



## Dimensions CM

Simple parallel development merge  
scenario using Araxis Merge

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# Introduction

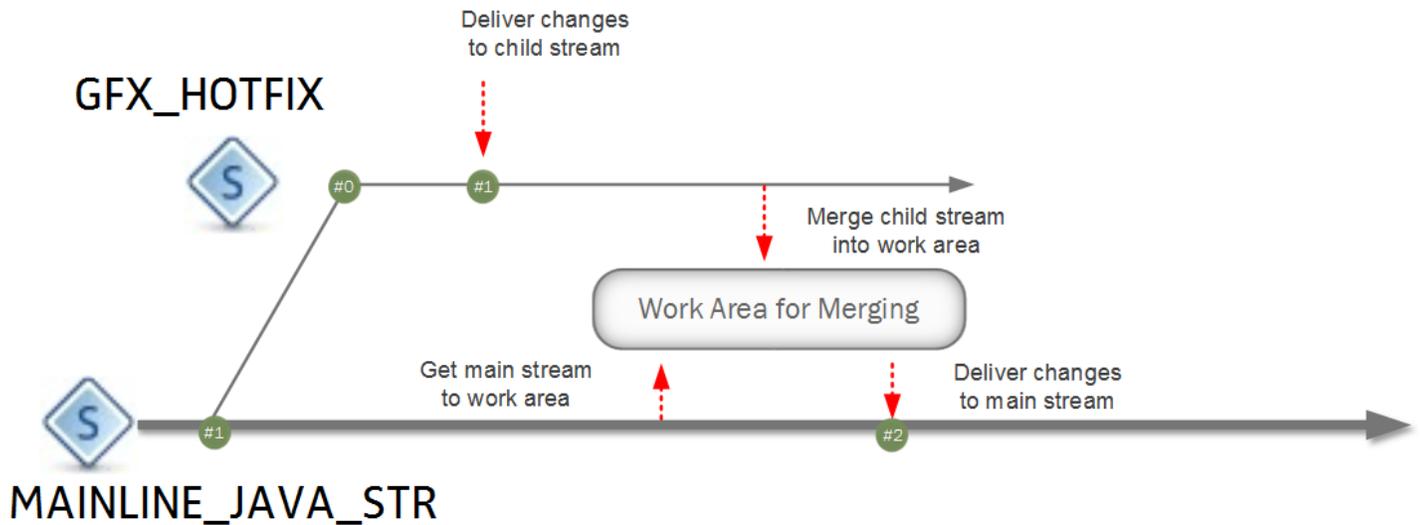
Dimensions CM 14 includes support for a new database merge tool called Araxis Merge. This platform provides two immediate benefits:

- Industrial strength, bespoke solution
- Deals with certain binaries such as PDF files and Word Documents

This document describes a simple merge scenario and how Araxis Merge can be used to resolve conflicts that require user intervention and how they are merged back into the Dimensions CM repository.

## A simple merge scenario

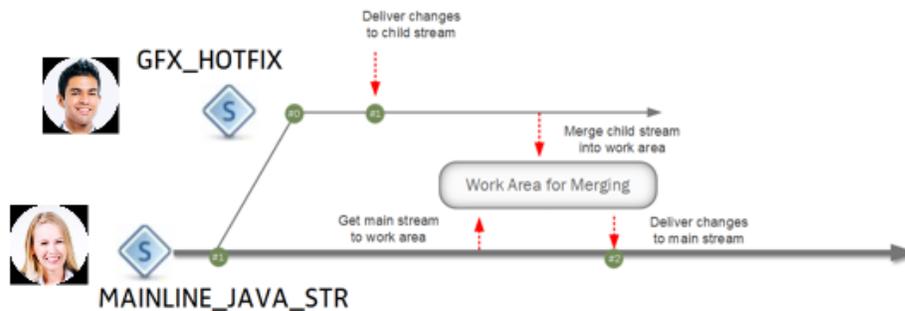
The following diagram describes a typical two-line development model where a second line of development is initiated to create a patch or hotfix. Subsequently the patch/hotfix code is merged back into the mainline development stream.



