item revision that is associated with the specific changes in a file. This enables you to review additional revision properties and perform operations on the item.

To open the item revision associated with a specific change:

(Desktop client only) Right-click an annotation and select **Open <item revision ID>**. The item revision opens in a new window.

Browsing an Item Revision

You can browse the contents of an item revision.

To browse an item revision:

Do one of the following:

- Web client: select an annotation and on the toolbar click **Browse**.
- Desktop client and Windows Explorer integration: right-click an annotation and select **Browse <Item revision ID>**.

Comparing an Item Revision with its Ancestor

You can view and compare the differences between an item revision and its ancestor.

To compare an item revision with its ancestor:

Do one of the following:

- Web client

  Select an annotation and on the toolbar click **Compare**. The Show Differences dialog box appears. For details see "Comparing Item Revisions and Files" on page 299.

- Desktop client and Windows Explorer integration

  Right-click an annotation and select **Compare with <change request ID>**. The item revisions are opened in the default merge tool.

Chapter 16

Using the Synchronize Wizard

In this Chapter

Introduction

The Synchronize Wizard enables you to synchronize the changes to files in your work area with the Dimensions CM repository, or to update the work area from the repository, or deliver changes in the work area to the repository. It can be run from within the desktop client or on a machine where this client tool has been installed.

About the Synchronize Wizard

The Synchronize Wizard compares a set of folders and files located in a file area with the item revisions and folders in a Dimensions CM project or stream, and tells you about the various types of changes that have occurred between them. It provides a graphical display containing icons and text descriptions. It can make updates to the work area and/or the Dimensions CM project/stream based on this comparison, and critically, provide easy resolutions to conflicts. In order to do this Dimensions CM creates and maintains client metadata relating to the status of the item files. Dimensions CM creates the metadata for a file when you first get or check out the item to the work area. It subsequently updates it when you synchronize or perform certain item operations such as check in or check out.

NOTE Dimensions CM does not maintain metadata for directory items. Operations using the Synchronize Wizard, such as deliver, update, and synchronize may not work as expected for directory items.

Synchronization can be invoked from any subfolder acting recursively from that point. However, Dimensions CM makes the comparison relative to the root folder in the work area that corresponds to the top-level folder in the project/stream.

Subsequently, if you have made changes to the files or folders beneath this root folder, or someone has updated the items or folders in the project/stream, Dimensions CM can use this metadata to determine the types of change, which versions of the files are the latest, and if any conflicts exist.

NOTE The Synchronize Wizard runs on Windows platforms, but it can access files on Dimensions UNIX platforms that are referenced using the `NODENAME::` or `AREANAME::` syntax. It does not, however support MVS file systems.

Using the Synchronize Wizard

You can use the Synchronize Wizard when working with projects or streams.

When working with projects, you can:

- Update the work area with the latest changes to the project in the repository.

- Deliver the latest changes in your work area to the repository.

- Allow the Synchronize Wizard to automatically update both the work area and the Dimensions CM project to reflect the latest changes in both.

When working with streams, you can:

- Update the work area with the latest changes in the stream in the repository.

- Deliver the latest changes in your work area to the stream in the repository.

For details of using the Synchronize Wizard with streams, see "Working with Streams" on page 53. The remainder of this chapter describes synchronization using projects.

When you launch the Synchronize Wizard, it compares the files and folders beneath the root folder with the corresponding items and folders in the repository. In the example below, the folders in Windows Explorer are shown with the corresponding project folders in Dimensions CM.
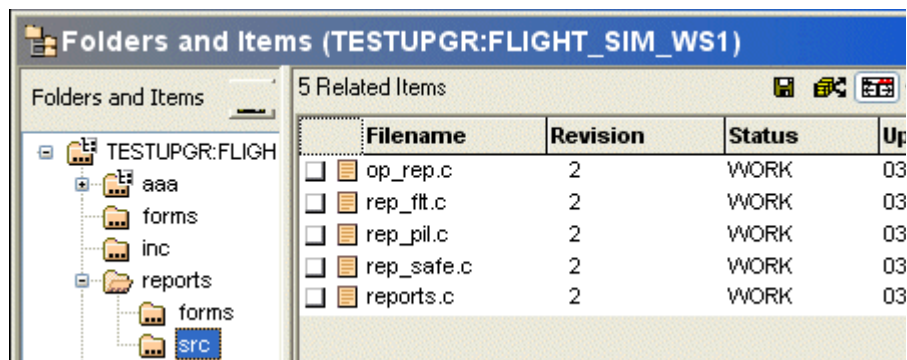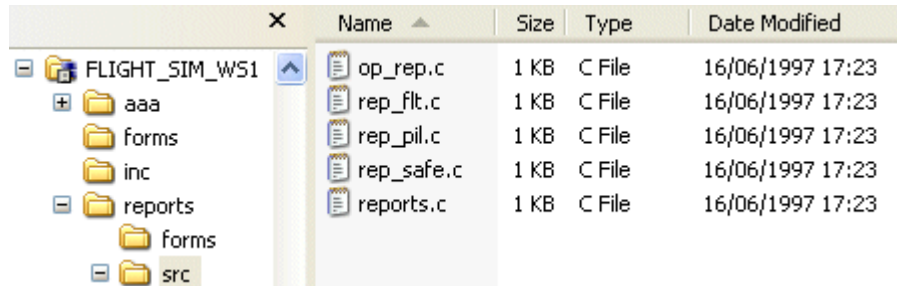
In the Synchronize Wizard, you see icons and a *Change Type* column that tell you what the differences are. When you select a file, the Synchronize Wizard displays a more detailed description of the difference in the Properties tab, and the default action the wizard has selected in the Resolution column. It allows you to select the action you want to take using the toolbar buttons. Any options for the selected file or folder are displayed in the Options tab

The Synchronize Wizard can usually decide automatically what action to take when there are differences. It can:

- Deliver new files to the repository.

- Update the work area with new item files.

- Update the item files in the work area or repository with whichever are the latest versions.

- Move or rename items in the repository to reflect any new name in the work area.

- Move or rename items in the work area to reflect any new name in the repository.

- Remove or delete items in the repository if they were deleted from the work area.

- Delete items in the work area if they were removed or deleted from the repository.

However, in the case of a conflict, when something has changed both in the work area and the repository, you need to make a decision about which version of the file to use as the latest version. You can:

- Ignore the conflict—leave the versions in the work area and repository both as they are.

- Use the version in the work area.

- Use the version in the repository.

- If there is a conflict in the file content, use the file merge tool to resolve the internal differences between the two files. You can also set the Auto merge option so that the file merge tool will automatically resolve non-conflicting file content.

Starting the Synchronize Wizard

Purpose Start the Synchronize Wizard to synchronize a work area when you want to update the work area, the corresponding Dimensions CM project, or both, to contain the latest versions of the item files. You can start the wizard either from the Windows Explorer or from the project/stream within the desktop client You can also start the Synchronize Wizard from Microsoft® Visual Studio®. See the *Dimensions CM for Visual Studio User's Guide* for details.

PRIVILEGES To update items in the repository you will need the following:

Deliver Files into Project/Stream
Update Item Content
Create Item

NOTE The Synchronize Wizard uses client metadata in order to make comparisons between the work area and the repository. The files and folders in the work area that correspond to existing items and folders in the project need to have been created using Dimensions CM item file operations in order to maintain this metadata. Dimensions CM will treat files that do not have this corresponding metadata as new items to be added to the repository.

NOTE The use of the Synchronize Wizard is not supported with a Dimensions CM project that uses a work area with a folder offset.

NOTE If session expiry occurs when you are using the Synchronize client, you may experience errors. To avoid these problems, it is recommended that you increase the session timeout value.

To start the Synchronize Wizard from Windows Explorer

1 Select the folder in your work area that you want to compare or synchronize with the corresponding Dimensions CM project folder and subfolders.

2 Right-click, select **Dimensions**, and select the option you require: (the options available depend on the folder you have selected, and whether it is associated with a project or a stream)

- **Update** to update the work area with the latest changes in the repository

- **Deliver** to update the repository with the latest changes in your work area

- **Synchronize** to update both the work area and the repository to reflect the latest changes in both (only applies to projects)

- **Repository changes** to review all changes that have occurred in the Dimensions project or stream since your last update from the Dimensions CM repository

- **Local changes** to review all changes that have occurred in the work area since your last update from the Dimensions CM repository.

To start the Synchronize Wizard from the desktop client

1   In the My Current Project navigation window, do one of the following:

- Expand the Work Areas node and select the My Area icon expand the folder tree to find the folder in your work area that you want to synchronize.

- Expand the Files and Folders tree to find the project folder you want to synchronize.

2   In the content window, right-click the folder and select the option you require. The options depend on whether you are currently working with a stream or a project. For a project, select:

- **Update** to update the work area with the latest changes in the associated project or stream

- **Deliver** to update the project or stream with the latest changes in your work area

- **Synchronize** for a project only, to update both the work area and the project to reflect the latest changes in both.

Using the Synchronize Wizard with a Project

The examples below illustrates the use of projects. The Synchronize Wizard behaves differently when you are working with streams, for details see "Working with Streams" on page 53.

Purpose   Use the Synchronize Wizard to step through the process of updating your work area and/or the corresponding Dimensions CM project so that they both contain the latest versions of the files.

PRIVILEGES To update items in the repository you are likely to need the following:

Deliver Files into Project/Stream
Update Item Content
Create Item

NOTE The Synchronize Wizard uses client metadata in order to make comparisons between the work area and the repository. The files and folders in the work area that correspond to existing items and folders in the project need to have been created using Dimensions CM item file operations in order to maintain this metadata.

NOTE The use of the Synchronize Wizard is not supported with a Dimensions CM project that uses a work area with a folder offset.

NOTE In Windows, the maximum supported length of file path for a checked out or gotten file in the work area is 260 characters.

To update an empty work area from a project:

1   To start the Synchronize wizard from Windows Explorer, see "To update your work area with changes from a project or stream:" on page 394.

2   In the desktop client, Set your default work area to the work area.

3   In the folders and items view, select the folder whose items you want to update in the work area (to update from the entire project, select the top-level folder) and select Project | Update from Project.

4   The Synchronize wizard appears with the Update from Project option selected.

5   If you want to change any of the options, see "To synchronize a project with your work area using the Synchronize Wizard:" on page 374.

6   Click Next.

After some processing, a page is displayed showing the files to be copied to the work area.

7   If you want to change any of the options, see "To synchronize a project with your work area using the Synchronize Wizard:" on page 374.

8   Click Next. A summary page is displayed showing the updates that will take place.

9   To complete the update, click the Update button. After some processing, the wizard displays Synchronize is now complete.

10   Click Close.

To synchronize a project with your work area using the Synchronize Wizard:

1   To start the Synchronize wizard from Windows Explorer, see "To synchronize both your work area and a project in the Dimensions repository:" on page 394.

In the desktop client, in the folders and items view, select the folder whose items you want to synchronize, and select **Synchronize**.

2   If the project in the **Synchronize with** field is not set to the project with which you want to synchronize, use the browse button to select it.

3   If you want to exclude certain types of change in the work area from being synchronized, deselect the appropriate check boxes under **Include the following types of local changes**:

- Additions

- Deletions

- Modifications

- Moves/Renames

4   If you want to exclude certain types of change in the project in the repository from being synchronized, deselect the corresponding check boxes under **Include the following types of repository changes**.

5   If you want to restrict the synchronization to filter particular files or folders, enter expressions in the required fields for inclusions and exclusions. The inclusions, if entered, will be evaluated before the exclusions when the synchronization is performed. For examples of filters, see "Example Expressions for Specifying File Inclusions and Exclusions" on page 381.

NOTE You need to specify wildcards for folders when specifying types of files. For example, use **/*.exe to match all files of extension .exe.

- In **Include local folders** enter any expression required to restrict which folders will be delivered from the work area

- In **Exclude local files** enter any expression required to identify files you want to be excluded from the deliver to the repository.

- In **Include repository folders** enter any expression required to restrict which folders from the repository will be updated in the work area

- In **Exclude repository files** enter any expression required to identify files in the repository that you want to be excluded from the update to the work area.

6   If you want the content of conflicting files to be automatically merged provided there is no conflicting content, select **Auto-merge non-conflicting file content**.

7   Optionally, to see the other options on this page, click the **Show additional options** button.

    a   Dimensions CMIf required, change the **Synchronization Options**:

        • Select **Skip summary before synchronization** if you do not want the Synchronize wizard to display the summary page before synchronization.

        • Select **Close wizard of completion** if you want the Synchronize wizard to exit on completion of the synchronization.

    b   If you require an output log for the results of the synchronization, select **Enable in folder**. If you want to change the default folder where the logs are written, use the browse button to select another folder.

8   Click the **Next** button.

The window will display "Checking for work area differences" while processing takes place. When Dimensions CM has finished comparing the differences, the next page of the wizard is displayed containing a folder structure indicating the differences between the work area and the repository.

9   If required, use the Defaults tab to change the default options used when files are delivered or updated. (You will be able to override them when you select an individual file or subfolder by using the Options tab.)

- **Comment for check in**. If the synchronization requires updates to the repository, enter the default comment for any new item revisions that are created.

- **Relate to request(s)**. Select one or more default requests to be related in response to any new item revisions that are created. Note that your process model may require a request in order to create new item revisions. For details of how to do this, see .

  NOTE You cannot check out an item in response to a request if the request is above the initial stage in the Global Stage Lifecycle.

- **Permissions after Update**. Choose between **Make read only** and **Make writable** for the permissions to be set on the file after updating from the repository.

- **Design part for new files.** The part specification for the owning design part for new items created in this work area (unless overridden by any values set for a folder beneath the root folder in this work area). For details of how to do this, see .

- **Permissions after Deliver**. Choose between **Make read only** and **Keep unchanged** for the permissions to be set on the file after delivering to the repository.

NOTE It is not necessary to set file permissions to read-only just to distinguish files that have been updated. The **Change Type** column maintained by Dimensions CM provides a more accurate account of whether files need updating. It is now possible to always work with writable files. Setting the **Permissions after update** and **Permissions after deliver** to **Make writable** saves you having to first set permissions each time you want to update a file.

- **Apply date/time of**. Choose **Repository item** if you want the date/time of the files updated in the work area to have the same value as the item in the repository. Choose **Current system** if you want updated files in the work area to have the current date and time.

- **Expand substitution variables**. Select this option if you want item header substitution variables to be expanded when item files are updated in the work area. Note that this will only occur if **Enable item header substitution** is set for the item type in the Administration Console.

    The default for this is set in the desktop client in the Tools | Preferences dialog box or the Windows Explorer plug-in Dimensions | Preferences dialog.

10 If you want to change which files/folders are shown, use the toolbar buttons:

- To unhide item files that are unchanged, click the ![icon] button

- To unhide item files whose **Resolution** is set to *Ignored*, click the ![icon] button

- To view only item files in the repository, click the ![icon] button

- To view only item files in the work area, click the ![icon] button

- To view item files in both the repository and the work area, click the ![icon] button. This is a consolidated view and is the default selection.

11 If you want to set defaults or overrides for a specific file or folder, expand the folder tree, select the file or folder, and select the Options tab.

On the Options tab, there are a set of values that apply at the file or folder level similar to those at the root level described in Step 9. If you have selected a folder, these values will be used as defaults for deliver or update operations for items within this folder and any subfolders beneath it, but you will be able to override them when you select an individual subfolder or file.

If you want to change these, enter the default values you require.

12 You can expand the folder tree to view the differences. However, using the navigation buttons to move between each difference or unresolved conflict is much easier, especially if there are only a few differences in a large number of files

13 Select the Properties tab to view details of the selected file.

For each file for which there is a change or conflict, review and if necessary, change the resolution that has been determined by the Synchronize Wizard and any options to be applied specifically to that item revision. Select the Properties tab to see more details of the type of change or conflict. This procedure is described in more detail in "Reviewing a Change in the Synchronize Wizard" on page 377.

14 When you are satisfied with the resolutions for the changes, click **Next**.

The next page of the wizard displays a series of entries informing you of the updates that will occur when the synchronization is performed. At this stage no updates to the

database have yet taken place. Some operations and commands that could be destructive, or not what you intend, may be ordered first in the summary log and prefixed with a 'Caution:' heading and description.

15 If you want to return to the previous page to review the changes, click **Back**. If you are satisfied to continue, click **Synchronize**.

16 If there is an error during the processing of an item, Dimensions CM displays an error dialog box. Fix the error by entering the required fields in the Error dialog box and click the Retry button, or click the Ignore button to ignore that item. Alternatively, click the Abort or Ignore All buttons.

17 After some processing, a page displays *Synchronize is now complete*.

18 If you want to see details of the updates that have taken place, click Show Details.

19 If you want to close the wizard, click **Close**.

If you want to return to the start of the Synchronize Wizard to perform another synchronization, or to check the results of the synchronization, click **Restart**.

If you want the wizard to close automatically on subsequent occasions when processing is complete, select **Always close wizard on completion**.

Reviewing a Change in the Synchronize Wizard

Purpose   Review a change in the Synchronize Wizard when:

- You want to change the resolution that the Synchronize Wizard has determined for the change.

- There is a conflict between two versions of a file and you need to decide which version of the file to use, or you want to merge the contents of the files.

To review a change in the Synchronize Wizard:

1 Select a file or folder for which there is a change or conflict. This will have an entry under the **Change Type** column, and its icon is something other than 📄 for a file, or 📁 for a folder.

NOTE A folder rename is interpreted as an addition and a deletion.

- Click the filename or file icon to select a file.

- To move to the next file where there is a difference, click the ⬇ button.

- To move to the previous file where there is a difference, click the ⬆ button.

- To move to the next file where there is an unresolved conflict, click the ⬇ button.

- To move to the previous file where there is an unresolved conflict, click the ⬆ button.

- To view the item history for a file, right-click the file and select **History**. The item History dialog is displayed.

You will see a description of the change by clicking the **Details** tab below, and the current resolution is displayed in the **Resolution** column in the tree against the file or folder.

2 The **Resolutions** column shows the resolution that the Synchronize Wizard has chosen. Other possible resolutions that you can choose are represented by buttons in the toolbar. The buttons that are available depend on the change type. If you wish, click the appropriate button to select another resolution.

- To ignore the file or folder, i.e. exclude it from the synchronization, click the button.

- To use the version of the file or folder from the work area, click the button.

- To use the version of the file or folder from the repository, click the button.

CAUTION! When selecting the options **Use local** or **Use Repository**, you need to be aware of the implications of the action will be taken. Choosing one or the other of these could cause you to discard a change that you have made when you did not intend to.

Your selection is then shown in the **Resolution** column in the tree.

If you want to compare the content of a file with the item in the repository click the Compare button By default, this will launch the default merge tool to compare the contents. See "Using the Merge Tool" on page 399, or use the online help in this tool. You can configure other merge tools to be used with Dimensions CM. See the *System Administration Guide* for details of how to do this.

If the change type is **Conflict**, and you want to merge the content of the two files that are in conflict, click the button. If a conflict exists in the file content, this will launch the file merge tool in merge mode.

NOTE When certain types of conflict occur relating to a move and modification, you may be presented with an **Accept** option with the options:

- Rename and modification

- Just the modification

3 Under **Options**, there is a group of fields. These vary according to the type of change and whether the action to be taken will result in the deliver or update of a file. Accept the defaults or optionally, enter or change the values:

- **Comment**. If the synchronization requires updates to the repository, you might need to enter a comment for any new item revisions that are created if your process model requires this.

- **Requests**. If your process model requires you to enter a request when creating new item revisions, enter one or more requests in this field.

  NOTE You cannot check out an item in response to a request if the request is above the initial stage in the Global Stage Lifecycle.

- **Item Specification.** The item specification for a new item.

- **Item type**. The item type for a new item. If you want to choose a different item type, click the field and select one from the drop-down list.

- **Format**. Enter a file format for a new item.

- **Design Part for new files.** The part specification for the owning design part to be used for a new item.

- **New Revision**. If you want to change the default branch and revision for a new item revision, type it in this field.

- **Permissions after update**. If the file is being updated in the work area, select the permissions it will be given.

- **Permissions after deliver**. If the file is being delivered to the repository, select the permissions it will be given after the deliver.

Conflict Types

There are two main types of conflict. The better known where file content is in conflict requiring an invocation of the file merge tool. The lesser well known where actions conflict but not file content. For instance, where the file was modified locally yet deleted in the repository, or the file was renamed from "a" to "b" locally, but from "a" to "c" in the repository. In such cases, merge may not be not possible, and the user must decide which change to accept, "use local" or "use repository".

The Synchronize wizard recognizes certain situations that are identified as *pseudo-conflicts*. For example two users may have independently deleted the same file or created the same folder. These are situations that you might wish to investigate, but if you accept them in the Synchronize wizard, the metadata will be updated so that they do not subsequently appear again.

Selecting a request to Relate to your Changes

In the Synchronize wizard there is a browse button that you click in order to select requests to relate to changes made to the project or stream in the repository. The dialog box you are presented with depends on whether you are using Dimensions CM requests or SBM requests.

To select a request to relate using Dimensions CM requests:

1 Click the browse button.

   The Request Selection Wizard appears

2 Use the fields on the first page of the wizard to enter selection criteria for the request(s) you are looking for. Optionally:

   - Select a product from the list.

   - Select a request type from the Type list

   - Enter a filter string in any of the text fields:

     • Title

     • Request ID

     • Originator

     • Status

     You can use wildcards in these fields. Use an underscore (_) to match exactly one character. Use a percent sign (%) to match any number of characters.

3 If you want to filter the list of requests to contain only those in your inbox, select **Pending**.

   If you are using Eclipse or an IDE and you want to select only requests from your working list, select **In My Working List**.

4   Click Next.

5   Select the request(s) and click Finish.

To select a request to relate using SBM requests:

1   Click the browse button. The Select Requests dialog box appears

2   Select the report/category of requests on the left-hand side.

3   On the right-hand side, select the request(s).

4   Click OK.

Selecting an Owning Design Part

In the Synchronize wizard there is a browse button that you click in order to select an owning design part for any new items you create in the project or stream as a result of a synchronize or deliver process.requests to relate to changes made to the project or stream in the repository.

To select a design part:

1   Click the browse button.

The Request Selection Wizard appears

2   Use the fields on the first page of the wizard to enter selection criteria for the design part you are looking for. Optionally:

- Select a product from the list.

- Select a design part category from the Category list.

- Enter a filter string in any of the text fields:

  - Part ID

  - Part Description

  You can use wildcards in these fields. Use an underscore (_) to match exactly one character. Use a percent sign (%) to match any number of characters.

3   Click Next.

4   Select the part and click Finish.

Ignoring unwanted files

There are three ways of excluding unwanted files, such as object files, from synchronization/deliver.

- Manually select all the files for exclusion on the files & folders page

If, for example, all your executables are in one folder, you can select the folder to be ignored. The disadvantage is that you have to remember to do this every time.

- Use the exclusions filter

If, for example, you want to exclude the folder Debug, and files with a .bak extension, you would enter (on the first page):

Debug|Debug*|*.bak

- Deselect the additions check box on the first page

If most of your changes are modifications, and you don't normally have many additions, you can uncheck the additions box on the first page. This selects all additions to be ignored. On the second page, you can click the Unhide Ignored button, and then select the new files you want to add to change the ignore setting for those files (you can select multiple files).

Example Expressions for Specifying File Inclusions and Exclusions

You can enter an expression to specify which files are excluded from the synchronization in either the repository or the work area. For example, if your project contains a project of your own that you compile and the compiled sources and executables are in your own folder called "debug", then using the filter "*\debug" would ensure that the your compiled sources and executables do not get synchronized and avoids the necessity to ignore these files each time a synchronization is run. The characters that you can use in these expressions are:

- "*" a wildcard character that matches any number of characters.

- "?" that matches any single character.

- "|" that is used to join or concatenate multiple expressions.

- "\" is used as the separator for folders/directories regardless of whether the files are on a Widows or UNIX platform.

Some examples are:

- `build\bar.obj|build\bar.exe`

  explicitly excludes both the files bar.obj and bar.exe in the folder build.

- `*.obj|*.exe`

  excludes all files of extension .obj and .exe

- `build\*.obj|build\*.exe`

  excludes files of extension .obj and .exe in the folder build.

- `build\logs`

  excludes files in the folder build\logs.

-

Chapter 17

Using the Windows Explorer Plug-in

In this Chapter

The Microsoft Windows Explorer Plug-in

Dimensions® CM provides various tools and features to enable you to work with item files in your work area outside the Dimensions CM repository. The basic tools are:

■   The Dimensions CM Plug-in for Microsoft® Windows Explorer that enables you to see perform certain actions such as check in or check out from the Explorer window without having to start a desktop client or web client session. You can also invoke the Synchronize Wizard (see below) which means that you can work from Windows Explorer without needing to use the desktop or web clients.

■   The Synchronize Wizard that enables you to synchronize the files in your work area with the files in the Dimensions CM repository. This can be invoked from the desktop client or Windows Explorer. It is described in "Using the Synchronize Wizard" on page 369.

About the Microsoft Windows Explorer Plug-in

Dimensions CM provides an integration with Microsoft Windows Explorer that allows you to:
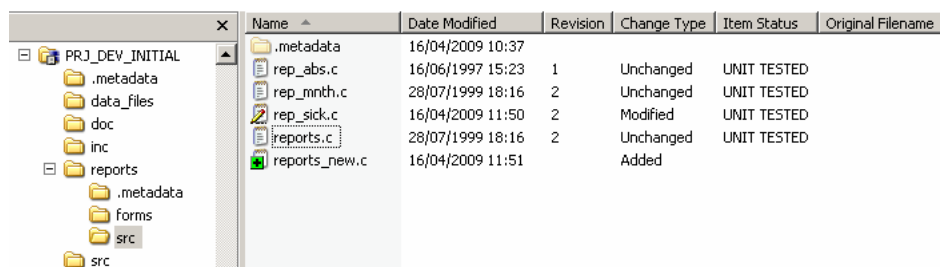
■   View a number of the properties of a file in relation to the item in the repository from which it originates.

■   Perform item operations such as check in, check out, update and deliver.

■   Use optimistic locking features to synchronize the files or folders in your local area with the corresponding project files or folders in the repository.

You can work with either streams or projects. For details about projects and streams and the differences between them, see:

■   "Working with Projects" on page 85

■   "Working with Streams" on page 53.

The Dimensions CM Explorer Plug-in adds a set of icon overlays and additional columns that indicate the status of item files and folders. It also provides an extra Dimensions tab in the Windows Explorer Properties dialog to view the Dimensions-related properties of items and folders.

An example of a Microsoft Explorer window with the plug-in active is shown below:

You can use the Explorer Plug-in to carry out development work in a Dimensions CM project without needing to use the desktop client or web client. You can, for example, create a new folder on your local machine, set that folder as a work area folder for a project, and perform a update to populate the folder with the contents of the project. You can then work on the files in your work area and subsequently perform a synchronization with the Dimensions CM repository. Dimensions CM will, in most cases, be able to

automatically determine which versions of the item files are the latest, and update both the work area and the project with the correct versions. This way of working is referred to as optimistic locking, and the developer only needs to make a manual decision if Dimensions CM detects that there is a conflict between two versions of a file.

The Metadata folders

When a folder in your work area has been used for Dimensions CM item file operations, a metadata folder is created beneath that folder called `.dm`. You can choose to turn off the creation of metadata in the Preferences dialog of the desktop client. Deselecting the **Write metadata** option on the Configuration tab will mean that metadata is not written to the work area during file operations such as check out or update. See "Setting the Configuration Details" on page 511.

NOTE Dimensions CM does not maintain metadata for directory items. Operations that rely on metadata, such as deliver, update, and synchronize may not work as expected for directory items.

The metadata folder contains files storing Dimensions-related information about the files and folders in that folder. By default, these folders are hidden in Windows Explorer. To view them, from the Explorer window, select **Tools** | **Folder Options**, and select the **Views** tab. Select **Show hidden files and folders** to view them, and select **Do not show hidden files and folders** to hide them. It is not recommended that you change any of the contents of the metadata folders. If you want to see details of files or folders that have been deleted from the work area since an update was last performed, you can use the compare feature provided with the Dimensions CM Explorer Plug-in.

NOTE If a file is renamed or moved when synchronized, the original history is not lost. This unique feature uses the Explorer facility to track moves and renames in order to keep track of the file relative to its original location within the project. This information is used by the Synchronize Wizard to offer a single rename event to the user that preserves original history of an item as opposed to the traditional way of tracking as two separate deletion and addition events where originating item history would be broken.

Change Icons

NOTE When the Explorer Plug-in is active, and there is a difference between a file and the item in the repository, the file icons are overlaid with an icon that indicates the type of change that has occurred in the work area compared with the repository.

NOTE A folder rename is interpreted as an addition and a deletion.

Overlay Icon	Change Type
	Modified: The contents of the file have changed.
	Added: The file has been added.
	Moved (or renamed): The file has been moved and/or renamed.
	Moved (or renamed) and modified: The contents of the file have changed, and the file has been moved and/or renamed.
	Checked out: The file in a project has been checked out. Locked: The file in the stream has been locked.

Overlay Icon	Change Type
	Checked out and modified: The file has been modified and is checked out.
	Checked out and moved (or renamed): The file has been moved and/or renamed and it is checked out.
	Checked out, moved (or renamed) and modified: The file has been moved and/or renamed and modified. The file is checked out.
	Project root folder: This folder has been set as the root folder for a project.

Using the Windows Explorer Plug-in

Purpose   Use the Windows Explorer Plug-in when you want to view the status of items and folders in relation to a Dimensions CM project, or to update the local work area or the repository with changes

PRIVILEGES To create or update items in the repository:
Update Item Content
Create Item

NOTE Some operations require access to the Dimensions CM database, in which case, if you are not already logged in, you will be presented with a log in dialog box in order to continue.

NOTE The Windows Explorer Plug-in uses client metadata in order to make comparisons between the work area and the repository. The files and folders in the work area that correspond to existing items and directories in the project need to have been created using Dimensions CM item file operations in order to create or maintain this metadata.

Accessing the Explorer Plug-in

If you have installed the Windows Explorer Plug-in on your machine, there are additional menu options that appear when you select files and folders in the Explorer window, and some icons have additional decoration that show Dimensions-related conditions and status.

When you attempt to perform an operation that requires access to the Dimensions CM database, and you are not already logged in., you will be presented with a Log In window. The procedure for logging in is the same as for the desktop client. You can have your client configured for use with SSO (Single Sign-on) and optionally Smart Card authentication. This is described in "Logging into the Desktop Client" on page 183.

Good Practices when Associating Work Areas

If you are a Microsoft's Windows Explorer user then you should associate the work area with the project or stream from Windows Explorer using the **Dimensions** | **Associate with source control** menu option. This creates the required metadata information in the folder to allow you to download to or update your work area from Windows Explorer.

If you are a desktop client user then you should associate your project or stream from the desktop client. You will need to update your work area using the desktop client.

If you are working on multiple projects and/or streams, the work areas that you associate with the projects and/or streams should be siblings.You should not nest them beneath one another. For example, work areas for the projects DEV and MAINT there respective work areas would be:

`C:\projects\dev`

and

`C:\projects\maint.`

Associating Work Areas with Projects or Streams

See the sections below for how to enable and configure the Windows Explorer:

- "To associate a Windows folder as a work area:" on page 387
- "To get copies of files and associate the selected Windows folder as a work area:" on page 389
- "To view or update the properties of a folder associated as a Dimensions work area:" on page 389
- "To view or update the properties of a file:" on page 390
- "To disassociate a folder as a Dimensions work area:" on page 390
- "To set Dimensions CM preferences for files:" on page 391
- "To enable support for network folders" on page 391
- "To disable support for network folders" on page 391

To associate a Windows folder as a work area:

1 Create a new folder or select a folder that has not previously been associated with a project or stream. Right-click and select **Dimensions** | **Associate with source control**.

    NOTE This option does not appear if the folder:

    - Has CM metadata associated with it.
    - Is a child of a folder that is associated with Dimensions source control.

    Login in if prompted. The Work Area Defaults dialog box appears.

2 For **Project Type** select:

    - **Stream** to associate the folder with a stream.
    - **Project** to associate the folder with a project.

3 In the **Associated Dimensions Project/Stream** field accept the default or click Browse. In the Select Project/Stream dialog box select one of the options. If you select **Another project/stream** do one of the following:

    - Start typing the ID of a project or stream. Projects/streams that contain any characters in the string are displayed. For example, to find 'QLARIUS:VS_BRANCHA' type 'vs'.

- • Select a project or stream from the list. Favorites and recently used projects/ streams are displayed at the top.

- • (Streams only) To create a new stream select **Create New** and complete the Create Stream wizard.

Click **OK**.

4 If you want to change the settings that Dimensions CM makes by default, click the **Show defaults** button, and change the defaults as necessary:

- ■ In the **Comment for check in** field, enter any text you want to be used by default for any items that you check in or deliver.

- ■ In the **Default request** field, enter a request ID if you require a request to be related to any new item revisions you create.

- ■ In the **Part specification** field, if required, enter an owning design part for new items that are created. This value will override the design part that is determined for a new item when a file has been added to a folder within this work area. The owning design part of a new item is normally determined from the upload rules based on the file type, but can be overridden by this field.

- ■ If required, in the **Local file exclusions** field, enter an expression to specify file types in the work area that you do not want to deliver to the repository. For examples, see "Example Expressions for Specifying File Inclusions and Exclusions" on page 381.

- ■ In the **Repository file exclusions** field, enter an expression to specify file types in the repository that you do not want include when updating the work area.

- ■ For **Permissions after update**, choose between **Make read only** and **Make writable** for the permissions to be set on the file after updating the work area from the repository.

  NOTE It is not necessary to set file permissions to read only just to distinguish files that have been updated. The **Change Type** column maintained by Dimensions CM provides a more accurate account of whether files need updating. It is now possible to always work with writable files. Setting the **Permissions after update** and **Permissions after deliver** to **Make writable** saves you having to first set permissions each time you want to edit a file.

- ■ For **Permissions after deliver**, choose between **Make read only** and **Keep unchanged** for the permissions to be set on the file after delivering to the repository. See note above.

- ■ For **Enable synchronize logging**, select **Yes** If you require an output log for the results of synchronizations between the work area and the repository.

- ■ In the **Log folder** field, if you want to change the default folder where the logs are written, use the browse button to select another folder.

5 Click **OK**.

To get copies of files and associate the selected Windows folder as a work area:

1 Right-click a folder that is not already associated with a Dimensions CM project or stream and select **Dimensions** | **Get**. Login if prompted.

   NOTE This option does not appear if the folder you select has metadata associated with it, or if it is beneath a folder that has already been associated with Dimensions source control.

2 In the **Project/Stream** box do one of the following:

   ■ Start typing the ID of a project or stream. Projects and streams that contain any characters in the string are displayed. For example, to find 'QLARIUS:VS_BRANCHA' type 'vs'.

   ■ Select a project or stream from the list. Favorite and recently used projects and streams are displayed at the top.

   Click **OK**.

3 If you only want to get files from a subfolder of the stream or project, click **Select repository folder to get**, and select a folder from the tree.

4 Select the options you require for the files that are to be copied:

   ■ Expand substitution variables

   ■ Automatically overwrite files

   ■ Apply system date/time to files.

5 Click **OK**.

To view or update the properties of a folder associated as a Dimensions work area:

1 Right-click a folder that has already been associated as a work area (This has an icon overlay:) and select **Dimensions** | **Folder Settings**. If necessary, complete the **Log in to Dimensions** dialog box and click **OK**.

   The Folder Settings dialog box is displayed.

2 If you want to change the Associated Dimensions Project/Stream, click the browse button and select the project/stream as described in **Step 3 on page 387.**

3 If the **Work area defaults** fields are not visible, click the **Show defaults** button.

4 Update the required fields:

   • Comment for check in

   • Request under work

   • Part specification

   • Local file exclusions

   • Repository file exclusions

   • Permissions after update

   • Permissions after deliver

   • Enable synchronize logging

   • Log folder.

See for details of these fields.

5   Click **OK**.

To view or update the properties of a file:

1   Right-click the file and select **Properties**.

2   Click the **Dimensions** tab.

You will be able to update the following fields:

- In the **Comment for check-in** field, enter any text you want to be automatically used for the items that you check in or deliver.

- In the **Request under work** field, browse for, or enter a request ID if you require a request to be related to any new item revision you create using this file.

- In the **Part specification** field, browse for, or enter a design part specification for the design part to be used for any new items that are created in the project/ stream.

- If required, in the **Local file exclusions** field, enter an expression to specify file types in the work area that you do not want to deliver to the repository. For examples, see "Example Expressions for Specifying File Inclusions and Exclusions" on page 381.

- In the **Repository file exclusions** field, enter an expression to specify file types in the repository that you do not want include when updating the work area.

- For **Permissions after update**, choose between **Make read only** and **Make writable** for the permissions to be set on the file after updating the work area from the repository, or set to **<Use default>** to take the default action.

- For **Permissions after deliver**, choose between **Make read only** and **Keep unchanged** for the permissions to be set on the file after delivering changes to the repository, or set to **<Use default>** to take the default action.

You can also view the following fields:

- **Header substituted** indicates whether header substitution was used when the item file was fetched from the repository.

- **Is extracted** indicates whether the item was checked out at the time that the item file was fetched from the repository.

- **Item specification** displays the item specification

- **Item status** displays the status of the item revision at the time that the item file was updated from the repository.

- **Original modification date** displays the modification date of the file at the time it was updated from the repository.

3   Click **OK**.

To disassociate a folder as a Dimensions work area:

1   Right-click the folder and select **Disassociate from source control.**

2   Click **OK**.

To set Dimensions CM preferences for files:

1 Right-click a file or folder and select **Dimensions | Preferences**.

2 Select the change detection option you require:

- Select **Use modification time** If you want Dimensions CM to use the timestamp to detect whether the selected file, or the files in the selected folder, have changed when the file sizes are the same**.**

- Select **Checksum file content** if you want Dimensions CM to also use the file checksum to detect whether the selected file, or the files in the selected folder, have changed when the timestamps are the same.

- If you want to apply item header substitution to this file, select **Expand substitution variables**. Note that you should specify reversible substitution variables to prevent the variables from being overwritten by the expanded values when the items are delivered back to the repository.

- If you want to enable network folder support, select **Enable support for network folders**. By default this is disabled for performance reasons.

3 Click OK.

To enable support for network folders

Do one of the following:

- Right-click a file or folder under Dimensions CM control, select **Dimensions | Preferences**, and select **Enable support for network folders**.

- In Windows Explorer, right-click a file or folder on the network and select **Dimensions | Enable support for network folders**.

  The Dimensions CM menus and icon decorations will now appear for network folders.

  If this option is disabled you will not see most of the Dimensions menu options for network files and folders or their icon decorations. If you access a network folder that has been associated with Dimensions CM, on the first occasion you will be prompted as to whether you want to enable support for network folders.

To disable support for network folders

1 In Windows Explorer, right-click a file folder and select **Dimensions | Preferences**.

2 Uncheck **Enable support for network folders**.

Performing Operations from Windows Explorer

Purpose   Perform Dimensions CM operations using the Windows Explorer Plug-in when you want to compare or update your work area in conjunction with the Dimensions CM repository without using the desktop client or web client.

PRIVILEGES To create or update items in the repository:
Update Item Content
Create Item

NOTE Some operations require access to the Dimensions database, in which case you will be presented with a login dialog box in order to continue. Once you gave logged in, Dimensions CM will remember your login credentials, and you will be logged in automatically. For details of the Login dialog box see "Logging into the Desktop Client" on page 183.

NOTE The Windows Explorer Plug-in uses client metadata in order to make comparisons between the work area and the repository. The files and folders in the work area that correspond to existing items and directories in the project need to have been created using Dimensions CM item file operations in order to create or maintain this metadata.

