

## 4.8 Production Planning

This section describes the Production Planning GUIs used by DAAC operators.

The Production Planning GUIs are used by the production planner to define the science processing jobs to be run at a DAAC. The jobs are defined in terms of Production Requests (PRs). A PR is essentially an order for data to be produced by the data processing subsystem. A single PR may lead to several jobs being run over time, or to a single job producing a single set of data. PRs apply to the processing of new data (standard PRs, or standing orders) or the reprocessing of existing data (reprocessing PRs).

The Planning subsystem uses the PR and information on the science processing software (known as a Product Generation Executive, or PGE) to prepare a Data Processing Request (DPR). A DPR corresponds to a single processing job.

Planning subsystem GUIs are used to enter or modify PRs, review DPRs, and produce a selection of production planning related reports. The production planner uses the GUIs to create plans for data processing from the PRs defined in the Production Planning Subsystem. The GUIs are also used by the production planner to activate or cancel a plan.

The Production Planning GUIs are packaged into three applications: the Production Request Editor, the Production Planning Workbench, and the Production Strategies User Interface. The Production Request Editor and Production Planning Workbench are accessible through separate icons from the desktop

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## 4.8.1 Production Request Editor

The Production Request Editor allows the user to submit production requests, which produce data products. The Production Request Editor is used to perform the functions described in Table 4.8.1-1.

**Table 4.8.1-1. Common ECS Operator Functions Performed with Production Request Editor**

Operating Function	GUI	Description	When and Why to Use
Generate/Review /Edit Production Requests (PRs)	Production Request Editor – PR Edit, PR List	<ul style="list-style-type: none"> <li>The operator enters Production Request information</li> <li>Production Requests define processing over a period of time</li> </ul>	<p>To process or reprocess ECS data</p> <p>When a PR expires, a new one may need to be input</p>
Review Data Processing Requests (DPRs)	Production Request Editor – DPR View, DPR List	<ul style="list-style-type: none"> <li>The operator can review the characteristics of a particular data processing request</li> <li>DPRs are created automatically from PRs</li> </ul>	A DPR may be reviewed to inspect job parameters

### 4.8.1.1 Quick Start Using Production Request Editor

The Production Request Editor is a collection of display areas in a ‘tab stack’ selection arrangement – clicking on a tab along the top causes the associated tab “page” (also referred to as the tab) to be displayed. There are “pop-ups” associated with some of the tabs which expand the displayed area and provide GUI interaction for sub-functions. The first tab in the ‘Planning’ window, shown in Figure 4.8.1-2, is the ‘cover page’ or default of the tab stack, which lists and describes the other tabs.

#### 4.8.1.1.1 Invoking Production Request Editor from the Command Line Interface

To execute the Production Request Editor from the command line prompt use:

**EcPIPRE\_IFStart** <mode>

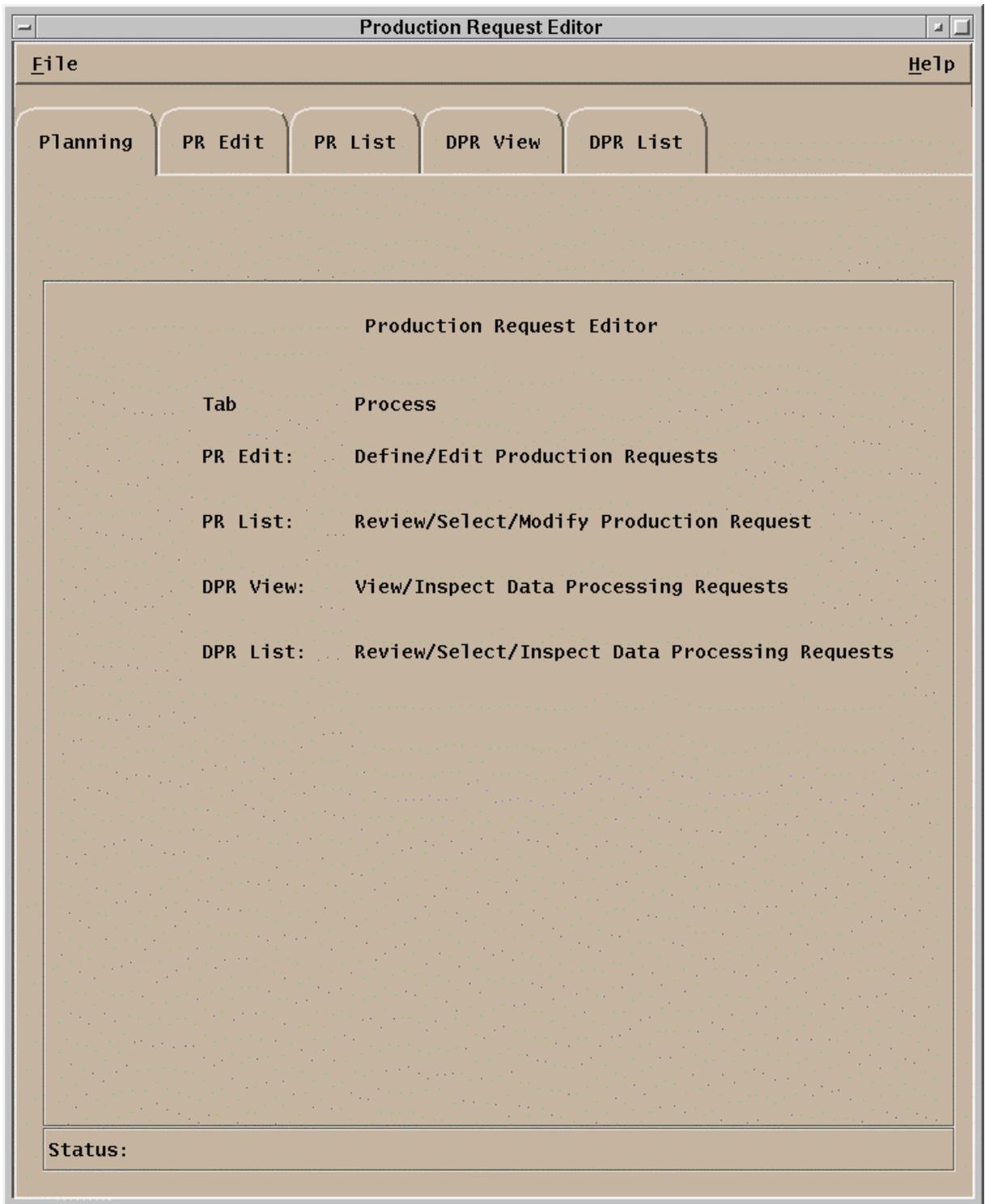
The parameter <mode> is the ECS mode for the execution.

Refer to the 920-TDx-013 “Custom Code Configuration Parameters” documentation series, for a listing of EcPIPRE\_IFStart.

#### **4.8.1.2 Production Request Editor Main Screen**

The primary activities associated with the Production Request Editor activity are:

- Production Request Editor Tab
- Production Request List Tab
- Data Processing Request View Tab
- Data Processing Request List Tab