## A parallel merge scenario

### Exercises – a parallel merge scenario

- Dawn completes MAINLINE\_JAVA\_STR development for Version 1.0
- Dinesh completes GFX\_HOTFIX development for Version 1.1
- Dawn continues MAINLINE\_JAVA\_STR development for Version 2.0
- Dawn merges the GFX\_HOTFIX development into MAINLINE\_JAVA\_STR
- Dawn reviews the merge, using History, Pedigree and annotation views



## Initial configuration of CM base database

Using the CM\_TYPICAL base database, ensure you can login as the users Dawn and Dinesh. This may require the creation of the Dawn and Dinesh operation system accounts on the CM server machine. Ensure that both users have the relevant privileges to perform the necessary actions, e.g. Dinesh can create a stream etc.

### Step 1: Main Line Development (Version 1.0)

First Dawn completes the mainline development and version 1.0 of the code.

- 1** Using File Explorer create the directory **C:\Users\student\streams\MAINLINE\_JAVA\_STR**
- 2** In File Explorer, select the work area by going to **C:\Users\student\streams**.
- 3** Right-click on **MAINLINE\_JAVA\_STR** and select **Dimensions | Associate with Source Control**.
- 4** Login as **dawn** with the password **dawn**.
- 5** At the Work Area Defaults, set the **Associated Dimensions Stream** to **MAINLINE\_JAVA\_STR**.
- 6** Click **OK** to confirm, then click **OK** to exit the dialog window.

**NOTE** The folder icon now contains a glyph to indicate it is associated with a Dimensions repository.

- 7** Right-click on **MAINLINE\_JAVA\_STR** and select **Dimensions | Update** and click **Next** and then **Update**. Then Close to dismiss the dialog.
- 8** In File Explorer, click on the directory **MAINLINE\_JAVA\_STR** notice the three directories.
- 9** Using File Explorer, navigate to **Qlarius Underwriter\templates**.

**10** Right click on the file **build\_script\_ant.bat** and select **Edit**.

**11** Add the following 3 lines to the beginning of the file:

```
echo Firing up V1.0 base system
```

```
echo Firing up V1.0 drivers
```

**NOTE** Ensure the second line is a blank line

**12** Save the file and exit notepad.

**13** Using Windows Explorer, right click **build\_script\_ant.bat** and select **Dimensions | Deliver**, click **Next** add the comment: **Version 1.0** and click **Next** then click **Deliver**, the click **Close**.

**14** Right-click on **build\_script\_ant.bat** and select **Dimensions | Log out**

**NOTE** Development work has been completed by Dawn.

## Step 2: Work on a Branch Patch Release (Version 1.1)

Whoops!! a high priority bug has been found, Dinesh needs to work on a hot-fix for the graphics system. Dinesh creates a new stream called GFX\_HOTFIX to work on the patch.

**1** Using Windows Explorer, select the work area by going to **C:\Users\student\dinesh\_streams**.

**2** Create a new folder called **GFX\_HOTFIX**.

**3** Right-click on **GFX\_HOTFIX** and select **Dimensions | Associate with Source Control**.

**4** Login as **dinesh** with the password **dinesh**.

**5** At the Work Area Defaults dialog, click the **browse (...)** button for the associated stream field.

**6** At the Select Stream dialog, keep **Another stream** selected, click the drop down arrow and select **Create New...**

**7** At the New Stream dialog specify the following and then click **Next**

- Stream name: **GFX\_HOTFIX**
- Unique branch name: **gfxhotfix\_br**
- Description: **Graphics system hotfix**.

**8** On the next dialog select **Based on stream**, click **Select** and specify **MAINLINE\_JAVA\_STR** and click **OK** and then click **Finish**.

**9** At the Select Stream dialog ensure **QLARIUS:GFX\_HOTFIX** is selected and click **OK** and **OK** to dismiss the dialog.

**10** Right-click on **GFX\_HOTFIX** and select **Dimensions | Update** and click **Next** and then click **Update** and finally **Close** to dismiss the dialog.

## Step 3: Make a patch modification (Version 1.1)

Dinesh now makes the code changes to fix the issue.

**1** Using File Explorer, navigate to **C:\Users\student\dinesh\_streams\GFX\_HOTFIX\Qlarius Underwriter\templates**.

**2** Right click on the file **build\_script\_ant.bat** and select **Edit**.

**3** Modify the first line to include the appended text *plus GFX patch*:

```
echo Firing up V1.0 base system plus GFX patch
```

**4** Save the file and exit notepad.

**5** Using Windows Explorer, right click **build\_script\_ant.bat**, select **Dimensions | Deliver**, click **Next**, specify the comment: **Version 1.1**, click **Next**, the click **Deliver** and **Close** to dismiss the dialog.