See the topics below for how to perform Dimensions CM operations:

- "To check out items:" on page 393

- "To check in items:" on page 393

- "To cancel item check-outs:" on page 393

- "To view the Item properties of a file:" on page 393

- "To view the item history of a file:" on page 393

- "To view the item pedigree of a file:" on page 393

- "To compare the contents of a modified file with an item revision in the repository:" on page 393

- "To lock items in a stream:" on page 394

- "To unlock a locked item in a stream:" on page 394

- "To discard changes to files:" on page 394

- "To synchronize both your work area and a project in the Dimensions repository:" on page 394

- "To update your work area with changes from a project or stream:" on page 394

- "To deliver changes from your work area to a project or stream in the repository:" on page 395

- "To view the changes in the Dimensions repository compared with your work area:" on page 395

- "To make files writable:" on page 395

- "To make files read-only:" on page 395

- "To touch files to update their timestamp:" on page 395

- "To action a request:" on page 396

- "To log out of Dimensions:" on page 397

- "To merge files or folders:" on page 396

- "To view file annotations:" on page 396

- "To view a stream's changesets:" on page 397

To check out items:

NOTE In Windows, the maximum supported length of file path for a checked out file in the work area is 260 characters.

NOTE Projects only

Right-click the file(s) or a folder and select **Dimensions** | **Check-Out.**

To check in items:

NOTE Projects only

1 Right-click the file(s) or a folder and select **Dimensions** | **Check-In.**

2 If you have not entered any text for the **Comment for check-in** field for the related file or folder properties dialog box, and a comment is specified as mandatory for the item type, you will be prompted to enter a comment, in which case enter some text for the comment.

NOTE If a file is unchanged, the Explorer Plug-in does not check in the file, but performs an Undo Check Out instead. This is consistent with the Eclipse and Visual Studio integrations, but in contrast to the desktop client.

To cancel item check-outs:

NOTE Projects only

Right-click the file(s) or a folder and select **Dimensions** | **Cancel Check-Out.**

To view the Item properties of a file:

Right-click the file, select properties, and select the Dimensions tab. The Properties dialog box is displayed showing the Dimensions properties of the file.

To view the item history of a file:

Right-click the file and select **Dimensions** | **History.** The History dialog is displayed showing the history of the item associated with this file. For details of using this dialog box, see "Viewing Item History" on page 268.

To view the item pedigree of a file:

Right-click the file and select **Dimensions** | **Pedigree.** The Pedigree window is displayed showing the pedigree history of this file.

NOTE Revisions of an item that do not belong to the current stream/project are greyed out.

To compare the contents of a modified file with an item revision in the repository:

1 Right-click the file and select **Dimensions** | **Pedigree.**

2 In the Pedigree window, right-click the revision that you want to compare with the version in your work area, and select **Compare**.

By default, the default merge tool is launched for this purpose. For details of how to use this file merge tool, see "Using the Merge Tool" on page 399, or use the online help in this tool. You can configure other merge tools to be used with Dimensions CM. See the *System Administration Guide* for details of how to do this.

To lock items in a stream:

Right-click the file(s) or a folder and select **Dimensions** | **Lock.** A small lock icon appears against the file icon.

To unlock a locked item in a stream:

Right-click the file(s) or a folder and select **Dimensions** | **Unlock.** The lock icon disappears.

To discard changes to files:

If you have modified a file, you have the option to discard it. Discarding a file performs a get of the original item revision from which the selected file was created, overwriting the file and setting its datestamp to the current system date and time.

1 Right-click the modified file(s) or a folder and select **Dimensions** | **Discard.**

2 Click OK in the resulting dialog to confirm the discard operation.

To synchronize both your work area and a project in the Dimensions repository:

NOTE Projects only

1 Right-click the work area root folder or a subfolder and select **Dimensions** | **Synchronize**. The first page of the Synchronize Wizard appears.

2 To select another project:

a Click the browse button.

b In the Select Project dialog box select a **Product** and **Project**.

c Click OK.

3 Follow the steps described in "Using the Synchronize Wizard with a Project" on page 373.

To update your work area with changes from a project or stream:

1 Right-click the work area root folder or a subfolder and select **Dimensions** | **Update.**

Project: the first page of the Synchronize Wizard appears.

Streams: the Update dialog box appears.

2 (Projects only) To select another project to update from:

a Click the browse button.

b In the Select Project dialog box select a **Product** and **Project**.

c Click OK.

3 Projects: follow the steps described in "Using the Synchronize Wizard with a Project" on page 373.

Streams: follow the steps described in "Updating a Work Area from a Stream" on page 62.

To deliver changes from your work area to a project or stream in the repository:

1 Right-click the work area root folder or a subfolder and select **Dimensions** | **Deliver**. The first page of the Synchronize Wizard appears.

2 (Projects only) To select another project to update from:

    a Click the browse button.

    b In the Select Project dialog box select a **Product** and **Project**.

    c Click OK.

3 Projects: follow the steps described in "Using the Synchronize Wizard with a Project" on page 373.

Streams: follow the steps described in "Updating a Work Area from a Stream" on page 62.

To view the changes in the Dimensions repository compared with your work area:

1 Right-click a file or folder and select **Dimensions** | **Repository changes**. The first page of the Synchronize Wizard appears with the **Repository Changes** option selected.

2 Follow the steps described in "Using the Synchronize Wizard with a Project" on page 373.

To view the changes in your work area compared with the Dimensions repository:

1 Right-click a file or folder and select **Dimensions** | **Work Area changes**. The first page of the Synchronize Wizard appears with the **Local Changes** option selected.

You will not be required to log in to Dimensions unless you choose to review repository changes, or select the Compare option for a file. If the **Log in to Dimensions** dialog box appears, complete the details and click **OK**.

2 Follow the steps described in "Using the Synchronize Wizard with a Project" on page 373.

To make files writable:

Right-click file(s) or a folder and select **Dimensions** | **Make writable.**

To make files read-only:

Right-click file(s) or a folder and select **Dimensions** | **Make read-only.**

To touch files to update their timestamp:

Right-click the file(s) or a folder and select **Dimensions** | **Touch.**

This is useful because, when working with build systems, you may want to update the timestamp of unchanged files in your work area, so that they are included in a build, but not delivered to Dimensions source control.

To action a request:

1 Right-click a file or a folder that is associated with a Dimensions CM project or stream and select **Dimensions** | **Action Request.**

2 The Request Selection Wizard displays a list of your pending requests.

In the initial list or requests, any request set in the **Request under work** field in the Explorer Properties dialog gets listed at the top. The other requests in the list are restricted to the requests for the product that are in the user's inbox.

If you want to change the selection:

a Click Search.

b Use the fields on the first page of the wizard to enter selection criteria for the request(s) you are looking for. Optionally:

- Select a product from the list.

- Select a request type from the Type list

- Enter a filter string in any of the text fields:

  - Title

  - Request ID

  - Originator

  - Status

You can use wildcards in these fields. Use an underscore (_) to match exactly one character. Use a percent sign (%) to match any number of characters.

c If you want to filter the list of requests to contain only those in your inbox, select **Pending**.

d If you are using Eclipse or an IDE and you want to select only requests from your working list, select **In My Working List**.

e Click **Next**.

3 Select the request(s) and click **Action**.

4 To action the request(s) follow the instructions in "Actioning a Request" on page 230.

To merge files or folders:

NOTE Streams only

Right-click file(s) or folder(s) and select **Dimensions** | **Merge.** The Merge Streams wizard appears. Follow the instructions in "About Merging" on page 140.

To view file annotations:

The annotation view enhances parallel development by adding annotations to blocks of code that have been modified. Right-click a file and select **Dimensions** | **Annotation.** The Annotation window appears.

For more details see "Viewing File Annotations" on page 365.

To view a stream's changesets:

A changeset is a logical grouping of changes that is created automatically every time that you deliver changes to a stream or project in a repository. Right-click a folder and select **Dimensions | Changesets.** The Changesets window appears.

For more details see "Working with Changesets" on page 129.

To log out of Dimensions:

Right-click a file or folder and select **Dimensions** | **Log Out.**

Chapter 18
Using the Merge Tool

In this Chapter

Araxis Merge

The default file merge tool in the desktop and web clients, and the Visual Studio integration, is Araxis Merge, a two and three-way file comparison (diff) and merging tool. For information about merging item revisions using Araxis see "Merge Conflicts" on page 4.

You can obtain help in Araxis Merge at any time by using the commands in the Help menu, or by pressing the F1 key. Some windows also contain a Help button.

NOTE You can change the default file merge tool to the Merge Tool or any other third party application. For details see *Configuring the Default Merge Tools* in the *System Administration Guide*.

About the Merge Tool

The Merge Tool allows you to compare the differences between two (or more) files with a common ancestor or base file, accepting or rejecting the differences between them, and combine the changes into a new file or item revision. These files can be revisions of the same item or different items in Dimensions® CM, or files in your work area.

NOTE When using the web client on UNIX platforms, the *mgdiff* tool is invoked. Use the Help option for details of how to use it. UNIX users can also choose to plug in their own differencing tools, such as *xxdiff*. For further details, read the *merge_exec* script in your client installation.

The merging process allows you to compare the differences between two (or more) files with a common ancestor or base file, accepting or rejecting the differences between them, and combine the changes into a new file or item revision.

The comparing process allows you compare two files side-by-side to see the additions, deletions, and changes between them. You cannot print or save the comparison file.

NOTE You cannot compare or merge binary files.

The difference between comparing and merging files is:

- You do not select a target file when you a performing a compare.

- When you perform a compare from within the desktop or web clients you can only select two files, an ancestor and one derivative.

- When you merge files, you must resolve all the conflicts before you can complete the merge.

Merging Terms and Definitions

The following table is a list of basic merge terms and definitions:

Term	Definition
Ancestor or base	The common base file from which other files are derived.
Derivative or branch	A version of a file created by making changes in the ancestor file.

Term	Definition
Target or output	The final merged file.
Addition	A line of text added to a derivative file that is not in the ancestor file.
Deletion	A line of text deleted in a derivative file that is present in the ancestor file.
Change or Modification	A line of text that was modified in one of the derivative files. The content of this line of text differs between the derivative file and the ancestor file.
Difference	A line of text added, deleted, or modified in a derivative file compared with the ancestor file.
Conflict	A line of text that was changed differently in more than one derivative file. The difference in this line of text is not the same between derivative files and the ancestor file.

The Merge Process

The merge process consists of:

- Selecting an ancestor file as the reference against which the derivatives will be compared.

- Selecting one or more derivatives.

- Selecting the file or item revision to be the target.

- Selecting the differences which have no conflicts and inserting them into the target. If you have selected the Auto Merge option, all the differences except for conflicts will be automatically included in the target.

- Resolving conflicts between the base and derivative files by choosing which version of each conflicting change to include in the target.

- Saving the changes made to the target file.

If you are performing a file merge in the web client or desktop client, the selection of the ancestor, derivatives and target is made from the dialog within that client, so that when you enter the Merge tool the main window is displayed with those files already selected. You will then choose which differences to carry forward to the target file.

If you are opening the Merge tool from outside a source control application, you will either choose the ancestor, derivatives and target by specifying them in a configuration file, or by completing the Files tab of the Configuration dialog box.

Selecting an Ancestor

The ancestor is the file or item revision that you want to use as your point of reference. It is usually the branch point—the revision from which a branch begins (typically off the main trunk of development).

If you are merging versions that are located in different branches of development, the ancestor you select should be the version that is the latest to be created which is a common ancestor to *all* of the versions that you want to merge.

In the following example, if you want to merge the differences from revision 1.2.1.2 with revision 1.4.1.1, you would use revision 1.2 as the ancestor. You could use revision 1.1 or 1.0 as the ancestor, but we recommend using the revision that is closest to the files you are merging. The closer the content of the ancestor is to that of the files you are merging, the fewer conflicts you will have to resolve.

```
□↑  1.*
    📄 1.4
    📄 1.3
    📄 1.2 ——————————— Recommended ancestor
    📄 1.1 ——————————— Possible ancestor
    📄 1.0 ——————————— Possible ancestor
□↦ 1.4.1.*
    📄 1.4.1.1 ——————————— Derivative 2
    📄 1.4.1.0
□↦ 1.2.1.*
    📄 1.2.1.2 ——————————— Derivative 1
    📄 1.2.1.1
    📄 1.2.1.0
```
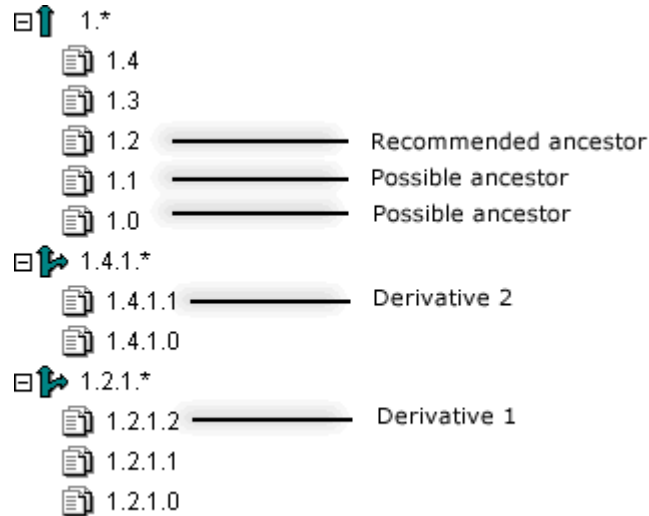
About Resolving Conflicts In the Merge Tool

The Merge Tool identifies a line as a conflict between the derivatives based on the following rules:

- If a line is an addition in more than one derivative, but is different between the derivatives.

- If a line is a deletion in at least one derivative and is marked as a modification in at least one other derivative.

- If a line is a modification in more than one derivative but is different between the derivatives.

The example below shows a modification conflict in the second row. This line has been modified differently in the two derivatives. The line has a background color of dark yellow, meaning that it is a modification. It also has a background pattern that indicates that it is a conflict. The second row of the target shows that nothing has yet been inserted for this line, and it has the comment <Conflict> against it.

Ancestor and derivatives with conflict unselected
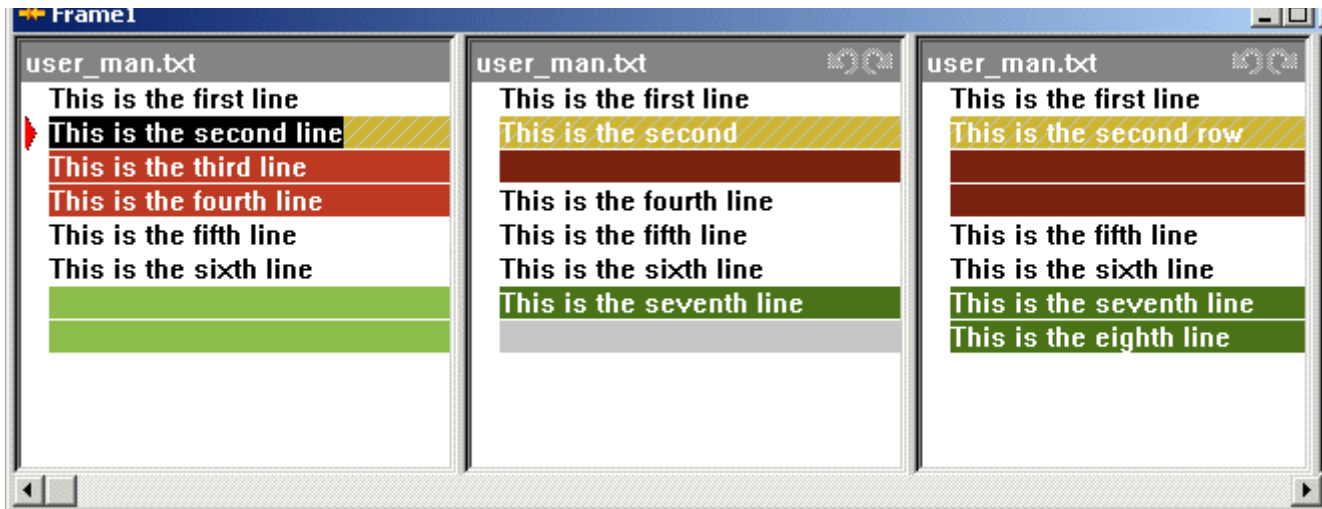
Target file
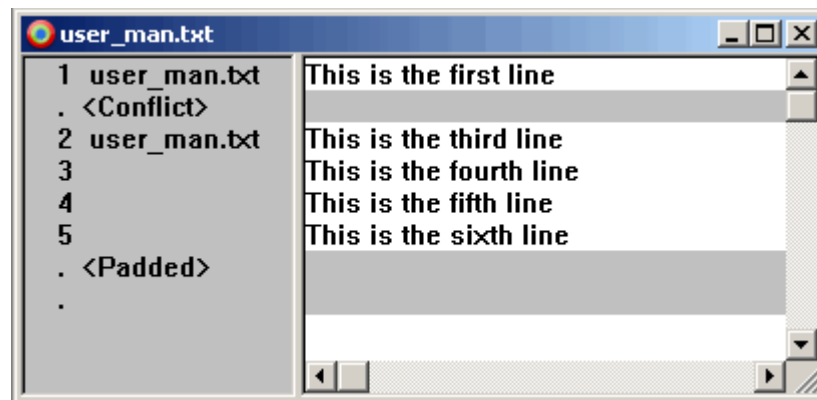
In the next example below, the version of this line from the second derivative has been selected for inclusion in the target by right-clicking it. The selected line has changed color to bright yellow to indicate a selected modification. The background pattern has changed to indicate a resolved conflict. Line 2 of the target shows that the difference has been inserted from the second derivative and the comment <Conflict> no longer appears against that line.

Conflict selected from second derivative
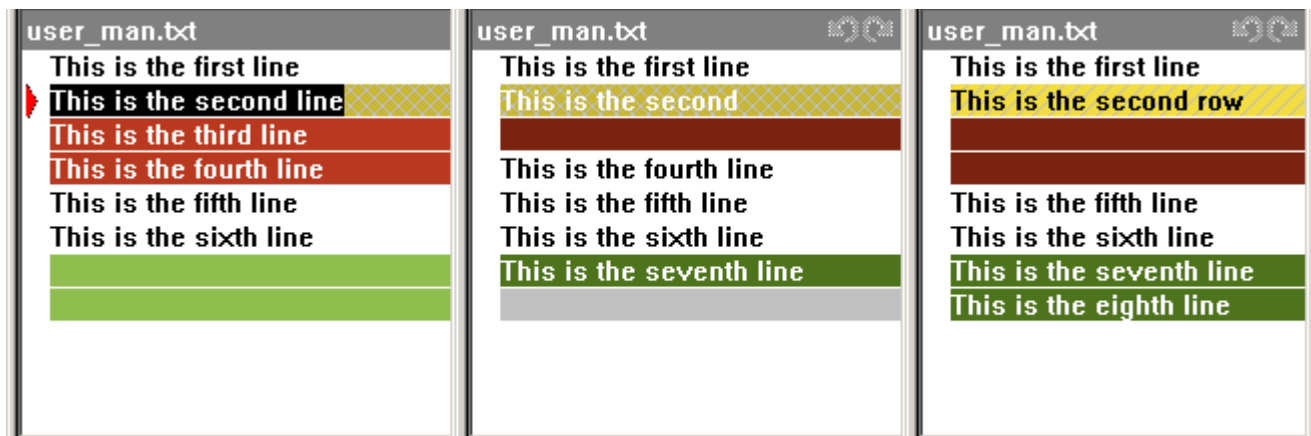
Target file with selected modification inserted
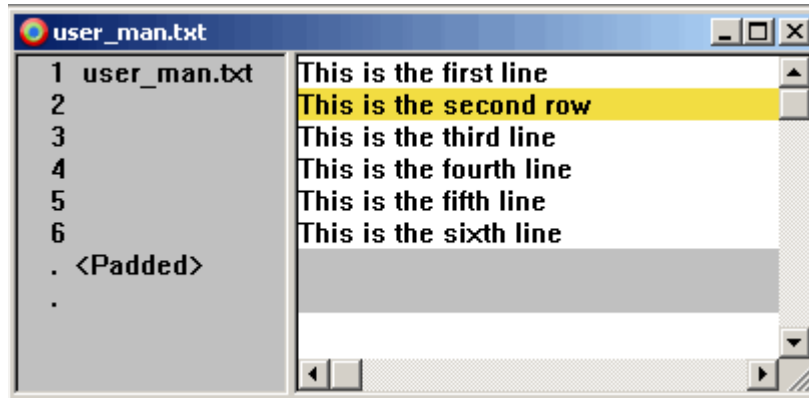
Manually Completing the Merge

Purpose   Manually complete the merge when:

■   There are conflicting differences between the derivatives and you need to select which versions to include in the target.

■   You have not selected the Auto Merge option and you need to manually select which differences are included from the derivatives or ancestor.

■   You wish to make other changes by editing the target file.

To select the differences for inclusion in the target:

■   **To select a difference for inclusion in the target,** right-click the required line in the ancestor or derivative window. To select two adjacent differences, use Ctrl and right-click. The color of the line(s) will change to the selected color.

■   **To deselect a difference from inclusion in the target,** right-click a selected line. To deselect two adjacent differences, use Ctrl and right-click. The color of the line(s) will change to the unselected color.

■   **To insert all the differences,** including conflicts, for a given derivative into the target, select Edit | Select All, or press Ctrl + A. All the lines in the selected derivative will change to the corresponding selected colors.

NOTE Selecting all differences in one derivative does not necessarily mean you have deselected all differences in another derivative.

To Edit the Target File:

To copy text, select the text to be inserted into the target and click the Copy button or press Ctrl+C.

To paste text into the target, position the cursor where you want to insert the text and click the Paste button or press Ctrl+V.

To edit text in the target, type or overtype the text in the target window.

To undo editing, select Edit | Undo, or press Ctrl+Z.

To save the Target File:

Do one of the following:

■   Select File | Save Target

- Click the button
- Press Ctrl+S

If you have not saved the target when exiting the Merge Tool, and the option **Always perform merge interactively** has been set, a dialog box appears prompting you to save the target. If there are any unresolved conflicts a further dialog box appears warning you that there are unresolved conflicts.

Basics of the Merge Tool

About Starting the Merge Tool

The Merge tool is a Microsoft Windows-based application that enables you to compare and merge files.

You can start the Merge Tool in the following ways:

- From a number of dialogs in the desktop client or web client where you specify the item revisions or files for the merge or compare.

- Specifying the ancestor, target and derivative files in a Configuration file and passing the file as a parameter to the Merge Tool.

- Opening the Merge tool and specifying the files you want to merge or compare in the Files tab of the Configuration dialog.

About the Main Window
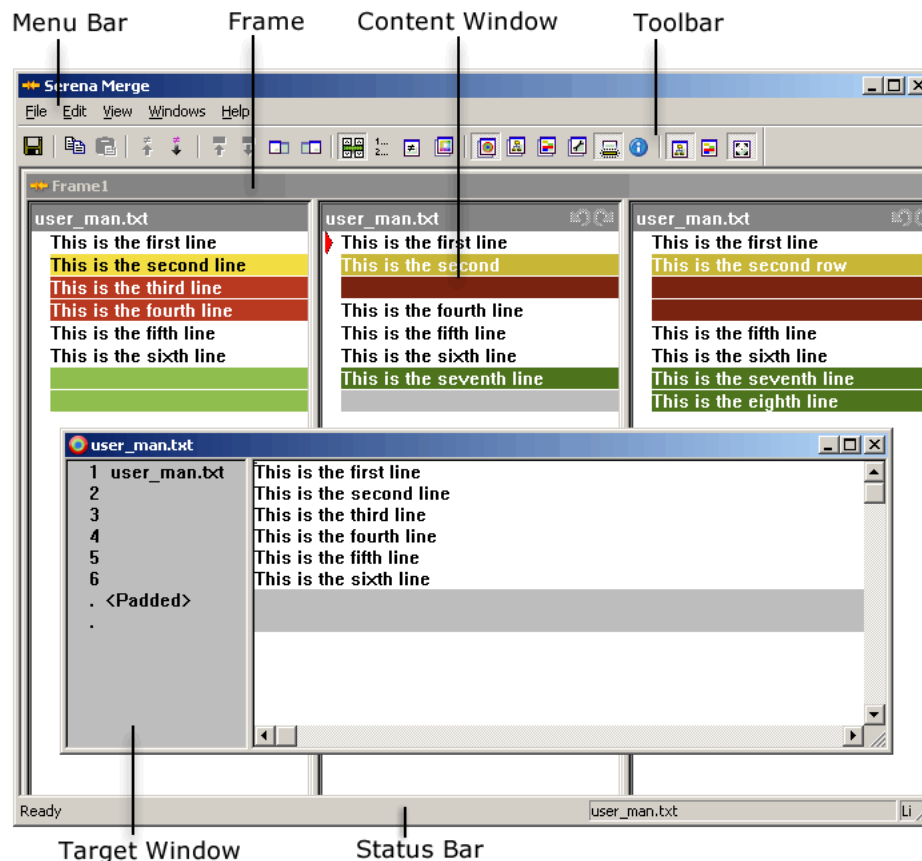
- ■ **Menu bar.** The menu bar contains menus that enable you to carry out all of the Merge Tool commands.

- ■ **Toolbar.** The toolbar contains buttons for commonly used commands. Slowly moving the mouse across these buttons displays their purpose (and also displays text in the status bar at the bottom of the screen).

- ■ **Frame.** The frame contains views of the files you have selected to merge or compare.

Content windows. A content window for each file shows the lines of text in the file. You can choose which windows appear by selecting or deselecting them in the Windows menu or clicking corresponding buttons on the toolbar. Lines of text are color-coded to indicate their relationship to the ancestor and the derivative files. The windows that you can display are:

- ■ The Ancestor window

- ■ The Derivative window for each derivative file

- ■ The Consolidated Views window

- ■ The Target window.

Status bar. The left area of the status bar describes the purpose of menu items as you navigate through menus. This area similarly shows messages which describe the actions of tool bar buttons as you move the mouse over them.

The right area of the status bar displays:

- The name of the file currently being processed and the corresponding line number.

- A conflict report showing the number of conflict lines and the number of conflict lines which have been resolved for the derivative currently being processed.

About the Content Windows

The content windows show the lines in the files you have selected and their relationship to the Ancestor and each other.

The windows you can display are:

- **Derivative Frame**. This shows the derivatives you have selected side by side. You can also choose whether to include the Ancestor and/or the Consolidated View displays within this window using the Configuration dialog box.
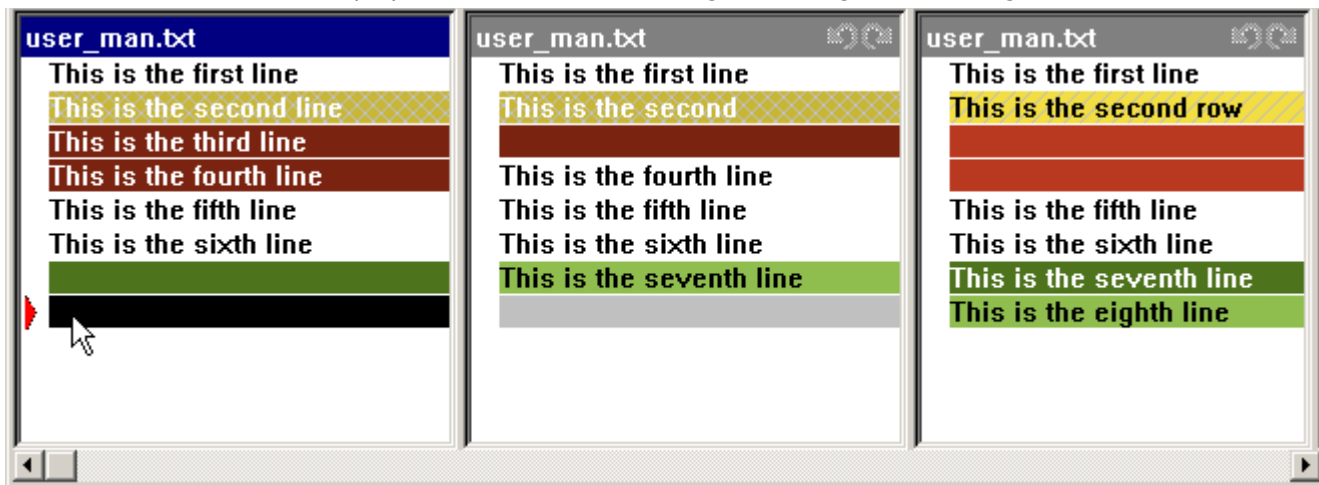
- **Ancestor**. This shows the lines of text in the ancestor file. You can choose to display the ancestor in the Derivative Frame or in its own separate window.

- **Target**. This shows the lines selected for inclusion in the target file. The left pane has an entry against each line telling you which file it came from and whether it is a conflict. You can also edit the text in this window.
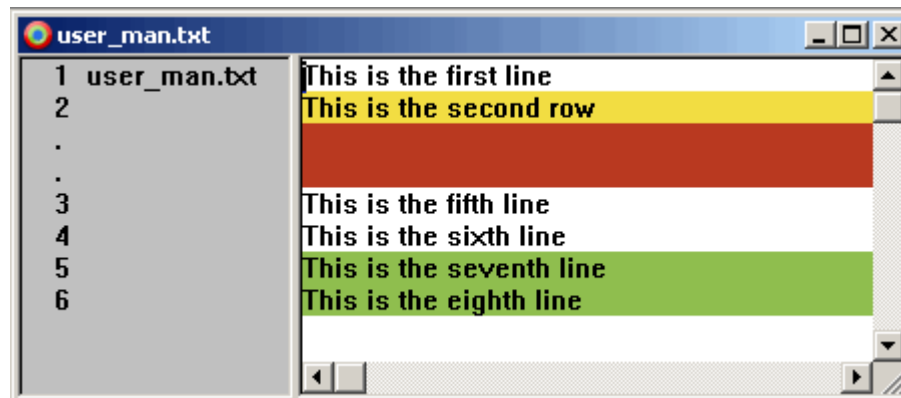
- **Consolidated View**. The Consolidated View provides a non-textual visual representation of the differences made to the derivatives across all the Derivative Frame windows. It is particularly useful when merging a large number of files. The Consolidated View window allows the user to ascertain how many differences there are and where they have occurred. Double clicking a line in the Consolidated View

window will move the cursor to the corresponding line of the selected derivative in the Derivative Frame window.
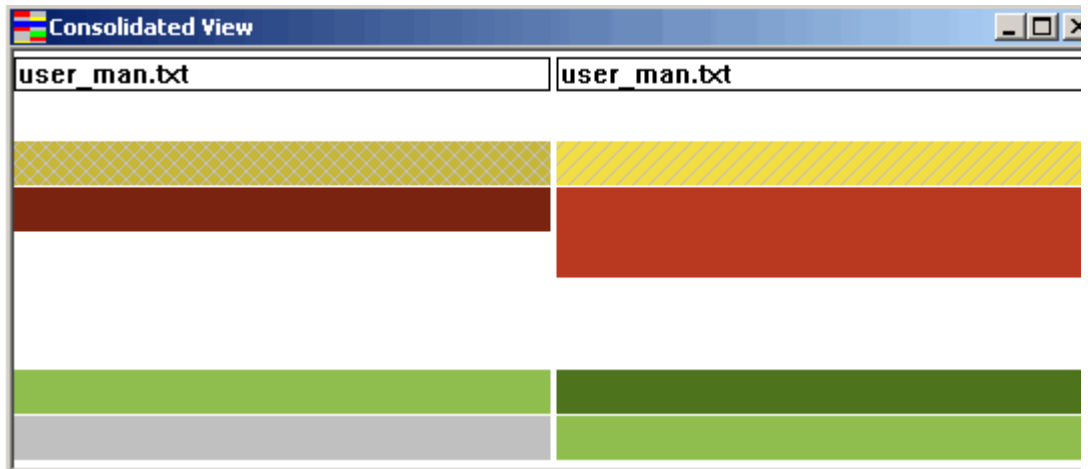
- **Error Log**. This window displays any errors which have been detected by the Merge Tool during the merge operation.

About Identifying the Differences.

A system of colors and patterns helps you identify the differences between the lines in the ancestor and target, and which lines have been selected for inclusion in the target.
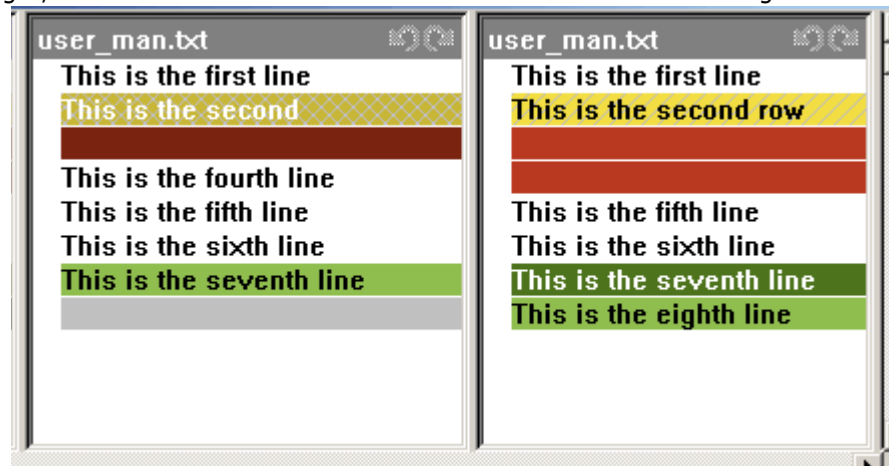
You can customize these using the Colors tab of the Configuration dialog box. The following table shows the defaults.

This background	Indicates this
Selected	Selected addition. This object is included in the target.
Selected	Selected modification. This line is included in the target.
Selected	Selected deletions. This line is excluded from the target.
Unselected	Unselected additions. This line is excluded from the target.
Unselected	Unselected modification. This line is excluded from the target.
Unselected	Unselected deletions. This line is included in the target.

This background	Indicates this
/////	Conflict. This line conflicts with the corresponding line in other derivatives.
XXXXXXX	Resolved Conflict. This line is a conflict that you have already resolved.
▭	Padded. This is a blank entry inserted to align the corresponding rows between different content windows.
▬	Highlighted. This is the line to which the current operation will apply.

Viewing Files in the Merge Tool

Working with the Content Windows

Purpose   Use the content windows to view the lines of text in the ancestor, derivatives, and target files. You can show or hide these windows and arrange them in the Merge Tool main window.

To show or hide the content windows:

- **To show or hide the Ancestor,** select Windows | Display Ancestor or click the ![] button.

- **To show or hide the Ancestor in the Derivative Frame window**, select Windows | Display Ancestor in Frame or click the ![] button.

- **To show or hide the Consolidated View window,** select Windows | Display Consolidated View, or click the ![] button.

- **To show or hide the Consolidated View in the Derivative Frame window**, select Windows | Display **Consolidated View** in Frame or click the ![] button.

- **To show or hide the Target window,** select Windows | Display Target, or click the ![] button.

- **To display the Global Comparison window,** double click on a changed line in the ancestor or a derivative. Note that you cannot do this on an unchanged or padded line.

- **To display the Error Log window,** select File | Error Log.

- **To open the Color Tips window,** select View | Color Tips, click the ![] button, or press CTRL+T. This window displays the current settings of colors and patterns used to identify the differences.

To change the way the windows are displayed:

- **To synchronize scrolling,** select View | Sync Scrolling or click the ![] button. When this option is selected, the lines in the other windows are scrolled in synchronization when you scroll one window. If it is not set, they can be scrolled independently.

- **To show or hide the line numbers,** select View | Show Line Numbers or click the ![] button.

- **To show only differences,** select View | Show Only Differences or click the [≠] button. When this option is selected, only lines that differ between one or more derivatives are displayed.

- **To set automatic resizing of windows on or off,** select Windows | Auto Resize or click the [⊡] button.

- **To show or hide the status bar,** select View | Status bar or click the [⊟] button.

Navigating the Content Windows

Purpose   Use the various functions provided by the Merge Tool to move between windows, and text lines within windows, so that you can view and select the differences and decide which lines to include in the target.

To navigate the content windows:

- **To move between windows,** click the Next Window button: [⊡] or press F8 to go to the next window; click the Prev Window button: [⊡] or press F7 to go to the previous window.

- **To move between conflicting lines,** click the Next Conflict button: [↓] or press F6 to go to the next conflict; click the Prev Conflict button: [↑] or press F5 to go to the previous conflict.

- **To move between line differences,** click the Next Difference button: [↑] or press F4 to go to the next line where there is a difference; click the Prev Difference button: [↓] or press F3 to go to the previous line where there is a difference.

- **To navigate using the Consolidated View**, double click a changed line to go to that line in the selected derivative.

- **To navigate using the Ancestor Window**, double click a changed line to go to that line in the selected derivative. Note that this only works when the target is displayed in its own window and not the Derivative Frame window.

- **To go to a line number in the current derivative or ancestor** select Edit | Go To, or press Ctrl+G.

  Enter the required line number.

- **To search for a line containing a text string** select Edit | Find, or press Ctrl+F. A find dialog is displayed.
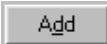
Configuring the Merge Tool

You can configure the various options in the Merge tool either by using the Configuration dialog box or by using a configuration file. Details of how to use a configuration file is described in "About Merge Tool Configuration Files" on page 414 of the Dimensions User's Guide.

Selecting the Files

Purpose   Select the files to be used for a file merge or compare operation if you are running the
Merge Tool from outside a source control application and want to specify the ancestor,
target, or derivative files.

To select the files:

1   In the main window, select View | Configuration or click the Configuration button:
on the toolbar.

2   To choose the ancestor file, click the Ancestor browse button: ... , choose the file you
wish to insert as the Ancestor file, and click the OK button. The file pathname will be
inserted into the **Ancestor** field and the filename automatically inserted into the
Ancestor Label field.

3   If you want a different title to be displayed in the Ancestor window, type the name in
the **Ancestor Label** field.

4   To choose the Target file, click the Target browse button: ... , choose the file you wish
to insert as the Target file, or type the name if it does not already exist, and click the
OK button. The file pathname will be inserted into the **Target** field and the filename
automatically inserted into the **Target Label** field.

5   If you want a different title to be displayed in the Target window, type the name in the
Target Label field.

6   To choose a derivative file, click the [Add] button, choose the file you wish to
insert as the Ancestor file, and click the OK button. The file pathname will be inserted
into the Derivatives list and the filename automatically inserted into the **Label** field.

7   If you want a different title to be displayed in the Derivative window, select the file in
the Derivatives list and type the name in the **Derivative Label** field.

8   Repeat steps 6 and 7 for each derivative to want to merge.

9   If you want to remove a file from the Derivatives list, select it and click the [Remove]
button.

10   When you have chosen all the files, click the OK button.

Setting the Merge Tool Options

Purpose   Set the Merge Tool options when you want to configure the way the files are compared
and merged.

To select the options:

1   In the main window, select View | Configuration, or click the Configuration button:
on the toolbar, and select the Options tab.

2   Set the required options as described in the following:

- **To make the saving of the target file compulsory,** so that when exiting the
Merge Tool you are prompted to save it, select **Always perform merge
interactively**.

- **To view the resulting merge without having to save the Target file**, so that
you are not prompted to save the Target, select **Perform a diff interactively**.

- **To automatically detect whether a file is binary or not**, select **Detect,** and if required, change the value for **Number of bytes to read.** This means that the Merge Tool will check the file for the first number of bytes specified in **Number of bytes to read,** and if none of these characters are binary, it will assume the file is text, otherwise it will assume it is binary.

- **To always compare files as though they are text**, select **Text**.

- **To always compare files as though they are binary**, select **Binary**.

- **To ignore the case** when comparing text between files, check the **Case** check box.

- To treat the Ctrl-Z character (0x1A) as whitespace, select **Treat Ctrl-Z (0x1A) as a whitespace**.

- **To ignore changes in amount of whitespace**, when comparing text between files, select **Changes in amount** in the **Whitespace** section**.**

- **To ignore all changes to whitespace**, when comparing text between files, select **All** in the **Whitespace** section**.**

- **To include changes to whitespace** when comparing text between files, select **None** in the **Whitespace** section**.**

- **To set the number of lines displayed** above and below the selected line in the Global Comparison window, enter an integer value in the **Number of lines displayed above and below in the Global Comparison window** field.