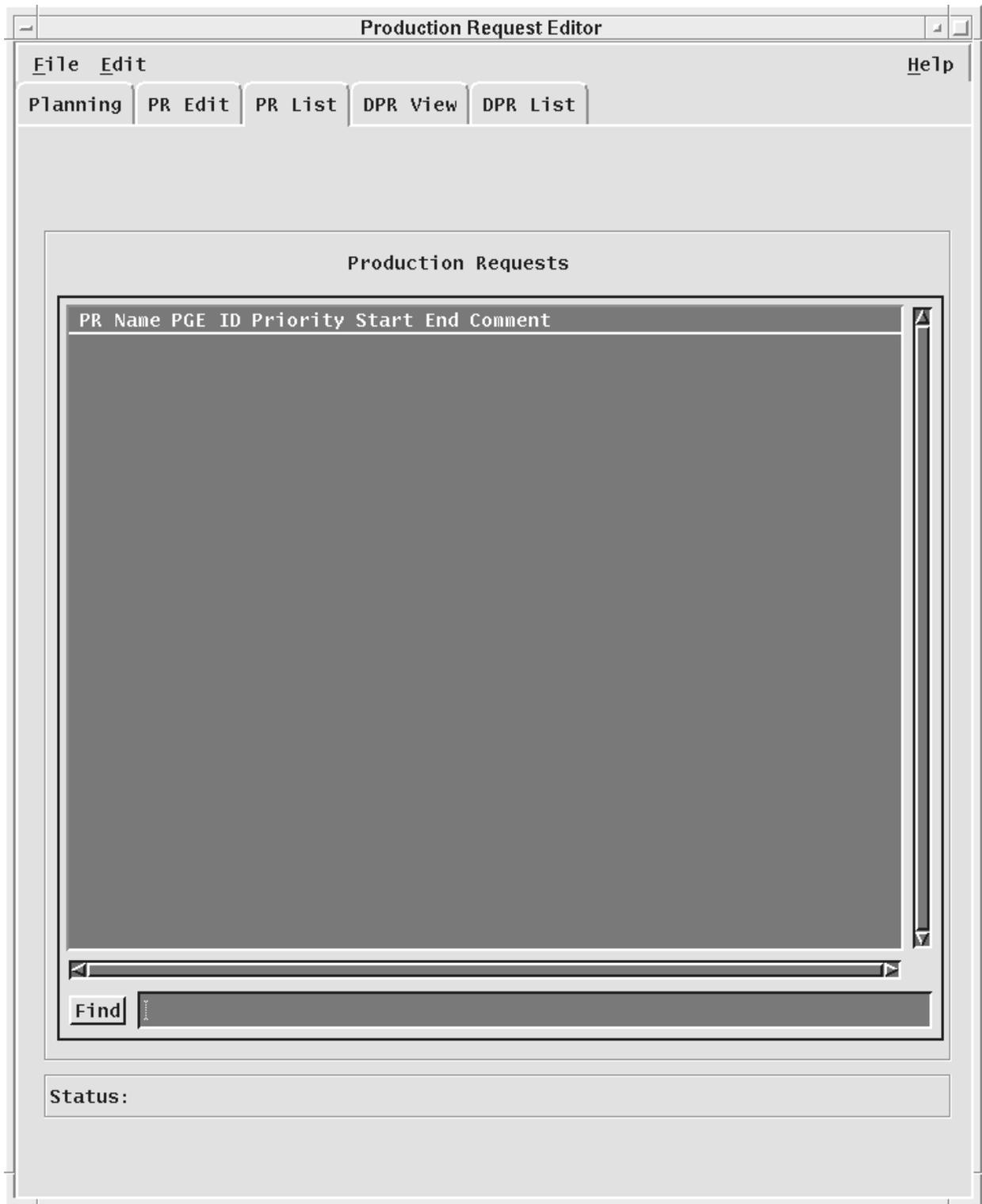


**Figure 4.8.1-2. Production Request Editor GUI Showing the Planning Tab**

In addition, on the menu bar, the pulldown menus provide the following capabilities.

- **File** Pulldown:
- **Exit** – To exit the application.

The **PR List** tab, shown in Figure 4.8.1-3, and **PR Edit** tab, shown in Figure 4.8.1-4, have a lot of commonality. The data displayed on the **PR List** tab is a subset of the data included on the **PR Edit** tab. These data fields are described in Table 4.8.1-2.



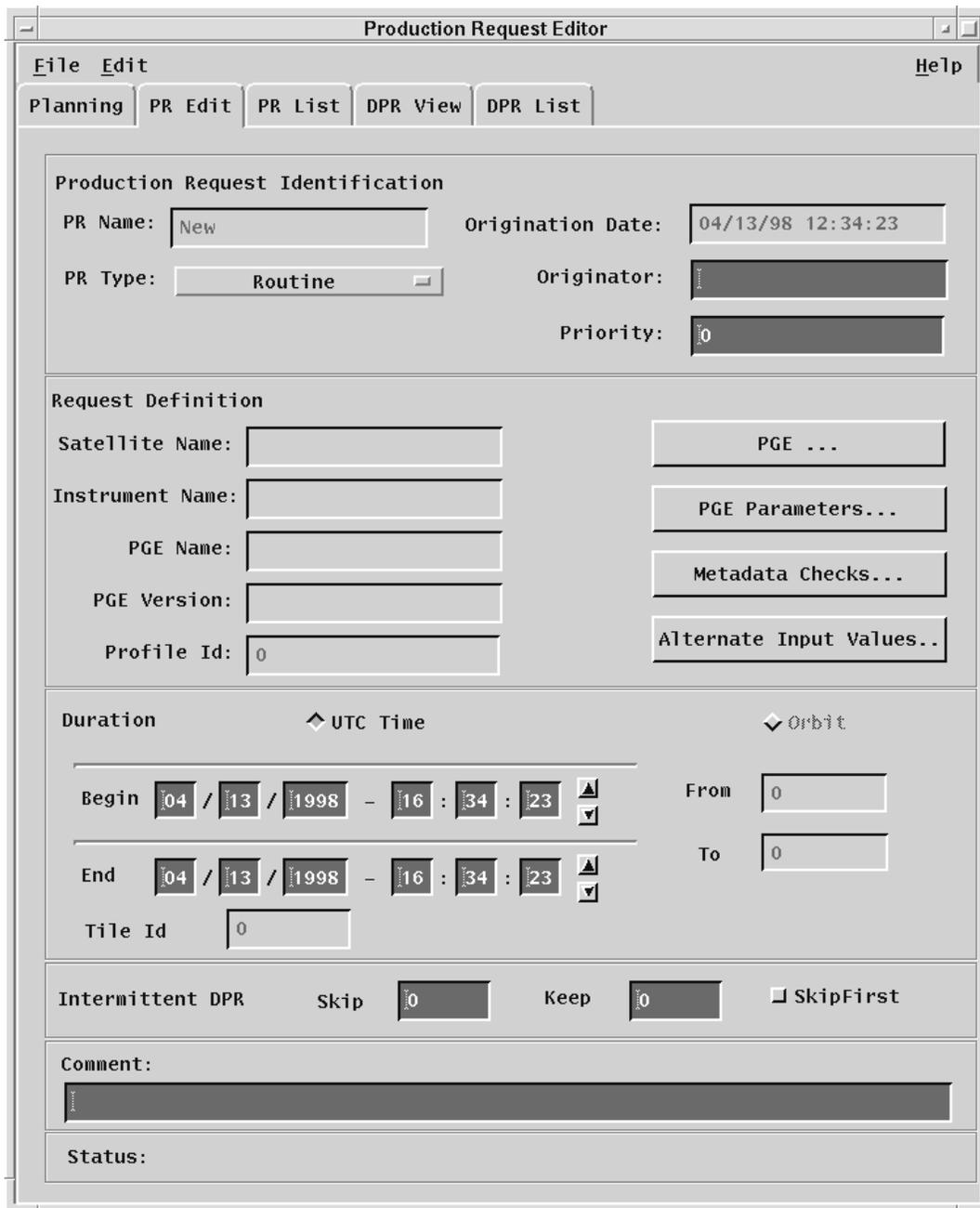
**Figure 4.8.1-3. PR List Tab**

The **PR List** tab allows the operator to review those PRs that have already been entered into the system. The PRs are presented in the order in which they appear in the PDPS database as a one line summary display for each PR. A particular PR can be located by entering a search string (including wildcard characters) in the field next to the 'Find' button and then clicking on the button. The first occurrence of the search string will be highlighted. By clicking on (highlighting) a PR and then selecting the **File: Open** pulldown option, the **PR Edit** tab is initiated for that selected PR.

The menu bar for the **PR List** tab and its pulldown menus provide the following capabilities.

- **'File'** Pulldown:
  - **Open** – Allows the operator to open a highlighted, existing Production Request for review or editing in the **PR Edit** tab.
  - **Exit** – To exit the application.
- **'Edit'** Pulldown:
  - **Delete** – To delete a production request.

The data on the **PR List** tab are identified by the column headings at the top of the display. These data descriptions are given in Table 4.8.1-2.



