

Intermediate Solution to the Mentor Graphics - Metaphase interface.

Until the RASSP Enterprise Framework (EF) can be upgraded to the Metaphase 2.2, which will incorporate the use of the Mentor Graphics Interface, an intermediate solution has been implemented which will allow users of the EF to create, register, and check in/out large Mentor Graphics Datasets. This solution will automate the required actions which are necessary for moving MGC Datasets on a UNIX filesystem. The information below outlines those steps.

Registration:

The MGC Dataset often times contains symbolic links. These links require that the dataset always be in the same location when being used by the Mentor Graphics Toolset, or that the Mentor Design Manager tool be used to move the dataset on the file system. DM2 cannot move the dataset with a simple Transfer ownership action as it does with other dataitems. For that reason the registration of a MGC Dataset is limited more than the registration of other file system items.

It is the suggestion of the EF Development team that any MGC Datasets used within a project be created in the directory that is the filesystem location for the Shared Project Work Location. Each new project will have a shared work location when that project is created, which the project members will have access to. The data that resides in this project work location is shared among all the members of the project. When a MGC Dataset is created, and consequently registered in the shared worklocation then it can always be worked on in that location by any member of the project, maintaining the links that are necessary for that dataset.

The registration has been limited to the following:

An MGC Dataset can be registered in a private work location, one owned by a member of a project. In this case it will not have the available option of being "Attached" to a shared business item (that is a business item that is owned by that projects manager). The dataset may be "Attached" to a private business item (one that is currently owned by the user), but this will mean that the MGC Dataset must always be used from that private work location. This may limit the use of the dataset by others in the project.

An MGC Dataset can be created and registered in the shared work location by any user in the project member group. In this case the dataset may be attached to a shared business item. If the dataset is created and registered in the shared work location then it may be accessed by any member of the project member group, but must always be checked out to the shared work location.

To register an MGC Dataset a user needs to query for the work location where the un-registered dataset is located.

Search -> More -> Work locations

Once the browser returns with the work locations, the user may open any of the displayed work locations by double-clicking that object. Inside the work location the user should see the un-registered version of the dataset that was created with the Mentor Graphics toolset. Its icon will resemble a folder. The dataset may then be registered by selecting the object and choosing the register menu option.

Object -> Register

The user will have the option of attaching the dataset to a business item as described above.

Transfer through the DM2 Graphical User Interface:

Transferring a MGC Dataset inside DM2 is not recommended. Therefore it is an action that can only be executed by the DM2Admin user. DM2 does not handle the symbolic links created by the MGC Dataset, and thus a transfer of a dataset from one worklocation to another would cause such links to be corrupted or lost. For this reason the Transfer action through the user interface, for MGC Datasets only, has been turned off for most users. This is part of the interim solution until the MGC Interface can be implemented with Metaphase 2.2. The procedures that the DM2Admin must follow to use the transfer action through the DM2 GUI are outlined later in this paper.

Check In through the DM2 Graphical User Interface:

Check In of a MGC Dataset through the DM2 user interface can only be done by the DM2Admin user. All other users have been denied access to this action as part of the interim solution. Since some MGC Datasets can grow extremely large it is necessary that the proper procedures be followed when checking in a MGC Dataset. These procedures are listed later in this paper.

Check Out through the DM2 Graphical User Interface:

Check Out, like Check In, can be used only by the DM2Admin user. The procedures that the DM2Admin must perform when checking a MGC Dataset out of a vault are listed later in this paper.

Delete through the DM2 Graphical User Interface:

Any user may delete a dataset that the user owns. Because the MGC Datasets can grow very large it is necessary to delete the dataset from the OS directories prior to issuing a delete command through DM2. The procedures for deleting an MGC Dataset are listed later in this paper.