  NOTE The selected line is included in the count.

- **To set the maximum number of derivatives** which are displayed in each Derivative Frame window, enter an integer value in the **Number of derivatives per frame** field. This means that if the number of derivatives selected is greater than the **Number of derivatives per frame** value, then the Merge Tool automatically creates additional Derivative Frame windows for the extra derivatives.

- **To set the number of spaces allocated per tab** in the Merge Tool, enter an integer value in the **Tab Width** field.

Setting the Startup Behavior

Purpose Set the startup behavior when you want to configure the way the Merge Tool behaves as default when you first open it.

To set the startup behavior:

1 In the main window, select View | Configuration, or click the Configuration button: on the toolbar, and select the Startup tab.

2 Set the required options as described in the following:

- **To automatically insert all of the differences into the target,** select **Auto Merge**. This means that all differences apart from conflicts will be inserted into the target as soon as you start the merge.

- **To be required to manually insert differences into the target**, deselect **Auto Merge**. This means you will be required to manually select all the differences you want to include in the target.

- **To save all window positions automatically on exit**, select the **Save Window Positions on Exit** check box. This means that the positions of the windows will be retained the next time you start the Merge Tool.

- **To have the Derivative Frame window automatically resized**, select **AutoResize (Frame Contents).**

- **To display the Target, Ancestor, or Consolidated View windows** when the merge starts, select the corresponding **Show** check box.

- **To choose how the Target, Ancestor, or Consolidated View Windows will be displayed** when the merge starts, make sure you have selected the corresponding **Show** check box, and select minimized, maximized, or restored from the list.

- **To choose how the Derivative Frame window will be displayed** when the merge starts, select minimized, maximized, or restored from the list.

- **To include the Ancestor file or the Consolidated View within the Derivative Frame window**, select the corresponding **Include** check box.

- **To display the Ancestor file or the Consolidated View within the Derivative Frame window** when the merge starts, select the corresponding **Show** check box. If the corresponding **Show** option is not selected, they will not be displayed until you click the appropriate toolbar button: Display Ancestor in Frame: 📇 or Display Consolidated in Frame: 🔲

- **To choose how the Merge Tool main window will be displayed** when the Merge Tool is started, select minimized, maximized, or restored from the list.

Customizing the Colors

Purpose   Customize the colors when you want to choose which colors or patterns are used to identify the difference or status of each line in the content windows.

To customize the colors:

1   In the main window, select View | Configuration, or click the Configuration button: 📄 on the toolbar, and select the Colors tab.

2   Set the colors and patterns used to identify the difference and status of the various lines in the content windows.

3   When you have finished, click Apply to commit the changes and continue using the Configuration dialog box, or click OK to commit the changes and quit the dialog box

To determine the colors:

- **To locate the type of difference**, use the section headed Addition, Deletion, Change, No Change, Padded, or Ancestor.

- **To set the Unselected color**, use the left pair of buttons. This will determine the color that indicates that the line is not yet selected for the target file.

- **To set the Selected color**, use the left pair of buttons. This will determine the color that indicates that the line has been selected for the target file.

- **To set a background color**, click the left button of the pair.

- **To set a text color**, click the right button of the pair.

To set a color:

1   Click the button corresponding to the color you want to change.

2   Select the required color from the color palette.

3   If you want to further customize the color, click the Define Custom Colors button.

- Set the color either by entering values in the **Hue, Sat, Lum, Red, Green** and **Blue** fields, or dragging the arrow key in the color scroll bar. The color will be displayed in the **Color|Solid** box.

- Click the Add to Custom Colors button:

  Add to Custom Colors

  to add the color to **Custom colors** box.

4   When you have chosen the color, click OK. You will be returned to the Colors tab and the color of the selected button will have changed.

To set the other options on the Colors tab:

- **To choose the pattern for conflicts**, choose a pattern from the corresponding list for Unselected, Selected, or Resolved. This pattern will appear as a background against the line.

- **To display the ancestor text for deleted lines** in the Derivatives, click the **Show Ancestor text in Derivative** check box.

- **To restore the settings to the defaults**, click the Load Merge Tool Defaults button.

Selecting the Font Style

Purpose
- Select the font style to be used in the Derivative Frame, Global Comparison and Ancestor windows in the Serena Merge Tool.

  NOTE If you are comparing files using a double-byte character set, you will need to select "The system font" in this list.

To select the font:

1   In the main window, select View | Configuration or click the Configuration button: on the toolbar and select the Fonts tab.

2   Select the name of the font in the list.

About Merge Tool Configuration Files

Use a merge configuration file to control merge options when merging files from the command line. You specify a merge configuration file as the argument to the `pvcsmerge` command.

The following example configuration file starts the Merge tool with an ancestor file named "proj_1.0.c", a target file named "proj_1.1.c, and two derivatives, "proj_1.01.c" and proj_1.02.c".

```
#Labels are in double quotation marks

Ancestor=proj_1.0.c, "Ancestor"
Target=proj_1.1.c, "Target"
Derivatives=proj_1.01.c, "Derivative1"; proj_1.02.c,"Derivative2"
Interactive=Always
AutoMerge=On
IgnoreCase=Off
IgnoreBlanks=None
ShowConsolidated=Off
ShowTarget=Off
ShowAncestor=Off
FrameAutoResize=On
IncludeFrameAncestor=On
ShowFrameAncestor=On
IncludeFrameAncestor=On
ShowFrameAncestor=On
ShowDeletedText=Off
ConflictHeight=2
NumberDerivatives=3
TabWidth=4
SaveOnExit=Off
```

NOTE You do not have to specify all the above merge parameters, only Ancestor and Derivatives are mandatory.

Merge Tool Parameters

The following table displays the Merge Tool parameters which can be specified in the Configuration file, and their default values if no Configuration file is specified and no changes are made in the Configuration dialog box:

Option	Value
Ancestor	Enter ancestor file name which can, optionally, be followed by a comma (,) and a label string. If a user label string is not specified, a default label is provided.
Target	Enter target file name which can, optionally, be followed by a comma (,) and a label string. If a user label string is not specified, a default label is provided.
Derivatives	Enter derivative file names, separated by a semi colon (;). Each derivative can be followed by a comma (,) and a label string. If a user label is not specified, a default label is provided.
Interactive	Indicates whether you are prompted to save the target when exiting the Merge Tool. To be prompted, use **Always**. To not be prompted, use **Browse**. The default value is **Always**.

Option	Value
AutoMerge	Insert differences into the Target file automatically at startup. To disable automatic merge, use **Off**. To enable automatic merge, use **On**. The default value is **Off**.
IgnoreCase	Indicates whether case is ignored when comparing text To ignore case, use **On**. To make comparisons case-sensitive, use **Off**. The default value is **Off**.
IgnoreBlanks	Indicates whether whitespace is ignored when comparing text To ignore all whitespace, use **All**. To ignore trailing whitespace, use **Trailing**. To include whitespace, use **None**. The default value is **None**.
ShowConsolidated	Shows or hides the Consolidated Views window on startup. To hide the Consolidated Views window, use **Off**. To show the Consolidated Views window, use **On**. The default value is **Off**.
ShowTarget	Shows or hides the Target window on startup. To hide the Target window, use **Off**. To show the Target window, use **On**. The default value is **Off**.
ShowAncestor	Shows or hides the Ancestor window on startup. To hide the Ancestor window, use **Off**. To show the Ancestor window, use **On**. The default value is **Off**.
FrameAutoResize	Automatically resizes the Derivative Frame windows. To not autoresize the window, use **Off**. To autoresize the window, use **On**. The default value is **Off**.
IncludeFrameAncestor	Allows the Ancestor to be included in the Derivative Frame window. To not include the Ancestor, use **Off**. To include the Ancestor, use **On**. The default value is **Off**.
ShowFrameAncestor	Shows the Ancestor in the Derivative Frame window on startup. To not show the Ancestor, use **Off**. To show the Ancestor, use **On**. The default value is **Off**.
IncludeFrameConsolidated	Allows the Consolidated View to be included in the Derivative Frame window. To not include the Consolidated View, use **Off**. To include the Consolidated View, use **On**. The default value is **Off**.

Option	Value
ShowFrameConsolidated	Shows the Consolidated View in the Derivative Frame window on startup. To not show the Consolidated View, use **Off**. To show the Consolidated View, use **On**. The default value is **Off**.
ShowDeletedText	Shows or hides the text of deleted lines. To not show deleted text, use **Off**. To show deleted text, use **On**. The default value is **Off**.
ConflictHeight	Sets the number of lines above and below the selected line in the Global View window. Enter an Integer Number. The default value is **2**.
TabWidth	Sets the number of spaces displayed per tab. Enter an Integer Number. The default value is **4**.
SaveOnExit	Automatically saves the Target file on exit. To not automatically save the Target, use **Off**. To automatically save the Target, use **On**. The default value is **Off**.

Additional Configuration Options for Dimensions CM

When using the Merge Tool within Dimensions, there are some additional configuration options for excluding line numbers when comparing COBOL files. Note that these options are not available when using the Merge Tool in a stand-alone situation.

These options are specified using entries in the *dm.cfg* file. The following example entries exclude columns 1 - 6 and 73 - end of line for COBOL files (extensions .cbl and .cob)

PCMS_LANGUAGES	MFSRC
PCMS_LANGUAGE_EXTENSIONS_COBOL	cbl, cob
PCMS_COMPARE_START_COBOL	7
PCMS_COMPARE_END_COBOL	72

Chapter 19

Running Builds

In this Chapter

About Dimensions Build

Dimensions® CM enables you to build items, requests, projects, streams, and baselines from the desktop, web, command-line, and ISPF clients. Builds are managed by Dimensions Build, a build management, execution, and monitoring tool that is part of Dimensions CM. When you build you can optionally capture build outputs and check them automatically into Dimensions. This functionality is referred to as a closed-loop build. When you capture build outputs you can optionally select the requests that the outputs will be related to.

- For information about configuring and using Dimensions Build see the *Dimensions CM Build Tools User's Guide* or the administration console help.

- For information about running builds from the command-line client see the *Command-Line Reference*.

- For information about running builds from the Dimensions for z/OS ISPF client see the *Dimensions for z/OS User's and Administrator's Guide* or the help for the build panels.

When you run a build you can optionally specify build options in the Other Build Options field in the Run Build wizard. For details about the build options see *The Templating Language and Processor* chapter of the *Developer's Reference*.

Building Items

Purpose Follow this procedure to build one or more items. The items that you build are sources related to targets in a build configuration; the targets affected by the source items are the output of the build. You can also specify a wildcard as a source for a target. For example, if you specify *.java as the source for the target WebApp.jar, when you build any Java file the target WebApp.jar is built.

You can only build items if the Dimensions project/stream to which they belong has one or more build configurations. For details about creating build configurations see the *Dimensions CM Build Tools User's Guide* or the Dimensions Build online help.

If you are building to deployment areas you must first assign them to the Dimensions project/stream associated with the build configuration. For details see the *Deployment Guide*.

You cannot build multiple item revisions that are at different stages.

About Build Configurations The Build Configurations list in the Build wizard only displays build configurations:

- That are associated with the current Dimensions project/stream.

- Where the items that you selected have affected targets.
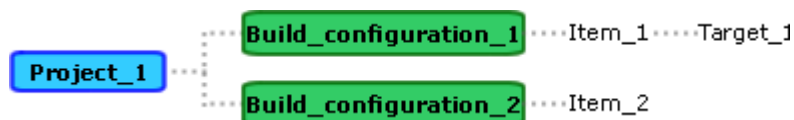
In the example above `Build_configuration_1` contains `Item_1` that affects `Target_1` and is displayed in the Build Configuration list. However, `Build_configuration_2` is not displayed as the item it contains does not affect any targets.

The Build Configuration list shows the latest checked in versions of the build configurations in the following format:

```
<build configuration name>;<version>
```

For example, if you have two versions of the build configuration ANT_JAVA that are checked in, ANT_JAVA;1 and ANT_JAVA;2, the list displays:

ANT_JAVA;2

PRIVILEGES Build from a project/stream

Web client **To build items:**

1 In the web client open the project or stream containing the items that you want to build.

2 Do one of the following:

- In the content pane of the Items tab select the items that you want to build.

- In the navigation pane of the My Current Projects tab select Folders and Items and expand the folder containing the items that you want to build. In the content pane select the items.

3 In the menu area click Build and choose Build. The Run Build wizard appears. The first line displays the name of the current Dimensions project or stream.

4 From the **Build configuration** list select the build configuration that you want to build.

5 From the **Build Stage** list select the deployment stage at which the targets will be built. To build in a work area select <none>.

6 From the **Build Area** list select the build or work area where the targets will be built. To build all deployment areas associated with the stage select <All areas>.

7 If required, in the **Build Area User** field enter the ID of the Dimensions user who owns the build area. You also need to enter and confirm their password.

8 If you are building in a work area do the following:

- From the **Start search path from stage** list select the stage where you want the search path to start.

- From the **Download files to work area** list select an option. The files are downloaded before the build is executed. If you select All or Selected Only you can also select the option **Apply system date/time to downloaded files**.

Click Next.

9 To capture the build outputs and check them into Dimensions CM, select the option **Check in build outputs automatically**.

10   If you are checking in build outputs do the following:

   • To specify the requests that the build outputs will be related to when they are checked into Dimensions, in the **Specify the request(s)** field click Select. Use the Request wizard to select one or more requests. You can also enter the request IDs in the following format:

   ```
   "QLARIUS_CR_44", "QLARIUS_CR_43"
   ```

   • To check the build outputs into a different project or stream, in the **Specify the project where the build outputs will be checked in to** field click Select. Use the Select Project/Stream wizard to select a different project or stream

   Click Next.

11   Select build options:

   • **Audit area(s) before build**: produces an audit report for the build areas associated with the Dimensions project/stream. The report is produced before the build.

   • **Clean area(s) before build**: runs the clean script (in the build configuration).

   • **Lock area(s) in search path**: locks all deployment areas associated with the build and prevents other changes to these areas while the build is running. Only applies to work area builds.

   • **Rebuild all targets**: rebuilds all targets. If you select this option the following option is also available:

   Targets only in the current stage: only builds targets whose source is at the correct stage.

12   Enter additional options in the **Other build options** field.

   Click Next.

13   Select the dependencies and targets to be built:

   • **Show all targets from build configuration**: displays all targets from the build configuration.

   • **Show final targets only**: does not display intermediate targets.

   • **Show foreign items**: displays items that are related to items in a different project or stream.

   • **Show side-effect targets**: displays files created at the same time as the main target, such as a compile listing.

   • **Show predicted targets**: display targets based on a previous revision of the item. This is relevant when the selected revision has not yet been built.

   • **Include targets impacted by related requests**: considers child requests as well as the parent request.

   If you change target selections, click **Re-query** to repopulate the target list.

14 From the **Build Targets** list select one or more targets to build. The list displays all targets that are impacted by the objects that you selected to build. For each target in the list the following build dependency information is displayed:

- **Target**: the name of the target as defined in Dimensions Build.

- **Filename**: the filename of the target or mask as defined in Dimensions Build.

- **Found In**: the relationship of the objects that you are going to build to the target. Can be one of the following:

  - **Build Config**: matches a rule in a build configuration (explicit relationship).

  - **BOM**: named in a bill of materials (BOM) from a previous build (implicit relationship).

  - **Build Config/BOM**: matches both of the above (explicit and implicit).

  - **<blank>**: no matches were found for the selected objects.

- **Build Config**: The build configuration that you selected. The configuration version may be different from that in the Build configuration list (the latter is ignored when this data is processed).

- **Details**: Can be one of the following:

  - Prediction: the relationship is based on a previous revision of the item.

  - Foreign: is related to an item in a different project or stream.

Notes:

- You must select a target to perform a build.

- By default targets are automatically selected so you only need to use this list to filter the list of targets being built. You can disable the automatic selection of targets, for details see *Disabling the Automatic Selection of Targets* in the *Dimensions CM Build Tools User's Guide*.

- When dependency information is available from previous builds it is used to approximate impacted targets. However, this approximation is based on stored data and the actual build result may be different.

- If a specific target cannot be matched against the objects that you selected, all targets for the selected configuration are displayed.

- If previous builds were executed with output collection enabled, the Build Targets list also displays item relationships that were discovered during the build (as long as the build tool can provide this information). This enables you to view and select targets by name instead of only by build configuration build rules.

- When you specify a target to be built, additional rules may apply that result in additional targets being built. For example, you specify that all impacted targets for a source will be built. Source file X is used to build targets A and B. If you only select target A then target B will automatically be built as it is impacted by the same source file.

15 Click Next. A summary of the build command that will be executed is displayed.

16 Click Finish and monitor the progress of the build.

Desktop client **To build items:**

1 In the desktop client open the project or stream containing the items that you want to build.

2 In the My Current Project/Stream window expand the Catalog node and select Items. In the Items object window select the items that you want to build.

Note: You can also use other methods to display items that you want to select. For example, you can use the Find Item dialog box, run an item report, or open the Folders and Items view.

3 From the Item menu select Build Items. The Build wizard appears. The first line displays the name of the current Dimensions project or stream.

4 From the **Build configuration** list select the build configuration that you want to build.

5 From the **Build Stage** list select the deployment stage at which the targets will be built. To build in a work area select <none>.

6 From the **Build Area** list select the build or work area where the targets will be built. To build all deployment areas associated with the stage select <All areas>.

If required, in the **Build Area User** field enter the ID of the Dimensions user who owns the build area. You also need to enter and confirm their password.

If you are building in a work area do the following:

- From the **Start search path from stage** list select the stage where you want the search path to start.

- From the **Download files to work area** list select an option. The files are downloaded before the build is executed. If you select All or Selected Only you can also select the option **Apply system date/time to downloaded files**.

Click Next.

7 To capture the build outputs and check them into Dimensions CM, select the option **Check in build outputs automatically**.

- To specify the requests that the build outputs will be related to when they are checked into Dimensions, in the **Specify the request(s)** field click Select. Use the Request wizard to select one or more requests. You can also enter the request IDs in the following format:

    "QLARIUS_CR_44", "QLARIUS_CR_43"

- To check the build outputs into a different project, in the **Specify the project where the build outputs will be checked in to** field click Select. Use the Select Project/Stream wizard to select a different project.

- To check the build outputs into a different stream, in the **Specify the stream where the build outputs will be checked in to** field click Select. Use the Select Project/Stream wizard to select a different stream.

Click Next.

8 Select the following build options:

- **Audit area(s) before build**: produces an audit report for the build areas associated with the Dimensions project/stream. The report is produced before the build.

- **Clean area(s) before build**: runs the clean script (in the build configuration).

- **Lock area(s) in search path**: locks all deployment areas associated with the build and prevents other changes to these areas while the build is running. Only applies to work area builds.

- **Rebuild all targets**: rebuilds all targets. If you select this option the following option is also available:

  Targets only in the current stage: only builds targets whose source is at the correct stage.

  Enter additional options in the **Other build options** field.

  Click Next.

9 Select the dependencies and targets to be built:

- **Deployment Analysis**: runs dependency analysis.

- **Predicted (using soft relationships)**: displays targets based on a previous revision of an item. This is relevant when the selected revision has not yet been built.

- **Foreign (cross project dependencies)**: displays items that are related to items in a different project or stream.

- **Side effect (from observed builds)**: displays built items created at the same time as the main target, such as a compile listings and secondary targets.

- **Configuration analysis**: analyzes the build configuration.

- **Final targets only**: does not display intermediate targets.

- **All targets**: displays, but does not necessarily select, all targets in the build configuration.

  For more information see the BLD command in the *Command-Line Reference*.

  If you change targets click **Query** to repopulate the build target list below.

10 From the **Build Targets** list select one or more targets to build. The list displays all targets that are impacted by the objects that you selected to build. For each target in the list the following build dependency information is displayed:

- **Target**: the name of the target as defined in Dimensions Build.

- **Filename**: the filename of the target or mask as defined in Dimensions Build.

- **Found In**: the relationship of the objects that you are going to build to the target. Can be one of the following:

  - **Build Config**: matches a rule in a build configuration (explicit relationship).

  - **BOM**: named in a bill of materials (BOM) from a previous build (implicit relationship).

  - **Build Config/BOM**: matches both of the above (explicit and implicit).

  - **<blank>**: no matches were found for the selected objects.

- **Build Config**: The build configuration that you selected. The configuration version may be different from that in the Build configuration list (the latter is ignored when this data is processed).

- **Details**: Can be one of the following:

  - Prediction: the relationship is based on a previous revision of the item.

  - Foreign: is related to an item in a different project or stream.

Notes:

- You must select a target to perform a build.

- By default targets are automatically selected so you only need to use this list to filter the list of targets being built. You can disable the automatic selection of targets, for details see *Disabling the Automatic Selection of Targets* in the *Dimensions CM Build Tools User's Guide*.

- When dependency information is available from previous builds it is used to approximate impacted targets. However, this approximation is based on stored data and the actual build result may be different.

- If a specific target cannot be matched against the objects that you selected, all targets for the selected configuration are displayed.

- If previous builds were executed with output collection enabled, the Build Targets list also displays item relationships that were discovered during the build (as long as the build tool can provide this information). This enables you to view and select targets by name instead of only by build configuration build rules.

- When you specify a target to be built, additional rules may apply that result in additional targets being built. For example, you specify that all impacted targets for a source will be built. Source file X is used to build targets A and B. If you only select target A then target B will automatically be built as it is impacted by the same source file.

11 Click Next. A summary of the build command that will be executed is displayed.

12 Click Finish and monitor the progress of the build.

Building Projects or Streams

Purpose Follow this procedure to build a Dimensions project/stream. When you build a project/ stream all targets affected by any item in the project/stream are built. You can only build a Dimensions project/stream if it has one or more build configurations. For details about creating build configurations see the *Dimensions CM Build Tools User's Guide* or the Dimensions Build online help.

If you are building to deployment areas you must first assign them to the Dimensions project associated with the build configuration. For details see the *Deployment Guide*.

About Build Configurations The Build Configurations list in the Build wizard shows the latest checked in versions of the build configurations in the following format:

`<build configuration name>;<version>`

For example, if you have two versions of the build configuration ANT_JAVA that are checked in, ANT_JAVA;1 and ANT_JAVA;2, the list displays:

ANT_JAVA;2

PRIVILEGES Build from a project/stream

Web client   **To build a project or stream:**

1   In the web client do one of the following:

- *To build the current project or stream* do one of the following:

  - In the menu area of the Items, Requests, or Projects tabs, with no objects selected in the content pane, click Build and select Build.

  - In the navigation pane of the My Current Projects tab select Folders and Items. In the menu area click Build and select Build.

  - In the menu area of the Baselines tab, with no objects selected in the content pane, click Build.

- *To select a project to build*, in the navigation pane of the Projects tab click Catalog. In the content pane select the project that you want to build. In the menu area click Build and choose Build.

The Run Build wizard appears. The first line on the General tab displays the name of the Dimensions project or stream you are going to build.

2   From the **Build configuration** list select the build configuration that you want to build.

3   From the **Build Stage** list select the deployment stage at which the targets will be built. To build in a work area select <none>.

4   From the **Build Area** list select the build or work area where the targets will be built. To build all deployment areas associated with the stage select <All areas>.

5   If required, in the **Build Area User** field enter the ID of the Dimensions user who owns the build area. You also need to enter and confirm their password.

6   If you are building in a work area do the following:

- From the **Start search path from stage** list select the stage where you want the search path to start.

- From the **Download files to work area** list select an option. The files are downloaded before the build is executed.

  If you select All or Selected Only you can also select the option **Apply system date/time to downloaded files**.

Click Next.

7   To capture the build outputs and check them into Dimensions CM, select the option **Check in build outputs automatically**.

8   If you are checking in build outputs do the following:

- To specify the requests that the build outputs will be related to when they are checked into Dimensions, in the **Specify the request(s)** field click Select. Use the Request wizard to select one or more requests. You can also enter the request IDs in the following format:

   "QLARIUS_CR_44", "QLARIUS_CR_43"

- To check the build outputs into a different project or stream, in the **Specify the project where the build outputs will be checked in to** field click Select. Use the Select Project/Stream wizard to select a different project or stream

   Click Next.

9   Select build options.

- **Audit area(s) before build**: produces an audit report for the build areas associated with the Dimensions project/stream. The report is produced before the build.

- **Clean area(s) before build**: runs the clean script (in the build configuration).

- **Lock area(s) in search path**: locks all deployment areas associated with the build and prevents other changes to these areas while the build is running. Only applies to work area builds.

- **Rebuild all targets**: rebuilds all targets. If you select this option the following option is also available:

   Targets only in the current stage: only builds targets whose source is at the correct stage.

10   In the **Other build options** field enter additional options.

   Click Next.

11   Choose target selections for the target list:

- **Show all targets from build configuration**: displays all targets from the build configuration.

- **Show final targets only**: does not display intermediate targets.

- **Show foreign items**: displays items that are related to items in a different project or stream.

- **Show side-effect targets**: displays files created at the same time as the main target, such as a compile listing.

- **Show predicted targets**: display targets based on a previous revision of the item. This is relevant when the selected revision has not yet been built.

- **Include targets impacted by related requests**: considers child requests as well as the parent request.

   If you change target selections, click **Re-query** to repopulate the target list.

12 From the **Build Targets** list select one or more targets to build. The list displays all targets that are impacted by the objects that you selected to build. For each target in the list the following build dependency information is displayed:

- ◼ **Target**: the name of the target as defined in Dimensions Build.

- ◼ **Filename**: the filename of the target or mask as defined in Dimensions Build.

- ◼ **Found In**: the relationship of the objects that you are going to build to the target. Can be one of the following:

  - • **Build Config**: matches a rule in a build configuration (explicit relationship).

  - • **BOM**: named in a bill of materials (BOM) from a previous build (implicit relationship).

  - • **Build Config/BOM**: matches both of the above (explicit and implicit).

  - • **<blank>**: no matches were found for the selected objects.

- ◼ **Build Config**: The build configuration that you selected. The configuration version may be different from that in the Build configuration list (the latter is ignored when this data is processed).

- ◼ **Details**: Can be one of the following:

  - • Prediction: the relationship is based on a previous revision of the item.

  - • Foreign: is related to an item in a different project or stream.

Notes:

- • You must select a target to perform a build.

- • By default, targets are automatically selected so you only need to use this list to filter the list of targets being built. You can disable the automatic selection of targets, for details see *Disabling the Automatic Selection of Targets* in the *Dimensions CM Build Tools User's Guide*.

- • When dependency information is available from previous builds it is used to approximate impacted targets. However, this approximation is based on stored data and the actual build result may be different.

- • If a specific target cannot be matched against the objects that you selected, all targets for the selected configuration are displayed.

- • If previous builds were executed with output collection enabled, the Build Targets list also displays item relationships that were discovered during the build (as long as the build tool can provide this information). This enables you to view and select targets by name instead of only by build configuration build rules.

- • When you specify a target to be built, additional rules may apply that result in additional targets being built. For example, you specify that all impacted targets for a source will be built. Source file X is used to build targets A and B. If you only select target A then target B will automatically be built as it is impacted by the same source file.

13 Click Next. A summary of the build command that will be executed is displayed.

14 Click Finish and monitor the progress of the build.

Desktop client **To build a project or stream:**

1 In the desktop client open the project/stream that you want to build.

2 From the Project or Stream menu select Build Project or Build Stream. The Build wizard appears.

3 From the **Build configuration** list select the build configuration that you want to build.

4 From the **Build Stage** list select the deployment stage at which the targets will be built. To build in a work area select <none>.

5 From the **Build Area** list select the build or work area where the targets will be built. To build all deployment areas associated with the stage select <All areas>.

6 If required, in the **Build Area User** field enter the ID of the Dimensions user who owns the build area. You also need to enter and confirm their password.

7 If you are building in a work area do the following:

- From the **Start search path from stage** list select the stage where you want the search path to start.

- From the **Download files to work area** list select an option. The files are downloaded before the build is executed.

    If you select All or Selected Only you can also select the option **Apply system date/time to downloaded files**.

    Click Next.

8 To capture the build outputs and check them into Dimensions CM, select the option **Check in build outputs automatically**.

9 If you are checking in build outputs do the following:

- To specify the requests that the build outputs will be related to when they are checked into Dimensions, in the **Specify the request(s)** field click Select. Use the Request wizard to select one or more requests. You can also enter the request IDs in the following format:

    `"QLARIUS_CR_44", "QLARIUS_CR_43"`

- To check the build outputs into a different project, in the **Specify the project where the build outputs will be checked in to** field click Select. Use the Select Project/Stream wizard to select a different project.

- To check the build outputs into a different stream, in the **Specify the stream where the build outputs will be checked in to** field click Select. Use the Select Project/Stream wizard to select a different stream.

    Click Next.

10 Select build options:

- **Audit area(s) before build**: produces an audit report for the build areas associated with the Dimensions project/stream. The report is produced before the build.

- **Clean area(s) before build**: runs the clean script (in the build configuration).

- **Lock area(s) in search path**: locks all deployment areas associated with the build and prevents other changes to these areas while the build is running. Only applies to work area builds.

- **Rebuild all targets**: rebuilds all targets. If you select this option the following option is also available:

  Targets only in the current stage: only builds targets whose source is at the correct stage.

11 Enter additional options in the **Other build options** field. Click Next.

12 Select the dependencies and targets to be built:

- **Deployment Analysis**: runs dependency analysis.

- **Predicted (using soft relationships)**: displays targets based on a previous revision of an item. This is relevant when the selected revision has not yet been built.

- **Foreign (cross project dependencies)**: displays items that are related to items in a different project or stream.

- **Side effect (from observed builds)**: displays built items created at the same time as the main target, such as a compile listings and secondary targets.

- **Configuration analysis**: analyzes the build configuration.

- **Final targets only**: does not display intermediate targets.

- **All targets**: displays, but does not necessarily select, all targets in the build configuration.

For more information see the BLD command in the *Command-Line Reference*.

If you change targets click **Query** to repopulate the build target list below.

13 From the **Build Targets** list select one or more targets to build. The list displays all targets that are impacted by the objects that you selected to build. For each target in the list the following build dependency information is displayed:

- **Target**: the name of the target as defined in Dimensions Build.

- **Filename**: the filename of the target or mask as defined in Dimensions Build.

- **Found In**: the relationship of the objects that you are going to build to the target. Can be one of the following:

  - **Build Config**: matches a rule in a build configuration (explicit relationship).

  - **BOM**: named in a bill of materials (BOM) from a previous build (implicit relationship).

  - **Build Config/BOM**: matches both of the above (explicit and implicit).

  - **<blank>**: no matches were found for the selected objects.

- **Build Config**: The build configuration that you selected. The configuration version may be different from that in the Build configuration list (the latter is ignored when this data is processed).

- **Details**: Can be one of the following:

  - Prediction: the relationship is based on a previous revision of the item.

  - Foreign: is related to an item in a different project or stream.

Notes:

- You must select a target to perform a build.

- By default, targets are automatically selected so you only need to use this list to filter the list of targets being built. You can disable the automatic selection of targets, for details see *Disabling the Automatic Selection of Targets* in the *Dimensions CM Build Tools User's Guide*.

- When dependency information is available from previous builds, it is used to approximate impacted targets. However, this approximation is based on stored data and the actual build result may be different.

- If a specific target cannot be matched against the objects that you selected, all targets for the selected configuration are displayed.

- If previous builds were executed with output collection enabled, the Build Targets list also displays item relationships that were discovered during the build (as long as the build tool can provide this information). This enables you to view and select targets by name instead of only by build configuration build rules.

- When you specify a target to be built, additional rules may apply that result in additional targets being built. For example, you specify that all impacted targets for a source will be built. Source file X is used to build targets A and B. If you only select target A then target B will automatically be built as it is impacted by the same source file.

14 Click Next. A summary of the build command that will be executed is displayed.

15 Click Finish and monitor the progress of the build.

Building Requests

Purpose Follow this procedure to build a request. When you build a request all the targets affected by items that are related *In Response* to the request are built. You can only build a request if the Dimensions project/stream to which it belongs has one or more build configurations. For details about creating build configurations see the *Dimensions CM Build Tools User's Guide* or the Dimensions Build online help.

If you are building to deployment areas you must first assign them to the Dimensions project/stream associated with the build configuration. For details see the *Deployment Guide*.

About Build Configurations The Build Configurations list in the Build wizard only displays build configurations:

- That are associated with the current Dimensions project/stream.

- Where the items in the requests have affected targets.
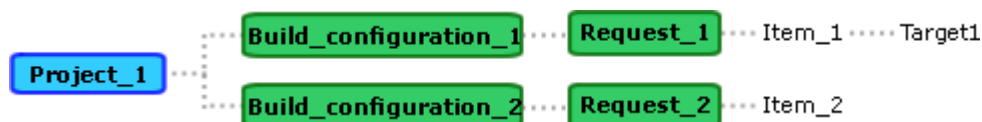
In the example above the Build Configuration list displays `Build_configuration_1` because `Item_1` in `Request_1` has an affected target. `Build_configuration_2` is not displayed because `Item_2` in `Request_2` does not have an affected target.

The Build Configuration list shows the latest checked in versions of the build configurations in the following format:

`<build configuration name>;<version>`

For example, if you have two versions of the build configuration ANT_JAVA that are checked in, `ANT_JAVA;2` and `ANT_JAVA;2`, the list displays the following:

`ANT_JAVA;2`

PRIVILEGES   Build from a project/stream

Web client   **To build a request:**

1   In the web client open the project containing the request that you want to build.

2   Do one of the following:

- In the content pane of the Requests tab select the request that you want to build.

- On the History tab of the Deployment view select the request that you want to build.

3   In the menu area click Build and choose Build.

The Run Build wizard appears. The first line displays the name of the current Dimensions project or stream.

4   From the **Build configuration** list select the build configuration that you want to build.

5   From the **Build Stage** list select the deployment stage at which the targets will be built. To build in a work area select <none>.

6   From the **Build Area** list select the build or work area where the targets will be built. To build all deployment areas associated with the stage select <All areas>.

7   If required, in the **Build Area User** field enter the ID of the Dimensions user who owns the build area. You also need to enter and confirm their password.

8   If you are building in a work area do the following:

- From the **Start search path from stage** list select the stage where you want the search path to start.

- From the **Download files to work area** list select an option. The files are downloaded before the build is executed.

  If you select All or Selected Only you can also select the option **Apply system date/time to downloaded files**.

Click Next.

9   To capture the build outputs and check them into Dimensions CM, select the option **Check in build outputs automatically**.

10 If you are checking in build outputs do the following:

- To specify the requests that the build outputs will be related to when they are checked into Dimensions, in the **Specify the request(s)** field click Select. Use the Request wizard to select one or more requests. You can also enter the request IDs in the following format:

  `"QLARIUS_CR_44", "QLARIUS_CR_43"`

- To check the build outputs into a different project or stream, in the **Specify the project where the build outputs will be checked in to** field click Select. Use the Select Project/Stream wizard to select a different project or stream

Click Next.

11 Select build options:

- **Audit area(s) before build**: produces an audit report for the build areas associated with the Dimensions project/stream. The report is produced before the build.

- **Clean area(s) before build**: runs the clean script (in the build configuration).

- **Lock area(s) in search path**: locks all deployment areas associated with the build and prevents other changes to these areas while the build is running. Only applies to work area builds.

- **Rebuild all targets**: rebuilds all targets. If you select this option the following option is also available:

  Targets only in the current stage: only builds targets whose source is at the correct stage.

12 Enter additional options in the **Other build options** field. Click Next.

13 Choose target selections for the target list:

- **Show all targets from build configuration**: displays all targets from the build configuration.

- **Show final targets only**: does not display intermediate targets.

- **Show foreign items**: displays items that are related to items in a different project or stream.

- **Show side-effect targets**: displays files created at the same time as the main target, such as a compile listing.

- **Show predicted targets**: display targets based on a previous revision of the item. This is relevant when the selected revision has not yet been built.

- **Include targets impacted by related requests**: considers child requests as well as the parent request.

If you change target selections, click **Re-query** to repopulate the target list.

14 From the **Build Targets** list select one or more targets to build. The list displays all targets that are impacted by the objects that you selected to build. For each target in the list the following build dependency information is displayed:

- **Target**: the name of the target as defined in Dimensions Build.

- **Filename**: the filename of the target or mask as defined in Dimensions Build.

- **Found In**: the relationship of the objects that you are going to build to the target. Can be one of the following:

  - **Build Config**: matches a rule in a build configuration (explicit relationship).

  - **BOM**: named in a bill of materials (BOM) from a previous build (implicit relationship).

  - **Build Config/BOM**: matches both of the above (explicit and implicit).

  - **<blank>**: no matches were found for the selected objects.

- **Build Config**: The build configuration that you selected. The configuration version may be different from that in the Build configuration list (the latter is ignored when this data is processed).

- **Details**: Can be one of the following:

  - Prediction: the relationship is based on a previous revision of the item.

  - Foreign: is related to an item in a different project or stream.

Notes:

- You must select a target to perform a build.

- By default, targets are automatically selected so you only need to use this list to filter the list of targets being built. You can disable the automatic selection of targets, for details see *Disabling the Automatic Selection of Targets* in the *Dimensions CM Build Tools User's Guide*.

- When dependency information is available from previous builds, it is used to approximate impacted targets. However, this approximation is based on stored data and the actual build result may be different.

- If a specific target cannot be matched against the objects that you selected, all targets for the selected configuration are displayed.

- If previous builds were executed with output collection enabled, the Build Targets list also displays item relationships that were discovered during the build (as long as the build tool can provide this information). This enables you to view and select targets by name instead of only by build configuration build rules.

- When you specify a target to be built, additional rules may apply that result in additional targets being built. For example, you specify that all impacted targets for a source will be built. Source file X is used to build targets A and B. If you only select target A then target B will automatically be built as it is impacted by the same source file.

15 Click Next. A summary of the build command that will be executed is displayed.

16 Click Finish and monitor the progress of the build.

Desktop client **To build a request:**

1 In the desktop client open the project/stream containing the request that you want to build.

2 In the My Current Project/Stream window expand the Catalog node and select Requests. In the Requests object window select the request that you want to build.

3 From the Request menu choose Build Request. The Build wizard appears.

4   From the **Build configuration** list select the build configuration that you want to build.

5   From the **Build Stage** list select the deployment stage at which the targets will be built. To build in a work area select <none>.

6   From the **Build Area** list select the build or work area where the targets will be built. To build all deployment areas associated with the stage select <All areas>.

7   If required, in the **Build Area User** field enter the ID of the Dimensions user who owns the build area. You also need to enter and confirm their password.

8   If you are building in a work area do the following:

   • From the **Start search path from stage** list select the stage where you want the search path to start.

   • From the **Download files to work area** list select an option. The files are downloaded before the build is executed.

      If you select All or Selected Only you can also select the option **Apply system date/time to downloaded files**.

   Click Next.

9   To capture the build outputs and check them into Dimensions CM, select the option **Check in build outputs automatically**.

10 If you are checking in build outputs do the following:

   • To specify the requests that the build outputs will be related to when they are checked into Dimensions, in the **Specify the request(s)** field click Select. Use the Request wizard to select one or more requests. You can also enter the request IDs in the following format:

      "QLARIUS_CR_44", "QLARIUS_CR_43"

   • To check the build outputs into a different project, in the **Specify the project where the build outputs will be checked in to** field click Select. Use the Select Project/Stream wizard to select a different project.

   • To check the build outputs into a different stream, in the **Specify the stream where the build outputs will be checked in to** field click Select. Use the Select Project/Stream wizard to select a different stream.

   Click Next.

11 Select build options:

   • **Audit area(s) before build**: produces an audit report for the build areas associated with the Dimensions project/stream. The report is produced before the build.

   • **Clean area(s) before build**: runs the clean script (in the build configuration).

   • **Lock area(s) in search path**: locks all deployment areas associated with the build and prevents other changes to these areas while the build is running. Only applies to work area builds.