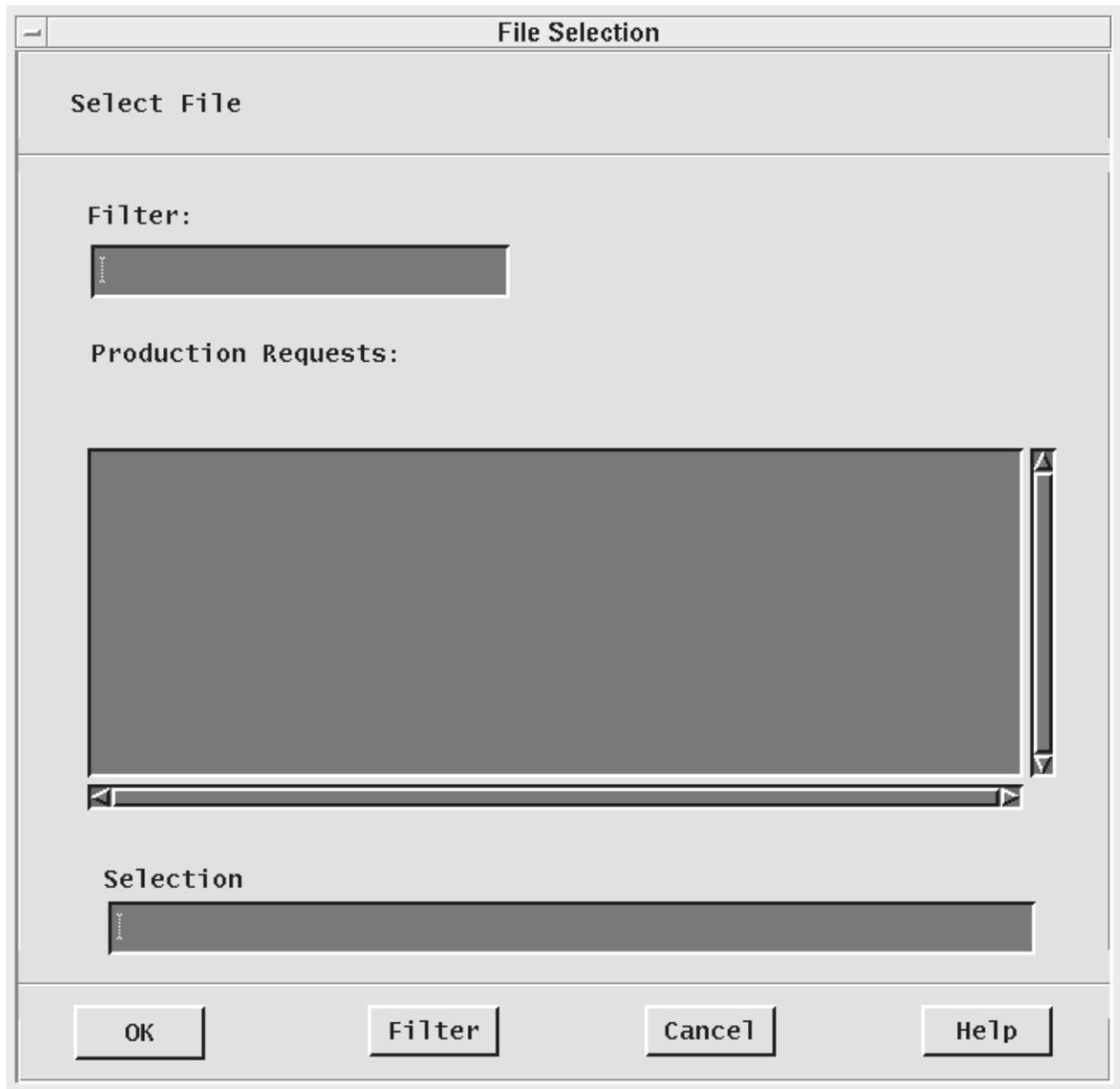
**Figure 4.8.1-4. PR Edit Tab**

On the menu bar for the **PR Edit** tab, the pulldown menus provide the following capabilities.

- **'File'** Pulldown:

- **New** – When selected, the fields are cleared to allow entry of a new Production Request.
- **Open** – Allows the operator to select an existing Production Request for review or editing. This function uses the File Selection Pop-up (Figure 4.8.1-5) invoked by **Save As**.
- **Save As...** - Allows the operator to save the displayed Production Request and give it a new PR name. This function uses the File Selection Pop-up (Figure 4.8.1-5) invoked by **Open**.
- **Exit** – To exit the application.
- **'Edit'** Pulldown:
  - **Delete** – To delete a production request.

Most PRs will be slight modifications of existing PRs, for example, to change the time duration of a PR. The process for entering a new PR is usually to select an available PR via the **File: Open** feature. The user then would modify the parameters as necessary and save the new PR through the **'Save As...'** option on the **'File'** menu bar of **PR Edit**. This action brings up a separate pop-up to name the new PR. Also, a completely new PR may be entered directly via the **PR Edit** tab.



**Figure 4.8.1-5. File Selection Pop-up**

The **PR Edit** tab fields are organized into six regions: Production Request Identification, Request Definition, Duration, Intermittent DPR, Comment, and Status. The individual fields of the **PR Edit** tab are described in Table 4.8.1-2.

**Table 4.8.1-2. PR Edit Field Description (1 of 2)**

Field Name	Data Type	Size (# of characters)	Entry	Description
Production Request Identification	--	--	--	Information used to identify the PR and the originator
PR Name	ASCII characters	<27	user input, required	a name for the PR
PR Type	GUI selection	N/A	click	Routine On Demand Reprocessing Ad-hoc Reprocessing
Origination Date	Date	8	system generated	date of PR entry
Originator	ASCII characters	<25	system generated	user ID of the user entering the PR.
Priority	Integer	<99	user input, required	priority to be associated with the PR; 1≤value≤99
Production Request Definition	--	--	--	Information defining the PR
Satellite Name	ASCII characters	<25	system generated	satellite name, if applicable, with which the PR/PGE is associated; displayed when PGE is selected.
Instrument Name	ASCII characters	<20	system generated	instrument name, if applicable, with which the PR/PGE is associated; displayed when PGE is selected.
PGE Name	ASCII characters	<12	system generated	name of PGE to be used in the PR; displayed when PGE is selected.
PGE Version	ASCII characters		system generated	The version number of the PGE to be associated with the PR; displayed when PGE is selected.
Profile ID	Integer	<99	system generated	The Profile Id of the PGE to be associated with the PR displayed when the PGE is selected.
Duration	--	--	--	Time range over which the PR is applicable
UTC Time				
Orbit				
Start Date	Date	8	user input, required	start date of instrument data to be processed

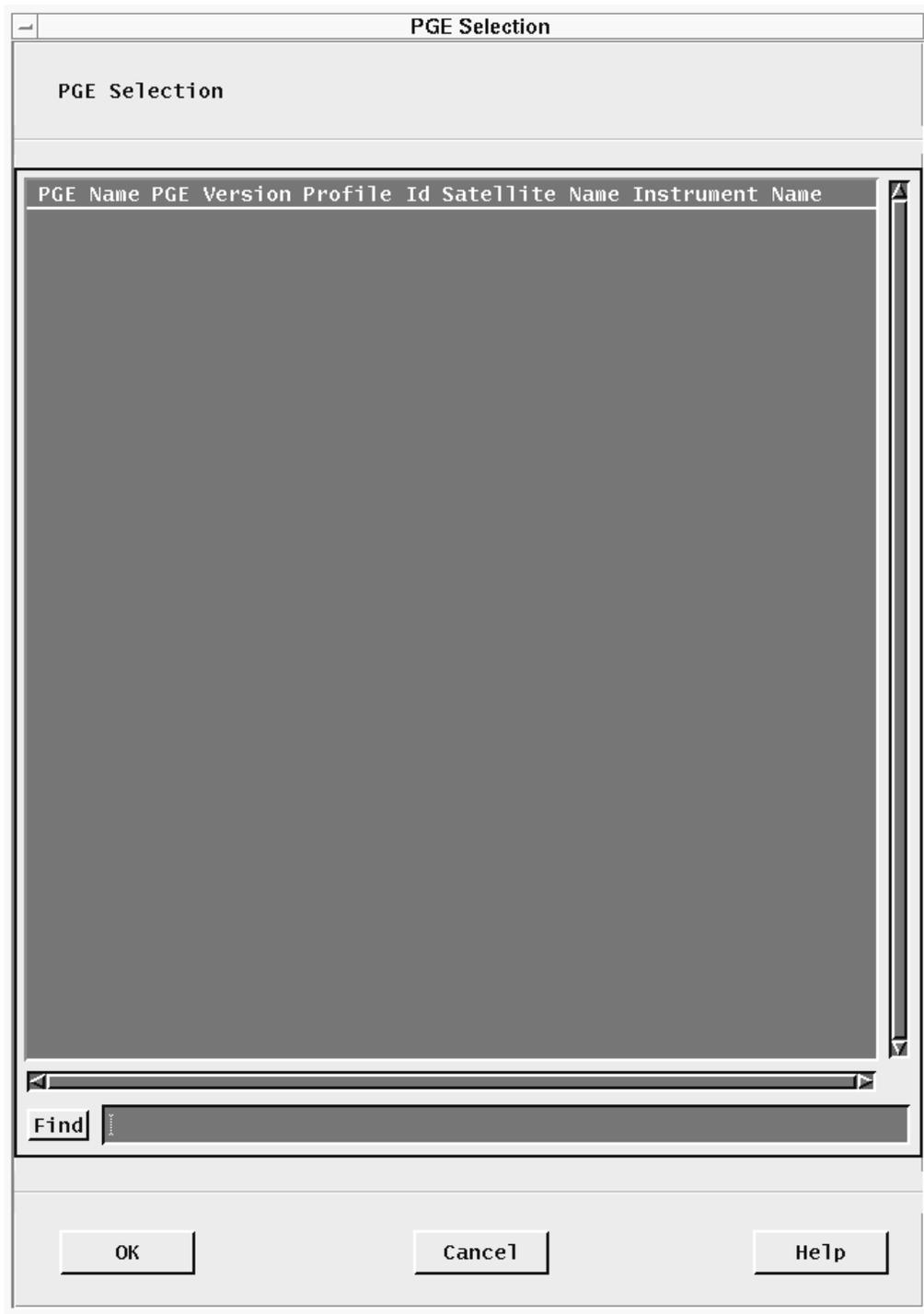
**Table 4.8.1-2. PR Edit Field Description (2 of 2)**