Check In by transition of a task in a defined workflow:

The action for checking in a file when a workflow task is transitioned is done automatically for the user. This is the recommended way of checking in files because it will make full use of the customized actions created specifically for the EF. MGC Datasets can get too large for DM2 to traverse and manipulate. Until the MGC - Metaphase interface can be installed it is necessary to tar the sub directories in the MGC Dataset and compress the resulting tar file. The sub-directories are then removed prior to checking in the dataset. This is done automatically when a user transitions a task that contains a business item that has an "Attached" MGC Dataset.

Check Out by executing a task in a defined workflow:

The action for checking out a file when a workflow task is executed is also done automatically for the user. This is the recommended way of checking out files because it will make full use of the customized actions created specifically for the EF. Since the MGC datasets were tarred and compressed before they were checked in, it is necessary to reverse this process when the datasets are checked out. After the MGC Dataset is checked out, the compressed file is expanded, then the tar file is extracted, and the tar file is removed. This will leave the user with the MGC Dataset in the same state it was prior to check in of that data item.

The automated steps described above provide a temporary solution for the file manipulation of the MGC Datasets until the MGC - Metaphase interface is implemented.

DM2Admin Graphical User Interface actions:

Check In: Before a MGC Dataset can be checked into a vault using the DM2 GUI interface, the following manual steps must take place.

- 1) Find the MGC Dataset on the file system and change directories to that location.
- 2) Change directories one level into the MGC Dataset.
- 3) Perform the following command to tar the sub-directories.

```
tar cf - * > mgc.tar
```

- 4) Perform the following command to compress the sub-directories.

```
compress mgc.tar
```

- 5) Delete everything except the mgc.tar.Z file

- 6) Return to the DM2Admin OMF account and Query for the MGC Dataset to check in and select it. Then choose **Object -> Check In**.

MGC Dataset in use MGC Dataset after preparation for Check in

user_work_location user_work_location

MGC_Set_1 MGC_Set_1

Sub_dir1 mgc.tar.Z

other directories and files

Sub_dir2

other directories and files

Check Out: After a MGC Dataset is checked out to a work location, whether it be private or shared, the following manual steps must take place.

- 1) After the dataset is queried, selected, and checked out, change directories to the work location where the dataset was checked out to.
- 2) Change directories one level into the MGC Dataset. You should find the mgc.tar.Z file there.
- 3) Perform the following command to expand the dataset.

```
uncompress mgc.tar.Z
```

- 4) Perform the following command to extract the tar files.

```
tar xf - < mgc.tar
```

- 5) Delete the mgc.tar file, and the file FileList if it exists.

Transfer: After a MGC Dataset is checked out to a work location, the DM2Admin user may transfer the ownership of that object between users. The action to do this is the same as with any other data object, except that the MGC Dataset must be tarred and compressed to assure the successful and timely completion of the action.

1) Change directories to the worklocation where the Dataset exists and verify that the only file in the dataset is the mgc.tar.Z file.

2) If the dataset has not been tarred and compressed then change directories one level into the MGC Dataset. If the dataset is ready to be transferred then skip to step 5

3) Perform the following commands to prepare the sub-directories.

```
tar cf - * > mgc.tar
```

```
compress mgc.tar
```

4) Delete everything except the mgc.tar.Z file

5) Then return to the DM2Admin OMF session and perform the Transfer action on the object by selecting that object in the browser and choosing the Transfer Ownership menu option -

Object -> More Options -> Transfer Ownership

Delete: When a dataset is to be deleted the user who owns it should execute the following actions.

1) At an OS prompt change directories to the work location where the dataset exists.

2) Delete the dataset from the OS using a "rm -rf" command on the dataset directory.

Datasets may be removed using the MGC Toolset.

3) Return to OMF and Query for the MGC Dataset from the menu -

Search -> EF Data Items Classes -> Mentor Graphics Dataset

4) Select the desired dataset from the browser that appears and choose delete from the Object menu -

Object -> Delete

5) The user will see a dialog that asks if the dataset has been removed at the OS level. If it has then user chooses "Yes" as a response and the item will be removed from the database. If it hasn't, the user should choose "No" as the response and proceed to step one to remove the dataset from the OS.

NOTE: If the object is a predecessor of another dataset, then this action will not be allowed.