- **Rebuild all targets**: rebuilds all targets. If you select this option the following option is also available:

  Targets only in the current stage: only builds targets whose source is at the correct stage.

12 Enter additional options in the **Other build options** field.

Click Next.

13 Select the dependencies and targets to be built:

- **Deployment Analysis**: runs dependency analysis.

- **Predicted (using soft relationships)**: displays targets based on a previous revision of an item. This is relevant when the selected revision has not yet been built.

- **Foreign (cross project dependencies)**: displays items that are related to items in a different project or stream.

- **Side effect (from observed builds)**: displays built items created at the same time as the main target, such as a compile listings and secondary targets.

- **Configuration analysis**: analyzes the build configuration.

- **Final targets only**: does not display intermediate targets.

- **All targets**: displays, but does not necessarily select, all targets in the build configuration.

- **Targets impacted by related requests**: considers child requests as well as the parent request.

For more information see the BLD command in the *Command-Line Reference*.

If you change targets click **Query** to repopulate the build target list below.

14 From the **Build Targets** list select one or more targets to build. The list displays all targets that are impacted by the objects that you selected to build. For each target in the list the following build dependency information is displayed:

- **Target**: the name of the target as defined in Dimensions Build.

- **Filename**: the filename of the target or mask as defined in Dimensions Build.

- **Found In**: the relationship of the objects that you are going to build to the target. Can be one of the following:

  - **Build Config**: matches a rule in a build configuration (explicit relationship).

  - **BOM**: named in a bill of materials (BOM) from a previous build (implicit relationship).

  - **Build Config/BOM**: matches both of the above (explicit and implicit).

  - **<blank>**: no matches were found for the selected objects.

- **Build Config**: The build configuration that you selected. The configuration version may be different from that in the Build configuration list (the latter is ignored when this data is processed).

■ **Details**: Can be one of the following:

- Prediction: the relationship is based on a previous revision of the item.

- Foreign: is related to an item in a different project or stream.

Notes:

- You must select a target to perform a build.

- By default targets are automatically selected so you only need to use this list to filter the list of targets being built. You can disable the automatic selection of targets, for details see *Disabling the Automatic Selection of Targets* in the *Dimensions CM Build Tools User's Guide*.

- When dependency information is available from previous builds it is used to approximate impacted targets. However, this approximation is based on stored data and the actual build result may be different.

- If a specific target cannot be matched against the objects that you selected, all targets for the selected configuration are displayed.

- If previous builds were executed with output collection enabled, the Build Targets list also displays item relationships that were discovered during the build (as long as the build tool can provide this information). This enables you to view and select targets by name instead of only by build configuration build rules.

- When you specify a target to be built, additional rules may apply that result in additional targets being built. For example, you specify that all impacted targets for a source will be built. Source file X is used to build targets A and B. If you only select target A then target B will automatically be built as it is impacted by the same source file.

15 Click Next. A summary of the build command that will be executed is displayed.

16 Click Finish and monitor the progress of the build.

Building Baselines

Purpose   Follow this procedure to build a baseline. When you build a baseline you build all the targets affected by any items in the baseline. You can also use baselines to reproduce an earlier build. When you build a baseline the build configuration and sources used in the build are the versions at the time the baseline was taken.

You can only build a baseline if it was created against a Dimensions project/stream that has one or more build configurations. For details about creating build configurations see the *Dimensions CM Build Tools User's Guide* or the Dimensions Build online help.

About Build Configuration Versions   Build configuration versions with the prefix '*' were checked in when the baseline was created against the Dimensions project/stream. These were the latest versions of the build configurations at the time the baseline was created. Build configuration versions without the prefix '*' were created after the baseline was captured for the project/stream.
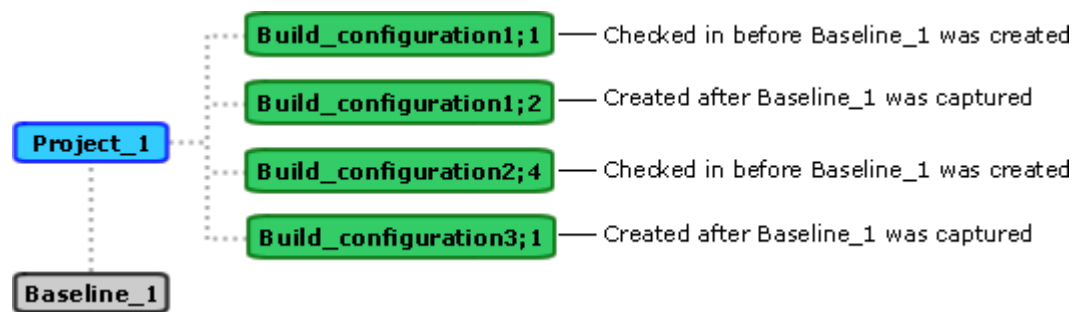
In the example above the Build Configuration list displays the following configurations:

-   `*Build_configuration1;1`

-   `Build_configuration1;2`

-   `*Build_configuration2;4`

-   `Build_configuration3;1`

About Build Work Areas   In the Build Area list in the Run Build for Baseline wizard, work areas above the divider are areas set up for the build configuration that you have selected and that you have access to. Work areas below the divider are all other areas to which you have access.
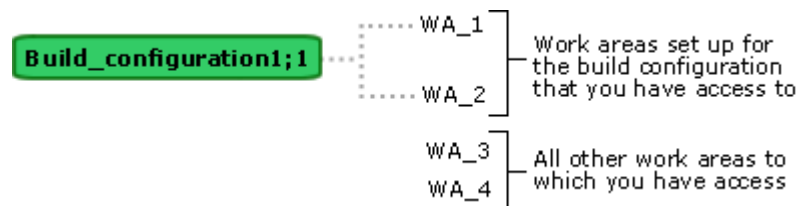
In the example above the Build Work Area list displays the following work areas:

```
WA_1
WA_2
----
WA_3
WA_4
```

NOTE You can only build a baseline in a work area.

PRIVILEGES Build from a baseline

Web client **To build a baseline:**

1 In the web client open the project containing the baseline that you want to build.

2 Do one of the following:

- In the navigation pane of the Baselines tab click Catalog. In the content pane select the baseline that you want to build.

- In the navigation pane of the My Current Projects tab click Catalog and click Baselines. In the content pane select the baseline that you want to build.

- On the History tab of the Deployment view select the baseline that you want to build.

3 In the menu area click Build and choose Build.

The Run Build wizard appears. The first line displays the name of the baseline that you are going to build. The second line displays the name of the Dimensions project or stream against which the baseline was created.

4 From the **Build Configuration** list select the build configuration that you want to build. You can only build configurations associated with the Dimensions project or streams that the baseline was created from.

5 From the **Build Area** list select a work area where you want to build the baseline.

6 If required, in the **Build Area User** field enter the ID of the Dimensions user who owns the build area. You also need to enter and confirm their password.

7 From the **Start search path from stage** list select the stage where you want the search path to start.

8 Optionally select the **Apply system date/time to downloaded files** check box.

Click Next.

9 To capture the build outputs and check them into Dimensions CM, select the option **Check in build outputs automatically**.

10 If you are checking the build outputs into Dimensions CM do the following:

- To specify the requests that the build outputs will be related to when they are checked into Dimensions, in the **Specify the request(s)** field click Select. Use the Request wizard to select one or more requests. You can also enter the request IDs in the following format:

  ```
  "QLARIUS_CR_44", "QLARIUS_CR_43"
  ```

- To check the build outputs into a different project or stream, in the **Specify the project where the build outputs will be checked in to** field click Select. Use the Select Project/Stream wizard to select a different project or stream

Click Next.

11 Select build options:

- **Audit area(s) before build**: produces an audit report for the build areas associated with the Dimensions project/stream. The report is produced before the build.

- **Clean area(s) before build**: runs the clean script (in the build configuration).

- **Lock area(s) in search path**: locks all deployment areas associated with the build and prevents other changes to these areas while the build is running. Only applies to work area builds.

- **Rebuild all targets**: rebuilds all targets. If you select this option the following option is also available:

  Targets only in the current stage: only builds targets whose source is at the correct stage.

12 Enter additional options in the **Other build options** field.

Click Next.

13 Choose target selections for the target list:

- **Show all targets from build configuration**: displays all targets from the build configuration.

- **Show final targets only**: does not display intermediate targets.

- **Show foreign items**: displays items that are related to items in a different project or stream.

- **Show side-effect targets**: displays files created at the same time as the main target, such as a compile listing.

- **Show predicted targets**: display targets based on a previous revision of the item. This is relevant when the selected revision has not yet been built.

- **Include targets impacted by related requests**: considers child requests as well as the parent request.

14 If you change target selections, click **Re-query** to repopulate the target list.

15 From the **Build Targets** list select one or more targets to build. The list displays all targets that are impacted by the objects that you selected to build. For each target in the list the following build dependency information is displayed:

- **Target**: the name of the target as defined in Dimensions Build.

- **Filename**: the filename of the target or mask as defined in Dimensions Build.

- **Found In**: the relationship of the objects that you are going to build to the target. Can be one of the following:

  - **Build Config**: matches a rule in a build configuration (explicit relationship).

  - **BOM**: named in a bill of materials (BOM) from a previous build (implicit relationship).

  - **Build Config/BOM**: matches both of the above (explicit and implicit).

  - **<blank>**: no matches were found for the selected objects.

- ■ **Build Config**: The build configuration that you selected. The configuration version may be different from that in the Build configuration list (the latter is ignored when this data is processed).

- ■ **Details**: Can be one of the following:

  - • Prediction: the relationship is based on a previous revision of the item.

  - • Foreign: is related to an item in a different project or stream.

Notes:

- • You must select a target to perform a build.

- • By default targets are automatically selected so you only need to use this list to filter the list of targets being built. You can disable the automatic selection of targets, for details see *Disabling the Automatic Selection of Targets* in the *Dimensions CM Build Tools User's Guide*.

- • When dependency information is available from previous builds it is used to approximate impacted targets. However, this approximation is based on stored data and the actual build result may be different.

- • If a specific target cannot be matched against the objects that you selected, all targets for the selected configuration are displayed.

- • If previous builds were executed with output collection enabled, the Build Targets list also displays item relationships that were discovered during the build (as long as the build tool can provide this information). This enables you to view and select targets by name instead of only by build configuration build rules.

- • When you specify a target to be built, additional rules may apply that result in additional targets being built. For example, you specify that all impacted targets for a source will be built. Source file X is used to build targets A and B. If you only select target A then target B will automatically be built as it is impacted by the same source file.

16 Click Next. A summary of the build command that will be executed is displayed.

17 Click Finish and monitor the progress of the build.

Desktop client   **To build a baseline:**

1 In the desktop client open the project/stream containing the baseline that you want to build.

2 In the My Current Project/Stream window expand the Catalog node and select Baselines. In the Baselines object window select the baseline that you want to build.

3 From the Baseline menu select Build Baseline.

The Build wizard appears.

4 From the **Build Configuration** list select the build configuration that you want to build. You can only build configurations associated with the Dimensions project or streams that the baseline was created from.

5 From the **Build Area** list select a work area where you want to build the baseline.

6 If required, in the **Build Area User** field enter the ID of the Dimensions user who owns the build area. You also need to enter and confirm their password.

7 From the **Start search path from stage** list select the stage where you want the search path to start.

8 Optionally select the **Apply system date/time to downloaded files** check box.

Click Next.

9 To capture the build outputs and check them into Dimensions CM, select the option **Check in build outputs automatically**.

10 If you are checking the build outputs into Dimensions CM do the following:

- To specify the requests that the build outputs will be related to when they are checked into Dimensions, in the **Specify the request(s)** field click Select. Use the Request wizard to select one or more requests. You can also enter the request IDs in the following format:

  "QLARIUS_CR_44", "QLARIUS_CR_43"

- To check the build outputs into a different project, in the **Specify the project where the build outputs will be checked in to** field click Select. Use the Select Project/Stream wizard to select a different project.

- To check the build outputs into a different stream, in the **Specify the stream where the build outputs will be checked in to** field click Select. Use the Select Project/Stream wizard to select a different stream.

Click Next.

11 Select build options:

- **Audit area(s) before build**: produces an audit report for the build areas associated with the Dimensions project/stream. The report is produced before the build.

- **Clean area(s) before build**: runs the clean script (in the build configuration).

- **Lock area(s) in search path**: locks all deployment areas associated with the build and prevents other changes to these areas while the build is running. Only applies to work area builds.

- **Rebuild all targets**: rebuilds all targets. If you select this option the following option is also available:

  Targets only in the current stage: only builds targets whose source is at the correct stage.

12 Enter additional options in the **Other build options** field.

Click Next.

13 Select the dependencies and targets to be built:

- **Deployment Analysis**: runs dependency analysis.

- **Predicted (using soft relationships)**: displays targets based on a previous revision of an item. This is relevant when the selected revision has not yet been built.

- **Foreign (cross project dependencies)**: displays items that are related to items in a different project or stream.

- **Side effect (from observed builds)**: displays built items created at the same time as the main target, such as a compile listings and secondary targets.

- **Configuration analysis**: analyzes the build configuration.

- **Final targets only**: does not display intermediate targets.

- **All targets**: displays, but does not necessarily select, all targets in the build configuration.

For more information see the BLD command in the *Command-Line Reference*.

If you change targets click **Query** to repopulate the build target list below.

14 From the **Build Targets** list select one or more targets to build. The list displays all targets that are impacted by the objects that you selected to build. For each target in the list the following build dependency information is displayed:

- **Target**: the name of the target as defined in Dimensions Build.

- **Filename**: the filename of the target or mask as defined in Dimensions Build.

- **Found In**: the relationship of the objects that you are going to build to the target. Can be one of the following:

  - **Build Config**: matches a rule in a build configuration (explicit relationship).

  - **BOM**: named in a bill of materials (BOM) from a previous build (implicit relationship).

  - **Build Config/BOM**: matches both of the above (explicit and implicit).

  - **<blank>**: no matches were found for the selected objects.

- **Build Config**: The build configuration that you selected. The configuration version may be different from that in the Build configuration list (the latter is ignored when this data is processed).

- **Details**: Can be one of the following:

  - Prediction: the relationship is based on a previous revision of the item.

  - Foreign: is related to an item in a different project or stream.

Notes:

- You must select a target to perform a build.

- By default targets are automatically selected so you only need to use this list to filter the list of targets being built. You can disable the automatic selection of targets, for details see *Disabling the Automatic Selection of Targets* in the *Dimensions CM Build Tools User's Guide*.

- When dependency information is available from previous builds it is used to approximate impacted targets. However, this approximation is based on stored data and the actual build result may be different.

- If a specific target cannot be matched against the objects that you selected, all targets for the selected configuration are displayed.

- If previous builds were executed with output collection enabled, the Build Targets list also displays item relationships that were discovered during the build (as long as the build tool can provide this information). This enables you to view and select targets by name instead of only by build configuration build rules.

- When you specify a target to be built, additional rules may apply that result in additional targets being built. For example, you specify that all impacted targets for a source will be built. Source file X is used to build targets A and B. If you only

select target A then target B will automatically be built as it is impacted by the same source file.

15 Click Next. A summary of the build command that will be executed is displayed.

16 Click Finish and monitor the progress of the build.

Viewing Impacted Targets

Purpose   Follow this procedure to view the targets impacted by items, a request, or a project/stream. This enables you to check what targets may need to be rebuilt if you change a source file.

PRIVILEGES None required

Web client   **To view impacted targets:**

1 In the web client, in the content pane of the My Current Project, Items, Requests, Projects, or Deployment tabs select the items, request, or project for which you want to view impacted targets. If you do not select any objects, impacted targets will be displayed for the current project.

2 In the menu area click Build and choose Show Impacted Targets.

The Show Impacted Targets wizard appears.

3 From the **Build configuration** list select the build configuration for which you want to view impacted targets.

4 From the **Build Stage** list select a deployment stage. To select a work area select <none>.

5 From the **Build Area** list select a build or work area.

Click Next.

6 Choose target selections for the target list:

- **Show all targets from build configuration**: displays all targets from the build configuration.

- **Show final targets only**: does not display intermediate targets.

- **Show foreign items**: displays items that are related to items in a different project or stream.

- **Show side-effect targets**: displays files created at the same time as the main target, such as a compile listing.

- **Show predicted targets**: display targets based on a previous revision of the item. This is relevant when the selected revision has not yet been built.

- **Include targets impacted by related requests**: considers child requests as well as the parent request.

7 If you change target selections, click **Re-query** to repopulate the target list.

8 For each target in the **Targets** list the following build dependency information is displayed:

- **Target**: the name of the target as defined in Dimensions Build.

- **Filename**: the filename of the target or mask as defined in Dimensions Build.

- **Found In**: the relationship of the objects that you are going to build to the target. Can be one of the following:

  - **Build Config**: matches a rule in a build configuration (explicit relationship).

  - **BOM**: named in a bill of materials (BOM) from a previous build (implicit relationship).

  - **Build Config/BOM**: matches both of the above (explicit and implicit).

  - **<blank>**: no matches were found for the selected objects.

- **Build Config**: The build configuration that you selected. The configuration version may be different from that in the Build configuration list (the latter is ignored when this data is processed).

- **Details**: Can be one of the following:

  - Prediction: the relationship is based on a previous revision of the item.

  - Foreign: is related to an item in a different project or stream.

9 Click Cancel.

Desktop client **To view impacted targets:**

1 In the desktop client select the items, request, or project/stream for which you want to view impacted targets.

2 Do one of the following:

- On the toolbar click Build and select Impacted Targets.

- From the Item, Request, or Project/Stream menus select Impacted Targets.

The Impacted Targets wizard appears.

3 From the **Build configuration** list select the build configuration for which you want to view impacted targets.

4 From the **Build Stage** list select a deployment stage. To select a work area select <none>.

5 From the **Build Area** list select a build or work area.

Click Next.

6 Choose target selections for the target list:

- **Deployment Analysis**: runs dependency analysis.

- **Predicted (using soft relationships)**: displays targets based on a previous revision of an item. This is relevant when the selected revision has not yet been built.

- **Foreign (cross project dependencies)**: displays items that are related to items in a different project or stream.

- **Side effect (from observed builds)**: displays built items created at the same time as the main target, such as a compile listings and secondary targets.

- **Configuration analysis**: analyzes the build configuration.

- **Final targets only**: does not display intermediate targets.

- **All targets**: displays, but does not necessarily select, all targets in the build configuration.

- (Requests only) **Targets impacted by related requests**: considers child requests as well as the parent request.

If you change target selections, click **Query** to repopulate the target list.

7 For each target in the **Targets** list the following build dependency information is displayed:

- **Target**: the name of the target as defined in Dimensions Build.

- **Filename**: the filename of the target or mask as defined in Dimensions Build.

- **Found In**: the relationship of the objects that you are going to build to the target. Can be one of the following:

  - **Build Config**: matches a rule in a build configuration (explicit relationship).

  - **BOM**: named in a bill of materials (BOM) from a previous build (implicit relationship).

  - **Build Config/BOM**: matches both of the above (explicit and implicit).

  - **<blank>**: no matches were found for the selected objects.

- **Build Config**: The build configuration that you selected. The configuration version may be different from that in the Build configuration list (the latter is ignored when this data is processed).

- **Details**: Can be one of the following:

  - Prediction: the relationship is based on a previous revision of the item.

  - Foreign: is related to an item in a different project or stream.

8 Click Close.

Auditing a Dimensions Project or Stream

Purpose Follow this procedure to produce an audit report for the build areas associated with a Dimensions project/stream. The report compares the files in the Dimensions repository with those in the build areas that you select. You can also repair the build area so that it contains all the item revisions from the project/stream that are at the stage you selected.

PRIVILEGES Audit a Project/Stream

Web client **To audit a build project:**

1 In the web client do one of the following:

   • In the menu area of the Items, Requests, or Projects tab click Build and choose Audit Project.

   • In the navigation pane of the My Current Project tab select Folders and Items. In the menu area click Build and choose Audit Project.

   The Audit Project dialog box appears.

2 From the **Project** list select the project that you want to audit.

3 From the **Stage** list choose a stage to be audited.

4 From **Area** list choose a build area to be audited. To audit all the build areas associated with the stage choose *<All areas>*.

5 From the **Filter** list choose a filter to determine which items will be included in the audit. Select *<Default>* to use the default filter for the selected area.

   CAUTION! Audit and area filters can easily be confused. For information see *Correct Use of Area and Audit Filters* in the *Area Definitions* chapter in the *Process Configuration Guide*.

6 For **Report** type the path and filename of the file to contain the report, or click the Browse button and select the file. If you do not select a file the report is displayed in the Details window and is not saved.

7 To repair the build area so that it contains all the item revisions from the project that are at the stage you specified, select the **Fix any inconsistencies found in the area** check box.

8 To run the audit click OK.

Desktop client **To audit a build project/stream:**

1 In the desktop client open the project/stream that you want to audit.

2 Do one of the following:

   • On the toolbar click Build and select Audit.

   • From the project/stream menu select Audit.

   The Audit Project dialog opens.

3 From the **Stage** list choose a stage to be audited.

4 From **Area** list choose a build area to be audited. To audit all the build areas associated with the stage choose <All areas>.

5 From the **Filter** list choose a filter to determine which items will be included in the audit. Select *<Default>* to use the default filter for the selected area.

> **CAUTION!** Audit and area filters can easily be confused. For information see *Correct Use of Area and Audit Filters* in the *Area Definitions* chapter in the *Process Configuration Guide*.

6 To repair the build area so that it contains all the item revisions from the project/ stream that are at the stage you specified, select the **Attempt to fix any inconsistencies found in the area** check box.

7 For **Report File** type the path and filename of the file to contain the report, or click the Browse button and select the file. If you do not select a file the report is displayed in a new window and is not saved.

8 To run the audit click OK.

Customizing the Desktop Client for Dimensions Build

The following customizations in desktop client are useful when you are using Dimensions Build:

- For project/streams that use search paths you need to display the deployment *Stage ID* of items in an Item window. In the Customize Views dialog box add *Stage ID* from the System Defined list on the left to the Items list for Files and Folders on the right. For details about customizing views see .

Your Items windows should now display the Stage ID of items:

- ■ To see 'Made of' relationships relating source files and target files you need to display the Derived Item tab in the related object window for an Item window. In the Customize Views dialog box add *Derived Items* from the list on the left to the Items view on the right. For details about customizing views see page 520.
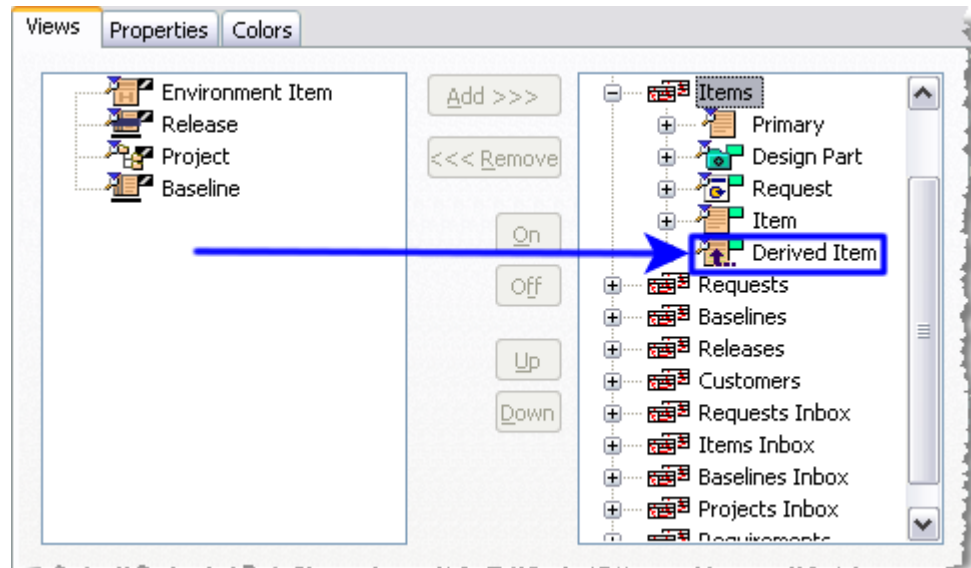
The related object window for Items should now include the Derived Items tab:

To view the relationship between source and target files select an item, right-click, and select Open New Window. In the Items window on the left select the item. In the related objects window on the right select the Derived Items tab. In the example below `final1.txt` is made of `target1.txt`. `final1.txt` is used to make `byproduct1.txt`, `finfin1.txt` and `finfin2.txt`:
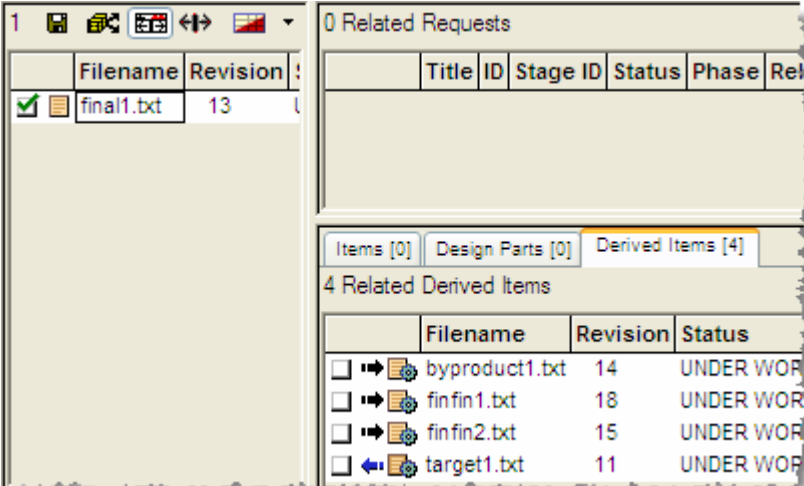
Chapter 20
Running Report Builder

In this Chapter:

About the Dimensions CM Report Builder

Introduction

NOTE The Report Builder entirely replaces and extends the functionality of the Query Builder tool that was provided with versions of Dimensions® CM prior to release 10.1.3. A Report Builder listing client report is the equivalent of a Query Builder query.

The Dimensions CM Report Builder is accessed through either the Dimensions web client or the desktop client that allows you to create and modify the following types of end-user GUI client reports for all Dimensions CM object types:

- Listing report

- Distribution table

- Pie chart

- Pie chart (3D)

- Bar chart

- Bar chart (2D depth)

- Bar chart (stacked)

- Bar chart (stacked 2D depth).

IMPORTANT! To be able to display charts, Adobe Flash Player 8 (or above) must be pre-installed.

These client reports can be grouped, depending on report type, by one or two Dimensions CM attributes. The attributes available depend on the process model. Typical examples are:

- Product

- Type Name

- ID

- Title

- Originator

- Status

- Last Updated By

- Phase

- Action Date

- Creation Date

- Update Date

Although client reports are versatile, the following caveats should be borne in mind:

- If you require advanced reporting, you should use Dimensions CM SQL-based reports (utilizing Published Views), Dimensions CM user reports, or Crystal Reports. See the *Reports Guide* for details.

-

- The graphical client reports are not intended to be as flexible in formatting fonts, text sizes and colors as other external charting tools, such as those found in Microsoft Excel. You can, however, export client reports in comma separated value (CSV) format for import into such external charting tools if you find that your data does not display clearly in the graphical client reports with their automatic font, text size and color settings (for example, pie charts with dozens of segments).

- Currently only one run-time variable can be specified for client report filtering criteria.

Report Categories

Private Reports (My Reports)

Private reports are reports that you create in the Desktop client or the web client, either from scratch or by adopting or modifying public or standard reports. Such reports appear in a **My Reports** folder in either client and are not visible to other users. If you have favorite private reports, you can place them into your **Favorite Reports** folder for easy access.

Favorite Reports

Favorite reports are private or public reports that you have placed into your **Favorite Reports** folder for easy access.

Public Reports

PRIVILEGES To create, modify, or delete a public report you need the `Manage Public Reports` privilege.

Public reports are reports that have been created by privileged users for general access and use by all users. Such reports appear in a **Public Reports** folder in either the Desktop client or the web client. If you have favorite public reports, you can place them into your **Favorite Reports** folder for easy access.

Although non-privileged users cannot create, modify, or delete the details of public reports, they can use the Report Builder dialog box Edit tab to access the details of a public report and uncheck the **is public** check box—after which they can then edit and save the report as a private report, even using the same name if so desired.

Standard and Demo Reports

Standard and demo reports are special categories of public reports that are placed in the **Public Reports** folder at installation of Dimensions CM for your use. They are distinguished from each other in that a standard report is independent of the Dimensions CM process model whereas a demo report is not; consequently, a standard report cannot refer to user-defined attributes nor to relationships (except server keywords), whereas a demo report can. Standard report names are prepended with `"Standard:"` and demo report names are prepended with `"Standard demo:"` to distinguish them from other public reports, but in all other senses they are simply public reports. If you have favorite standard or demo reports, you can place them into your **Favorite Reports** folder for easy access.

The standard and demo reports that are available are:

Object Class	Report Type	Report Name	Description
Item	Listing report.	*Standard: All items checked out or locked by me*	Items extracted by the current user.
Item	Listing report (group by).	*Standard: Items that I created since ...*	Items created by the current user, grouped by status. Query at runtime for creation date.
Baseline	Listing report (group by).	*Standard: Active baselines*	Baselines with Phase != CLOSED and Phase != REJECTED, grouped by status.
Baseline	Listing report (group by).	*Standard: Baselines in my inbox*	All pending current user baselines grouped by status.
Baseline	Listing report (group by).	*Standard: Baselines that I created*	All baselines that the current user created (closed and rejected included), grouped by status.
Baseline	Listing report (group by).	*Standard: Closed or rejected baselines*	Baselines with Phase == CLOSED or Phase == REJECTED, grouped by status.
Project/ Stream	Listing report (group by).	*Standard: Active projects*	Projects with Phase != CLOSED and Phase != REJECTED *&& which are not locked*.
Project/ Stream	Listing report (group by).	*Standard: Closed or rejected projects*	Projects with Phase == CLOSED or Phase == REJECTED *or Locked == true*, grouped by status.
Project/ Stream	Listing report (group by).	*Standard: Projects in my inbox*	All pending current user projects, grouped by status.
Project/ Stream	Listing report (group by).	*Standard: Projects that I created*	All projects that the current user created, grouped by status.
Request	Listing report (group by).	*Standard: Active requests*	Requests with Phase != CLOSED and Phase != REJECTED, grouped by status.
Request	3D pie chart.	*Standard: Active requests chart*	Requests with Phase != CLOSED and Phase != REJECTED, 3D pie chart by status.
Request	Listing report (group by).	*Standard: Closed or rejected requests*	Requests with Phase == CLOSED or Phase == REJECTED, grouped by status.
Request	3D pie chart.	*Standard demo: Active CRs chart by severity/priority*	Pie chart of severity for non-closed or non-rejected PRODUCT:CR requests.

Object Class	Report Type	Report Name	Description
Request	Stacked column chart.	*Standard demo: Active CRs chart by status and severity/ priority.*	Column for each status, stacked severities for active requests.
Request	Distribution table.	*Standard demo: Active CRs table by status and severity/ priority.*	Column for each severity, row for each status, active requests.
Request	Stacked column chart.	*Standard demo: Closed or rejected CRs chart by action date and severity/ priority (year to date)*	Column for each month, stacked severities for closed or rejected requests actioned in the past year—so up to 13 columns.
Request	3D pie chart.	*Standard demo: Closed or rejected CRs chart by severity/priority*	Pie chart of severity for closed or rejected PRODUCT:CR requests.
Request	Stacked column chart.	*Standard demo: Submitted CRs chart by creation date severity/ priority (year to date)*	Column for each month, stacked severities for all requests (active or not) created in the past year—so up to 13 columns.
Request	Listing report (group by).	*Standard: Requests in my inbox*	All pending current user requests, grouped by status.
Request	Listing report (group by).	*Standard: Requests that I created*	All requests that the current user created, grouped by status.

Creating or Modifying a Report Using the Web Client

Purpose   Use these Dimensions® CM web client operations to: create, modify, or delete a report; or to add a report to favorites or remove a report from favorites.

- Create, modify, or delete a report

- Add a report to, or remove it from, **Favorite Reports**.

PRIVILEGES To create, modify, or delete a public report you need the `Manage Public Reports` privilege.

Creating a Report

1   On the Reports tab, select the appropriate Dimensions CM object class folder (Items, Requests, Projects/Streams, or Baselines), in the navigation pane.

2   Click the New Report button.

3 On the Report Builder dialog box, use the Edit tab to set up report generation criteria and/or the Preview tab to show you the client report that will be generated based on the choices you make on the Edit tab.

Edit Tab

Enter your reporting criteria on the Edit tab as explained below:

1 Enter a **Report Name**.

Unless you check the **is public** check box, the report will be a private report that only you will be able to see after the report is created. The report name is also placed, appropriately, in the **My Reports** or **Public Reports** folder in the navigation pane of the calling dialog box.

2 Select one or <<ALL>> products from the **Product** drop down list.

3 Depending on the class of Dimensions CM object you accessed Report Builder for, either accept, as default, all **Item type(s)**, **Request type(s)**, **Project/stream type(s)**, or **Baseline type(s)** (indicated by <<ALL>>) or click the associated button to select just specific types to be included in the report.

4 In the **Report type** menu area:

a For **Type**, select the report type.

Depending on the type of report selected, an additional **Then by** field may then be displayed.

Selection in the additional **Date span** field only depends on the attribute selected in any of the **Group by** fields; if at least one of them is a date attribute, then the **Date span** field will be enabled regardless of the report type selected.

b For **Group by** and, if present, **Then by** and **Date span**, select the desired attribute type to be used to group the elements of the generated report. Click the **Ascending** or **Descending** radio button to specify whether you wish the element grouping to be displayed in ascending or descending order respectively—the default is ascending.

5 In the **Attributes to display** menu area, attributes that you include in the **Selected** list are displayed when you generate the report.

NOTE For report types that support subsequently generated child drilldown reports, these attributes will be displayed in the child drilldown report; otherwise, the attributes will be displayed in the generated listing report itself.

To manage the attributes in the **Selected** list, do the following:

a To add a single attribute, select it (single click) in the **Available** list, and click the button.

b To add several attributes, select them (individually using CTRL+click or as a contiguous group using Shift+click) in the **Available** list, and click the button.

c To remove an attribute, select it in the **Selected** list, and click the button.

d To remove several attributes, select them (individually using CTRL+click or as a contiguous group using Shift+click) in the **Selected** list, and click the button.

e To move an attribute up the **Selected** list, select it and click the button.

f To move an attribute down the **Selected** list, select it and click the button.

6 In the **Filtering** menu area, system attributes and/or relationships that you include in the **Selected** list can have sophisticated Boolean filtering criteria applied to them when you generate the report.

NOTE The Filtering menu area is initially collapsed; to expand it, click the ⊞ button. This menu is only applicable to a listing report and a drilldown list.

To manage the filtering, do the following:

a For **Field**, select the desired attribute or relationship type:

- If an attribute is selected, an additional **Value** field and associated find button ... is displayed.

- If a relationship is selected, the **Operator** field is replaced by a selection of either *related to* or *not related to*, and associated **Relationship** find button ...

b For a system attribute or user attribute (if present), either enter the required value in the **Value** field or click the find value button ... to invoke an associated find dialog box. If you click the find value button ... , depending on the attribute you selected, you can select certain special values, especially `<Query at Runtime>` a variable that enables you to specify the value at the time the report is run.

For text fields, you can use "&" or "*"as a wildcard character. Note that this works when the logical operator is **equal to** or **not equal to**, and therefore is equivalent to the expressions "like" and "not like" in some other query syntaxes. (See "*Examples:" on page 461*.)

IMPORTANT! `<Query at Runtime>` can currently only be selected for one attribute or relationship.

TIPS:

- For attributes that take a date format:

  - Click the calendar picker button 🔳 next to the pre-populated entry of DD-MMM-YYYY to invoke a calendar dialog box to assist you in selecting the appropriate date.

  - Click the find value button ... to specify one of the following special values: `<Query at Runtime>`, `<Today>`, `<Today>+ 7`, `<Today>-7`, `<Today>+30`, `<Today>-30`, `<Today>+365`, `<Today>-365`.

- For attributes that take a user identity values (for example, `Originator`, `Owner`, and `Sender ID`): click the find value button ... to open a user picker dialog box.

- For attributes that have related valid sets (for example, an **item** report of **Item type** `EXE` with a **Filtering** user attribute of `Operating System`): Click the find value button ... to open a valid set selector. You can use this selector to select multiple values and create multiple OR/AND criteria at one time using the [Add Multiple 'OR'] or [Add Multiple 'AND'] buttons.

Select a logical operator from the **Operator** drop down list. The logical operator specifies how you wish to filter with respect to the **Value** field, for example, filter to show all Titles that match (**Equal to**) or do not match (**Not equal to**) the entry in the Value field. The full list of filtering logical operations available is:

- For date attributes: **equal to**, **not equal to**, **before**, **after**, **not after**, **not before**, **is null**, and **is not null**.

■ For all other attributes: **equal to**, **not equal to**, **less than**, **greater than**, **less than or equal to**, **greater than or equal to**, **is null**, and **is not null**.

Click the Add button to post your current attribute/operator/value filter criteria to the list below, in which the compound filter criteria will be built up.

c For a relationship, either enter the required relationship in the **Relationship** field or click the find relationship button … to invoke an associated find dialog box (access the help if you need assistance in using the find dialog box). If you click the find relationship button … , depending on the relationship you selected, you can select certain special values, especially `<Query at Runtime>` a variable that enables you to specify the relationship at the time the report is run.

> **IMPORTANT!** `<Query at Runtime>` can currently only be selected for one attribute or relationship.

For the **Operator**, select **Related to** or **Not related to.**

Click the Add button to post your current relationship filter criteria to the list below, in which the compound filter criteria will be built up.

d Repeat Step a and Step b or Step c as many times as required to build up the compound filter criteria (including *where conditions*) in the list below, using the following buttons to manage the filter criteria as explained below:

- To add a filter criterion, complete Step a and Step b or Step c above and click the Add button. As each filter criterion is added, it will be placed by default into a logical AND relationship with the previously added filter criterion—to change the relationship to an OR relationship *for the currently selected filter criterion only*, click the And/Or button.

- To delete a filter criterion, select it and click the Delete button. To delete all filter criteria, click the Delete All button.

- To modify a filter criterion: select the criterion; modify, as appropriate, the system attribute **Value** and/or **Operator** fields or relationship **Relationship** field; and click the Modify button. The filter criterion will be updated appropriately.

- To add an open parenthesis to a filter criterion, select the criterion and click the (+ button. An open parentheses is added.

- To add a close parenthesis to a filter criterion, select the criterion and click the)+ button. A close parentheses is added.

- To remove an open parenthesis from a filter criterion, select the criterion and click the (- button. An open parenthesis is removed.

- To remove a close parenthesis from a filter criterion, select the criterion and click the)- button. A close parenthesis is removed.

NOTES

- Filter criteria that you enter are optimized by the Dimensions CM web client. Consequently, the criteria may appear in a slightly different format to that specified. However, client report results are not affected.

- For item reports, the items retrieved are restricted to the selected project. However, items can belong to more than one project, therefor the number of

item revisions retrieved may be greater than the number that are displayed when you run the report.

- *Examples*:

    To create a report to find CR requests that are not closed and are critical or severe, or CRs that are raised, your filter will look like this:

    ```
    (Status != 'CLOSED'
    ```

    ```
    And
    ```

    ```
    Severity/Priority = '1_critical'
    ```

    ```
    Or
    ```

    ```
    Severity/Priority = '2_severe')
    ```

    ```
    Or
    ```

    ```
    Status = 'RAISED'
    ```

    To create a report to find items of file extension .zip that do not contain the string "output" in the filename, and are owned by *JSMITH*, your filter will look like this:

    ```
    Filename = '%.zip'
    ```

    ```
    And
    ```

    ```
    Filename <> '%output%'
    ```

    ```
    And
    ```

    ```
    Owner = 'JSMITH'
    ```

7 In the **Sorting** menu area:

NOTE The Sorting menu area is initially collapsed; to expand it, click the ⊞ button. This menu is only applicable to a listing report and a drilldown list.

a For **Sorted by**, select the desired attribute type and click **Ascending** or **Descending** to decide how the attributes are sorted in the elements of the generated report.

b For subsequent **Then by** fields, further refine your attribute sorting criteria.