Field Name	Data Type	Size (# of characters)	Entry	Description
Start Time	Time	6	user input, required	start time of instrument data to be processed
End Date	Date	8	user input, required	end date of instrument data to be processed
End Time	Time	6	user input, required	end time of instrument data to be processed
From (Orbit)	Integer	<8	user input	User can select orbit from number as an alternative to UTC Time.
To (Orbit)	Integer	<8	user input	User can select orbit to number as an alternative to UTC Time.
Intermittent DPR				
Skip	Integer	<6	user input	Number of DPRs to skip
Keep	Integer	<6	user input	Number of DPRs to keep
SkipFirst	Flag	GUI	user selected	Determines whether the first DPR is skipped or kept.
Comment	ASCII characters	<255	user input, optional	user comment associated with the PR
Status	ASCII characters	<20	system generated	current status of the PR

There are 4 function selection buttons in the Request Definition section of the screen:

### 1. PGE Selection button

As a part of the **PR Edit** process, a PGE will need to be associated with the PR. The PGE Selection pop-up contains a list of the PGEs available for selection and is accessed via the 'PGE...' button on the **PR Edit** tab. The PGE Selection pop-up is shown in Figure 4.8.1-6. The information describing each PGE is entered through GUIs used in the SSI&T process, described in Section 4.5.1. To associate a PGE to a PR, the desired PGE is highlighted from the list of PGEs, and then selected by clicking the **OK** button on the PGE Selection pop-up. A particular PGE may be searched for by entering in a search string (including standard wildcard characters) in the field next to the 'Find' button and then clicking on the button. The resulting PGE list will match the search string in any of the displayed fields: PGE Name, PGE Version, etc. Clicking on the **Cancel** button at the bottom of the PGE Selection pop-up returns to the previous window.



**Figure 4.8.1-6. PGE Selection Pop-up**

This screen has three function buttons:

**OK**      Complete the action displayed (the selection)

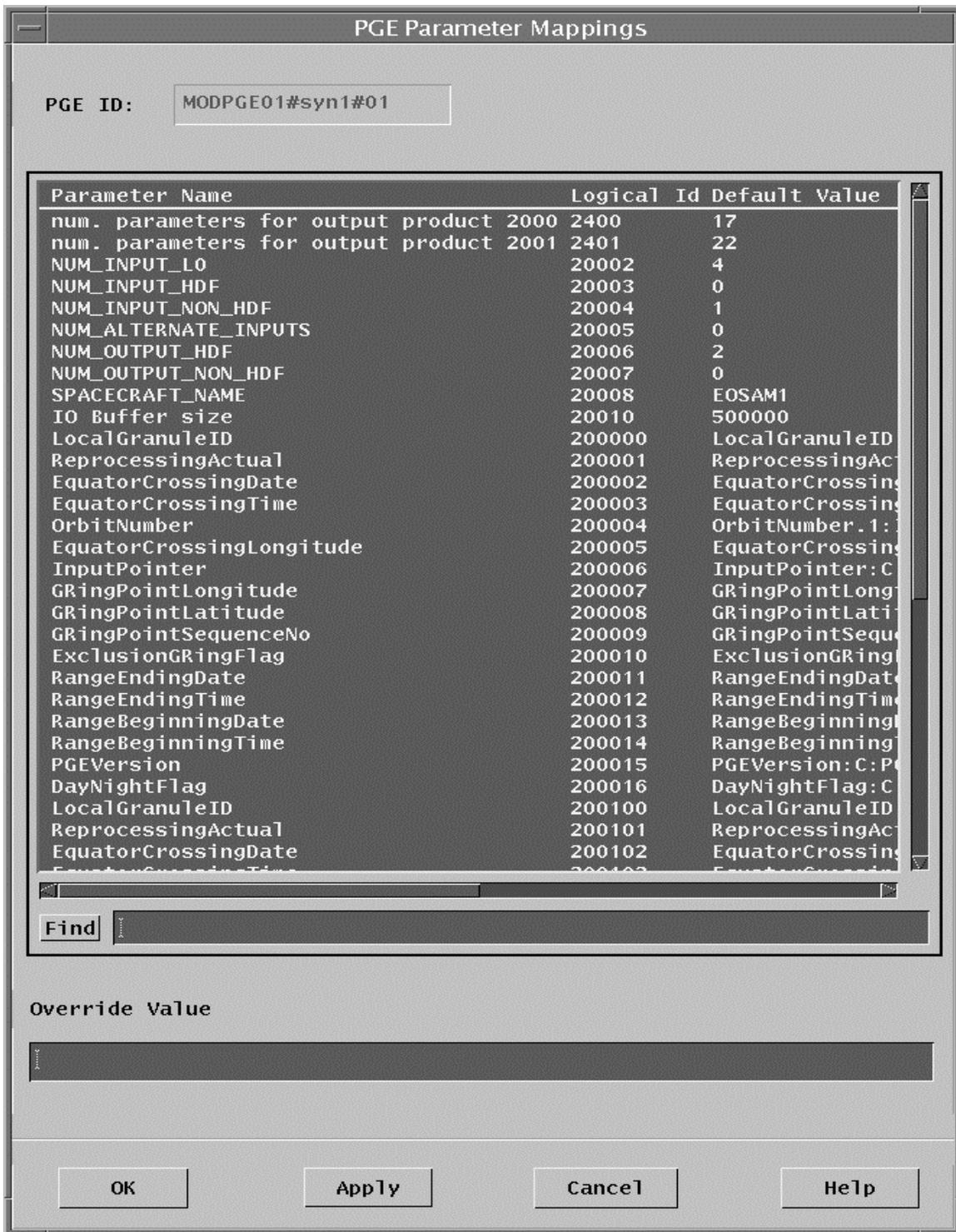
**Cancel** Ignore the action displayed (the selection)

**Help** Display a Help pop-up with information about the function of this window.

The data displayed on this screen is described in Table 4.8.1-2.

## 2. **PGE Parameters button**

The parameters that may be associated with a PGE when it is run are normally specified for the PGE when the PR is defined. If unspecified, the parameters default to values set during the SSI&T process, as described in Section 4.5.1. The production planner may edit or review these parameters by clicking the '**PGE Parameters...**' button on the **PR Edit** tab (Figure 4.8.1-4) once a PGE has been selected. The PGE Parameter Mappings pop-up that is used to edit/view the parameters are shown in Figure 4.8.1-7. The name of the PGE is shown in the text region at the top of the window. The window lists each parameter on a line with its default value. A particular PGE Parameter can be located by entering a search string (including standard wildcard characters) in the field next to the '**Find**' button and then clicking on the button. The resulting list of PGE Parameters will match the search string in any of the displayed fields: Parameter Name, Logical ID, etc. To override a value, select the desired parameter line, enter the override value in the 'Parameter Mapping' text region at the top, press enter and then click **OK**.