**6** Using Windows Explorer, right click **build\_script\_ant.bat** and select **Dimensions | Log Out**.

## Step 4: Main Line Development (Version 2.0)

In the meantime, Dawn is working on the mainline development and produces a new version of the driver component.

**1** Using File Explorer, navigate to **C:\Users\student\streams\MAINLINE\_JAVA\_STR\Qlarius Underwriter\templates**.

**2** Right click the file **build\_script\_ant.bat** and select **Edit**.

**3** Modify the third line to the following:

```
echo Firing up V2.0 drivers
```

**4** Save the file and exit notepad.

**5** Using Windows Explorer, right click **build\_script\_ant.bat** and select **Dimensions | Deliver**.

**6** At the login prompt login as **dawn** with the password **dawn**.

**7** Click **Next**, then specify the comment: **Version 2.0** and click **Next** then click **Deliver**, the click **Close**.

## Step 5: Merge the branch modifications into the mainline

Having completed the V2.0 changes Dawn will now merge Dinesh's hotfix changes into the mainline.

**1** Using File Explorer, navigate to **C:\Users\student\streams**, right Click on **MAINLINE\_JAVA\_STR** and select **Dimensions | Update**.

**2** Click the top-most **Select...** button (*Update changes from this stream*) and specify the stream **GFX\_HOTFIX** and click **OK** and then click **Next**.

**3** A warning will appear confirming that a foreign stream has been selected and that a merge is to be performed. Click **OK**.

**4** The Review Changes dialog indicates that **build\_script\_ant.bat** is in conflict and needs to be merged. Right click **build\_script\_ant.bat** and select **Merge**.

**5** At the abandon previous merge results click **Yes** to perform a manual merge.

**6** The following will appear:

**7** Araxis Merge will be invoked, the left most column shows the Version 1.1 modification made by Dinesh, click the **blue arrow** at line 1 to merge in this change. Line 1 in the merge target (the central column) should now be updated.

**8** In the right most column, click the **blue arrow** at line 3 to merge Dawn's version 2.0 changes. Line 3 in the merge target (the central column) should now be updated.

**9** Review the merge target (central column), it should contain the following:

```
echo Firing up V1.0 base system plus GFX patch
```

```
echo Firing up V2.0 drivers
```

**10** In Araxis Merge click **File | Exit..** at the Save Merge File dialog, ensure the middle file in the list is selected and click **Yes**.

**11** At the Update Workarea... dialog click **Update**.

**12** CM has detected the modification in the workarea and now wants to deliver it to the MAINLINE stream, so click **Deliver**, then click **Next**.

**13** Specify the comment: **Merged GFX into V2.0** and click **Next** then click **Deliver**, click **Close**.

**NOTE** The patch changes made by Dinesh have been merged back into the mainline by Dawn.

## Step 6: Review the merge

We can now review the changes made by the merge and delivery back into the mainline stream. To do this we can interrogate the annotations, item history and pedigree.

**1** Using File Explorer, navigate to

**C:\Users\student\streams\MAINLINE\_JAVA\_STR\Qlarius Underwriter\templates**, right click **build\_script\_ant.bat** and select **Dimensions | View Annotations**.

**NOTE** The changes made by Dinesh are shown as made by Dawn, because they were delivered into the current stream by Dawn and the history is shown in the context of the stream.

**2** Hover the mouse pointer over the first line and notice the revision description informs us that this change was derived from the patch merge.

**NOTE** The first three lines were derived from three different revisions.

**3** Close the Annotations view, right clicking the magnifying glass icon in the task-bar and selecting **Close Window**.

**4** Right click **build\_script\_ant.bat** and select **Dimensions | History**.

**NOTE** The latest entry was generated automatically indicating the revision from the stream GFX\_HOTFIX that was merged into the latest revision.

**5** Click **Close** to dismiss the History dialog.

**6** Right click **build\_script\_ant.bat** and select **Dimensions | Pedigree**.

**NOTE** The pedigree shows the latest revision as being derived from both the MAINLINE and PATCH revisions.

**7** Dismiss the pedigree view.

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