8 Proceed to the Preview tab to test run the report prior to saving it or modifying your reporting selections.

Preview Tab

The Preview tab shows you the client listing report or summary report (see) that will be generated based on the choices you made on the Edit tab.

If you are satisfied with the preview of the report, click **Save**; otherwise, return to the Edit tab to refine your reporting choices.

Once a report is saved, it will appear in both the navigation and content panes of the Reports tab in Dimensions web client when you select the relevant folder in the navigation pane. In the navigation pane the report name will appear in the appropriate folder, that is, **My Reports** or **Public Reports**.

Modifying a Report

To modify a report or create a new one based on an existing one:

1 On the Reports tab, select the appropriate object class folder (Items, Requests, Projects/Streams, or Baselines), in the navigation pane. Optionally, expand the folder and select the category of report (Favorite Reports, My Reports, or Public Reports).

2 Either:

a Select a single report in the Reports tab content pane to enable the Modify Report button in the Reports tab toolbar.

Then click that button to launch the Report Builder dialog box. This is functionally the same as for a new report except that the various fields will be pre-populated.

b Alternatively, double-click on the report name in the Reports tab content pane to directly launch the Report Builder dialog box.

3 As an alternative to Step 2 above, select a single report in the Reports tab navigation pane to enable the Modify Report button in the Reports tab toolbar.

Then click that button to launch the Report Builder dialog box.

4 To modify an existing report, modify the various fields in the Edit tab of the Report Builder as described in "Creating a Report" on page 457.

5 To create a new report based on an existing report, in the **Report Name** type a new name and then modify the various fields in the Edit tab of the Report Builder dialog box as described in "Creating a Report" on page 457.

Deleting Reports

1 On the Reports tab, select the appropriate object class folder (Items, Requests, Projects/Streams, or Baselines), in the navigation pane. Optionally, expand the folder and select the category of report (Favorite Reports, My Reports, or Public Reports).

2 In the content pane, select one or more client reports to delete.

3 Click the Delete button:

4 Click **Yes**.

Adding Reports to Favorite Reports

1 Click the **My Reports** or **Public Reports** folder in the web client navigation pane to populate the content pane with the list of report objects.

2 Select one or more report objects for adding to your **Favorite Reports** folder. The button next to the *List of objects* label will now be enabled.

3 Click the button.

4 In the **New Favorites** dialog box, confirm that you wish to add links to the identified reports into your **Favorite Reports** folder. Copies of the report names will appear in the **Favorite Reports** folder.

Removing Reports from Favorite Reports

1   Click the **Favorite Reports** folder in the web client navigation pane to populate the content pane with the list of report objects.

2   Select one or more report objects for removing from your **Favorite Reports** folder. The button next to the *List of objects* label will now be enabled.

3   Click the button.

4   In the **Remove Favorites** dialog box, confirm that you wish to remove links from the identified reports in your `Favorite Reports` folder.

>   **NOTE** Remember that favorite reports are only links to reports that are still present in the **My Reports** or **Public Reports** folder, so removing those links has no impact on the reports still being present in either of those two folders. However, if you select a report in the Favorite Reports folder and press the **Delete** button, then that report will be deleted from the associate **My Reports** or **Public Reports** folder as well.

Running a Client Report Using the Web Client

Purpose   Use this Dimensions® CM web client operation to run saved client reports.

Once a client report is saved, you can run it by clicking on the report name in the web client navigation pane. This will run the report and display it in the web client content pane; however, if the report was created to prompt for a run-time value or relationship, you will need to specify that first before the report will actually be run.

An example of a requests report requiring a **Creation Date is not before** value to be specified at runtime is shown below. The particular logical operator (**is not before** in the example) is specified when the report is created or modified.

You can also get a preview of what certain types of report will look like when it is run by using the Preview tab when creating or modifying a report, see .

Exporting a Client Report Using the Web Client

Purpose   Use this Dimensions® CM web client operation to export a client report to HTML or comma separated variable (CSV) format.
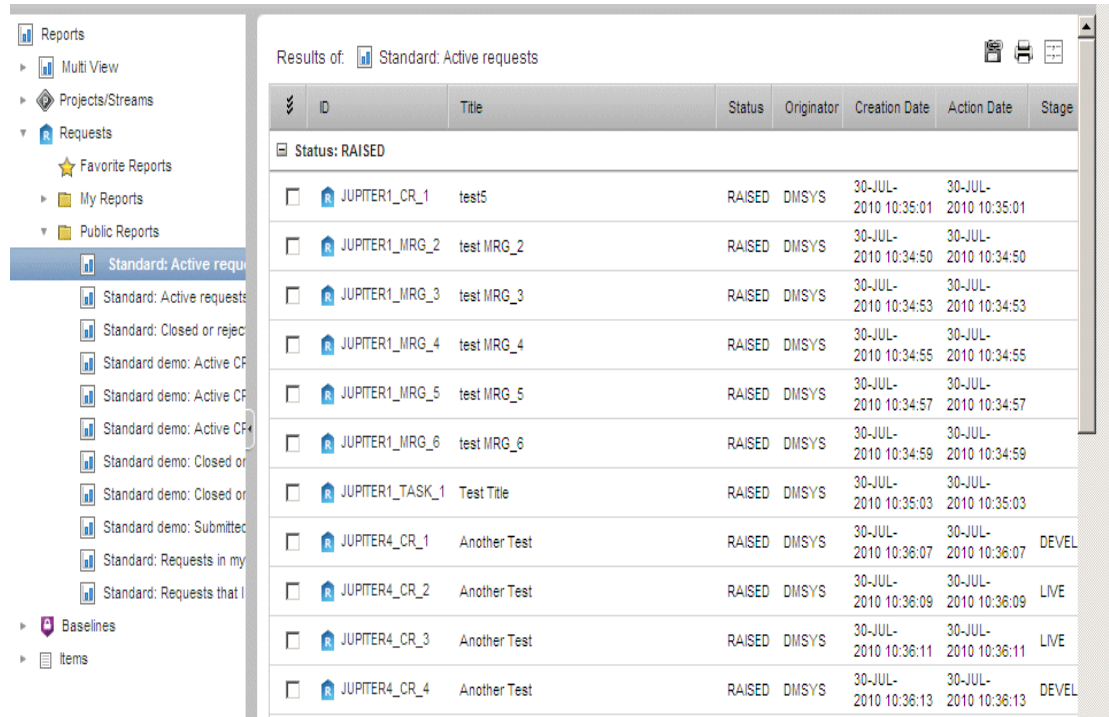
Once a client report is saved, you can export it to HTML or comma separated variable (CSV) format for printing or inclusion in a third-party tool, for example, a spreadsheet.

1   Click on a report name in the web client navigation pane. This will run the report and display it in the web client content pane; however, if the report was created to prompt for a run-time value or relationship, you will need to specify that first before the report will actually be run, see for details.

2   The way in which the client report is displayed depends on whether the report is a listing report or a graphical report.

The HTML 🖶 or CSV ⊡ buttons are located at the top right of the content pane. A similar arrangement applies to listing reports displayed as a result of drilling down into graphical reports, see .

An example of a listing report is shown below:

- Click the 🖶 button to create an HTML page suitable for printing from your browser.

An example of a listing report HTML export is shown below:

- Click the ⊞ button to create a CSV page suitable for copying and pasting from your browser.

An example of a listing report CSV export is shown below:

- Click the ▦ button to send an email containing the URL for the report. A dialog box is displayed showing the URL. Click on the link beneath to compose the email.

An example of the dialog box is shown below:
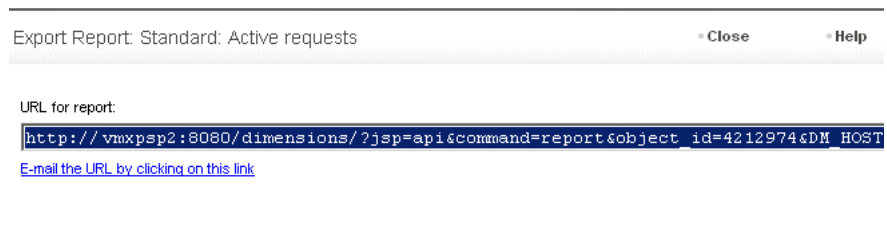
An example of a distribution table report is shown below:

- Click the button to create an HTML page suitable for printing from your browser.

An example of a distribution table report HTML export is shown below:

- Click the button to create a CSV page suitable for copying and pasting from your browser.

An example of a distribution table report CSV export is shown below:
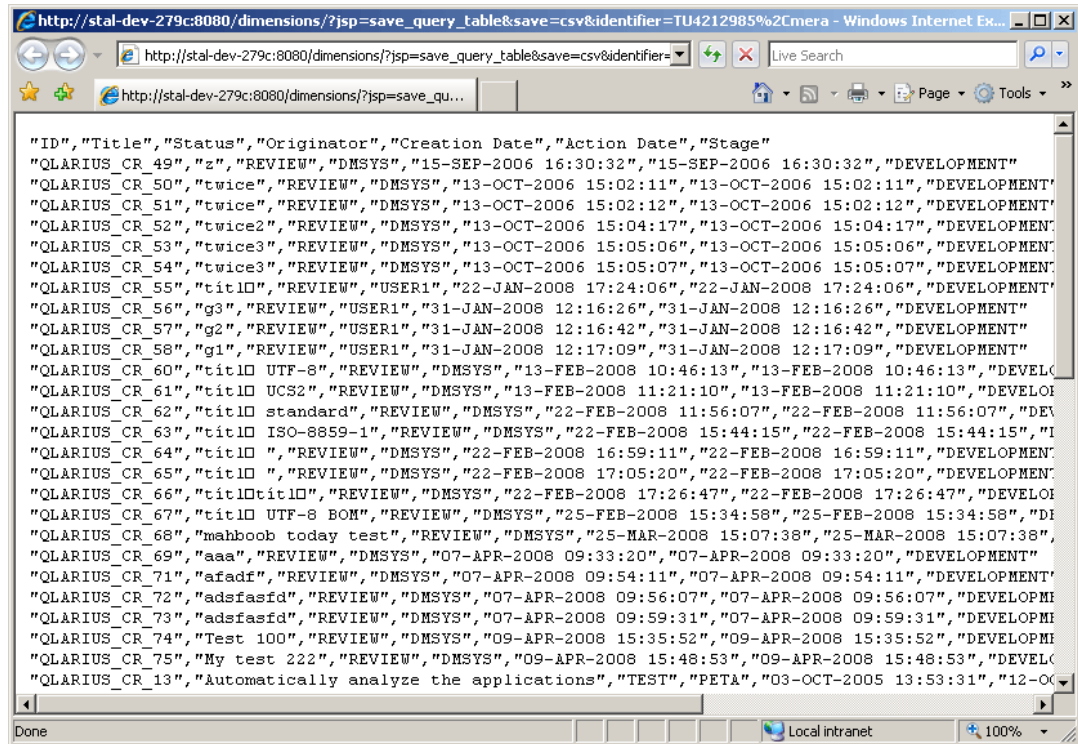
Drilling Down into a Client Report Using the Web Client

Purpose   Use this Dimensions® CM web client operation to drill down into a client report.

Client reports may end up displaying large amounts of data, and displaying everything in one report is not always the clearest way to present the information. For all types of reports *apart from simple listing reports*, the Dimensions web client first creates a top-level report that displays only summarized data. Certain areas on these summary reports are mouse-sensitive, allowing you to drill down to see underlying data. This is the concept of a drilldown report.

A summary report is displayed either:

■   Directly by accessing a report (apart from a simple listing report) in the Reports navigation pane for a particular object class.

■   By accessing the Preview tab when creating or modifying a report.

Drilldown reporting also makes reports highly interactive by enabling you to zoom in from a more general view of a business perspective to a more granular one at a simple click of the mouse.

An example of a top-level bar chart report is shown below:
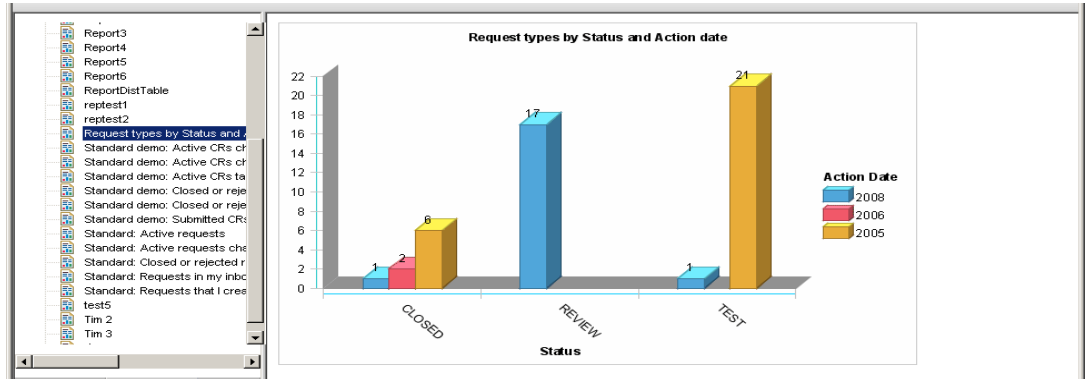
Once you drill down from a summary report, the report format will be the same as that presented by a listing report, except that there will be:

- A 🔺 **Go back to report**   link to enable you to return to the summary report, in addition to

- the normal 🖶 button to enable you to display the drilldown report as an HTML page suitable for printing, and

- the normal ⊟ button to enable you to display a text format page of comma separated variables (CSV) suitable for importing into other tools.

An example of the report resulting from drilling down from a specific area on a top-level bar chart report is shown below:

Once you access a drilldown report or a listing report, the toolbar area will also be populated with "grayed out" standard buttons appropriate to the object class you are reporting on, for example, for items you would have toolbar buttons such as check in and check out.

Selecting one or more of the objects in the content pane will activate the toolbar buttons and you will then be able to perform all the usual operations pertinent to that particular object class.

In addition, if you click on the active underlined ID for a particular object (if present), the Dimensions web client will invoke the Open dialog box appropriate to that object class, for example, Open Item.

IMPORTANT! While creating or modifying a report that creates a preliminary summary report, the Preview tab will display the summary report and enable you to drill down to the drilldown report to see what it would look like. However, there are no toolbar buttons or active object IDs in the preview drilldown report—you will only get these once you save the report you are creating or modifying.

Using Multi-View Reports in the Web Client

Purpose   Use these Dimensions® CM web client operations to: create, modify, delete, or run a multi-view report. A multi-view report consists of up to 4 different reports displayed together in the content pane.

You can also choose to display a multi-view report as part of your initial view. For details, see "Changing the General Settings" on page 502.

PRIVILEGES To create, modify, or delete a public report you need the `Manage Public Reports` privilege.

Creating a Multi-View Report

1   On the Reports tab, select the multi view folder ![icon] Multi View   Optionally, expand the folder and select the category, and select the category (Favorite Reports, My Reports, or Public Reports), in the navigation pane.

2   Click the New Report button: ![icon]

The Create a new Multi-View Report dialog box appears.

3   Enter a Report name.

4   If you want to make the report available as a public report, select **is public**.

5   For **Choose the number of reports you want to display,** select a number.

6   Select the layout from the options below. This determines how the reports will be arranged in the content pane when you run the report, as indicated in the diagrams.

7   For **Select a report**, Select the type of report you want to include in the multi view report (Public, Private, Project/Stream, Request, Baseline, or Item)

8   Optionally, enter a filter expression to filter the names of the reports that will appear in the selection list below.

9   Click the **Search** button.

This will populate the **Results** list.

10   Select the name of the report that you want include from the **Results** list.

The name of the report will appear in the list below.

11   Repeat Step 7 through Step 10 for each additional report you want to include.

If you want to remove a report, click the **remove** link against that report.

If you want to change the order of a report, click the ![icon] or ![icon] button.

12 If you want this report to be selected when displaying your home view, select **Set as Home view**.

13 Click OK to save the multi-view report.

Modifying a Multi-View Report

To modify a report or create a new one based on an existing one:

1 On the Reports tab, select the multi view folder ![icon] Multi View in the navigation pane. Optionally, expand the folder and select the category of report (Favorite Reports, My Reports, or Public Reports).

2 Either:

a Select a single report in the Reports tab content pane to enable the Modify Report button ![icon] in the Reports tab toolbar.

Then click that button to launch the Edit Multi-View Report dialog box. This is functionally the same as for a new multi-view report except that the various fields will be pre-populated.

b Alternatively, click on the report name in the Reports tab content pane to directly launch the Edit Multi-View Report dialog box.

3 As an alternative to Step 2 above, select a single report in the Reports tab navigation pane to enable the Modify Report button ![icon] in the Reports tab toolbar.

Then click that button to launch the Edit Multi-View Report dialog box.

4 To modify an existing report, modify the various fields in the Edit tab of the Report Builder as described in "Creating a Multi-View Report" on page 470.

5 To create a new report based on an existing report, in the **Report Name** type a new name and then modify the various fields in the Edit tab of the Edit Multi-View Report dialog box as described in "Creating a Report" on page 457.

Deleting Multi-View Reports

1 On the Reports tab, select the multi view folder ![icon] Multi View in the navigation pane. Optionally, expand the folder and select the category of report (Favorite Reports, My Reports, or Public Reports).

2 In the content pane, select one or more client reports to delete.

3 Click the Delete button: ![icon]

4 Click **Yes**.

Running Multi-View Reports

Purpose   Use this Dimensions® CM web client operation to run saved client reports.

Once a multi-view report is saved, you can run it by clicking on the report name in the web client navigation pane. This will run the reports that have been included in the multi-view report, and display them in the web client content pane. Note that if any of the

reports were created to prompt for a run-time value or relationship, you will need to specify that first before the report will actually be run.

An example of a multivew report is shown below:

To expand a report in a multi-view report

Do one of the following:

- Click the Expand Report button 🔲 at the top right of the content pane.

- Click the name of the report beneath the multi view report in the navigation pane.

To collapse a report in a multi-view report

Do one of the following:

- Click the Collapse Report button 🔲 at the top right of the content pane.

- Click the name of the multi view report in the navigation pane.

You can also specify a multi-view report in your initial view. For details, see .

Creating or Modifying a Report Using the Desktop Client

Purpose   Use these Dimensions® CM Desktop client operation to:

- Create, modify, or delete a report

- Add a report to, or remove it from, **Favorite Reports**.

PRIVILEGES To create, or modify, or delete public reports you need the `Manage Public Reports` privilege.

Creating a Report

1   In the **Reports and Lists** window, either:

   a   right-click the **My Reports** tree node: ⊞ 🔳 My Reports or the **Public Reports** tree node: ⊞ 🔳 Public Reports , select **New**, and then select an object class report to be created (for example, Items Report, Requests Report, or Baselines Report) from the list; or

   b   if a report of the appropriate object class has already been created, you can right-click on that object class tree node (which groups all currently existing reports of that object class) and select **New <object class>s Report** (for example, **New Items Report**).

   NOTE Currently Desktop client supports more object classes for reports than web client. Consequently, certain object class reports that you create in Desktop client will not be visible in web client.

2   On the Report Builder dialog box, set up the report generation criteria and then click the **Run** button to generate a preview of the client report based on the choices you make. The generated preview report will be displayed in a standard right-hand desktop client view (inheriting the functionality such views afford).

Setting Up the Report

NOTE After installation of Dimensions CM, all Report Builder menu areas are initially collapsed; to expand them, click the ⊞ buttons. The collapsed or expanded state of these menu areas is saved when the Report Builder dialog box is closed, that is, the next time the Report Builder dialog box is opened they will be in the same state.

Enter your reporting criteria as explained below:

1   Enter a **Report Name**.

If you do not check the **is public** check box, after the report is created its name will appear in the appropriate object class tree node below the **My Reports** tree node ⊞ My Reports in the **Reports and Lists** navigation window. Only you will be able to see this report name in the navigation pane.

Alternatively, if you do check the **is public** check box, after the report is created its name will appear in the appropriate object class tree node below the **Public Reports** tree node ⊞ Public Reports   in the **Reports and Lists** navigation window. All users will be able to see this report name in the navigation pane.

NOTE If at any stage in the remainder of this procedure you wish to clear your currently entered reporting criteria and reset them to the defaults for this object class, click the Clear Report button   [Clear Report]

2   In the **Context** menu area:

a   Select one or <ALL PRODUCTS> products from the **Product** drop down list.

b   Select from the **Type filter** the object class types that you wish to include in the scope of the report. The types available for selection will depend on the class of Dimensions CM object and product you selected earlier.

3   In the **Report Type** menu area:

a   For **Type**, select the report type.

Depending on the type of report selected, selection in the additional **Then by** fields may be non-enabled.

Selection in the additional **Date span** field only depends on the attribute selected in any of the **Group by** fields; if at least one of them is a date attribute, then the **Date span** field will be enabled regardless of the report type selected.

b   For **Group by** and, if selectable, **Then by** and **Date span**, select the desired attribute type to be used to group the elements of the generated report. Where present and selectable, click the **Ascending** or **Descending** radio button to specify whether you wish the element grouping to be displayed in ascending or descending order respectively—the default is ascending.
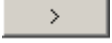
4   In the **Attributes to Display** menu area, system attributes that you include in the **Selected** list are displayed when you generate the report.

NOTE For report types that support subsequently generated child drilldown reports, these attributes will be displayed in the child drilldown report; otherwise, the attributes will be displayed in the generated report itself.

To manage the attributes in the **Selected** list, do the following:

a First expand **System Attributes** in the **Available** list by clicking on the '**+**' sign. This will display a graphical tree of all the system attributes for this object class that are available for adding to the **Selected** list.

b To add an attribute to the **Selected** list, select it (single click) in the **Available** list and click the [>] button (which will now be enabled).

c To remove an attribute from the **Selected** list, select it (single click) in the **Selected** list and click the [<] button to move it back to the **Available** list.

d To move an attribute up the **Selected** list, select it and click the [Up] button.

e To move an attribute down the **Selected** list, select it and click the [Down] button.

5 In the **Filtering** menu area, attributes and/or relationships that you include in the **Selected** list can have sophisticated Boolean filtering criteria applied to them when you generate the report.

To manage the filtering, do the following:

a Expand **System Attributes**, **User Attributes** (if present), and/or **Relationships** in the **Available** list by clicking on the relevant '**+**' sign. This will display a graphical tree of all the attributes and/or relationships for this object class that are available for adding to the **Selected** list.

b Select an attribute or relationship (single click) in the **Available** list and click the [>] button (which will now be enabled):

- If an attribute is selected, a value specification dialog box is displayed and for date/time attributes there is an associated find button [...].

  - If a relationship is selected, a relationship specification dialog box is displayed and for most relationships an associated find button [Find] and an associated keywords button [Keywords].

c For a system attribute or user attribute (if present):

- Select a logical operator from the **Date must be** or **Value must be** drop down list, if not grayed out. The logical operator specifies how you wish to filter with respect to the **this date/time** or **this value** field, for example, filter to show all Titles that match (Equal to) or do not match (Not equal to) the entry in the Value field. The full list of filtering logical operations available is:

  - For date/time attributes: **equal to**, **not equal to**, **before**, **after**, **not after**, **not before**, **is null**, and **is not null**.

  - For other attributes: **equal to**, **not equal to**, **less than**, **greater than**, **less than or equal to**, **greater than or equal to**, **Is null**, and **is not null**.

- Provide an attribute value by one of the following means:

  - Directly type a value in the **this date/time** or **this value** field. For text fields, you can use "&" or "*"as a wildcard character. Note that this works when the logical operator is **equal to** or **not equal to**, and therefore is equivalent to the expressions "like" and "not like" in some other query syntaxes. (See *"Examples:" on page 476*.)

  - Select one of the pre-populated values from the **this date/time** or **this value** selection pick list. Depending on the attribute you selected, you can select certain special values, for example:
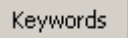
- `<Query at Runtime>` a variable that enables you to specify the value at the time the report is run.

- `<Today>`, `<Today>+ 7`, `<Today>-7`, `<Today>+30`, `<Today>-30`, `<Today>+365`, `<Today>-365` variables for date/time attributes.

IMPORTANT! `<Query at Runtime>` can currently only be selected for one attribute or relationship.

- For date/time attributes, click the find value button [...] to invoke an associated calendar dialog box to enable you to select an appropriate date.

- Click the **OK** button.

The selected attribute with specified value will be included in the selected list. If you want this attribute value to be included in a NOT logical relationship, click the [NOT] button (which will now be enabled).

d For a relationship, provide a relationship value by one of the following means:

- Directly enter the required relationship in the **<Object_class> object to relate to** field.

- Click the find relationship button [Find] to invoke an associated find dialog box (access the help if you need assistance in using the find dialog box).

- Click the keywords relationship button [Keywords] to select one of several pre-populated relationship values. Depending on the relationship you selected, you can select certain special values, for example:

  - `<Query at Runtime>` a variable that enables you to specify the relationship at the time the report is run.

  - `<Current <Object Class>>`, for example `<Current Project>`.

IMPORTANT! `<Query at Runtime>` can currently only be selected for one attribute or relationship.

- Click the **OK** button.

The selected relationship with specified value will be included in the selected list. If you want this relationship value to be included in a NOT logical relationship, click the [NOT] button (which will now be enabled).

e Repeat Step b and Step c or Step d as many times as required to build up the compound filter criteria in the **Selected** list as explained below (the various buttons mentioned below will be enabled or disabled depending on context).

- To add a filter criterion, complete Step b and Step c or Step d above. As each filter criterion is added, it will be placed by default into a logical AND relationship with the previously added filter criterion. To change the relationship, click the relationship and the appropriate button as follows:

[AND]	Click to change the logical relationship back to the default AND.
[OR]	Click to change the logical relationship to OR.
[NOT]	Click to logically negate the currently selected expression.
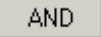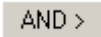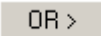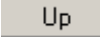
AND > Once you have started populating the **Selected** list, for certain attributes, when you then select in the **Available** list, the **AND** button will change to an **AND >** button.

This button performs the same function as the **>** button but places the attribute value specifically into a logical AND relationship with the last relationship currently in the **Selected** list.

OR > Once you have started populating the **Selected** list, for certain attributes, when you then select in the **Available** list, the **OR** button will change to an **OR >** button.

This button performs the same function as the **>** button but places the attribute value specifically into a logical OR relationship with the last relationship currently in the **Selected** list.

- To delete a filter criterion, select it and click the **<** button. To delete all filter criteria, click the **<<** button.

- To modify a filter criterion: select the criterion and click the **Edit** button; modify, as appropriate, the system attribute value in the value specification dialog box or the relationship in the relationship specification dialog box. The filter criterion will be updated appropriately.

- To move an attribute or relationship criterion up the **Selected** list, select it and click the **Up** button.

- To move an attribute or relationship criterion down the **Selected** list, select it and click the **Down** button.

NOTES:

- Filter criteria that you enter are optimized by the Dimensions CM desktop client. Consequently, the criteria may appear in a slightly different format to that specified. However, client report results are not affected.

- For item reports, the items retrieved are restricted to the selected project. However, items can belong to more than one project, therefore the number of item revisions retrieved may be greater than the number that are displayed when you run the report.

- *Examples*:

  To create a report to find CR requests that are not closed and are critical or severe, or CRs that are raised, your filter in the **Selected list** will look like this:

  ```
  Status <> [CLOSED]

  AND

  Severity/Priority = [1_critical]

  OR

  Severity/Priority = [2_severe']

  OR

  Status = [RAISED]
  ```

To create a report to find items of file extension `.zip` that do not contain the string "output" in the filename, and are owned by *JSMITH*, your filter will look like this:

`Filename = [%.zip]`

`AND`

`Filename <> [%output%]`

`AND`

`Owner = [JSMITH]`

6 In the **Sorting** menu area:

NOTE This menu is only applicable to a listing report and a drilldown list.

a For **Sorted by**, select the desired attribute type and click **Ascending** or **Descending** to decide how the attributes are sorted in the elements of the generated report.

b For subsequent **Then by** fields, further refine your attribute sorting criteria.

7 Proceed to "Test Running Your Report" on page 477 to test run your report prior to saving it or modifying your reporting selections.

Test Running Your Report

1 Click the **Run** button to generate a preview of the client report based on the choices you made. The generated preview report will be displayed in a standard right-hand desktop client view (inheriting the functionality such views afford).

An example of a preview report is shown below. The highlighted area contains the toolbar buttons used to save the preview report, edit the preview report if you wish to make changes to it prior to saving it, export the preview report to a file, or in a preview report.

The preview shows you the client report or summary report (see "Drilling Down into a Client Report Using the Desktop Client" on page 480) that will be generated based on the choices you made when setting up the report

If you are satisfied with the preview of the report, click the save toolbar button 💾 . The report will be added the left-hand **Reports and Lists** navigation pane to the ⊞ 🔳 My Reports or ⊞ 🔳 Public Reports tree node as appropriate.

If you wish to refine your report, click the edit toolbar button 🔳. You will be returned to the dialog box you used to set up the report, see "Setting Up the Report" on page 473.

If you wish to export the report in various formats, click the export toolbar button 🔳. The formats into which you can save the report depend on the report type, but comprise in total:

- Comma separated variables (CSV) suitable for importing into other tools.

- BMP image file.

See "Exporting a Client Report Using the Desktop Client" on page 479 for more details.

If you wish to select all the objects in the report, click the select all objects toolbar button 🔳 .

Modifying a Report

1 In the Reports and Lists window, right-click an existing report name from **Favorite Reports** ⊞ ☆ Favorite Reports , **My Reports** ⊞ 📊 My Reports , or **Public Reports** ⊞ 📊 Public Reports and select **Edit**.

2 To modify an existing report, modify the various fields in the Report Builder as described in "Creating a Report" on page 472.

3 To create a new report based on an existing report, in **Report Name** type a new name and then modify the various fields in the Report Builder as described in "Creating a Report" on page 472.

Deleting Reports

1 In the Reports and Lists window, right-click an existing report name from **Favorite Reports** ⊞ ☆ Favorite Reports , **My Reports** ⊞ 📊 My Reports , or **Public Reports** ⊞ 📊 Public Reports and select **Delete**.

2 Click **Yes**.

Adding Reports to Favorite Reports

1 In the Reports and Lists window, right-click an existing report name from **My Reports** ⊞ 📊 My Reports or **Public Reports** ⊞ 📊 Public Reports and select **Add to Favorites**. A copy of the report name will appear in the ⊞ ☆ Favorite Reports list.

Removing Reports from Favorite Reports

1 In the Reports and Lists window, right-click an existing report name from **Favorite Reports** ⊞ ☆ Favorite Reports and select **Remove from Favorites**.

NOTE Remember that favorite reports are only links to reports that are still present in the **My Reports** or **Public Reports** folder, so removing those links has no impact on the reports still being present in either of those two folders. However, if you select a report in the Favorite Reports folder and press the **Delete** button, then that report will be deleted from the associate **My Reports** or **Public Reports** folder as well.

Running a Client Report Using the Desktop Client

Purpose Use this Dimensions® CM Desktop client operation to run saved client reports.

Once a client report is saved, you can run it by either:

- Clicking on an existing report name in the Desktop client **Reports and Lists** navigation window area.

- Right-clicking on an existing report name in the Desktop client **Reports and Lists** navigation window area and selecting **Run**.

1 The report is run.

2   The report appears in a desktop client right-hand main display content window, from where you can then perform all the normal Dimensions CM operations pertinent to that object class.

3   For certain types of report, you can then drill down into the results.

In all cases, if the report was created to prompt for a run-time value or relationship, you will need to specify that first before the report will actually be run.

An example of the prompt for a report requiring a creation date value to be specified at run-time is shown below:

Exporting a Client Report Using the Desktop Client

Purpose   Use this Dimensions® CM Desktop client operation to export a client report to a BMP image file or a comma separated variable (CSV) file.

A client report, depending on its type, can be exported to:

■   A standalone BMP image file.

■   A standalone comma separated variables (CSV) file suitable for importing into a third party tool, for example, a spreadsheet.

1   Select and run a report as described in "Test Running Your Report" on page 477 or "Running a Client Report Using the Desktop Client" on page 478.

2   Click the export toolbar button ![export] to display an Export As dialog box that enables you to specify the appropriate file name and folder.

Drilling Down into a Client Report Using the Desktop Client

Purpose   Use this Dimensions® CM Desktop client operation to drill down into a client report.

Client reports may end up displaying large amounts of data, and displaying everything in one report is not always the clearest way to present the information. For all types of reports *apart from simple listing reports*, the desktop client first creates a top-level report that displays only summarized data. Certain areas on these summary reports are mouse-sensitive, allowing you to drill down to see underlying data. This is the concept of a drilldown report.

Drilldown reporting also makes reports highly interactive by enabling you to zoom in from a more general view of a business perspective to a more granular one at a simple click of the mouse.

An example of a top-level bar chart report is shown below:
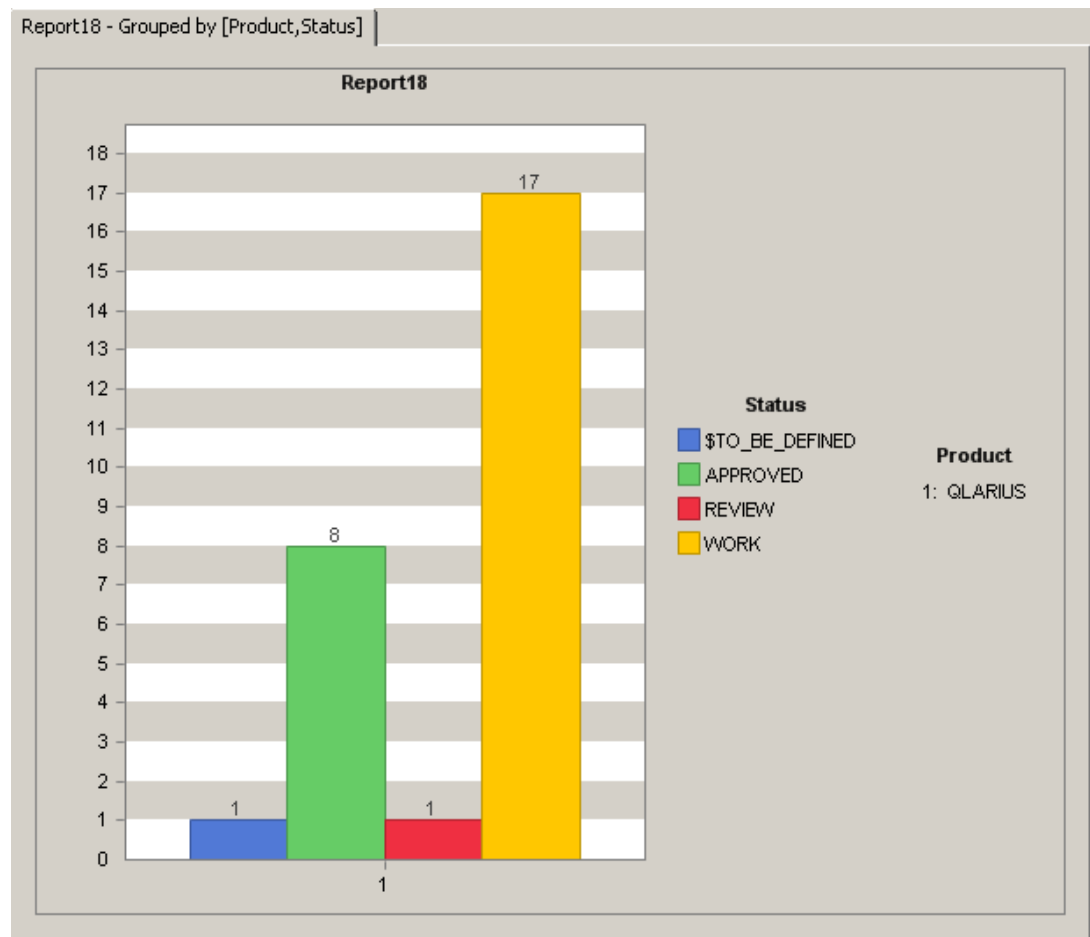
Once you drill down, the object class report entries (for example, the Dimensions CM items contained in the report) for the underlying data will be displayed in the desktop client main display content window, as for a listing report.

Once the report object class contents (for example, items) populate a main display content window, all the normal desktop client operations (for example, item check out and check in) are available.

Chapter 21
Miscellaneous Functions

In this Chapter

Managing Requirements

About the ALM Integration Between Dimensions CM and RM

The Application Lifecycle Management (ALM) integration enables you to associate Dimensions RM requirements to Dimensions CM requests.

The ALM integration enables you to manage Dimensions RM requirements in Dimensions CM and, conversely, manage Dimensions CM requests in Dimensions RM. For example, when you add a requirement to or remove a requirement from a Dimensions RM container of type baseline or collection, Dimensions CM is notified with the relevant information; also, Dimensions RM baselines flow to Dimensions CM and Dimensions CM baselines flow to Dimensions RM.

NOTE The ALM integration itself is implemented at low level as follows (you do *not* need to access any of these APIs to actually use the ALM integration):

- Dimensions CM calls Dimensions RM Web services.

- Dimensions RM calls Dimensions CM C API and "pcms" API.

In the context of an ALM integration, you can:

- Associate Dimensions RM projects a Dimensions CM products, see "Associating Dimensions RM Projects to Dimensions CM Products" on page 486.

- Associate Dimensions RM containers of type baseline or collection to Dimensions CM projects, "Associating Dimensions RM Baselines or Collections to Dimensions CM Projects/Streams" on page 488.

For more details see the *Dimensions CM-Dimensions RM ALM Integration Guide*.

Prerequisites for the Dimensions CM to Dimensions RM Integration

To set up the ALM associations, the following prerequisites *must* be satisfied:

- Both Dimensions CM and Dimensions RM must have been installed and both must be at compatible release levels.

- A Dimensions CM desktop client must be installed on the Dimensions RM web server machine.

- For certain installations (see the Dimensions RM *Installation Guide*), it is recommended that Dimensions RM databases have exclusive use of their own Oracle instance. In those circumstances, if you are using Dimensions CM against an Oracle RDBMS, you must make sure that it does not share the same Oracle instance as that used by Dimensions RM.

- Before you can begin to establish any of the Dimensions RM to Dimensions CM associations referred to below, the `rmcm.xml` configuration file on the Dimensions RM web server machine must first be edited to include the URL of the Dimensions CM server. Proceed as follows:

  a On the Dimensions RM web server machine, navigate to:

     ```
     <RM-Install-Directory>\conf
     ```

b Open the following configuration file in a text editor:

```
rmcm.xml
```

This file has the following lines:

```
<project>
        <!--  CMServer url="http://localhost:8080"   -->
        <CMServer url="" />
</project>
```

c Update the Dimensions CM URL with the correct information for the Dimensions CM server. If Dimensions CM is installed on the same machine as the Dimensions RM web server and was installed with the default port number 8080, then the commented out URL on the preceding line will be the appropriate URL.

■ The following Dimensions RM to Dimensions CM associations must have been established by a Dimensions RM administrator:

- The requisite Dimensions RM projects to one or multiple Dimensions CM products (see "Associating Dimensions RM Projects to Dimensions CM Products" on page 486).

- The requisite Dimensions RM baselines or collections to one or multiple Dimensions CM projects/streams (see "Associating Dimensions RM Baselines or Collections to Dimensions CM Projects/Streams" on page 488).

Conversely, to enable Dimensions RM users to look at Dimensions CM requests, after the above steps have been completed, a Dimensions CM user must associate Dimensions RM requirements to Dimensions CM requests.