**Figure 4.8.1-7. PGE Parameter Mappings Pop-up**

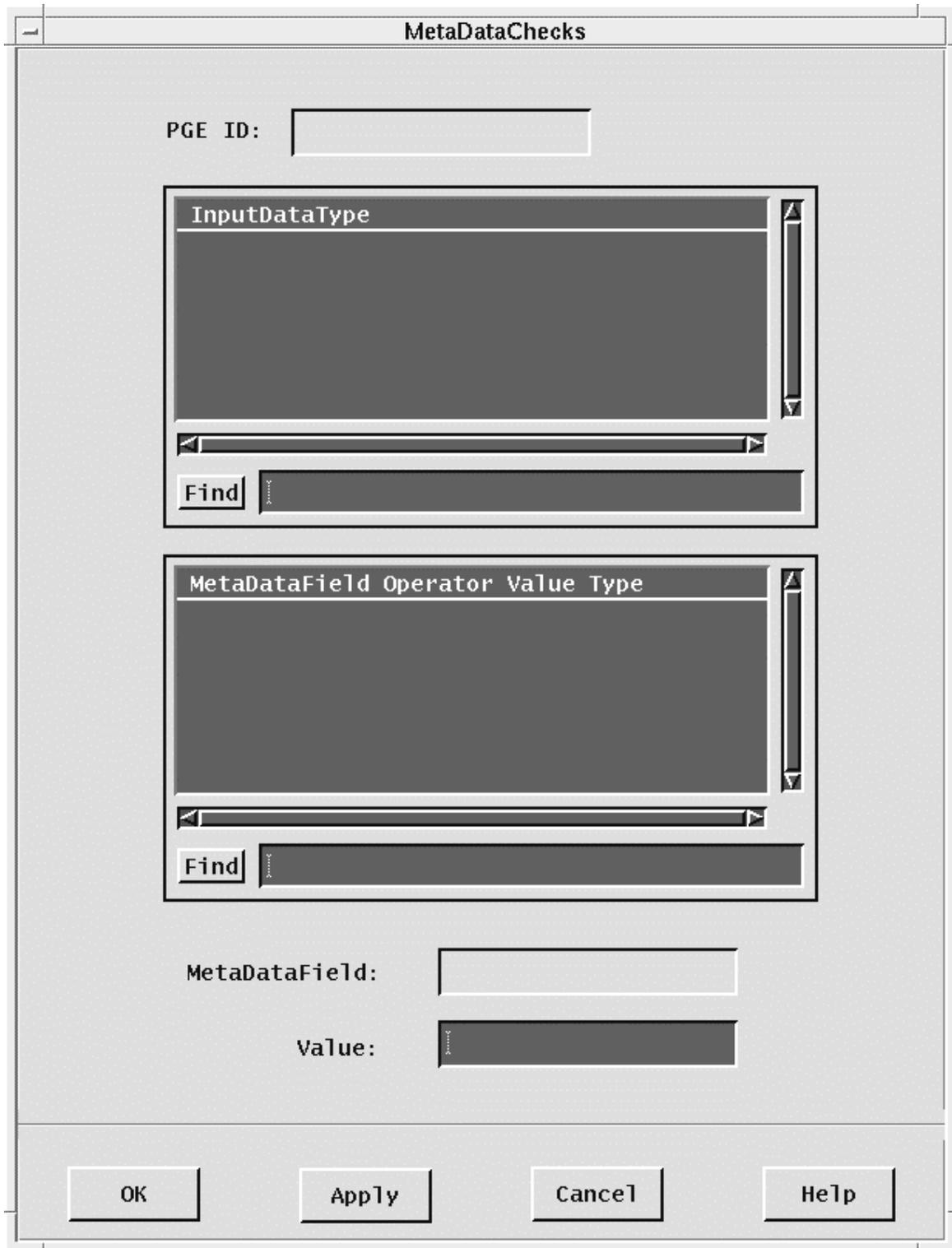
This screen has three function buttons:

- **OK** Complete the action displayed (the selection)
- **Cancel** Ignore the action displayed (the selection)
- **Help** Display a Help pop-up with information about the function of this window.

The data displayed on this screen is described in Table 4.8.1-2.

### **3. Metadata checks button**

The Metadata checks button on the PR Edit tab invokes the MetaDataChecks pop-up window shown in Figure 4.8.1-8 to appear. This function allows the operator to check a metadata value against a specified input data granule metadata field value to determine if the data granule can be used or a PGE performed to update the values.



**Figure 4.8.1-8. MetaData Checks Pop-up**

This screen has four function buttons:

- **OK** Complete the action displayed (the selection)
- **Apply** Update the database with the value entered.
- **Cancel** Ignore the action displayed (the selection)
- **Help** Display a Help pop-up with information about the function of this window.

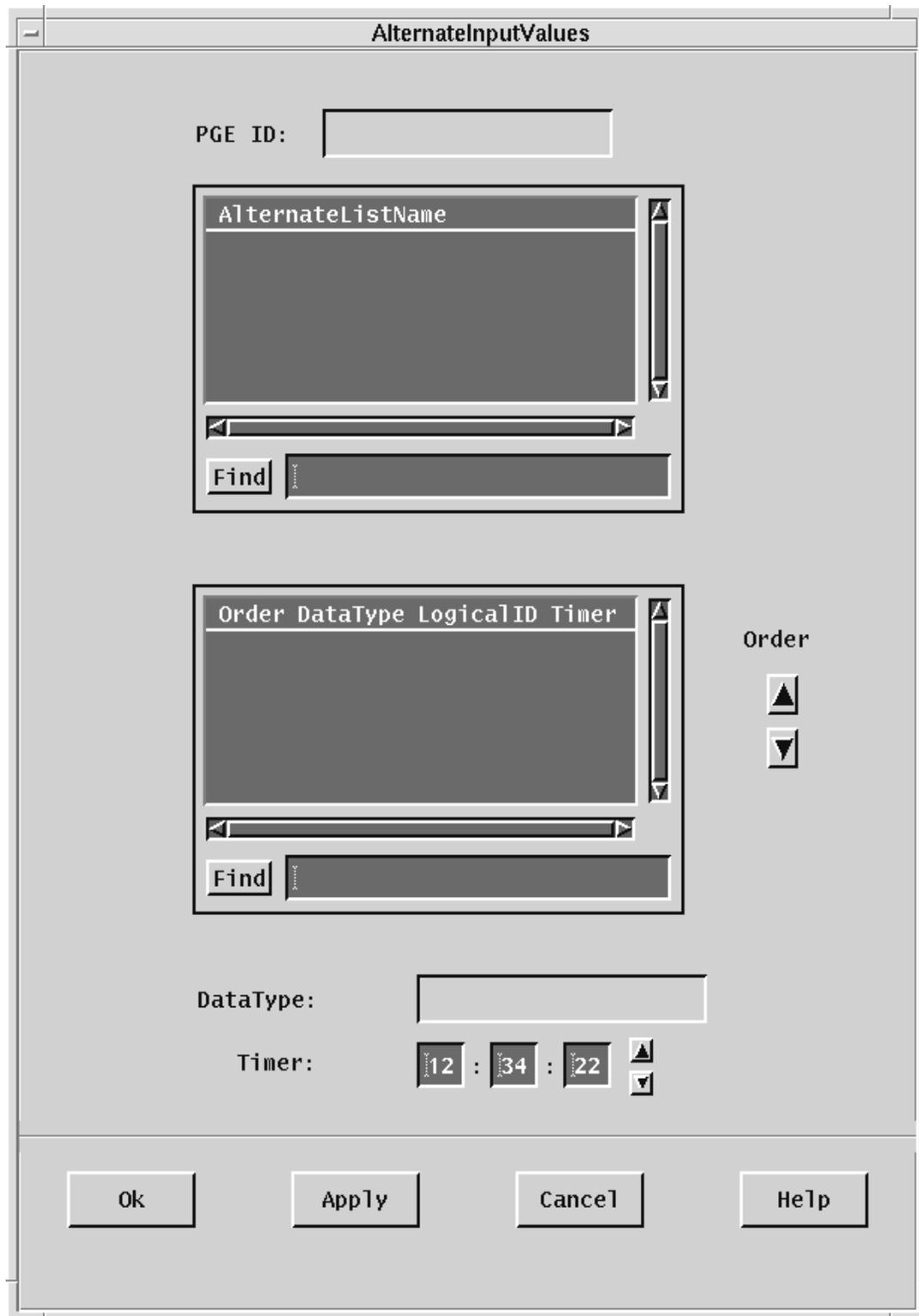
Table 4.8.1-3 describes the fields displayed on the MetaDataChecks pop-up window.

**Table 4.8.1-3. PR Edit-MetaData Checks Field Description**

Field Name	Data Type	Size (# of characters)	Entry	Description
PGE ID	ASCII characters	<17	system generated	ID of the associated PGE
Input Data Type	ASCII characters	<20	system generated	Identifier of the database containing the displayed metadata field value
MetaData Field	ASCII characters	<40	system generated	Name of the metadata field
Operator	ASCII characters	<3	system generated	The logical operator ( <, >, =, <=, +>) used with the metadata field.
Value	ASCII characters	<80	system generated	The value stored in the selected metadata field.
Type	ASCII characters	<5	system generated	Metadata field characteristic (Float, Int, String).

#### 4. Alternate Input Values button

The Alternate Input Values button on the PR Edit tab causes the AlternateInputValues pop-up shown in Figure 4.8.1-9 to appear. This function allows the operator to select a replacement for a data input to a PGE with multiple inputs. This may be necessary if inputs to the PGE are not available and alternative inputs can be used.