Limitations/Recommendations

■ If Dimensions RM has more than on URL (HTTP and HTTPS), Dimensions CM requests will *only* display if the RM Browser windows are using the exact URL that is registered with Dimensions CM. Dimensions CM will only accept requests from the registered URL. If HTTPS was used to set up the ALM association between Dimensions CM and Dimensions RM, then using Dimensions RM from HTTP - Dimensions CM information (requests) will not be returned to Dimensions RM.

■ The user name and password of the user involved in ALM integration (for example, dmsys) must be the same for both Dimensions CM and Dimensions RM. The user name and password are case sensitive in these circumstances.

■ Dimensions RM does *not* support connections/associations to more than one Dimensions CM server.

■ For consistent synchronization, once a Dimensions RM project to Dimensions CM product association is established it is recommended that it never be removed.

■ For consistent synchronization, once a Dimensions RM baseline or collection to Dimensions CM project or stream association is established it is recommended that it never be unassociated.

■ Never delete a Dimensions CM project/stream until after all Dimensions RM baselines or collections are unassociated from the Dimensions CM project/stream. If this strategy is not followed, the Dimensions RM GUI will be incapable of removing the association and a consultant will be required to repair both the Dimensions CM and Dimensions RM databases.

▪ To maintain process integrity, you must never delete a Dimensions RM baseline or collection that has any requirements related to Dimensions CM objects.

▪ The Dimensions CM-Dimensions RM ALM integration only works with Dimensions CM requests. The Issue Defect Management (IDM) integration, which utilizes the Solutions Business Manager (SBM) for request management, is not currently supported with the ALM integration.

▪ The relationship between Dimensions CM requests and Dimensions RM requirements does not get replicated if using Dimensions Replicator.

▪ When a Dimensions CM request is related to a Dimensions RM requirement it is related to "the latest version of the requirement in the associated baseline or collection" until that request is actioned to a `FROZEN/FINAL/OFF NORMAL` state/ phase. When that occurs, the request is pinned to the current latest version of the requirement. When you action the request back again it then "floats" with the latest version again.

▪ You can unrelate a Dimensions RM requirement from a Dimensions CM request regardless of the state/phase of the request.

▪ Dimensions RM baselines are fixed—you cannot replace or update requirements in an Dimensions RM baseline. It is recommended that you only relate Dimensions RM baselines to Dimensions CM projects/streams.

▪ If you unrelate a Dimensions RM baseline or collection from a Dimensions CM project/ stream the relationships between Dimensions CM requests and Dimensions RM requirements remain and can still be seen.

Associating Dimensions RM Projects to Dimensions CM Products

NOTE Beginning with Dimensions CM 2009 R1 and Dimensions RM 14.1, you can now associate multiple Dimensions RM projects with multiple Dimensions CM products. Additionally, the associations can even span different Dimensions CM base databases.

The first step in setting up the ALM integration between Dimensions RM and Dimensions CM is associating one or more Dimensions RM projects to one or more Dimensions CM products. This is usually set up once by the administrator for each Dimensions RM project and each Dimensions CM product.
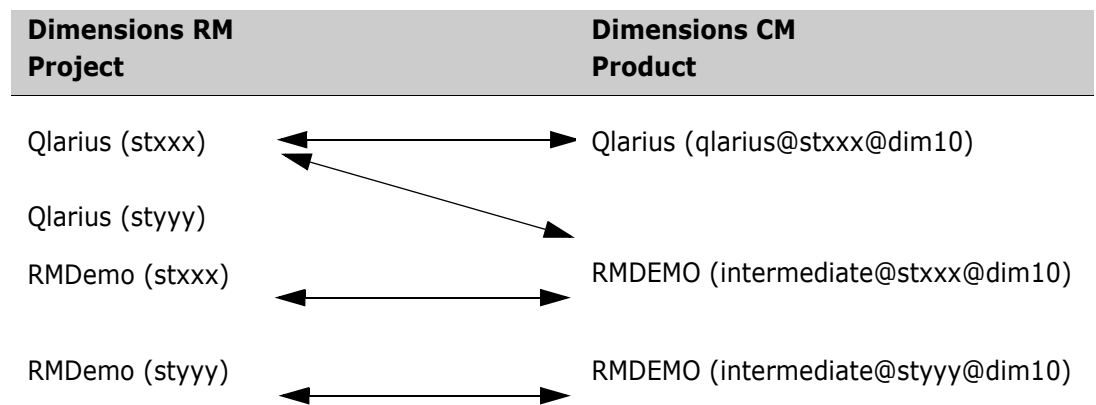
Dimensions RM Project	Dimensions CM Product
Qlarius (stxxx)	Qlarius (qlarius@stxxx@dim10)
Qlarius (styyy)	
RMDemo (stxxx)	RMDEMO (intermediate@stxxx@dim10)
RMDemo (styyy)	RMDEMO (intermediate@styyy@dim10)

To perform the association, you need to be a Dimensions RM administrator. Provided you have those privileges:

1   Start the Dimensions RM Manage utility:

```
Start | All Programs | Serena | Dimensions RM 11.2.1 | RM Manage
```

2 Expand the appropriate Dimensions RM database in the left hand tree.

3 Log in as your normal administrator user (for example, `dmsys`).

4 Select the Dimensions RM project that you want to associate to a Dimensions CM Product (for example, RMDEMO).

5 Select one of: `File | Associate to Dimensions CM`; click the **Associate to Dimensions CM** toolbar button ![button] ;or right-click the selected Dimensions RM

project and select **Associate to Dimensions CM...** from the context menu.

NOTE The **Associate to Dimensions CM** command is enabled if a Dimensions CM client is installed on the same computer that is running RM Manage. If the command is disabled, install the Dimensions CM client and then restart RM Manage.

Existing Associations

If there are existing associations, you will first be presented with the **Display Existing Product** associations dialog box.

Review the existing associations. If you wish to create a new association, click **New**; alternatively, if you wish to remove an association, click on the appropriate associations and click **Delete**. Proceed to Step 6.

CAUTION! Unassociating a Dimensions RM project from a Dimensions CM product is a destructive action that will remove all of the relationships between Dimensions RM requirements and Dimensions CM requests.

No Existing Associations

If there are no existing associations, proceed to Step 6.

6 A **Dimensions CM Login** dialog box will appear.

NOTE To successfully log in to a Dimensions CM server, you must either be configured to log in using LDAP or log into Dimensions RM and Dimensions CM with the same user name and password.

a Fill in this dialog box as you would a normal Dimensions CM login, that is:

- The Dimensions CM Server name (the hostname or IP address).
- The Dimensions CM database name (for example, `cm_typical`).
- The Dimensions CM database connection string (for example, `dim10`).

b Click **OK**.

7 The **Associate to Dimensions CM Product** dialog box appears, with the **Dimensions CM Server** and **Product** fields pre-populated with the hostname and a list of Dimensions CM products for the database name you specified in Step 6.

NOTE If the log in to Dimensions CM fails for any reason, a "Login to Dimensions Failed" message is displayed in the **Dimensions CM Server** field. Attempt to log in again by clicking the browse button next to the **Dimensions CM Server** field—this re-opens the **Dimensions CM Login** dialog box.

Proceed to establish the Dimensions RM project to Dimensions CM products associations as follow:

a In the **Product** left-hand scrolling list, select the Dimensions CM product or products that you wish to associate with the Dimensions RM project. The usual mouse selection operations apply: namely, click for a selecting a single entry, CTRL/click for selecting multiple non-contiguous entries, and click plus shift/click

for selecting contiguous entries. If you wish to select all entries, click the **>>** button and proceed to Step c.

b Click the **>** button to move your selections to the **Product** right-hand scrolling list

c Check the Dimensions CM products in the **Product** right-hand scrolling list. If you have inadvertently moved any products to this list that you should not have done, you can move them back to the left-hand list by clicking the **<** button; the **<<** button will move all products back to the left-hand list.

d Click **Test** to test the automatically pre-populated URL in the **Dimensions RM URL** field. This should be the URL to the Dimensions RM Web server and the pre-populated value will normally be correct, but if the test fails you will have to edit the URL to the correct value. The default value will be:

        http://<hostname>/rtmBrowser

e Click **Test** to test the automatically pre-populated URL in the **RM Web Service URL:** field. This should be the URL to the server that hosts the Dimensions RM Web service and the pre-populated value will normally be correct, but if the test fails you will have to edit the URL to the correct value. The default value will be:

        http://<hostname>/rtmservices/mod_gsoap.dll?rtmservice

NOTE If the port number of the server that hosts the RM Web services is not 80, type the port number after the hostname name, separated by a colon.

8 Click **OK**.

The Dimensions RM project and Dimensions CM product are now linked. To indicate this, the Dimensions RM project icon in the Dimensions RM Manage left-hand tree will now have a small Dimensions CM (dark blue and orange) overlay icon on it, as indicated here: .

9 Exit Dimensions RM Manage.

After an association is made between a Dimensions RM project and one or more Dimensions CM products, Dimensions RM users can then associate containers with Dimensions CM projects and relate requirements to Dimensions CM requests. Dimensions RM users can then display information about specific requests that are in response to requirements; and Dimensions CM users can display specific requirements that are related to their tasks.

Associating Dimensions RM Baselines or Collections to Dimensions CM Projects/Streams

The second step in setting up the integration between Dimensions RM and Dimensions CM is associating one or more Dimensions RM baselines or collections to one or more Dimensions CM projects/streams. Without this step, it will not be possible to link any Dimensions CM requests to Dimensions RM requirements. When you add a requirement to or remove a requirement from a container, Dimensions CM is notified with the relevant information.

NOTE Parent Dimensions RM baselines or collections cannot be associated with Dimensions CM projects/streams.

To perform the association, you need to be a Dimensions RM administrator. Provided you have those privileges:

1 Log in to the Dimensions RM Web browser:

```
http://<hostname>/rtmBrowser/
```

You will need to:

a Specify the Dimensions RM username (for example, `dmsys`)

b Specify the corresponding password.

c Specify the Dimensions RM database connection string for the database.

d Click the down-arrow next to the **Project** field to populate it with the available Dimensions RM projects for the above choices.

e Select the appropriate Dimensions RM project. This will, of course, have to be a project that has previously been associated to one or more Dimensions CM products.

f Click **Login**.

NOTE If you receive an Oracle "ORA-12640: Authentication adapter initialization failed" error, proceed as follows:

a Shut down the Dimensions CM listener and the Oracle Windows services.

b On the database server, find the file %ORACLE_HOME%\NETWORK\ADMIN\sqlnet.ora.

c Change the entry SQLNET.AUTHENTICAION_SERVICES=(NTS) to SQLNET.AUTHENTICAION_SERVICES=(NONE).

d Restart Oracle and the Dimensions CM listener Windows services.

2 Select **Manage Containers**. On most views this is located in:

```
Administration | Manage Containers
```

The **Manage Containers** dialog box appears:

3 Select the baseline or collection you would like to link to a Dimensions CM project/ stream and click the **Associate Project** link on the left.

NOTE After a Dimensions RM project/stream has been associated to a Dimensions CM product, the **Associate Project** link appears but is disabled. The link is only enabled if the following conditions are satisfied:

- You logged in using LDAP or you logged in to both Dimensions RM and Dimensions CM with the same user name and password.

- You are successfully logged in to a Dimensions CM server during the Dimensions RM login.

- The Dimensions RM Web server has the Dimensions CM client installed on it.

- The administrator has assigned you the "Link Requirement to Dimensions Project" and "Associate to a Dimensions Project" permissions.

If the first three conditions are not satisfied, "*<Error connecting to Dimensions>*" is displayed in the **Dimensions CM Project** column.

For more information about the administrative task, see the *Dimensions RM Administrator's Guide*.

The **Associate CM Project** dialog box appears.

4 Select a Dimensions CM product in the scrolling **Products** list.

The left-hand **Projects** scrolling list will be populated with all the Dimensions CM projects/streams available for association with the previously selected Dimensions RM baseline or collection.

Proceed to establish the Dimensions CM projects to Dimensions RM baseline or collection associations as follow:

a In the **Projects** left-hand scrolling list, select the Dimensions CM project/stream or projects/streams that you wish to associate with the Dimensions RM baseline or collection. The usual mouse selection operations apply; namely, click for a selecting a single entry, CTRL/click for selecting multiple non-contiguous entries, and click plus shift/click for selecting contiguous entries. If you wish to select all entries, click the **>>** button and proceed to Step c.

b Click the **>** button to move your selections to the **Projects** right-hand scrolling list

c Check the Dimensions CM projects/streams in the **Projects** right-hand scrolling list. If you have inadvertently moved any projects/streams to this list that you should not have done, you can move them back to the left-hand list by clicking the **<** button; the **<<** button will move all projects back to the left-hand list.

d Click **OK** to create the associations.

The **Associate CM Project** dialog box appears again with the new associations displayed in the **Dimensions CM Projects/Baselines** column:

5 Repeat Step 3 to Step 4 for further associations.

6 To disassociate one or more Dimensions CM projects/streams from a Dimensions RM baseline or collection:

a Repeat Step 3.

b In Step 4, move the appropriate Dimensions CM projects/streams from the right-hand **Projects** scrolling list in the **Associate CM Project** dialog box using the **<** or **<<** buttons.

c Click **OK** to remove the associations.

d The **Associate CM Project** dialog box appears again with the old associations removed from the **Dimensions CM Projects/Baselines** column.

7 Click **Close** and log out of the Dimensions RM Web browser.

8 The associated Dimensions RM containers and Dimensions CM projects/streams are now linked.

Linking Dimensions CM Requests to Dimensions RM Requirements

Once Dimensions RM projects are associated to the Dimensions CM products and Dimensions RM containers are associated to Dimensions CM projects/streams, it is possible to link Dimensions CM requests to Dimensions RM requirements.

The linking of Dimensions RM requirements and Dimensions CM is done in the Dimensions CM clients, either the desktop client or the web client. In the appropriate Dimensions CM client, you can now link a request in a Dimensions CM project to a Dimensions RM requirement that exists in a container (one that is linked to that Dimensions CM project/stream). This is possible by performing any of the various ways of linking items together in the Dimensions CM clients.

For details on requirement operations in Dimensions CM, see "Requirement Operations in Dimensions CM" on page 492.

Dimensions CM Requests and Dimensions RM Requirements

Requirement Development

One of the first steps in every project is the specification of requirements. Tracking these requirements across different organizations and understanding the impact that various requirements have on cost, schedule, and time-to-market can have a dramatic effect on project success.

Dimensions RM stores requirements in a database. The requirements for a project can come from various sources, such as customers, management, marketing, quality assurance (QA), support, and field personnel. The requirements can be entered directly into Dimensions RM, or imported from a Microsoft$^®$ Word document, plain text document, comma separated value (CSV) file, or XML document (.xml) file. You synchronize Word documents or text documents with the database as requirements evolve.

You can also import requirements from other tools, such as Solutions Business Manager, IBM$^®$ Rational$^®$ Software Modeler, HP Quality Center, and Microsoft$^®$ Project. For more information about the integration of Dimensions RM with these products, see the Dimensions RM documentation set.

Requirement Versioning

Dimensions RM requirements are objects that may evolve. In a Dimensions RM container (baseline, collection, document, or snapshot), updates may be made to a requirement, which essentially creates new versions of the requirement.

Because of this behavior, Dimensions CM prevents the display of the latest version of a requirement when the change request enters certain lifecycle phases (or statuses). For example, when a request is closed, it no longer makes sense for the related requirements to evolve; in this example case, the relationships must be fixed to the specific versions available at the time the request was closed (actioned to its final lifecycle state). This "fixing" of relationships mean that, once a request has been closed, the related requirements no longer reflect the latest versions in the containers.

Fixing takes place when a request enters the following phases/statuses:

- Final Status/Phase.
- Frozen Phase (but only when CM Rules are enabled).
- Off Normal Status.

When a change request is actioned back to a normal lifecycle status, these relationships are "unfixed"; that is, the latest versions are once more shown as related to the request.

Action Request (AC) Changes

Beginning with Dimensions CM 10.1.3, the Action Request (AC) command (see the *Command-Line Reference Guide*) and the associated desktop client and web client functionality (see "Actioning a Request" on page 230) have been changed as follows:

- When a request enters a final/frozen/off normal phase, all relationships representing an evolving requirement are replaced with the latest `ObjectId` for that object in the originating collection (that is, the collection specified when the requirement and request were related).

- When a change leaves the frozen phase, then all "fixed" requirement relationships are replaced with evolving requirements.

IMPORTANT! When requirements are changed using the Dimensions RM "Update" function, the changes will be shown against Dimensions CM requests that are frozen/closed/off normal; however, changes made using the Dimensions RM "Replace" function will *not* be shown against Dimensions CM request that are frozen/closed/off normal.

What Can You Do with Requirements in Dimensions CM?

In Dimensions CM you can do the following:

- View the requirements associated with a project.

- Relate requests to requirements.

- Relate baselines to requirements.

- Notify users of changes to associated requirements using the `dmemail` utility.

- Start a Dimensions RM session.

Requirement Operations in Dimensions CM

Purpose Use these operations when you wish to edit the details, attributes, or relationships of a requirement in Dimensions CM, notify users of changes to associated requirements, or to invoke Requirements Management using Dimensions RM.

Web client **To select requirements:**

1 In the navigation pane of the My Current Project tab or My Current Stream tab, expand the Catalog node and select the Requirements node: Requirements

The requirements that are related to the project appear in the content pane.

To view the requirements in a container of requirements, expand the Requirements node and click the appropriate node, for example, a collection node: or a baseline node:

2 In the content pane, select one or more requirements.

To edit the details of a requirement:

PRIVILEGES To edit requirements requires the following privilege: "Perform Requirement Related Operation" (PRODUCT_REQUIREMENTMAN).

1 Select a requirement in the content pane.

2 Click the Open button: or click the requirement name.

The Dimensions RM Browser Edit Attributes dialog box appears (through the Dimensions RM integration). Consult the associated online help or Dimensions RM documentation for details on how to edit the attributes using this dialog box.

3 When you have finished, exit to return to the Dimensions CM web client.

To relate a requirement to an existing request:

1 On the My Current Project tab or My Current Stream tab, expand the Catalog node and select a requirement, click the Relate button: .

2 In the Relate dialog box, enter the existing request in the **Relate to** field, or use the browse button to select it.

3 Click **OK**.

NOTE When creating a baseline, you can also scope it by Requirement rather than Request. See "Creating a baseline that contains requests and requirements:" on page 493 and "Miscellaneous Functions" on page 483.

To create a new request to relate to a selected requirement:

1 On the My Current Project tab or My Current Stream tab, expand the Catalog node and select a requirement. Click the New Request button and select a request type.

2 In the New Request dialog box, enter the new request details in the relevant fields in the General and Attributes tabs. The **Related requirement(s)** field will, of course, be pre-populated with the selected requirement.

3 Click **OK**.

NOTE When creating a baseline, you can also scope it by Requirement rather than Request. See "Creating a baseline that contains requests and requirements:" on page 493 and "Miscellaneous Functions" on page 483.

Creating a baseline that contains requests and requirements:

If your items are used in builds, once requirements have been linked to requests and the work for those requests has been completed, a baseline should be created for all the items before they are used in the build. You will want to create the baseline using the requirements that were worked on for this build and project milestone. The creation of this baseline ensures the specific version of requirements, requests, and items are associated. The creation of this baseline in Dimensions CM also creates a baseline in Dimensions RM with the same name that contains the requirements that were linked or associated to the requests. The baseline in Dimensions RM will be associated with the Dimensions CM baseline that was created.

1 To create a baseline in Dimensions CM that contains the requests and requirements, you must first create the Request Baseline Template in the Dimensions CM Administration Console. This must be done before attempting to create the baseline in Dimensions CM.

2 On the My Current Project tab or My Current Stream tab, expand the Catalog node and select a requirement. Click the New Baseline button: .

3 In the New Baseline dialog box, enter the new request details in the relevant fields in the General and Attributes tabs.

When creating the baseline in Dimensions CM, you need to specify the requirements to use for the baseline. This is done through the General tab. Click the **Requirement** radio button and then enter the requirement PUIDs that will be part of the baseline

(the PUID numbers can be browsed). A PUID is just a unique identifier of a requirement in Dimensions RM.

4 Click **OK**.

When the action is complete, a baseline in Dimensions CM and a baseline in Dimensions RM are created. The baseline in Dimensions CM will contain all objects (items, requests, and requirements) and the baseline in Dimensions RM will contain the requirements.

Notifying Dimensions CM users of changes to associated Dimensions RM requirements:

PRIVILEGES Email notification of changes to associated Dimensions RM requirements requires the following to be applicable:

1 For all users who wish to receive notifications, the administrator must have previously set up through the Administration Console:

a An email subscription to the event 'Someone has made a change to a Requirement related to a Request pending for me'.

b The granting of the product-level privilege: "Perform Requirement Related Operation" (PRODUCT_REQUIREMENTMAN).

2 The subscribing, privileged Dimensions CM users must have pending requests that are related to requirements.

It is possible to use the Dimensions CM email notification utility dmemail (see the "Managing Notification Emails" appendix in the *Process Configuration Guide*) to notify users of changes to associated Dimensions RM requirements. For example: when requirements are added to or removed from a collection; when collections are associated or unassociated from a Dimensions CM project; or when requirements (contained in an associated collection) are updated or replaced.

In addition to the administrator setting up email subscriptions and privileges, he or she must have edited the following configuration files:

■ email_config.dat

This configuration file (located in %DM_ROOT%\dfs (Windows) or $DM_ROOT/dfs (UNIX)) contains settings specific to dmemail and its entries are discussed in the "Managing Notification Emails" appendix in the *Process Configuration Guide.* However, when dealing with associated Dimensions RM requirements, some settings that are specific to Dimensions RM need to be added to the section concerned with databases for dmemail to process, for example:

```
host = <Dimensions RM_host_name>
dmuser = <Dimensions CM_System_Administrator_User_ID>
```

By default, <Dimensions CM_System_Administrator_User_ID> will be dmsys.

■ dm.cfg

This configuration file (located in %DM_ROOT% (Windows) or $DM_ROOT (UNIX)) must have been edited to schedule dmemail. This is discussed in the "Managing Notification Emails" appendix in the *Process Configuration Guide*.

To start a Dimensions RM session:

1 On the Items tab, Projects/Streams tab, Request tab, or Baselines tab, click the More button: ✚ and select **Requirements ...**

2 Select the associated Dimensions RM project you will be working with from the links presented to you on the **Select RM Project** screen (this is not displayed if you have only one association).

The Dimensions RM Browser main window appears (accessed through the Dimensions RM integration). Consult the associated online help or Dimensions RM book for details on how to use Dimensions RM.

3 When you have finished, close the Dimensions RM main window to return to the Dimensions web client.

Desktop client **To select requirements:**

NOTE When displaying requirements in the desktop client, descriptions that were entered in HTML in Dimensions RM do not display correctly in desktop client.

1 In the My Current Projector or My Current Stream window, expand the Catalog node and select the Requirements node [icon] Requirements

To view the requirements in a container of requirements, expand the Requirements node and click the appropriate node, for example, a collection: [icon] or a baseline: [icon]

2 In the content window, select one or more requirements.

To edit the details of a Requirement:

PRIVILEGES To edit requirements requires the following privilege: "Perform Requirement Related Operation" (PRODUCT_REQUIREMENTMAN).

1 Select a requirement in the content pane.

2 Right-click the requirement name and select **Open** or double-click the requirement name.

The Dimensions RM Browser Edit Attributes dialog box appears (through the Dimensions RM integration). Consult the associated online help or Dimensions RM book for details on how to edit the attributes using this dialog box.

3 When you have finished, exit to return to the Dimensions CM desktop client.

To relate a requirement to an existing request:

1 Select a requirement.

2 Right-click the requirement and select **Relate/Unrelate**.

The **Manage Relationships** dialog box appears. See "Relating and Unrelating Objects" on page 209 for details on how to complete the dialog box to specify a request.

NOTE When creating a baseline, you can also scope it by Requirement rather than Request. See "Creating a baseline that contains requests and requirements:" on page 496 and "Managing Baselines" on page 303.

To create a new request to relate to a selected requirement:

1 Select a requirement.

2 Right-click the requirement and select **New Request**. The **New request** dialog box appears.

3 In the **New request** dialog box, enter the new request details in the relevant fields in the General, Relationship, Attributes, and Attachments tabs. The **Related requirements** field on the Relationships tab will be pre-populated with the selected requirement. See "Relating and Unrelating Objects" on page 209 for details on how to complete the dialog box to specify a request.

NOTE When creating a baseline, you can also scope it by Requirement rather than Request. See "Creating a baseline that contains requests and requirements:" on page 496 and "Managing Baselines" on page 303.

Creating a baseline that contains requests and requirements:

If your items are used in builds, once requirements have been linked to requests and the work for those requests has been completed, a baseline should be created for all the items before they are used in the build. You will want to create the baseline using the requirements that were worked on for this build and project milestone. The creation of this baseline ensures the specific version of requirements, requests, and items are associated. The creation of this baseline in Dimensions CM also creates a baseline in Dimensions RM with the same name that contains the requirements that were linked or associated to the requests. The baseline in Dimensions RM will be associated with the Dimensions CM baseline that was created.

1 To create a baseline in Dimensions CM that contains the requests and requirements, you must first create the Request Baseline Template in the Dimensions CM Administration Console. This must be done before attempting to create the baseline in Dimensions CM.

2 Select a requirement.

3 Right-click the requirement and select **New Baseline**. The New Baseline dialog box appears.

4 In the New Baseline dialog box, enter the new baseline details in the relevant fields in the General, Attributes, and Relationship tabs.

When creating the baseline in Dimensions CM, you need to specify the requirements to use for the baseline. This is done through the Relationships tab. Click the **Requirement** radio button and then enter the requirement PUIDs that will be part of the baseline (the PUID numbers can be browsed). A PUID is just a unique identifier of a requirement in Dimensions RM.

5 The **Requirements** field on the Relationships tab will, of course, be pre-populated with the selected requirement.

6 Click **OK**.

When the action is complete, a baseline in Dimensions CM and a baseline in Dimensions RM are created. The baseline in Dimensions CM will contain all objects (items, requests, and requirements) and the baseline in Dimensions RM will contain the requirements.

Notifying Dimensions CM users of changes to associated Dimensions RM requirements:

PRIVILEGES Email notification of changes to associated Dimensions RM requirements requires the following to be applicable:

1 For all users who wish to receive notifications, the administrator must have previously set up through the Administration Console:

a An email subscription to the event 'Someone has made a change to a Requirement related to a Request pending for me'.

    b The granting of the product-level privilege: "Perform Requirement Related Operation" (PRODUCT_REQUIREMENTMAN).

2 The subscribing, privileged Dimensions CM users must have pending requests that are related to requirements.

It is possible to use the Dimensions CM email notification utility dmemail (see the "Managing Notification Emails" appendix in the *Process Configuration Guide*) to notify users of changes to associated Dimensions RM requirements. For example: when requirements are added to or removed from a collection; when collections are associated or unassociated from a Dimensions CM project; or when requirements (contained in an associated collection) are updated or replaced.

In addition to the administrator setting up email subscriptions and privileges, he or she must have edited the following configuration files:

- email_config.dat

  This configuration file (located in %DM_ROOT%\dfs (Windows) or $DM_ROOT/dfs (UNIX)) contains settings specific to dmemail and its entries are discussed in the "Managing Notification Emails" appendix in the *Process Configuration Guide.* However, when dealing with associated Dimensions RM requirements, some settings that are specific to Dimensions RM need to be added to the section concerned with databases for dmemail to process, for example:

  ```
  host = <Dimensions RM_host_name>
  dmuser = <Dimensions CM_System_Administrator_User_ID>
  ```

  By default, <Dimensions CM_System_Administrator_User_ID> will be dmsys.

- dm.cfg

  This configuration file (located in %DM_ROOT% (Windows) or $DM_ROOT (UNIX)) must have been edited to schedule dmemail. This is discussed in the "Managing Notification Emails" appendix in the *Process Configuration Guide*.

To start a Dimensions RM session:

1 Select Tools | Requirements Management.

The Open Requirements Management dialog box appears.

2 Select the associated Dimensions RM project you will be working with from the **Available RM projects** drop down list (this is not displayed if you have only one association) and click **OK**.

The Dimensions RM Browser main window appears (accessed through the Dimensions RM integration). Consult the associated online help or Dimensions RM book for details on how to use Dimensions RM.

3 When you have finished, close the Dimensions RM main window to return to the Dimensions CM desktop client.

Running User Reports

Purpose   Run user reports when you want to obtain listings for various Dimensions CM objects or obtain statistical information from your base database.

For more details on the reports you can request, or how to set up your own reports, see the Dimensions Reports Guide.

NOTE This option is for running reports using the Dimensions RUR function. There is a newer more powerful reporting capability provided with the Report Builder. See "Running Report Builder" on page 453.

Web client   **To run a report:**

1   Do one of the following:

- In the Requests tab, or the My Current Project tab with Requests selected, click the More button and select Run User Reports

- In the Items tab, or the My Current Project tab with Items selected, click the More button: ✚   and select Run User Report.

2   For **Scope**, select the area of Dimensions CM to which the report applies, or select All Reports**.**

3   For **Report**, select the name of the report you want to run. The available reports in the list are those that have been set up in the User Reports Administration section of the Administration Console.

4   For **Product**, select the product in the base database against which you want to run the report.

5   In the **Output Filename** field**,** type the pathname of the file to contain the report, or click the browse button: ⬚ to select it.

6   Click the Next button.

7   In the second page of the wizard, enter the required values for the parameters, if any.

8   Click the Finish button.

Desktop client   **To run a report:**

1   Select Tools | Reports | Run User Reports.

2   For **Scope**, select the area of Dimensions CM to which the report applies, or select All Reports**.**

3   For **Report**, select the name of the report you want to run. The available reports in the list are those that have been set up in the User Reports Administration section of the Administration Console.

4   For **Product**, select the product in the base database against which you want to run the report.

5   In the **Output Filename** field**,** type the pathname of the file to contain the report, or click the browse button: ⬚ to select it.

6   In the Parameters tab, enter the required values for any parameters that are present.

7   Click the OK button.

Accessing the Crystal Report Designer

Purpose   Access the Crystal report designer when you want to create your own reports for reporting against the data in your process model. This feature is only available if you have the Crystal Reports product installed on the Dimensions CM

For more details on using this feature, see the online help in the Crystal Reports desktop.

To access Crystal Reports:

1   Select Tools | Reports | Crystal Reports.

The Crystal Reports desktop will be launched.

2   Refer to the online help for assistance when using this tool.

Chapter 22

Customizing the Web Client

In this Chapter

Introduction

The purpose of this chapter is to describe how the Dimensions® CM web client's interface and behavior can be customized. You can set your user preferences for:

- Which UI Profile to use.

- Which tab is initially displayed when you log in.

- Whether the ID or name is displayed in the Design Part tree.

- Whether the ID or name is displayed for your user.

- The default behavior for item operations.

- The fields displayed in the tables in the content windows for each type of object (e.g. item, request inbox, etc.) and the order in which they are displayed.

Changing the General Settings

Purpose   Change the General Settings options when you want to:

- Set a user profile to determine which functionality you will see in the web client.

- Set an initial view to determine which tab is displayed when you first log in to the web client, and optionally display a report or multi-view report.

- Choose in which format to label design parts in the navigation tree.

- Choose in which format to display the user name.

PRIVILEGES You will need the Publishing Preferences privilege to publish your General Settings as the default for other users. Other options require no special privileges.

To change the general settings:

1   Click the user link to the right of the toolbar:
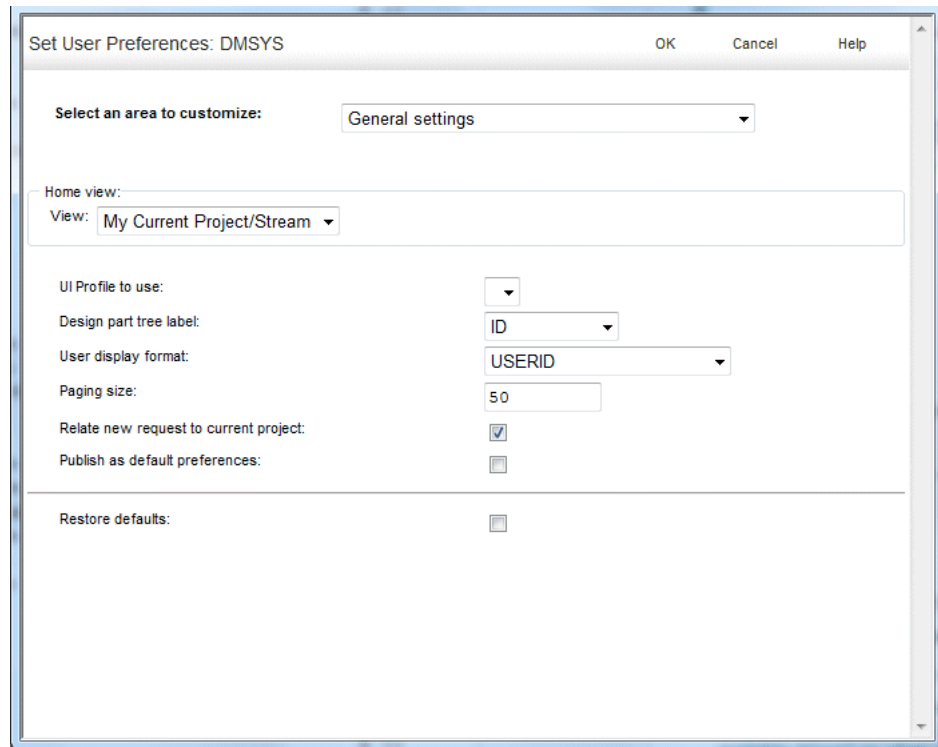
2   In the **Select an area to customize** list select **General settings**

3   Select the options you want to change:

▪   In the **UI Profile to use** list, select the user profile to determine the Dimensions CM functionary you want to access. The options available depend on what your administrator has set up for your user or group. There may be no selection available.

▪   In the **Home View** list, select the tab that you want to be displayed when you first log in to the web client or when you click the Home link.

▪   Optionally, if you have selected the Reports tab, select a report that you want to display when first seeing the Reports tab:

   •   Select *Private* or *Public* for the report type.

   •   Optionally, select a filter expression to filter the list of report names to search.

   •   Click the **Search** button to find the report.

   •   Select the name of the report from the **Report** list.

▪   In the **Design part tree label** list, select the label to be displayed against design parts in the design part tree:

   •   Select **ID** if you want the IDs of design parts to be displayed.

   •   Select **Specification** if you want the full specifications to be displayed.

- Select **Description** if you want the descriptions to be displayed.

  - In the **User display format** list, select the label to be displayed for the user name in the status bar and dialog boxes:

    - Select **USERID** if you want the only the ID of the user to be displayed.

    - Select **User Full Name** if you want only the name of the user to be displayed.

    - Select **USERID** (**User Full Name)** if you want the ID followed by the name in brackets to be displayed.

    - Select **User Full Name (USERID)** if you want the name followed by the ID in brackets to be displayed.

  - In the **Paging size** field, enter the number of rows that you want to be displayed in each page of a table in the web client.

  - If you want any new requests that you create to be automatically related to the current project, select **Relate new request to current project**.

  - If you want to use your General Settings as the default for other users who have not set their own, select **Publish as default preferences**. This option only appears if you have the *Publishing Preferences* privilege.

  - Enable native Web Client Tools to be used for remote work areas.

  - If you want to restore the General settings back to the default values, select **Restore Defaults**.

4 Click OK to confirm the changes.

Setting the Defaults for Item Operations

Purpose   Set the defaults for item operations when you want to determine the behavior of the web client when you check in, check out, or get copies of items. These settings determine the default behavior; they can be overridden in the dialog boxes when performing those operations.

PRIVILEGES No special privileges required.

To set the defaults for item operations:

1 Click the user link to the right of the toolbar:

2 In the **Select an area to customize** list select **Defaults for item operations**
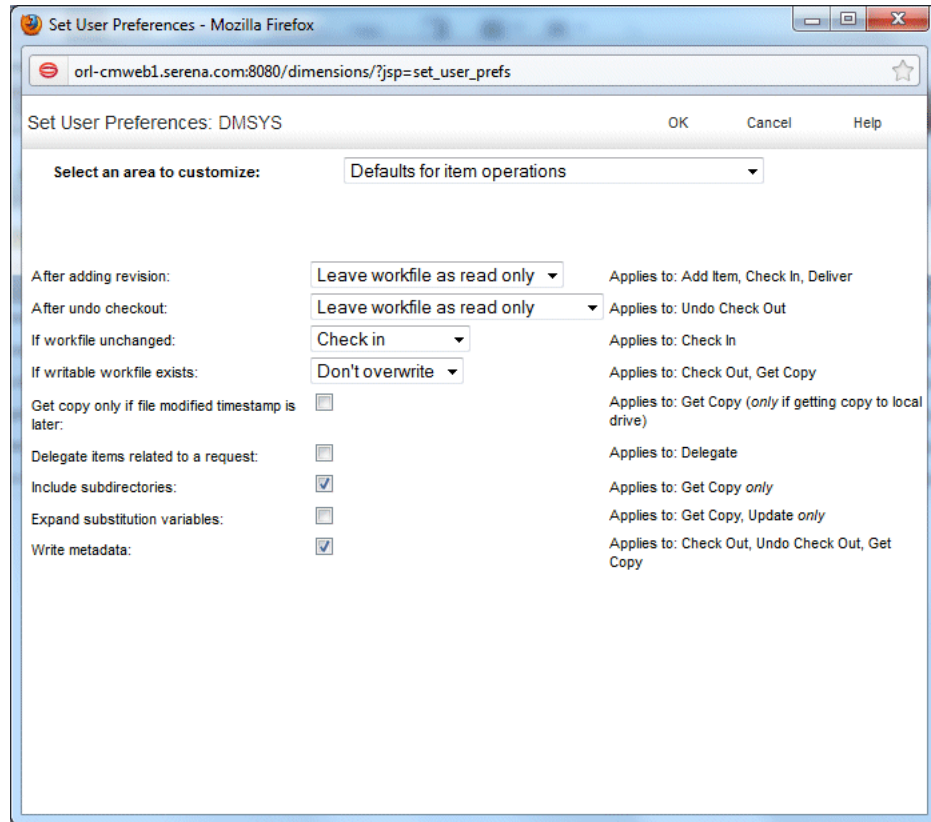
3 Select the options you want to change:

- In the **after adding revision** list:

  - select *Leave workfile as read only* if you want the file in the work area to be left as read only

  - select *Delete workfile* if you want the file in the work area to be deleted

- In the **after undo checkout** list:

  - select *Leave workfile as read only* if you want the file in the work area to be left as read only

  - select Replace workfile with latest copy if you want the file in the work area to be overwitten with the latest version in the repository.

  - select *Delete Workfile* if you want the file in the work area to be deleted.

- In the **If workfile unchanged** list:

  - select *Check in* if you want the file to be checked in even if it is the same as the version in the repository.

  - select *Undo checkout* if you want the check out to be undone if it is the same as the version in the repository.

  NOTE The option **Check in only changed revisions** for the item type, that is set in the Administration Console, has no effect on the web client. You will need to deselect *Check in* for **If workfile unchanged** to achieve this behavior. (This will however be for all item types on a per-user basis.)

■ In the **If writable workfile exists** list:

- select *Don't overwrite* if you want the file in the work area to be left when an item is fetched or checked out.

- select *Ovewrite* if you want the file in the work area to be overwritten when an item is fetched or checked out.

■ If you do not want to overwrite the workfile unless the timestamp of the item file is later than the timestamp of the file in the work area, select **Get copy only if file modified timestamp is later.**

NOTE Dimensions metadata already optimizes the processing of revisions and files that do not need to be updated, so normally you should not check this check box.

■ If you want to delegate the items related to a request when you delegate the request. select **Delegate items related to a request**.

■ If you want a get copy to include subdirectories, select **Include subdirectories**.

■ If you want a get copy to expand substitution variables, select **Expand substitution variables**.

■ If you want the check out, Undo checkout and Get Copy operations to update metadata, select **Write metadata**.

4 Click OK.

Setting the Columns Displayed in the Object Tables

Purpose   Set the columns displayed in the object tables when you want to choose which columns are displayed for a particular object class in the content windows and the order in which they are displayed.

PRIVILEGES No special privileges required.

To set the columns displayed in the object tables:

1 Click the user link to the right of the toolbar:

2   In the **Select an area to customize** list select the **Columns for <object class> table** option for the class of object whose columns you want to customize.
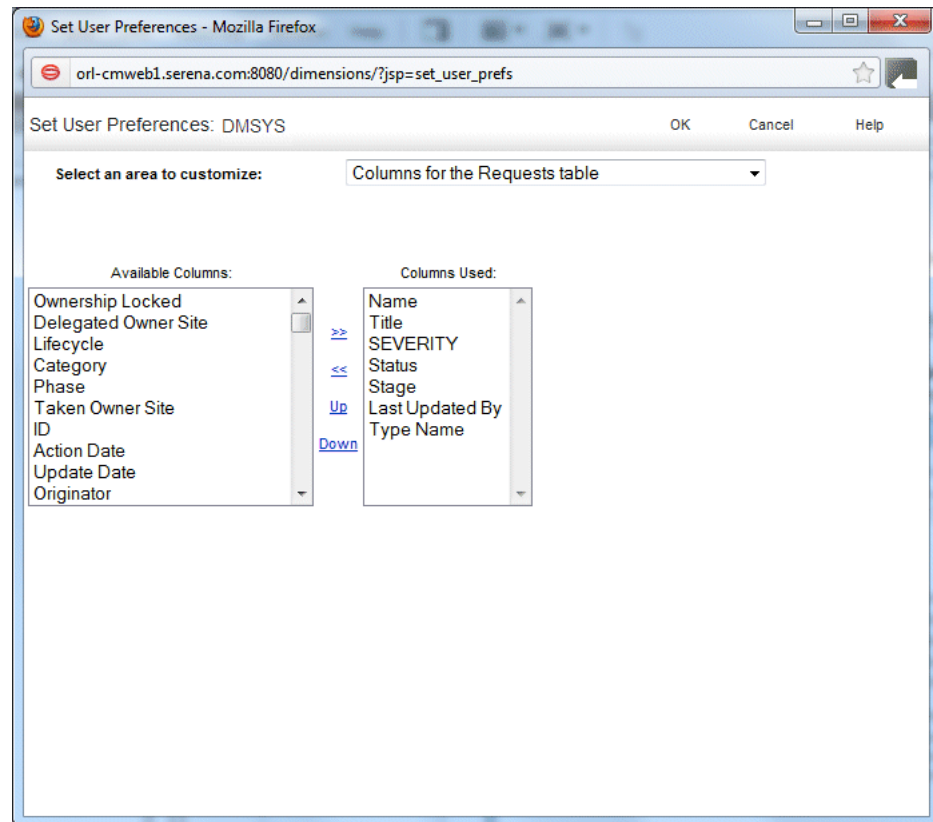
3   Make the required changes:

- **To add a column to the object table**, select the name of the column to add in the **Available Columns** list and click the **>>** link. The column will be moved to the **Columns Used** list

- **To remove a column from the object table**, select the name of the column to remove in the **Columns Used** list and click the **<<** link. The column will be moved to the **Available Columns** list

- **To change the position of a column in the object table**, select the name of the column you want to move in the **Columns Used** list and click the **Up** link to move its column position up (to the left) in the table, and click the **Down** link to move its column position down (to the right) in the table

4   When you have made the required changes, click OK.

Chapter 23

Customizing the Desktop Client

In this Chapter

Introduction

The purpose of this chapter is to describe how the Dimensions® CM desktop client's interface and behavior can be customized. The areas in which this can be done are:

- Setting system preferences

- Customizing the content windows

- Customizing the menus and toolbar

- Creating custom tools

- Customizing the starting of the desktop client.

A more detailed description of how to define and configure custom tools is described in Appendix A, "Using Custom Tools in the Desktop Client".

Exporting a User's Settings to Another Desktop Client

You can copy the settings described in this chapter to another installation of the desktop client. For details, see the *System Administration Guide*.

Setting System Preferences

System Preferences determine various aspects of the behavior of the desktop client. These preferences are organized into the following groups:

- Configuration

- Display Fonts

- Editors

- Associations

- Miscellaneous

- User Interface

- Tip Conflict Options

- Personal Library Cache

NOTE Any changes to current settings will only be applied to the desktop client once you have clicked OK. If you click **Cancel**, any changes requested will be ignored. Some changes, where indicated, will not take effect until after you have closed down and restarted the desktop client.

Setting the Configuration Details

Purpose Set the configuration details when you want to determine:

- **Display Properties**: how the client displays in various situations

- **Display Formats:** the formats in which certain fields are displayed in the desktop client.

- **Operation Properties**: how the client behaves when you perform various commands.

PRIVILEGES No special privileges required.

To access the configuration details:

Select Tools | Preferences and make sure the Configuration tab is selected.

To set the Display Properties:

- Type the value in the **Cache limit** field.

  Each Dimensions CM object (approximately 5K) displayed is allocated an amount of cache. The cache limit determines how many Dimensions CM objects the desktop client will hold in its cache before clearing the cache.

  If you have a PC with a large amount of memory, you may want to increase the default value. The larger the cache the better the desktop client will perform, as it will not need to query information from the database as often.

  NOTE Any change in this value will not take effect until after you have closed down and restarted the desktop client.

- Set **Automatic Selection** if you want an object to be displayed already selected when you open a new window display for that object (this behavior applies only when there is only one object in the left side Primary view). This means that the client will initially select the object and display its related objects on the right side. if this option is not set, when you open a new window for an object you need to select it in its Primary view before the right-hand views are populated with its related objects.

- Set **Auto-resize columns on view/scroll page** if you want the client to automatically resize the columns in grid views to show the widest data field within the column when you scroll through them. This means that you do not need to click the Auto Resize icon to activate this behavior.

- Set **Enable Colors** if you want the Dimensions CM object entries in the various windows to appear in the color you have set in the Colors tab of the Customize dialog box. You set the colors for Phase and Status as described in "Customizing the Colors" on page 524. If you do not set this option, the client does not display the colors, and shows selected grid rows by highlighting them.

  NOTE Always exit from the current display before disabling colors – color combinations other than 'white on black' may occur.

- Set **Expand revisions** if you want the client to display all revisions of an item without the need to click the Expand All icon at the top right of the item list.

- The **Column Contexts** field is reserved for future use.

To set the Tree Displays:

- Set **Expand first level** if you want the client to automatically expand design part and folder trees to the first level when they are first displayed,

■ Select **Hover causes tree to expand** if you want the client to automatically expand design part and folder nodes when you pause the mouse over the name of the collapsed node (but not the "+" icon).

To set the Display Formats:

■ For **Date display format,** select the format in which you want the client to display dates from the list of date formats.

■ For **User name display format,** select the format in which you want the client to display dates from the list of date formats.

To set the Operation Properties:

■ Set **Keep Copy** if you want the client to leave the copy of an item file in your user area after you have checked it in. (Note that you can override this setting when you use the Check In dialog box.)

■ Set **Confirm Completed** if you want the client to display a dialog box indicating "Operation Successful" when you click OK and the command has completed successfully.

■ Set **Apply system date/time to files** if you want the client to set the timestamp of the file(s) in your work area to the current date and time after a Get or Check Out item operation.

■ Set **Auto Get** if you want the client to automatically get a copy of an item file back into your user area after you have checked it in. (Note that you can override this setting when you use the Check In dialog box.)

■ Set **Confirm Warnings** if you want the client to display all warning messages in a popup window containing details of the warning, requiring you to click OK to continue.

■ Set **Expand Substitutions** if you want item header substitution to occur in item commands such as Get Item and Check in Item. (Note that this setting can be overridden in the relevant dialog boxes.)

■ This option can also be set via the Windows Explorer Plugin in the Dimensions Preferences dialog box.

■ Set **Write metadata** if you want metadata to be written to the work area during operations such as get, or check out.

Setting the Display Fonts

Purpose Set the display fonts when you want to determine the font size and style for the desktop client to use in its displays.

PRIVILEGES No special privileges required.

To set the display fonts:

Select Tools | Preferences and select the Display Fonts tab.

NOTE The partial tree structure and table view on this tab are not selectable – their purpose is to illustrate the visual impact of the current (and any newly assigned) fonts.

1 Click the **Font** button.

2 In the **Font** dialog box, select from the relevant list:

- A font from the **Font** list

- A style from the **Font Style** list

- The **Size** of the font

- A national language from the **Script** list (the languages available are entirely dependent on how you have configured Windows on your PC).

A sample view of the font chosen will be displayed in the **Sample** field.

3   Click OK to select the new font settings, dismiss the Font dialog and return to the Display Fonts tab.

4   Click OK on the Preferences dialog box to confirm the new font settings.

Assigning Editors and Browsers

Purpose   Use the editors tab when you want to specify which application the desktop client will use to open a particular type of request or item when you select it for browsing and editing

PRIVILEGES No special privileges required.

To access the editors for requests:

1   Select Tools | Preferences and select the Editors tab.

2   Under **Category**, select **Requests.**

To select the default browser:

In the **Default** field, type the filename and path location of the application to be used, or use the browse button to select it.

This is the application that the client will use if one has not been specifically set for a particular request type. It is recommended that you select a default application, otherwise you might receive an error message stating that "a default editor has not been set" when performing certain actions.

To select the description editor:

In the **Description** field, type the filename and path location of the application to be used, or use the browse button to select it.

This is the editor that the client will use for you to edit the action descriptions and detailed descriptions of requests.

NOTE The action description and the detailed description must consist of ascii text, so the editor needs to be appropriate to this.

To select an editor for a request type:

1   Select the request type in the **Type** field in the list.

2   In the **Editor** field, type the filename and path location of the application to be used, or use the browse button to select it. If you want to unset the selected editor and use the default editor for this request type, click the **Reset To Defaults** button.

3   Click OK to confirm the changes.

To access the editors for items:

1   Select Tools | Preferences and select the Editors tab.

2   Under **Category**, select **Items**.

To select the default editor:

In the **Default** field, type the filename and path location of the application to be used, or use the browse button to select it.

This is the editor that the client will use when one has not been specifically set for a particular item format.

Select **Override Windows default editor** if you want this editor to be used even when there is a Windows default editor for an item format. If you do not select this option, the editor selected for **Default** will only be used when there is no default Windows editor for an item format.

It is recommended that you select a default editor.

To select an editor for an item format:

1   Select the item format in the **Format** field in the list.

2   In the **Editor** field, type the filename and path location of the application to be used, or use the browse button to select it. If you want to unset the selected editor and use the default editor for this item format, click the **Reset To Defaults** button.

3   Click OK to confirm the changes.

Setting Associations

Purpose   Set associations when you want to associate an item type with a particular file extension when creating items. For example, if you enter *build\src\main.c* as a project filename and you have associated *c* with Item Type *SRC* in the Associations tab of the Preferences dialog box, item type *SRC* will be automatically chosen for the newly created item.

PRIVILEGES No special privileges required.

NOTE This file extension mapping is only used if no upload rules are defined. If an upload rule is found that matches the file extension (even the default % rule) then the item type matching the upload rule is used instead.

To access associations:

Select Tools | Preferences and select the Associations tab.

To add a new association:

1   Under **Add Association**

- Enter the **File Extension** (e.g.) JAVA

- Select the **Item Type** from the combo box list

2   Press **Add** to add the new association to the associations listed above.

To remove an existing association:

1   Select the required association in the list of associations.

2   Click the Remove button.

Setting Miscellaneous Options

Purpose   Set the miscellaneous options when you want to determine the behavior of the desktop client when you perform various actions.

PRIVILEGES No special privileges required.

To access miscellaneous options:

Select Tools | Preferences and select the Miscellaneous tab.

To set the General options:

- **Command Line:** This option is from a prior version of the desktop client, and is no longer functional.

- Set **Auto Refresh** if you want the client to refresh all the desktop client displays when a command line operation has been completed.

- Set **Save Current Filter Set** automatically if you want the client to retain the filter set you have selected when you click OK or the Find Now tab.

- **Run Batch Operations in the background:** This option is from a prior version of the desktop client, and is no longer functional.

- Set **Append Multi-Valued attributes** if you want values that you enter in multi-valued attributes to be added to the existing values. If you do not select this option, any values entered for a multi-valued attribute will completely replace the existing values each time you perform an edit.

To set the default in the Delegate Request dialog box to also delegate related items:

- Set **Delegate Related Items Automatically.** This means that when you delegate a request, its related items will also be delegated by default. You will still be able to override this, however.

To determine when to display the Relationships dialog box during drag & drop operations:

- Set **Perform operations silently if no user input is required** if you only want the client to display the Relationships dialog box when there is further information required if you relate objects by using drag & drop.

- Set **Always enable user input** (the default) if you want the client to always display the Relationships dialog box when you relate objects using drag & drop.

To automatically set new item project filenames to the filename in your work area:

Set **Automatically map User File to Project File.** This enables the Create Item dialog box to populate the project filename based on the user filename.

To automatically overwrite files during get or check out operations:

Set **Automatically Overwrite Files.** This means that files that do not have the read-only permissions will be overwritten by the get and check out operations. If this option is not set, existing writable files cannot be overwritten. You can however, still override this in the Check Out and Get Item dialog boxes.

NOTE If a file has read-only permissions, it will always be overwritten regardless of this setting.

To have any new requests that you create automatically related to the current project:

Set **New requests to be addressed in current project**. If this option is not set, new requests will not be related to any project/stream by default.

Setting the User Interface Options

Purpose Set the User Interface options when you want to determine various display options for the desktop client.

PRIVILEGES No special privileges required.

To access the User Interface settings:

Select Tools | Preferences and select the User Interface tab.

To set the number of recent projects/streams stored by the client:

Enter the required integer in **Number of recent projects**. This figure determines the number of previously used projects or streams that are stored for you to select from the drop down list in the Recent Projects option in the File menu and the Projects/Streams menu in the Project Context Bar. (The default is 4.)

To set the number of recent work areas stored by the client:

Enter the required integer in **Number of recent work areas**. This figure determines the number of previously used work areas that are stored for you to select from the drop down list in the Recent Projects option in the File menu and the Projects/Streams menu in the Project Context Bar. (The default is 8.)

Note that his only applies to local work areas. It does not include areas that have been defined using the Administration Console.

To determine the double-click behavior for objects:

Click on the **Behavior** field in the **Double-click behaviors** list against the required object, and choose an option from the list. This option determines what happens when you double-click on a row in a grid display. The options are as follows:

Type of Dimensions Object	Possible Behaviors
Requests (including secondary)	Browse, edit attributes, action, edit, show history, view properties, open new window
Items	Browse, edit attributes, action, edit, show history, view properties, open new window
Design Parts	Edit attributes, view properties, open new window
Baselines	Edit attributes, action, show history, view properties, open new window
Releases	View properties, open new window
Customers	View properties, open new window

Setting the Tip Conflict Options

Purpose Set the Tip Conflict options when you want to determine what action Dimensions CM takes when you check in items that have conflicting item revisions.

PRIVILEGES No special privileges required.

To access the Tip Conflict settings:

Select Tools | Preferences and select the Tip Conflict Options tab.

To determine whether Dimensions CM checks for conflicting revisions when you check in or update items:

■ Select **Check for tip conflicts when checking-in or updating items** if you want Dimensions CM to perform a check for branch conflicts when you attempt to check in or update an item.

NOTE If the parameter DM_DISABLE_BRANCH_CHECKINS has been set in the dm.cfg file, this option will be selected and you will not be able to change it. For details of how to set this parameter, see the *System Administration Guide*.

To determine what action Dimensions CM takes when it detects that you are checking in or updating items that have conflicting revisions:

■ Select **Merge conflicts with my changes and check-in/update the item now** to invoke the PVCS Merge Tool. The files will be merged to a temporary file and the temporary file will be used for the check in.

Select **Update my local workfile content after merging** to have the files in your work area overwritten with the resulting temporary merged file after completing the merge. If this option is not set, the files in your work area will remain as they were before the check in/update, and the temporary file will be discarded once the check in is complete.

■ Select **Merge conflicts with my workfiles, I'll check-in/update the item later** to invoke the default merge tool and have the merged file overwrite the file in your work area, but not be checked in to the repository, enabling you to carry on working with this merged file.

If you attempt to check in or update the file later, the local metatada will have recorded that a merge was performed. Dimensions CM will check whether there have been any subsequent changes in the repository, and if not, and check in or update the merged file (without invoking the default merge tool). If there have been changes in the repository, the Merge Tool will be invoked.

■ Select **Do not perform an interactive merge but check-in/update my changes as the tip** to check in the version of the file in your work area as the tip revision without invoking the default merge tool.

■ Select **Ignore the conflict and continue with the check-in/update** to check in the version of the file in your work area as a branch revision without invoking the default merge tool.

NOTE This option does not appear if your administrator has set the symbol DM_DISABLE_BRANCH_CHECKINS in the dm.cfg file. For details, see the *System Administration Guide*.

To determine the behavior of the merge tool when it is invoked:

■ Select **Perform merge silently** if you do not want the merge tool to be displayed when there are no conflicting lines in the files being merged.

- Select **Keep backups made of my workfile(s) prior to merging** if you want a backup of your workfile to be created when the content of the workfile has been overwritten as a result of the merge process.

   The backup copy will have the original file name appended with the string ".premerge_<date_time>, for example the backup for bonus_spec.doc might be bonus_spec.doc.premerge_2007081611_115203.

   These backup copies are created in your temporary file location and will remain on disk until you delete them.

To determine whether the Tip Conflicts dialog box is displayed:

- Select **On check-in/update, assume the settings above and do not show the warning dialog** if you do not want the Tip Conflicts dialog box to be displayed when a conflict is detected.

   If this option is not set, the Tip Conflicts dialog box will be displayed when a tip conflict is detected, enabling you at that point to change the options listed under **If conflicts are detected, default to**:.

Configuring the Personal Library Cache Directory

Purpose Personal Library Cache Directory (PLCD) provides faster access to repository files by removing network transfers when the same revision has been previously fetched to a work station. PLCD makes a local copy in a cache directory of items downloaded from, and uploaded to, Dimensions CM. This speeds up transfers when fetching the same revision more than once, for example, fetching a baseline or a patch, or overwriting unwanted changes by restoring revisions.

PRIVILEGES No special privileges required.

To access the PLCD settings:

Select Tools | Preferences and select the Personal Library Cache tab.

1 Select **Enable Personal Library Cache** to activate PLCD. Default: on

2 In the **Cache** directory path box specify the location of the cache directory on your local machine.

3 **Maximum cache size** specifies the size of the PLCD directory. When this directory reaches this size, earlier revisions of items are deleted to make more space.

Customizing the Content Windows

The customize options enable you to determine what is displayed in the content windows for each Dimensions CM object. These options are organized into the following groups:

- **Views.** This determines which attributes of an object are displayed, and in what order they appear, in the lists within content windows.

- **Initial Views**. This determines which content windows are opened automatically when you open a project/stream

- **Properties**. This determines what is displayed in the Properties dialog box for each Dimensions CM object.

- **Colors**. This allows you to choose color coding to indicate the phase and status of objects in lists within content windows.

NOTE The changes you make in this dialog box will affect all new object windows subsequently opened, but they do not alter the layouts of any content windows that are already open.

About the Views Tab

To carry out the customization operations for Document Windows, you select the **Tools | Customize Views** or **View | Customize** dialog on the Menu Bar. This dialog is displayed with the **Views** tab as the default. The right side shows a three-level tree-structure:

- All Document Window types

- Object classes viewable in each Document Window type

- Attributes displayed for each object class (attributes which have a right-pointing red arrow are the defaults for the selected object e.g. baseline).

The left side lists candidate object classes or attributes (shown) for adding to the Document Window displays.

NOTE The changes you make in this dialog will affect all new Document Windows of the corresponding type opened thereafter, but they do not alter the layouts of object classes or the attribute display arrangements for any of that type which are already open.

About the Layout and Customization of Content Windows

Each content window, as in the example below, has a central vertical split into left and right halves. The left half contains the Primary object view, which shows the object(s) you selected when you performed the operation that opened the new window.

There is always a Primary object class in any content window. For some object classes, there can also optionally be a Secondary object class in the left half of the window. The pane displaying the Secondary object class, if present, always shows a tree view; either a project/stream or design part structure. The pane for the Primary object class can either contain a tree view, or a grid view consisting of a table of attribute values for each object.

The right half shows the objects which are related to the object you have selected in the left half. Each class of related object is displayed in a separate pane. Each of these panes contains a grid view listing the related objects.

You customize content windows using the Views tab of the Customize dialog box. In this tab, there is a tree structure on the right with an entry for the name of the object class of each type of content window that you can display in the desktop client.

Beneath each entry are the object classes for which a pane can be displayed in the content window. An object class can be "active", which means it is to be displayed in the content window, or "inactive" which means it is not to be displayed. This is indicated by the icon at the top right of the object icon, e.g.

- active:
- inactive:

Beneath each of these object classes is the list of attributes to be displayed in the order in which they will appear. For a tree view, you can only display one attribute.

In the example shown, the Baselines object class is selected. Beneath this entry are the Primary object class, and the Secondary object class, which is design part. Next are the related object classes that are to appear in the right half of the window: item, request, and release. All three are "active", therefor they will appear when the content window is displayed. Under Item you can see the attributes to be displayed in the related object pane for items.

On the left of the Views tab are the other possible related object classes you could choose to display in a Baselines content window.

Customizing Views

Purpose
Customize views when you want to choose which object classes appear in the content windows and which attributes are displayed.

PRIVILEGES No special privileges required.

To access the Views tab of the Customize dialog box:

Select **Tools** | **Customize**.

To add an object class to a view:

1 On the right-hand side of the Views tab, select the object class whose view you want to customize.

   The available object classes you can include in the view appear on the left-hand side.

   NOTE You cannot have more than one secondary object class, or more than three related object classes in a view. For some views there is no secondary object class.

2 If either:

   ■ you want to add a secondary object class, and there is already a secondary object class included

      or

   ■ you want to add a related object class, and there are already three related object classes included

   you will first need to remove the existing secondary object class or one of the three related object classes. In this case, follow the procedure described in *To remove an object class from a view* described below.

3 Select the object class in the left-hand side of the Views tab that you want to add. If you are adding a secondary object class, its type will be indicated either by a design part icon: 📷 or a project/stream icon: 📁

4 Click the Add button.

   The icon will move into the right hand list.

5 If you want to customize the attributes for object class you have added, follow the procedures described in *To customize the attribute display for an object class in a view* below.

6 When you have finished click the OK button to save the changes.

To remove an object class from a view:

1 On the right-hand side of the Views tab, select the object class whose view you want to customize.

2 Expand the top level icon and select the object class you want to remove from the view

3 Click the Remove button.

The icon will move from the right hand list to the left hand side of the Views tab.

4 When you have finished click the OK button to save the changes.

To change the order of a related object class in a view:

1 On the right-hand side of the Views tab, select the object class whose view you want to customize.

2 Expand the top level icon and select the object class you want to move within the view.

3 Click the Up button to move it farther up in the view and click the Down button to move it farther down in the view.

4 When you have finished click the OK button to save the changes.

Note that, by default, the first related object class in the list will be displayed in a tiled pane on the top right of the content window, and the others will be displayed beneath it in tabbed panes.

To make an object class in a view active or inactive:

1 On the right-hand side of the Views tab, select the object class whose view you want to customize.

2 Expand the top level icon and select the object class you want to make active or inactive the view. The status of the object class is indicated by the icon at the top right of the object icon, for example:

- active:
- inactive:

3 Click the Off button to make the object class inactive, or click the On button to make it active.

4 When you have finished click the OK button to save the changes.

NOTE Only related object classes can be made inactive. The Primary object class, and the Secondary object class, if present, always remain active.

To customize the attribute display for an object class in a view:

1 On the right-hand side of the Views tab, select the object class whose view you want to customize.

2 Expand the top level icon and select the object class whose attributes you want to customize.

Icons entitled System Defined and User Defined will appear in the left hand side of the Views tab. Expand the icons to see the corresponding attributes. These are the available attributes for the object class.

3   Expand the icon for the object class within the view in the right hand side of the Views tab. The attributes currently to be displayed in the view will appear beneath it.

4   Do one of the following:

- **To add an attribute**, select the attribute on the left-hand side and click the Add button. The attribute will move from the left-hand side of the Views tab to the right-hand side.

  NOTE Single-value single-field and single-value multi-field attributes can be added but multi-value multi-field attributes cannot be added. (They are not shown in the list).

- **To remove an attribute**, select the attribute on the right-hand side and click the Remove button. The attribute will move from the right-hand side of the Views tab to the left-hand side.

- **To change the order of an attribute** to the left or right in the view, select it on the right-hand side and click the Up button to move it further up in the list and click the Down button to move it further down.

  NOTE If the object class is displayed in a **Tree View**, only a single attribute can be shown. Therefore, if you want to see a different attribute (e.g. in a Design Part tree, to see the Part Number instead of the Part Specification), first remove the attribute currently displayed.

5   When you have finished click the OK button to save the changes.

Customizing Initial Views

Purpose   Customize initial views when you want to choose which project-related windows you want to automatically open when you open a project/stream.

PRIVILEGES No special privileges required.

NOTE Any selected views that display a dialog box when first opened (for example Item Catalog) will also do this when you open the project/stream.

To customize initial views:

1   Select **Tools** | **Customize Views** and select the Initial Views tab.

2   If you do not want any content windows to automatically open when you open a project/stream, deselect **When a project is opened automatically display one or more views** and click **OK**.

3   Select each view in the list that you want to be automatically opened when you open a project/stream.

4   If you want the desktop client to reopen the projects/streams and their views that you had open in your previous session the next time you launch the client, select **Remember last opened views**.

5   Click **OK** to confirm the changes.

Customizing the Properties Dialog Box

Purpose Customize the Properties dialog box when you want to choose which attributes the Properties dialog box will display for a selected object class. See "Viewing Object Properties" on page 204 for a description of how to use the Properties dialog box.

PRIVILEGES No special privileges required.

To customize the Properties dialog box:

1 Select **Tools** | **Customize** and select the Properties tab.

2 On the right-hand side of the Properties tab, select the object class whose attributes you want to customize. Expand the icon to see the list of the attributes that are currently displayed.

3 On the left-hand side of the Properties dialog box, expand the icons labelled System Defined and User Defined to see the attributes that are available to add to the list.

4 Do one of the following:

- **To add an attribute**, select the attribute on the left-hand side and click the Add button. The attribute will move from the left-hand side of the Properties tab to the right-hand side.

- **To remove an attribute**, select the attribute on the right-hand side and click the Remove button. The attribute will move from the right-hand side of the Properties tab to the left-hand side.

- **To change the order of an attribute**, select it on the right-hand side and click the Up button to move it further up in the list and click the Down button to move it further down.

5 When you have finished click the OK button to save the changes.

About Customizing Colors

The desktop client allows you to use colors to indicate that an item, request, or baseline is at a particular state when it appears in the lists within content windows. This coding can be used to indicate:

- The lifecycle state of an item, request, or baseline

- The phase of a request in relation to the CM rules (if any) that have been defined in your process model.

For example, in the figure below, the Item object class has two states for which color codes have been set: *An+work* and *Approved*. The state selected in the Customize dialog

is *Approved* which has a black on blue color scheme. In the object window behind it you can see items that are at a state of *Approved* shown in black on blue.
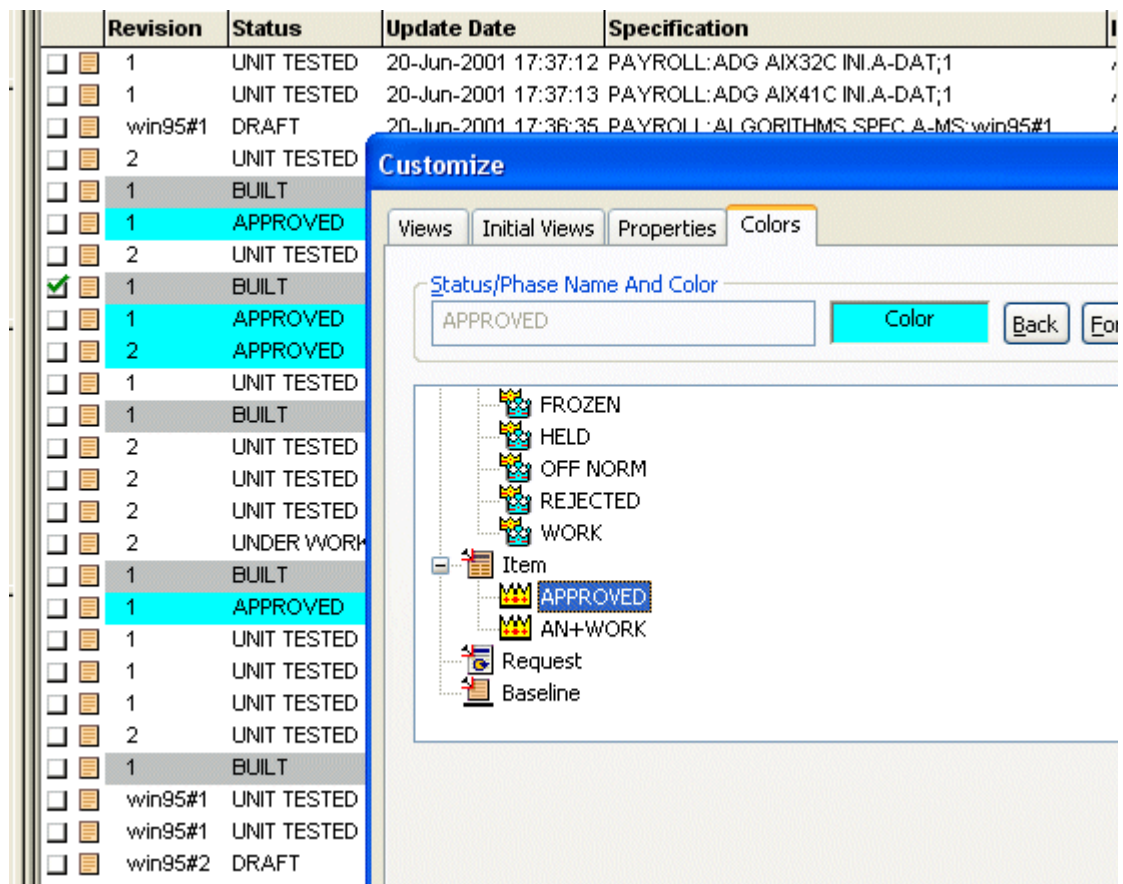
Customizing the Colors

Purpose   Customize the colors when you want to choose the colors used to indicate the Phase and Status of objects when they appear in grid displays within content windows.

NOTE You can disable this color coding using the Miscellaneous tab of the Preferences dialog box. In this case the desktop client displays object entries in black on white - it does not operate with a 'gray scale'.

PRIVILEGES No special privileges required.

To set or change the color of a phase:

1   Select **Tools** | **Customize** and select the Colors tab.

2   Expand the Phase icon: ⊞ 👑 Phase

3   Select the phase for which you want to set the color.

   NOTE This list of phases cannot be modified, hence the Add and Remove buttons are grayed out.

4   To set the background color, click the Back button.

5   Select the required color from the color palette.

6   If you want to further customize the color, click the Define Custom Colors button.

- Set the color either by entering values in the **Hue, Sat, Lum, Red, Green** and **Blue** fields, or dragging the arrow key in the color scroll bar. The color will be displayed in the **Color|Solid** box.

- Click the Add to Custom Colors button to add the color to **Custom colors** box.

7   When you have chosen the color, click OK. You will be returned to the Colors tab and the color of the selected button will showing the Color field.

8   To set the foreground color, click the Fore button.

9   Repeat steps 2,3, and 4 to set the color.

10   When you have finished click the OK button to save the changes.

To set or change the color of a state:

1   Select **Tools** | **Customize** and select the Colors tab.

2   Expand the icon for the object class whose status you want to set the color.

3   If the status whose color you want to set is not in the list, type the name of the lifecycle state in the **Status** field and click the Add button.

   NOTE The desktop client does not check that the name you have entered exists as a valid lifecycle state in your process model.

4   Select the status whose color you want to set

5   To set the background color, click the Back button.

6   Select the required color from the color palette.

7   If you want to further customize the color, click the Define Custom Colors button.

- Set the color either by entering values in the **Hue, Sat, Lum, Red, Green** and **Blue** fields, or dragging the arrow key in the color scroll bar. The color will be displayed in the **Color|Solid** box.

- Click the Add to Custom Colors button to add the color to **Custom colors** box.

8   When you have chosen the color, click OK. You will be returned to the Colors tab and the color of the selected button will showing the Color field.

9   To set the foreground color, click the Fore button.

10   Repeat steps 2, 3, and 4 to set the color.

11   When you have finished click the OK button to save the changes.

To Remove a Status Color

1   Select Tools | Customize and select the Colors tab.

2   Expand the icon for the object class whose status color you want to remove.

3   Select the status and click the Remove button.

4   When you have finished click the OK button to save the changes.

Customizing the Menus and Tool Bar

You can customize the toolbar and menus in the desktop client by choosing which functions appear in them and in what order.

- The pulldown menus

- The right mouse button menus

- The toolbar

- The views that are automatically opened when you first start the desktop client.

You can:

- choose which commands are to appear on it, and what order they are to be arranged in.

- (excluding the tool bar) choose the wording to appear on the menu for each command.

- (excluding the tool bar) if desired, arrange the commands in sub-menus, nested to any depth.

- insert separator lines in the menus/sub-menus (or gaps in the tool bar row of icons), to aid the eye in the classification of commands.

Changing the Menus and Toolbar

Purpose   Change the menus and/or toolbar when you want to change what appears on the pulldown menus, the right mouse button popup menus, or the toolbar. You can customize what appears, the order of the items, and where they appear.

PRIVILEGES No special privileges required.

To access the Menus/Toolbar tab:

Select **Tools** | **Customize Menus and Toolbar.**

To customize the menus or toolbar:

1   On the Menus/Toolbar tab, choose the UI profile for which you want to view the available menus from the **View as if this UI profile were active** list. If there is only one UI profile this option is grayed out. The options available depend on what your administrator has set up for your user or group.The left-hand side of the Menus/Toolbar tab will contain the entries for this menu set in a tree structure.

2   Do one of the following:

- To customize the pulldown menus, expand the **Pulldown Menus** entry. This has a subitem for each menu that can appear on the menu bar.

- To customize the right mouse button menus, expand the **Popup (context) menus** entry. This has a subitem for each right mouse button menu that corresponds to a class of Dimensions CM object you can select in a content window.

- To customize the toolbar, expand the **Toolbar** entry. This has a subitem for each toolbar.

3 Expand the entry for the menu or toolbar that you want to customize. If you want to customize a submenu, expand the corresponding subitem in the tree.

4 Carry out each customization of the menu/submenu as described below.

Adding a Command, Separator or Submenu

Purpose Add a command, separator or submenu when you want to include or arrange menu options to a pulldown or right mouse button menu or toolbar.

PRIVILEGES No special privileges required.

To position a command, separator or submenu:

Select the existing element that the new element is to precede. If the new element is to be the last or only element on a menu/sub-menu, select the next higher-level node instead.

NOTE If you want to add a command or a separator immediately preceding a sub-menu, you cannot do so directly. You need to add the command/separator somewhere below the sub-menu and afterward to move this element upwards (as described below) until it precedes the sub-menu.

To add a submenu immediately preceding a submenu, you have to temporarily add a separator (or a command), and to move it into position (as explained above) to act as a "placeholder". Then select it and add the sub-menu, which will then precede it. Finally, remove the placeholder.

To add a command:

1 From the **Categories** list, select the category that contains the command you want to add.

The commands belonging to that category appear in the **Commands** list below.

2 From the **Commands** list, select the command you want to add.

The description below the **Commands** list describes the command you have chosen.

3 Click **Add.** The command is added to the menu structure with default wording which, if you wish, you can then edit (see below).

To add a separator:

1 Click **Add Separator**.

An entry appears as
"-----(Separator)-----" in the tree structure, but on the menu/sub-menu itself it will appear as a horizontal line, and on a tool bar it will appear as a narrow space between the preceding and following icons.

To add a sub-menu

NOTE This is not possible on the tool bars.

1 Click **Add Submenu**.

An entry appears as "**-----(Submenu)-----".**

2 Edit this text to your required wording as described in *To edit the name of a command or a sub-menu* below.

Bear in mind that this addition is now another node which must be taken into account in the rule (explained above) for placing any further additions.

To edit the name of a command or a sub-menu

NOTE This is not relevant for the tool bar.

1 In the structure tree on the left, select the element whose wording you want to change.

2 Click **Edit Item**. The existing wording appears highlighted, followed by a cursor.

3 To change the description, type or overtype the field.

4 Click **End Edit**.

To define a keyboard shortcut:

1 In the structure tree on the left, select the command or sub-menu whose keyboard shortcut you want to define or change.

2 Click **Edit Item**. The existing wording appears highlighted, followed by a cursor.

3 Insert an "**&**" (ampersand) preceding the letter that will be used if you want to make this command or sub-menu selectable by typing that letter on the keyboard. (On the menu itself this letter will appear underlined.) To change the letter delete the existing ampersand and reinsert it before the required letter.

Note that the same letter cannot be used more than once in any one menu or sub-menu, so if you want this feature to be available, for a given element, you may sometimes need to move the "**&**" in some of the commands so that it precedes a different letter.

4 Click **End Edit**.

To change the position in which an element appears:

On this menu, or on one of its sub-menus:

1 In the structure tree on the left, select the command or separator that you want to reposition.

2 Click the Up: ⬆ or Down: ⬇ buttons to move the element up or down in the tree.

3 Repeat as necessary, until the elements appear in the desired order.

To Remove an element from a menu or a sub-menu:

1 In the structure tree on the left, select the command, separator, or sub-menu that you want to remove.

The wording of the selected command appears beneath the structure tree for you to confirm which command you have selected.

NOTE You cannot remove a sub-menu if there are any commands within it, you must first remove all the subitems before you can remove the sum-menu entry.

2 Click **Remove Item**.

Customizing Tools

About Custom Tools

The desktop client enables you to add your own customized tools to perform tasks from within the desktop client. A custom tool employs an executable file (.exe, .bat, or .cmd) that can be run from your local machine or a network and is invoked from a menu selection within the desktop client. It can also be supplied with information from the desktop client at the time it is invoked. This is defined using keywords and filters, for which values are substituted at run time. Once started, such a process runs independently outside the desktop client GUI, and may itself involve a GUI or console-mode interface for its operation.

For a detailed account and examples of using custom tools, see .

Once defined, the menu options for the custom tools appear as a group, by default at the bottom of the **Tools** pulldown menu. You can change the position in which they appear by moving the *<custom tools insertion point>* entry under the Pulldowns category in the **Menu Sets** tab of the **Customize** dialog. The menu options for custom tools must always appear together, but they can be arranged in a hierarchy within their group.

About Keywords and Filters for Custom Tools

The commands and parameters used with a custom tool may include variable information which is supplied by the desktop client at the time the tool is invoked. This can consist of two components, a keyword, which returns some value or name of an object in the desktop client, and optionally, a filter keyword, which specifies some part of this information.

Using the ▶ button beside the fields in the **Tools** tab enables you to select valid entries and inserts the correct syntax.

A keyword is specified by preceding it with a "$" and optionally a filter keyword, and enclosing it in "(" and ")" brackets.

For example:
    `'$Dir(projectRootFolder)'`

returns the drive portion of the project/stream root directory
    `'$(projectRootFolder)'`

returns the path of the project/stream root directory.

If the keyword is a column, or set of columns, it is specified by enclosing it in "[" and "]" brackets and separating the column names with commas.

For example:
    `'$[Description,Status]'`

returns the values from the Description and Status columns for each row in an Item view.