**Figure 4.8.1-9. AlternatInputValues Pop-up**

This screen has four function buttons:

- **OK**                    Complete the action displayed (the selection)
- **Apply**                Update the database with the value entered.
- **Cancel**                Ignore the action displayed (the selection)
- **Help**                 Display a Help pop-up with information about the function of this window

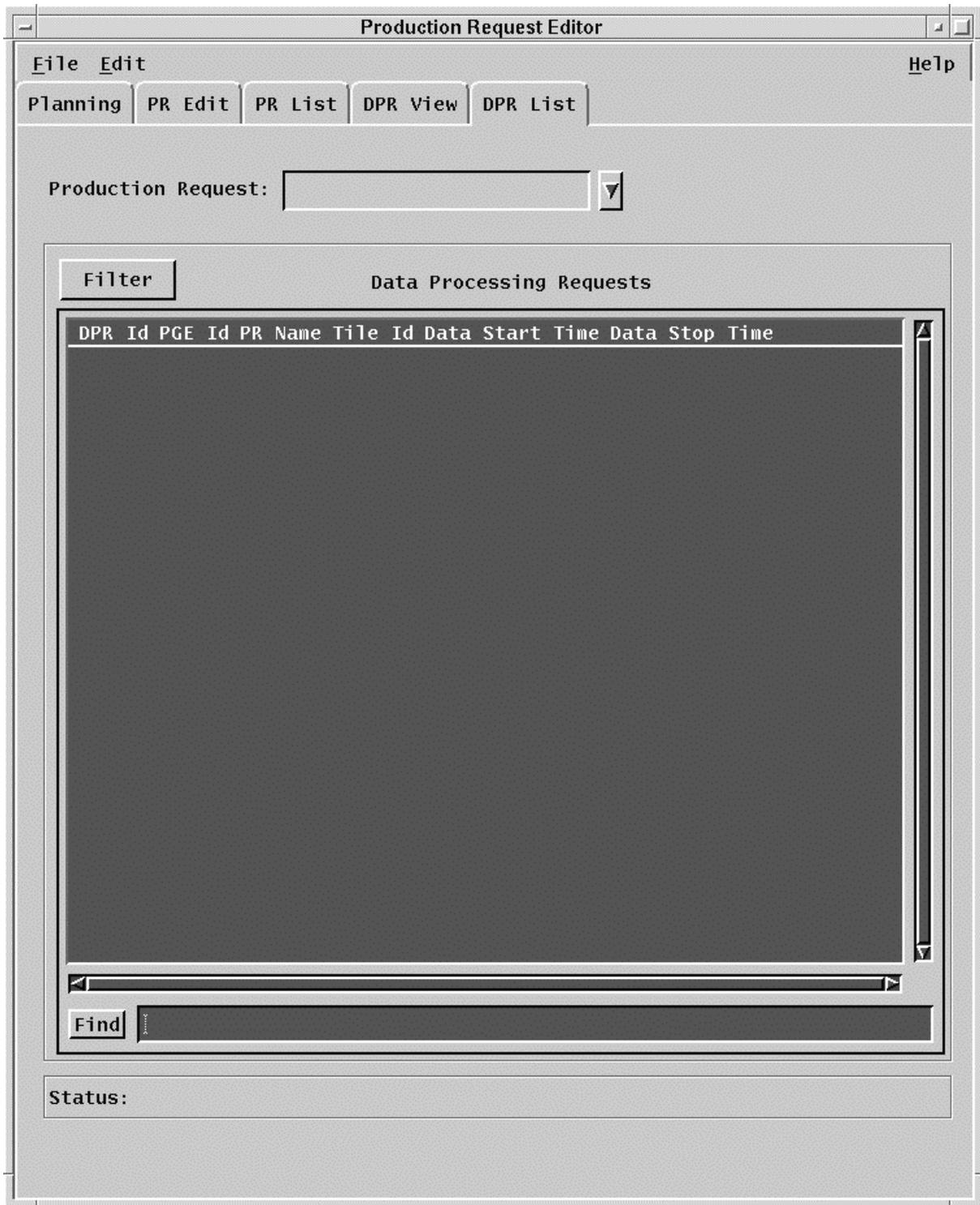
**Table 4.8.1-4 describes the information displayed on the AlternatInputValues pop-up.**

**Table 4.8.1-4. PR Edit- AlternatInputValues Field Description**

Field Name	Data Type	Size (# of characters)	Entry	Description
PGE ID	ASCII characters	<17	system generated	ID of the associated PGE
Alternate List Name	ASCII characters	<20	system generated	Identity of the primary data type for this input.
Order	Integer	<99	system generated/ User changeable	Current order of this data type
Data Type	ASCII characters	<20	system generated	Identity of the data type
Logical ID	Integer	<8	system generated	The SDP Toolkit logical identifier used to reference the data type
Timer	Long Integer	<12	system generated/User changeable	The time period the Subscription Manager will wait for an alternate input to arrive.

#### 4.8.1.2.2 DPR View and DPR List Tabs

The **DPR List** tab, shown in Figure 4.8.1-10, and the **DPR View** tab, shown in Figure 4.8.1-11 have a lot of commonality. The data displayed on the **DPR List** tab is a subset of that included on **DPR View** tab. Also, the dropdown menus of both tabs have the same options.



**Figure 4.8.1-10. DPR List Tab**

DPRs are generated automatically from the PRs described above during Planning. The Production Request Editor GUI provides capabilities to review these DPRs. By selecting the '**DPR List**' tab, a list of DPRs is displayed (in the order in which they have been entered into the PDPS database) for review in the same manner in which PRs are selected and edited. In addition, on the menu bar, the pulldown menus provide the following capabilities.

- '**File**' Pulldown:
  - **Open** - Allows the operator to select an existing DPR for review in the DPR View tab. In the **DPR View** tab (but not in the **DPR List** tab), this function uses the File Selection Popup (Figure 4.8.1-5).
  - **Exit** - To exit the application.
- '**Edit**' Pulldown:
  - **Delete** - To delete a DPR.

Each line of the **DPR List** display represents a DPR, i.e., a job that will be run when all data and resource needs are satisfied. A particular DPR may be searched for by entering in a search string (including standard wildcard characters) in the field next to the '**Find**' button and then clicking on the button. The resulting DPR list will match the search string in any of the displayed fields: DPR ID, PGE ID, etc. In addition, DPRs may be filtered for associated PRs by selecting a PR using the Production Request selection tool at the top of the window and clicking on the '**Filter**' button. By selecting (clicking on) one of the DPR summary lines and also selecting the '**DPR View**' tab, that DPR is displayed in detail..

**Production Request Editor**

File Edit Help

---

**Data Processing Request Identification**

DPR Name:  PR Name:   
 Origination Date:   
 Originator:

---

PGE ID:    
 Data Start Time:   
 Data Stop Time:

---

**Request Data and Status**

**Predicted Start**  
 Date:  Time:   
**Actual Start:**  
 Date:  Time:   
 Priority:  Status:

---

**Figure 4.8.1-11. DPR View Tab**

This screen has two function buttons:

- **PGE Parameters**                      See Figure 4.8.1-6
- **PGE File Mappings**                See Figure 4.8.1-12

The **DPR View** tab fields are organized into three regions: Data Processing Request Identification, PGE Information, and Request Data and Status. The individual fields of the **DPR View** tab are described in Table 4.8.1-5.

**Table 4.8.1-5. DPR View Field Description (1 of 2)**

<b>Field Name</b>	<b>Data Type</b>	<b>Size</b> (# of characters)	<b>Entry</b>	<b>Description</b>
Data Processing Request Identification	--	--	--	Information used to identify the DPR and the originator
DPR Name	ASCII characters	<24	system generated	DPR name generated from the associated PGE
PR Name	ASCII characters	<27	system generated	a name for the associated PR
Origination Date	Date	8	system generated	date of PR entry
Originator	ASCII characters	<25	system generated	user ID of the user entering the PR.
PGE Information	--	--	--	Information describing the PGE
PGE ID	ASCII characters	<17	system generated	ID of the associated PGE
Data Start Time	date & time	17	system generated	Start date and time of the data to be processed by the job
Data Stop Time	date & time	17	system generated	Stop date and time of the data to be processed by the job
Request Data and Status	--	--	--	Information describing the running status of the job
Predicted Start Date	date	8	system generated	date on which the associated job is expected to be run, as predicted by the planning subsystem
Predicted Start Time	time	8	system generated	time at which the associated job is expected to be run, as predicted by the planning subsystem
Actual Start Date	date	8	system generated	date on which the associated job ran
Actual Start Time	time	8	system generated	time at which the associated job ran

**Table 4.8.1-5. DPR View Field Description (2 of 2)**

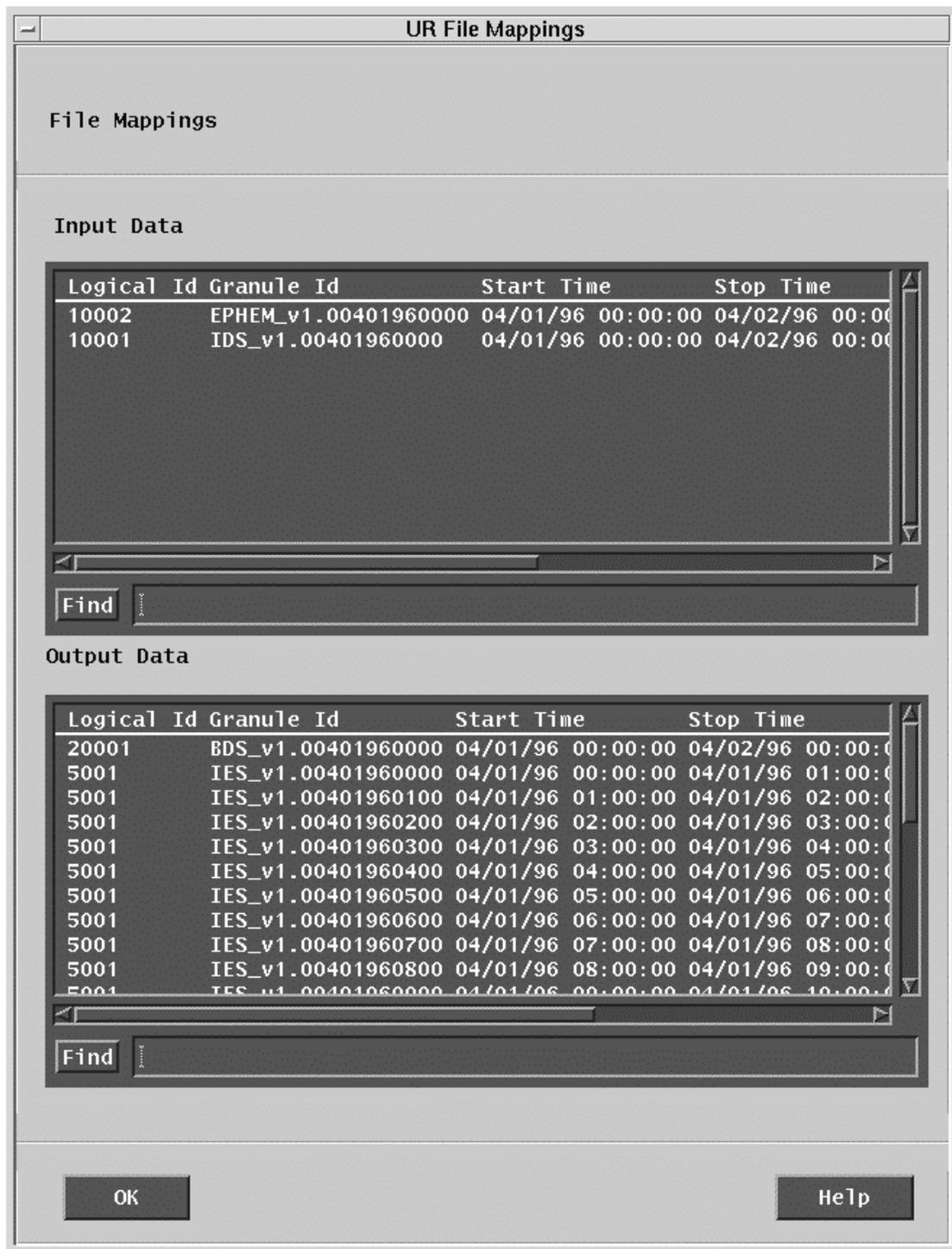
Field Name	Data Type	Size (# of characters)	Entry	Description
Priority	integer	3	system generated	priority of the job; 100≤; ≥1
Status	ASCII characters	<20	system generated	Status of the job

DPRs are generated automatically from PRs during the Planning process, using PGE information defined during SSI&T. The PGE information can be viewed but not edited from this screen. This is because the information is quite complex and its alteration can have considerable side effects on the PGE execution.

PGE parameters may be viewed for a particular DPR run. These parameters may be accessed by selecting the '**PGE Parameters...**' button on the DPR View. This screen is similar to Figure 4.8.1-6 shown earlier.

The input and output files for a particular DPR can be viewed by selecting the '**PGE File Mappings...**' button. The associated GUI is shown in Figure 4.8.1-12. The PGE File Mappings GUI displays one line of information for each file that may be used by or be produced by the PGE. A particular input or output file can be searched for by entering in a search string (including standard wildcard characters) in the field next to the '**Find**' button and then clicking on the button. The resulting file list will match the search string in any of the displayed fields. Information displayed includes:

- **Logical ID** - The ID or tag used within the PGE to access the file.
- **Granule ID** - The Universal Reference used to identify the file uniquely.
- **Start/Stop Time** - The start or stop date and time for the data contained in this file.



**Figure 4.8.1-12. File Mappings Pop-up**

This screen has two function buttons:

- **OK** Complete the action displayed (the selection)
- **Help** Display a Help pop-up with information about the function of this window.

**Table 4.8.1-6. File Mappings Field Description**

Field Name	Data Type	Size (# of characters)	Entry	Description
Logical ID	Integer	<8	system generated	The SDP Toolkit logical identifier used to reference the data type
Granule ID	ASCII characters	<20	system generated	Identity of the data type.
Start Time	Time	17	system generated	start time of instrument data
Stop Time	Time	17	system generated	end date of instrument data

### 4.8.1.3 Required Operating Environment

These GUIs may be hosted on the Planning Server and Queuing Server or Planning Workstation.

For information on the operating environment, tunable parameters and environment variables of Production Strategies User Interface refer to the 920-TDx-013 “Custom Code Configuration Parameters” documentation series. The “x” refers to the installed location, e.g. 920-TDG-013 is for GSFC DAAC.

The following table identifies the supporting products this tool depends upon in order to function properly.

**Table 4.8.1-7. Support products for Production Request Editor**

Product
Sun Solaris 2.5
MOTIF 1.2.3
PDPS Database

#### 4.8.1.3.1 Interfaces and Data Types

The Planning Subsystem has no interfaces external to ECS. It interfaces with the Data Processing Subsystem through the Planning and Data Processing System (PDPS) database to exchange planning information. The PDPS database is populated with information from the SSI&T components after the integration of a new or updated PGE. An element of the Planning system which does not require an operator interface, the Subscription Manager, also interfaces with the ECS Science Data Server Subsystem.

The Planning Subsystem is primarily intended for use by the operations staff of the EOSDIS DAACs. However, the capability has been requested and made available for science personnel from the SCFs to enter Production Requests into the Planning subsystem using the same interface as is described above. This is to be done with the consent of the DAAC operations managers and via the X-11 interface with procedures and equipment provided to ensure a secure interface for these updates.

#### **4.8.1.4 Databases**

The Planning Subsystem includes the PDPS database which contains information needed to plan the processing at a DAAC. It is also used for resource planning, containing information on the configured resources and their allocation. Finally, the database is used by the Data Processing Subsystem, the other major element of the PDPS. The following subsections provide a summary description of the PDPS database tables, and tools used with the database.

The SSI&T capability, which is a design component within the Data Processing Subsystem, includes capabilities to support the integration and test of the science software, PGEs, within the production processing environment. As a part of this activity, the SSI&T GUI, described in Section 4.5.1 of this document, provide for the entry into the databases used by SSI&T of PGE-related information needed to plan for and run science software. At the conclusion of the SSI&T process, this database information is transferred to the operational databases from the databases established for SSI&T.

The Production Request Editor allows changes to scheduling information for PRs and DPRs. The Report Generator provides reports covering all the pertinent information in the PDPS database. The complete database schema is listed in 311-CD-106-005, *Planning and Data Processing Subsystem Database Design and Schema Specifications*.

#### **4.8.1.5 Special Constraints**

There are no special constraints that are associated with the Production Request Editor.

#### **4.8.1.6 Outputs**

Outputs of the Production Request Editor are provided in one of three ways:

1. Production Request Editor GUI responses as described above, including the File Mapping GUI.
2. Updates to the PDPS database (described in Section 4.8.1.3).

#### **4.8.1.7 Event and Error Messages**

The Production Planning GUIs provide informational messages or warnings for minor errors which the operator can immediately correct directly via the operator interface. Significant production planning events or errors are logged to the ECS Planning Server ALOG file. The Error messages are listed in Appendix A.

#### **4.8.1.8 Reports**

None.

## 4.8.2 Production Planning Workbench

The second major element of production planning is the Production Planning Workbench (PWB). Via the GUI, the operator selects a Production Request (PR) to be included in the plan and then generates the DPR information needed to execute the PR. The planning tool provides a forecast of the start and completion times of the jobs based upon historical experience in running these PGEs. Using the planning tool, the operator can “activate” the plan, i.e., transfer the information included in the plan to the Data Processing subsystem and load it into AutoSys where production processing is managed.