The keywords and filter names are case-sensitive (but not column names). If a keyword cannot be evaluated, or is inapplicable at the time the tool is invoked, it will evaluate to null (""). Some keywords only apply when a particular view is open in the desktop client.

For example, the projectFolder keyword can only be evaluated from a project/stream structure view.

For a list of valid keywords and their function, see "Getting Selection Information to the Tool Using Keywords" on page 536. For valid filter keywords, see "Modifying Parameter Replacements" on page 538.

Defining Custom Tools

Purpose Define custom tools when you want to customize a procedure or task which you can perform from within the desktop client.

PRIVILEGES No special privileges required.

NOTE You cannot add more that 40 custom tools.

To define a new custom tool:

1   Select **Tools** | **Customize Menus and Toolbar**.

2   Select the **Tools** tab.

3   Click the ⬜✳ button beside the **Menu texts of user-modifiable tools** text box.

4   Type the text you wish to use for the menu option for this new custom tool in the menu text area.

If you want to specify menu options in a hierarchy within the group of custom tools:

enter a "!" separator between the commands.

For example, the entries:
```
GUI Tools!Tool 1
GUI Tools!Tool 2
Tool3
```

Will appear as:

In the pulldown menu.

5   To make this command selectable by typing a letter on the keyboard, precede that letter with an & (ampersand) in the name. (On the menu itself this letter will appear underlined.)

6   To change the position of the custom tool within the existing menu options (if any) select it and use the ⬇ and ⬆ buttons to move it up or down.

7   Enter the file to be executed in the **Command** field, or use the browse button to locate it. You can use a keyword/ filter combination as part of the name/path of this file. Use the ▶ button to select this if required. If you do not require a filter keyword, choose *<unfiltered text>* from the submenu.

8   Enter any arguments required by the executable file in the **Arguments** field. You can insert keyword/ filter combinations as part of these arguments. Use the ▶ button to select this, if required, as in the **Command** field above.

9 Enter the folder from which the process will be started in the **Start in** field, or use the browse button to locate it. You can use a keyword/ filter combination as part of the name/path of this file using the ▶ button as above.

10 Click OK to commit the changes.

To Edit a Custom Tool:

1 Select **Tools** | **Customize Menus and Toolbar**.

2 Select the **Tools** tab.

3 Select the name of the custom tool in the **Current user-modifiable tools** text box.

4 Do one of the following:

■ To change the name, click on and edit the name in the text box.

■ To change the **Command**, **Arguments** or **Start in** fields for the selected custom tool, enter or edit the values as described in the section *To define a new custom tool* above.

■ To change the position of the custom tool within the existing menu options (if any) select it and use the ↓ and ↑ buttons to move it up or down.

5 When you have finished, click OK to commit the changes.

To delete a custom tool:

1 Select **Tools** | **Customize Menus and Toolbar**.

2 Select the **Tools** tab.

3 Select the name of the custom tool in the Current user-modifiable tools text box.

4 Click the ✕ button.

5 Click OK to commit the changes.

Customizing the Starting of the Desktop Client

Purpose   Customize the starting of the desktop client when you want to configure the Windows launch icon Desktop Client, which starts up the desktop client to pre-load connection choices and perform Dimensions CM commands.

PRIVILEGES No special privileges required.

NOTE The desktop client can be configured to run a command on startup but cannot be configured to open up a particular project.

To customize the starting of the desktop client:

1 Locate the Desktop Client icon created by the installation process. This is normally in the Start menu.

If the Desktop Client icon is not in the Start menu:

a Right-click on the **Start** button and select **Open**.

b In the **Start Menu** window, double-click the **Programs** icon.

    c In the Programs window, locate the Desktop Client icon in the Dimensions CM program group.

    NOTE In order to modify this it is strongly advisable to create a shortcut for the customized version, and modify the shortcut, **not** the original PCWIN.EXE. **Never change the original properties.**

2 Create a shortcut to the desktop client by dragging this icon on to the Windows desktop.

3 Right-click on this icon and select **Properties.**

4 Select the **Shortcut** tab.

    The **Target** field will read something like:

```
C:\Program Files\Micro Focus\Dimensions 14.5\CM\prog\pcwin.exe
```

    (the actual entry will depend on the *DM_ROOT* choice you made during installation).

5 Edit the **Target** field to customize how the desktop client is launched. You can edit the Target field to specify:

- Connections to specific hosts and/or Dimensions CM databases.

- Commands to be performed once a connection has been made.

- SHOW_DIRS accesses the project/stream directories display at startup. For example:

    DM_ROOT\PROG\PCWIN.EXE SHOW_DIRS

- ClearWindowData

    Remove client persistency data from the Registry, so resetting to defaults.

Example Target Field Commands

You can edit the **Target** field to specify that a valid Dimensions CM command be executed once a connection has been made. It is not envisaged that this mechanism should be used as a full alternative to using Command Line, but it is very useful for setting default projects, etc. (see example below).

The syntax is as shown below followed with an example:
```
DM_ROOT\PROG\PCWIN.EXE-SECTION <connection-name>
                    <command>
```

or
```
DM_ROOT\PROG\PCWIN.EXE<command>

C:\PROGRAM FILES\MICRO FOCUS\DIMENSIONS 14.5\CM\PROG\PCWIN.EXE
    -SECTION DEVELOPMENT SCWS PAYROLL:WS_DEV_REL1 /DIRECTORY=C:\ /
        DEFAULT
```

Appendix A

Using Custom Tools in the Desktop Client

In this Appendix

Introduction

This appendix is a guide to adding custom tools to the Dimensions® CM desktop client that can be supplied with selection data from within the client as command-line parameters. It describes the mechanism for adding these tools, the keywords and options that can be used for each tool, and presents a couple of simple walk-through examples. The first creates a "DOS Here" tool to open a command-prompt console based on the selected project/stream folder. The second is a "save view" tool that saves particular columns from an item view (as opposed to the built-in desktop client **Save Display Contents** function which would save all columns).

What is a Custom Tool?

A custom tool is simply an *.exe*, *.bat* or *.cmd* file resident on the user's machine or otherwise startable (perhaps from a network share) that can be invoked from within the desktop client and optionally be supplied with information based on either selections in the current view or some global information within the client. The tool started can be a console-mode tool or lead to a Windows GUI. Once started, the tool is completely independent of the client from which it was invoked.

You can also issue a command-line command by preceding the instruction with %dmcli%. For example:

    %DMCLI% SCWS "PAYROLL:WS_MAKE" /DEFAULT

would set the current project/stream. See the Command-Line Reference Guide for further details about command-line syntax.

Custom tools are defined using a dialog within the client, accessible from the **Tools | Customize Menus and Toolbar** menu option and selecting the **Tools** tab on the resulting dialog. This dialog presents a list of the tools defined for the user so far (in terms of the text that appears on the menus), a set of controls for moving the tool order around and adding or removing tools, plus a set of entry fields for defining the program to start, command line options and startup folder for new tools. This dialog box is reproduced in below.

NOTE You cannot add more that 40 custom tools.
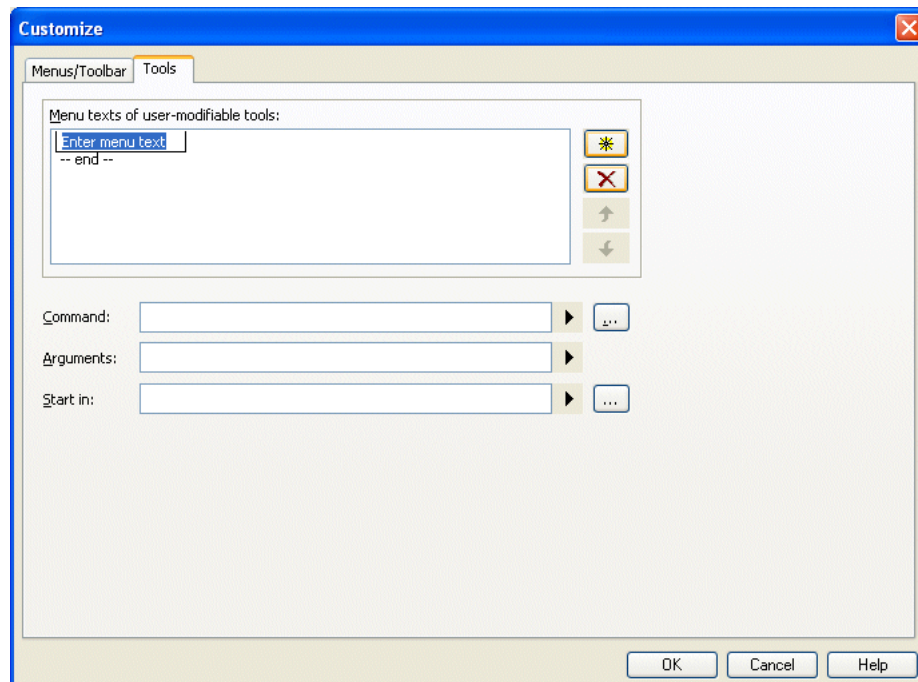
NOTE Existing users who have modified their menus such that they have changed the **Tools** menu will not see the option **Customize Menus and Toolbar**, however bringing up the Customize dialog will also show the **Tools** tab.

Tool definitions apply to all menu sets; it is currently not possible to restrict one or more tools from appearing in particular sets. You can however change where the tools appear in different sets.

Defined tools appear by default at the foot of the desktop client's **Tools** pulldown menu. This can be changed by moving the marker command *<Custom Tools>* to a different pulldown menu within a menu set. At run-time, this marker command is replaced with either the set of defined tools or simply does not appear if no tools have been defined.

NOTE Existing users who have customized the **Tools** menu for one or more menu sets will not see tools appear for those sets (as the menu layout will not contain the *<Custom Tools>* marker command). This is easy to fix by simply editing the sets in question and adding the special marker to either its default location at the foot of the **Tools** pulldown menu, or to some other preferred location. Currently it is not possible to add custom tools to any context menu or to distribute the tools around different pulldown menus.

Custom tools can be arranged into sub-menu hierarchies beneath the marker command if you wish, by specifying the character "**!**" in the menu text. To group tools into related sub-menus, simply ensure that the text to the left of the "**!**" character is the same (including case) for all tools that you wish to group together. For example, you might wish to separate console (character-mode) tools from GUI tools, all positioned beneath a "My Tools" menu entry. To do this, the menu texts for the tools might read:

```
My Tools!Console Tools!Tool1
My Tools!Console Tools!Tool2
My Tools!GUI Tools!Tool3
My Tools!GUI Tools!Tool4
My Tools!GUI Tools!Tool5
```

At run time, the marker command would be replaced by a pull-right menu entry entitled "My Tools", itself containing two pull-right menus, "Console Tools" and "GUI Tools", with the actual tools contained within these menus.

To add accelerator mnemonics to a menu simply prefix the desired letter with the "&" character when specifying the menu text on the **Tools** definition dialog.

Getting Selection Information to the Tool Using Keywords

Although custom tools can be used as a simple convenience to gain access to various executables from within the client and avoid having to return to the Windows desktop or **Start** menu hierarchy, they are really intended to be used in conjunction with information from within the desktop client about a selected set of objects within a view or some other "global" information within the client that is not view-specific. For example, you might select one or more items in a project/stream folder and want to have the filenames of those items passed to a custom tool. This is achieved using keywords and/or view's column names in the tool's definition. When the tool is invoked, these "parameters" are dynamically replaced with the actual values selected. You could then use this information as it is, or combine it with calls to the Dimensions API's within your tool to add to its value.

Replaceable parameters can appear in any of the tool's **Command**, **Start In** or **Arguments** definition fields, although some fields will allow different combinations of parameters than others. If no value is available for a parameter, it simply collapses to nothing in the resulting text (unless there is an error in the definition, in which case a message will be displayed). Most of the global keywords do not require a view to be open in order to produce a value. View-specific keywords (also known as column keywords) require both a view of the required type to be selected (have focus) within the desktop client, and also to have one or more rows selected within that view in order to operate.

Table A-1 lists all keywords recognized by the client, together with an indication of whether they are global or need to have a specific view active when the keyword replacement is attempted.

Table A-1.

Keyword	Replaced with	Applicable to
Product	Name of the scoping product, e.g. PAYROLL	Global
Workset	Name of the current active project/stream, e.g. WS_INITIAL	Global
WorksetRootFolder	Folder specification of the root folder to which the project/stream is mapped	Global

Keyword	Replaced with	Applicable to
WorksetFolder	Current selected folder (in subfolder format, e.g. subfolder1\subfolder2)	Workset-Structure view
UserID	Operating System user ID used at initial login	Global
Connection	The logical name of the set of connection details as shown in the login dialog	Global
hClientWnd	The handle (HWND) of the main desktop client window	Global
hMdiFrame	The handle (HWND) of the active MDI frame window within the client	Global
FrameName	The logical name associated with the active MDI frame window. Usually this is used to store window persistence data, but you can use it as a unique "view id", perhaps to verify that supplied data came from the expected window (see Table A-2)	Global
DmRoot (or PcmsRoot)	Root folder for Dimensions CM install on the current machine	Global
ConnectionString	Database connection string, otherwise known as "TWO_TASK", from the initial login dialog	Global
Node	Server name used on initial login	Global
NodeDmRoot (or NodePcmsRoot)	For a remote node, the Dimensions CM install folder (for local connections, this will be the same as *DmRoot*)	Global
Part	The selected part in the Design Part tree view	Design Part view

Table A-2.

Frame Name
BaselineFrame
ChdocFrame
CustomerFrame
DesignPartFrame
ItemFrame
PendBaselineFrame
PendChdocFrame
PendItemFrame
ReleaseFrame
SecChdocFrame
WsetDirFrame
WsetFrame

Table A-1 above lists the fixed keywords recognized by the desktop client when processing a tool definition. You can also use view-specific column names (therefore the set of "keywords" available will differ depending upon what view is active and what columns it is showing). In order for a particular column to be used as a keyword, the view must have that column present (although it need not be physically visible without scrolling). When a column name is used as a keyword, any case can be used to encode the column into the tool definition (unlike other keywords, which are case-sensitive).

Parameter keywords are embedded in tool definition texts using a simple syntax. Firstly, the "$" character is used to introduce a parameter. If the keyword is one of the fixed set as shown in Table A-1, the keyword then follows, wrapped inside "(" and ")" brackets. For example, the *WorksetRootFolder* keyword would be specified as "$(WorksetRootFolder)". Note that keyword names are case-sensitive.

If the keyword should actually be interpreted as a column name, it must instead be wrapped in square brackets, "[" and "]". For example, if we wanted the Status column from an Item view, we would write the parameter thus: "$[Status]". To retrieve the values of all columns in a selected row use "All" inside the square brackets, e.g. *$[All]*. "All" is not a fixed keyword as such (so is not shown in Table A-1) but does have special meaning to views when tool definitions are processed.

To help in adding keywords to tool command lines, the **Tools** dialog has special selection buttons ▶ to the right of each entry field that list the valid keywords that can be used for that option. The illustration below shows the list for the startup folder entry field activated. On selection of a keyword, it will be inserted at the current edit point within the entry field, pre-formatted with the *$()* characters in place.
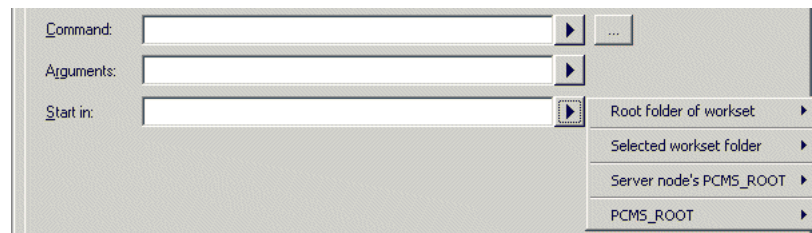
View column names can only be used for the **Arguments** field and here you have two choices, "All", or a specific set of columns. If you select **All** from the drop-down, the appropriately formatted "$[All]" keyword is added to the field. If you elect to use a specific set of columns, the string:

```
"$[Column1,Column2,…]"
```

is added to the field, which you must then edit to replace Column1, etc. with the actual column names.

Modifying Parameter Replacements

In addition to simple substitution, most parameters can be further tuned using "filters". A filter is simply another keyword that is placed between the "$" and opening "(" of a keyword that modifies the returned value in some way. The most common use of filters is to extract parts of filename-based keywords, for example, if you just wanted the extension of a filename.

Some of the filters can also be "Chained" by joining the filter keywords together with an "&". For example Base(Filename) returns the name of a file between quotes.

NoQuote&Base(Filename) would return the name of the file without the surrounding quotes.

Table A-3 shows the set of filters recognized by the client and the information that is returned when applied to supported keywords.

Table A-3.

Filter keyword	Meaning
Uid	Instead of returning the textual value of the selection, returns the database ID of the object selected that you can then use in Dimensions API calls
RevisionUid	Like *Uid*, this returns the database ID of an object. Applies to item objects only
Drive	Returns the drive component of a filename-based parameter keyword
Dir	Returns the directory (not including drive) component of a filename-based parameter keyword
Path	Returns the *drive + dir* components of a filename-based parameter keyword
Base	Returns the base filename (no path, no extension) of a filename-based parameter keyword
Ext	Returns the extension component of a filename-based parameter keyword
Name	Returns the *basename + extension* components of a filename-based parameter keyword
NoQuote	Stops the production of quotes around any filterchain(parameter)or filterchain[column-list] spec
NoColQuote	When tool parameters are written to a file (using the @ modifier), column data gets quoted with " quotes by default. This stops the quoting in the same way as NoQuote stops quoting for a parameter as a whole
QuoteChar	Allows you to change the quote character (default ") used to surround a parameter. The character to use must follow the filter name, eg. QuoteChar#. The "&" separator may not be used with this keyword.
ColQuoteChar	As QuoteChar, but this time allows you to specify the quotation character for column data when a file is used. The "&" separator may not be used with this keyword.
ColSepChar	For both command line and file-destined data, allows you to specify the separator character between columns. The default is "," and like QuoteChar and ColQuoteChar the intended character must follow the filter name. The "&" separator may not be used with this keyword.
RowSepChar	For both command line and file-destined data, allows you to specify the separator character between rows. The default is " " (space) and like QuoteChar and ColQuoteChar the intended character must follow the filter name. The "&" separator may not be used with this keyword.

NOTE Filename filters only work with Windows-style filenames!

Filters cannot be applied to column-name keywords, with one exception. If you wanted to return the database IDs of a set of selected rows, you would use the *Uid* filter in conjunction with either the *All* keyword or some view-specific column (if the latter, the column must exist in the view so its perhaps safer to use *All*). In this case, the keyword is technically ignored and the set of database ID's returned instead. Inside the tool definition, the parameter would appear thus: *$Uid[All]*. This is the only time a filter can be used with column-name based keywords at present and is also the only way to retrieve the information given in the example.

As an example of filter usage with global keywords, to adjust the *WorksetRootFolder* keyword so that it only returned the directory and not drive into a command line, you would specify "$Dir(WorksetRootFolder)". Like parameter keywords, filter keywords are case-sensitive.

In the same way as for parameter keywords, the **Tools** dialog helps in constructing the correct syntax by offering selection menus of filters for all parameter keywords that can be filtered, with the list only offering valid filters. The illustration below shows the filters for the WorksetRootFolder parameter keyword selected.
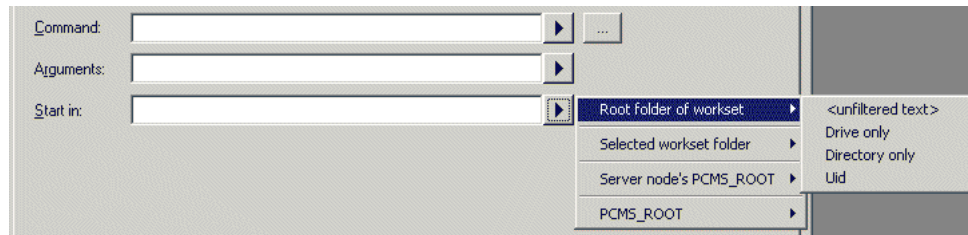
The *<unfiltered text>* option shown in the filter list simply means the same as no filter applied, i.e. the parameter keyword is specified on its own and the value returned for the parameter is inserted into the relevant entry field with no adjustment. The option exists because the menu for the keyword effectively prevents direct selection of the parameter keyword itself.

In addition to parameter and filter keywords, "free text" can be added to any of the tool's definition fields (outside of a parameter) and is reproduced in the output text as-is, so for example you can wrapper parameter keywords with additional text if you wish. You could, for example, construct *name=value* pairs by adding the "name=" part as free text:

```
WorksetRootFolder=$(WorksetRootFolder)
```

and so on. At runtime, this might appear as

```
WorksetRootFolder="c:\myworkarea\root"
```

on the tool's command line, depending upon the actual project/stream root.

As the definition is built up, spaces do not get inserted into fields automatically. If you want a space to appear between parameters, you must add it manually.

Parameter Output

By default, parameter output is written to the command line for the tool (in the case of the **Arguments** field) or used to modify the tool name to start and/or startup folder. The discussion that follows applies to the **Arguments** field only.

Each parameter value is written to the command line enclosed in double-quotes ("), so that embedded spaces are handled correctly. When column names are used, the entire column set is written within one set of quotes, with each column value being comma-separated. For example the parameter *$[Description, Status]* applied to a Item view with two selected rows would cause the following to appear on the command line for your tool:

```
"row1descriptionvalue,row1statusvalue"
    "row2descriptionvalue,row2statusvalue"
```

Note that as the columns within a row are comma-separated, for this method to work effectively the data output should not be data that is likely to contain commas! If you find you need to work with data containing comma characters, you will find that writing the data to a file will be more useful, as follows.

When many rows are selected, the amount of data to be written might be excessive for a command line (or, as mentioned above, the data might itself contain comma characters with the potential to cause confusion). In these cases you might wish to use a "response file" to hold the output and to have the name of the file passed to your tool. You can then open the file and walk through the output as you require.

To cause output to be redirected to a file, use the "**@**" character immediately after the parameter's introductory "$". Using the same example, we would thus encode the parameter as *$@[Description,Status]*.

When this parameter is processed, a temporary text file will be created to hold the data (one row per line in the file) and the name of the text file, prefixed with "@", passed on the command line to your tool. Your tool can then detect the command line parameter prefixed by "@" and interpret it as a filename, open the file and receive the results. The second sample walk-through at the end of this file uses this approach. The output shown earlier would appear as follows within the file:

```
"row1descriptionvalue","row1statusvalue"
"row2descriptionvalue","row2statusvalue"
```

Note that each row is not enclosed in quotes (as new lines indicate new rows for us) but each column is quoted. This allows you to work with data containing embedded commas that would be misinterpreted if it were passed as raw data on the command line (as your tool would not know whether the comma was a field break or part of the field data).

The **Tools** dialog does not contain any special helpers for specifying response-file usage. You must add the necessary keywords (using the drop-down helpers if you want) and then manually insert the "@" character. Also your tool is responsible for deleting the temporary file after use.

A Simple Walk-through: "DOS Here"

This section presents a small walk-through example of adding a command prompt to the tools menu that opens in the same folder as the selected folder in the Folders and Items view. This is very similar to the Windows "DOS Here" power tool that was available when Windows 95 shipped.

We start by opening the Tools dialog; **Tools | Customize Menu Sets/Tools** and select the **Tools** tab to show the basic dialog.

The first task is to add a menu entry for the new tool, so click the ✳ button (top of the right-hand column of buttons). The "-- end --" marker will move down and an edit field

appear in row 1. Enter the text "DOS Here" and press the **Enter** key to complete menu text editing. The cursor moves to the **Command** entry field automatically.

In the **Command** field you enter the name of the *.exe*, *.bat* or *.cmd* file to run when the tool is invoked. Windows 9x users should enter "command.com", NT/2000/XP users should enter "cmd.exe". Optionally you can browse to the program to run using the ... button to the right of the field. We are not going to modify the actual program to run based on any view selection, so we can ignore the keyword selection.

Similarly we have no need of arguments to pass to the tool so leave the **Arguments:** field blank and click on the **Startup folder:** field. In this field we are going to specify a keyword representing the current project/stream folder selected in the view, so click on the keyword selection button ▶ and navigate down to the *WorksetFolder* keyword. This keyword supports filters but in this case we're not interested in them, so on the sub-list of filters, select the *<unfiltered text>* option. The **Startup folder:** entry field should now contain the text "$(WorksetFolder)".

To complete the definition, press the **OK** button. (If you had more tools to define, you would simply press the ✳ ' button and start on the next tool. Your changes for the previous definition are stored automatically.)

To test the new tool, open the Folders and Items view for your current project/stream and navigate the tree on the left to a subfolder. Click on the **Tools** pulldown menu and select the "DOS Here" entry that should have appeared at the foot of the menu. You should see a console window open with the folder set to the project/stream subfolder selected in the view.

A Simple Walk-through: Column Set Save for Items

This section presents a small walk-through example using column-name keywords to write data from an item view to a file for consumption by a tool of your choosing. In addition the view type is passed on the command line so that the tool can verify that the incoming data has come from the view expected.

For this walk-through to work, an imaginary tool is used (that would be easy to write) called 'mytool.exe' that can process the command-line arguments we are going to supply. The first argument is a string containing the frame window name. The second argument is the name of a response file, prefixed by "@". The tool inspects the frame name and rejects any that have not come from a '*ItemFrame*'. If the frame name is valid, it then opens the indicated file for reading in text mode and processes the selection data in some manner row by row. On completion it closes the file and deletes it.

Having displayed the **Tools** dialog, click the **New Tool** button (to the right of the tool list) and enter "MyTool" as the tools menu text (or some other suitable text). Now go to the **Command:** field and enter "mytool.exe" (without quotes). If *mytool.exe* cannot be found using the *PATH* environment variable, prefix it with a path as necessary, or set the startup folder to be the location of the tool.

Now go to the **Arguments:** field and enter the following, either manually or by using the drop-down helpers (note the space between parameters):

```
$(FrameName) $@[Filename,Revision,Owner]
```

This will cause the first argument on the tool's command line to contain the unique internal view name and the second argument to be the "@"prefixed name of a temporary file containing the data.

Exit from the dialog and open an iem view. Select a number of rows and then pull down the **Tools** menu and select the *MyTool* entry. *MyTool.exe* will be started and presented with a command line something like:

```
ItemFrame @c:\temp\pcc1b.tmp
```

(Obviously the temporary filename will probably be different.) "ChdocFrame" is the name of the window from which the data came. You can inspect this and reject the data if the window is not the one you expected. Within the file, we might see the following data (based on the Payroll sample and a particular set of selections):

```
"AutoQuote.java","1","Sam"
"HealthQuote.java","1","Basil"
"LifeQuote.java","2","Sam"
```

Appendix B

Item Header Substitution

In this Appendix

Introduction

This appendix is a guide to using header substitution variables in item source files. Dimensions CM enables you to include user-defined information in source header files that provides information about the items involved. By using the required syntax, you can embed variables whose values are substituted when the item files are fetched to the work area. This syntax is described below.

Item Header Substitution Variables

An *item format template* is a user-defined text file that specifies the content and layout of item header information. Though optional, item format templates are recommended if you need to keep item headers standardized and up-to-date.

Item header syntax specifies the content and layout of item header information that includes substitution variables that are dynamically expanded when, for example, you browse, get a copy of, or perform an update to your work area. This expansion is called item header substitution.

An item header might include:

- The name of the file.

- The Dimensions CM identity of the file, including the item ID, item type, variant, and revision.

- The lifecycle status of the file.

- The date of last update and the user who updated it.

- The values in one or more user-defined attributes.

Rules and recommendations

- You must use upper-case text when defining the variables.

- You can insert any allowed variable within an item file.

- If you want to use item header substitution, the item type needs to be defined in the process model with **Enable item header substitution**. The default behavior when fetching items to the work area is not to expand header substitution variables.

- If you expand item header information and then subsequently check in or deliver those item files back into the repository, you will need to make sure the variables are specified as reversible (see below) otherwise the variables will be overwritten in the source files.

- See the "Guide to Dimensions Make" chapter in the *Dimensions CM Make User's Guide* for recommendations on using item header substitution with Dimensions Make.

Example of Item Header Substitution

Next is an example of an item format template and the result of the substitutions.

NOTE The item in this example remains at revision 1. If there were five revisions, and you wanted to browse revision 3, the substitution would show details for revisions 1, 2, and 3.

Sample Item Header

```
/************************************************/
/* Copyright (C) SERENA Software, Inc. 2004
*/
/************************************************/
/* MODULE SPECIFICATION
 * %PCMS_HEADER_SUBSTITUTION_START%
 * Name:
 *     %PID%
 *     %PM%
 * Status:
 *     %PS%
 * System:
 *     %PP%
 *
 * Description:
 *     %PD%
 *
 * Functions defined:
 *
 * HISTORY
 * CREATED BY
 * Author        Date
 * joe           2003/08/03
 *
 * MODIFICATIONS
%PL%
 *
 ************************************************/
/* %PCMS_HEADER_SUBSTITUTION_END% */
```

Sample Variable Substitution

```
/********************************************************/
    /* Copyright (C) SERENA Software, Inc. 2004
    */
    /********************************************************/
    /* MODULE SPECIFICATION
     * Name:
     *     GAIA:GAIA RENAME PRODUCT.A-SRC;1
     *     gaia_rename_product.c
     * Status:
     *     DEFINED
     * System:
     *     GAIA
     *
     * Description:
     *     GAIA Rename Product utility
     *
     * Functions defined:
     *
     * HISTORY
     * CREATED BY
     * Author        Date
```

```
                        * joe          2000/03/14
                        *
                        * MODIFICATIONS
                        * Created
                        * Revision 1   14-MAR-2003 12:33:36    JOE (Joe Bloggs)
                        * FMR2: gaia_rename_product utility
                        *
                        * Updated
                        * Revision 1   27-MAR-2003 14:45:26    JOE (Joe Bloggs)
                        * Allow GaiaSrvConnect to sort out Secure/NoSecure passwd
                        *
                        * Updated
                        * Revision 1   28-MAR-2003 18:52:25    JOE (Joe Bloggs)
                        * Fix ro rename top part as well as product
                        *
                        * Updated
                        * Revision 1   29-MAR-2003 08:55:15    JOE (Joe Bloggs)
                        * Add Rename default Product project when renaming Product
                        *
                        * Updated
                        * Revision 1   29-MAR-2003 09:19:08    JOE (Joe Bloggs)
                        * Put a proper Header in for Item Header substitution
                        *
                        * Updated
                        * Revision 1   02-APR-2003 15:37:19    HIL (Hilary)
                        * Check product_id length and also convert product_id to uppercase
                        *
                        * Updated
                        * Revision 1   02-APR-2003 15:48:35    HIL (Hilary)
                        * Check product_id length and also convert product_id to uppercase
                        **********************************************************/
```

Substitution During Operations

This section describes the item header substitution that occurs during each Dimensions CM operation. It is assumes that the **Enable Item Header Substitution** option (Administration Console *Object Type Definitions | General*) is set for the item type.

■ **Creating items**

If you create an item without specifying an initial filename, Dimensions CM creates the new item and uses the item format template defined for the item type as the initial content. For details, see the Process Configuration Guide.

If you specify a filename at item creation, Dimensions CM does not insert the item header template into the file. To apply the substitution variables, manually insert them at the desired position in the item file before creating the item.

■ **Browsing, Getting Copies, and Updating**

By default, Dimensions CM performs the item header substitution when you browse an item. It does not perform item header substitution when you perform get copy or update operations unless you specify this when performing those functions. You can change the default behavior by specifying this in the user preferences for the web client, desktop client, or Windows Explorer plug-in.

■ **Edit and Check Out**

When you edit or check out an item, Dimensions CM does not perform item header substitution by default. This leaves the header intact with the variable names in place for the corresponding check in operation.

Starting and Ending Substitution

Use these two control variables to start and end item header substitution:

- **%PCMS_HEADER_SUBSTITUTION_START%:** Turns item header substitution on. Below this variable you can insert substitution variables as necessary.

- **%PCMS_HEADER_SUBSTITUTION_END%:** Turns item header substitution off. Insert this variable after the substitution variables.

You can add multiple pairs of these variables to the template or an item file. This allows you to repeat the item header information in multiple areas or provide a header and footer in the file.

During substitution, the variables are replaced with the empty string. If the variable is the only text on a line, then the entire line will be removed. For example:

```
Text starting at column 1
%PCMS_HEADER_SUBSTITUTION_START%
Line following control substitution
%PO%
%PCMS_HEADER_SUBSTITUTION_END%
Another line
```

becomes

```
Text starting at column 1

Line following control substitution
JSMITH

Another line
```

Reversible Header Substitution

An additional syntax allows for header information to be reversible, so that when a user updates an item for which substitution variables have been expanded, the substituted values are reversed when the item file is subsequently checked in or delivered. This prevents the variables from being overwritten by the expanded text.

You specify reversible substitution variables by adding a colon ":" to the end of the variable names. If you are using reversible substitution variables, it is necessary to do this for all of the variables, including the %PCMS_HEADER_SUBSTITUTION_START% variable.

For example:

```
/**********************************************/
/* Copyright (C) SERENA Software, Inc. 2011
*/
/**********************************************/
/* MODULE SPECIFICATION
 * %PCMS_HEADER_SUBSTITUTION_START:%
 * Name:
```

```
    *      %PID:%
    *      %PM:%
    * Description:
    *      %PD:%
    *
    **********************************************/
/* %PCMS_HEADER_SUBSTITUTION_END:% */
```

Simple Variables

The following simple substitution variables are supported.

Variable	Description
%PD%	The Dimensions CM item description.
%PF%	The Dimensions CM item format.
%PI%	The Dimensions CM item ID.
%PID%	The Dimensions CM item specification. This is equivalent to: **%PP%:%PI%.%PV%–%PT%;%PR%**
%PIV%	The Dimensions CM item file version.
%PM%	The Dimensions CM item project filename. This is the filename of the item without the directory path.
%PO%	The current owner of the Dimensions CM item. This is the user who last updated or actioned the item.
%PP%	The Dimensions CM product ID.
%PR%	The Dimensions CM revision (complete field).
%PRDT%	The revised date of the Dimensions CM item. This date is in Julian format.
%PRT%	The Dimensions CM create date. The format is DD-MON-YYYY HH:MM:SS.
%PS%	The current status of the Dimensions CM item.
%PT%	The Dimensions CM item type.
%PUDT%	The Dimensions CM update date, or when the revision was last changed. The format is DD-MON-YYYY HH:MM:SS.
%PV%	The Dimensions CM variant.
%*<variable-name>*%	The value of a user-defined attribute, where ***<variable-name>*** is the name of the attribute you want to substitute. For example, if you want to substitute the value of an attribute called COMPLEXITY, enter **%COMPLEXITY%**. Only the first value of a multi-valued attribute is substituted. You cannot substitute a multi-column block.

Version Manager Variables

The following Version Manager substitution variables are supported.

Variable	Description
%ARCHIVE%	The full path of the archive.
%AUTHOR%	The user ID of the owner of the revision.
%DATE%	The create date of the revision.
%HEADER%	The archive name, revision number, revision state, and author ID.

Report Variables

The following report substitution variables are supported.

Notes
- The text preceding the first substitution on the line is used to prefix each line of the report. For example, if you enter:
`// %PL%`

  then each line of the report would start with `//`

  If no text precedes the first substitution, then the string "*" is used. Note that whitespace before the first substitution is considered to be a valid prefix and will be used.

- All text on a line after a report substitution is ignored and will not be output. You can precede the report substitution with any number of simple substitutions.

- In the Format column below, the symbol Δ indicates a space, ⊥ indicates a tab character, and | indicates an option.

Variable	Description	Format
%PIATF%	Lists the details of the audit records for failed authentication attempts on an item.	One entry for each failed attempt.
%PIATS%	Lists the details of the audit records for successful authentication attempts on an item.	One entry for each successful attempt.

%PIRB%	Lists the baselines that contain the item revision. Each entry in the report includes the baseline specification, creation date, and description of the baseline.	`Δ*Δ<no>`
		`Δ*ΔBaseline⊥:Δ<baselinespec>`
		`Δ*ΔCreation Date⊥:Δ<date>`
		`Δ*ΔDescription⊥:Δ<baseline`
		`    description>`

%PIRC%	Lists the requests related to the item revision. Each entry includes the request ID, request action date, relationship type, request status, and request title.	`Δ*Δ<no>`
		`Δ*ΔRequest⊥:Δ<ch_doc_id>`
		`Δ*ΔAction Date⊥:Δ<date>`
		`Δ*ΔRelationship Type⊥:ΔAFFECTED|IN`
		`    RESPONSE TO|INFO`
		`Δ*ΔStatus⊥:Δ<status>`
		`Δ*ΔTitle⊥:Δ<ch_doc_id description>`

Variable	Description	Format
%PIRIF%	Lists the item to item relationships in which the item revision is a parent. Each entry includes the specification of the related item, the relationship type, and any comment specified if the relationship was created via the command-line interface. For example, this variable might be used when a functional specification is in a parent relationship to a design specification, which in turn is in a parent relationship to a software module. Browsing the design specification will show the functional specification item as a parent item and the software module as a child item.	Δ*Δ\<no> Δ*ΔItem⊥:Δ\<item_id> Δ*ΔRelationship Type⊥:ΔMADE OF|MADE INTO|CREATED FROM
%PIRIT%	Similar to **%PIRIF%**, but lists the item to item relationships in which the item revision is a child. Each entry includes the specification of the related item, the relationship type, and any comment specified if the relationship was created via the command-line interface.	Δ*Δ\<no> Δ*ΔItem⊥:Δ\<item_id> Δ*ΔRelationship Type⊥:ΔMADE OF|MADE INTO|CREATED FROM

%PIRP%	Lists the design parts to which the item is related. Each entry includes the design part specification, the relationship type, the design part update date, the design part status, and the design part description.	Δ*Δ\<no>
		Δ*ΔDesign Part⊥:Δ\<partspec>
		Δ*ΔRelationship Type⊥:ΔOwned by|Used
		    by
		Δ*ΔUpdate Date⊥:Δ\<date>
		Δ*ΔStatus⊥:D\<status>
		Δ*ΔDescription⊥:Δ\<design part
		    description>

%PIRW%	Lists the project/streams that contain the item revision. Each entry includes the project/stream specification and description of the project/stream.	Δ*Δ\<no> Δ*ΔProject⊥:Δ\<projectspec> Δ*ΔDescription⊥:Δ\<project description>

%PL%	The update history report for the item, including history generated by creating, merging, updating, and deleting the item. The report covers all revisions of the item, not just the current revision and its ancestors.
	
	The report comprises a set of entries per revision that are ordered by ascending creation date. Each entry includes a header identifying the revision and its current status, the type of event, the date and time at which the event occurred, and the user who performed the operation. Any comment specified for the operation via the command-line interface is also reported.
		Δ*ΔRevision\<rev>⊥DD–MON–
		    YYYYΔHH:MM:SS⊥\<user-id>
		    (\<full-user-name>)
		Δ*Δ\<COMMENT>
		Δ*Δ

Variable	Description	Format

%PLA%	The update history report with actioning. Each entry includes the same information as **%PL%**, plus history generated by actioning the item (the action comments).	Δ*ΔRevision<rev>⊥DD–MON–
		    YYYYDHH:MM:SS⊥<user-id>
		    (<full-user-name>)
		Δ*Δ<COMMENT>
		Δ*Δ

%PLIRR%	Covers all revisions of an item with "in response" related requests.	Δ*ΔRevisionΔ<rev>
		Δ*ΔΔΔCreated:Δ rev>⊥DD-MON-
		    YYYYΔHH:MM:SS
		Δ*ΔΔΔUser:Δ<user-id>Δ(<full-user-
		    name>)
		Δ*ΔΔΔState:Δ<state>
		Δ*ΔΔΔComment:
		Δ*ΔΔΔΔΔ<COMMENT>
		Δ*ΔΔΔRequests:
		Δ*ΔΔΔΔΔ <ch_doc_id>
		Δ*Δ

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