**Table 4.8.2-1. Common ECS Operator Functions Performed with Production Planning Workbench**

Operating Function	GUI	Description	When and Why to Use
Create a Plan	Production Planning Workbench	The operator can select available PRs to be included in the plan	When a new or revised plan needs to be prepared
Plan Activation	Production Planning Workbench	The operator can activate a plan, which transfers the planned jobs into the Data Processing System	When a new plan is prepared and accepted
Save Candidate	PWB	Create What-if scenarios	When plans are in the process of being created

### 4.8.2.1 Quick Start Using Production Planning Workbench

#### 4.8.2.1.1 Invoking Production Planning Workbench From the Command Line Interface

To execute Production Planning Workbench from the command line prompt use:

```
EcPIAllStart <mode> <Application ID>
```

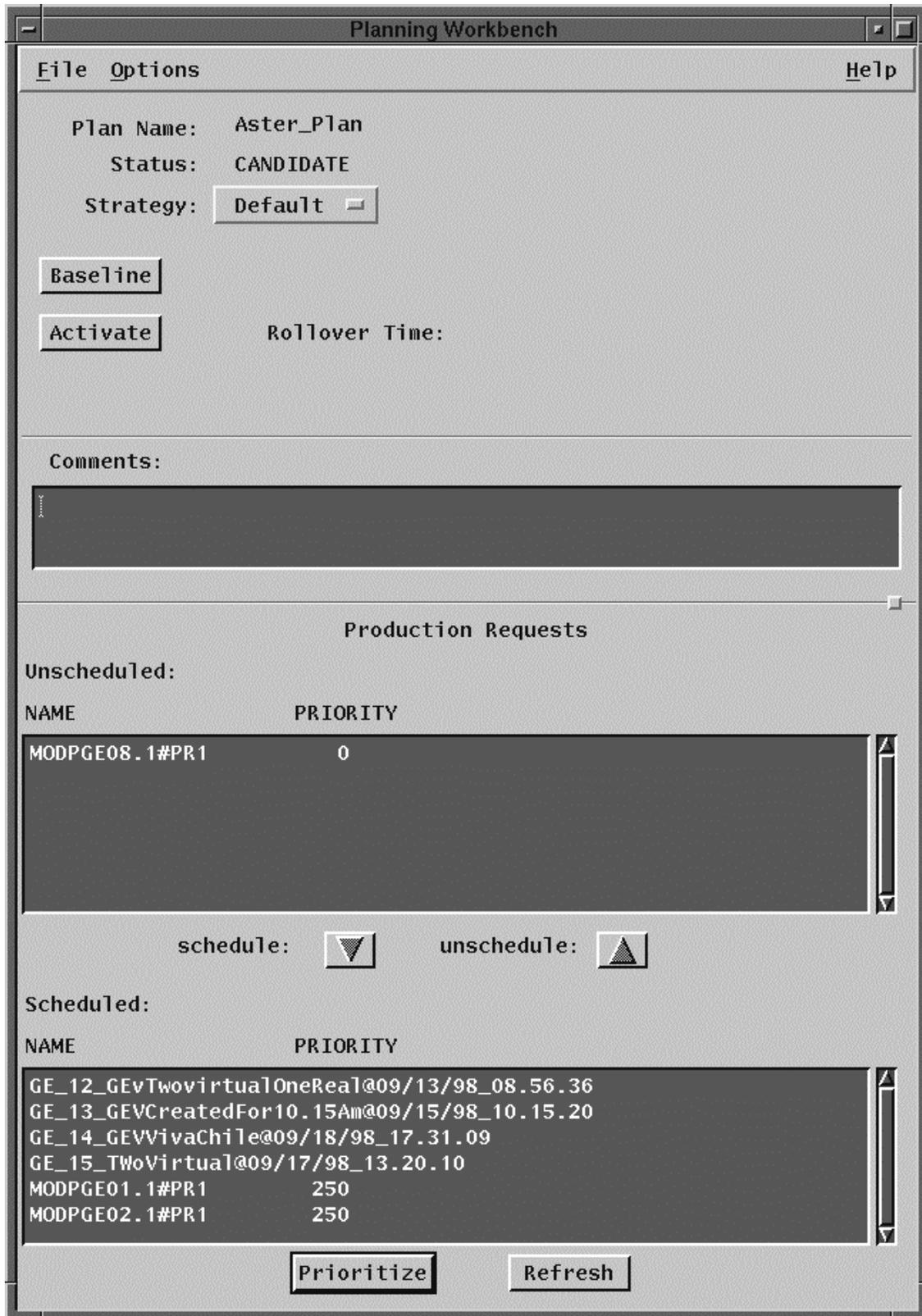
<mode> is the ECS mode the program is to run under.

<Application ID> is an integer from 1 to 5 to uniquely identifying the execution.

### 4.8.2.2 Production Planning Workbench Main Screen

When the Production Planning Workbench is started, the GUI depicted in Figure 4.8.2-2 is displayed. The fields in this GUI are described by Table 4.8.2-1. The GUI is started using information from the currently activated plan. Other plans may be opened or new plans created and saved using the ‘New’, ‘Open’, ‘Save’, and ‘Save As’ options on the ‘File’ pull down of the menu bar, much like creating, opening, and saving a text document.

Comments to the plan may be made in the indicated region. Selected PRs can be moved from one list to the other using the arrow buttons. A PR is scheduled by selecting from the pool of available 'Unscheduled' PRs and, using the arrow buttons, the selected PRs are moved to the 'Scheduled' list. A note of clarification about Ground Events during scheduling: All Ground Events will be automatically scheduled with any plan. Hence the GUI Ground Events will always be put into the 'Scheduled' list. Whenever a plan is activated, the Ground Events will also be activated. (If there is an unscheduled Ground Event in the 'Unscheduled' list, this means that this Ground Event has lost allocations.) The new plan can then be saved with a new name through the 'Save As' option on the 'File' pull-down menu.



**Figure 4.8.2-2. Production Planning Workbench GUI**

## Production Planning Workbench Pulldown Menu Options:

### File

**New** clears all the fields, and creates a new plan. The new plan name can not be longer than 20 characters.

**Open** allows the user to select an existing Production Request for review or editing. This function uses the File Selection Pop-up (Figure 4.8.1-4) invoked by Save As

**Save** saves the current plan

**Save As** saves the displayed Production Request and gives it a new PR name. This function uses the File Selection Pop-up (Figure 4.8.1-4) invoked by **Open**.

**Delete** Allows user to delete a plan via a file selection pop-up. The active plan cannot be deleted but other candidate plans can be removed

**Exit** exits the application.

**Options** (no functionality has been associated with this menu, as yet).

The following push button is also available to the operator:

**Baseline** records the plan and the time of baselining. This baseline plan can be used as a point of comparison with which to compare future plans and results.

**Activate** activates a plan and the Data Processing Requests (DPRs) associated with the planned PRs are then transferred to the Data Processing subsystem and loaded into the AutoSys production queuing system. Once the necessary data dependencies are satisfied, the jobs are 'Released' to be run when processing resources are available. When the Activate button is pressed on the planning workbench, the current active plan get "replanned over" by the selected plan. PRs that are in the "old" active plan that are not selected in the "new".

**Schedule** schedule the selected PRs in the Unscheduled List.

**Unschedule** un-schedule the selected PRs in the Schedule List.

**Prioritize** not yet available.

**Refresh** not yet available.

Also a pull – down list is available:

**Strategy:** selects different strategies for scheduling, which determine the priorities assigned to the individual PRs in a plan. □

For all of these actions, the operator will be prompted for confirmation before proceeding.

**Table 4.8.2-2. Production Planning Workbench Field Description**

Field Name	Data Type	Size	Entry	Description
Plan Name	ASCII characters	<20	system generated	Name assigned to the plan; assigned initially when the 'New' plan is saved
Status	ASCII characters	<20	system generated	Status of the displayed plan: 'Active', 'Candidate'
Rollover Time	ASCII characters	19	system generated	The time at which the currently selected plan was activated.
Comment	ASCII characters	<256	user input, optional	User comments
Production Requests: Unscheduled	ASCII characters	<256	system generated	List of available PRs which are currently not scheduled
Production Requests: Scheduled	ASCII characters	<256	user input	List of available PRs which are currently scheduled Planner selects these from 'Unscheduled' list and moves them to/ from 'Scheduled' with arrow buttons

#### 4.8.2.2.1 Planning Master Timeline GUI

A graphic, timeline-oriented depiction of the plan, as shown in Figure 4.8.2-3, can then be displayed. When this object is selected, the Planning Master Timeline GUI is displayed. This display is similar to the resource planning timeline display discussed in Section 4.7 of this document.

The Planning Master Timeline GUI represents a set of computers, arranged along the left side of the GUI, and some period of time as indicated across the top edge of the GUI. The execution of Data Processing Requests (DPR)s on a computer over a period of time is represented by several DPR bars across the GUI for that computer. A bar represents a time period during which a PGE (as described by a DPR) is running. Each bar has the name of the PGE. Scroll bars allow scrolling up and down through the full list of computers and left and right in time. A select list of time span viewing options (e.g., 24-hours, 48-hours) at the lower left of the screen is available for selecting the time span of interest. If one exits from the Planning Master Timeline GUI, the GUI can be restarted as explained in section 4.8.2.1.1.

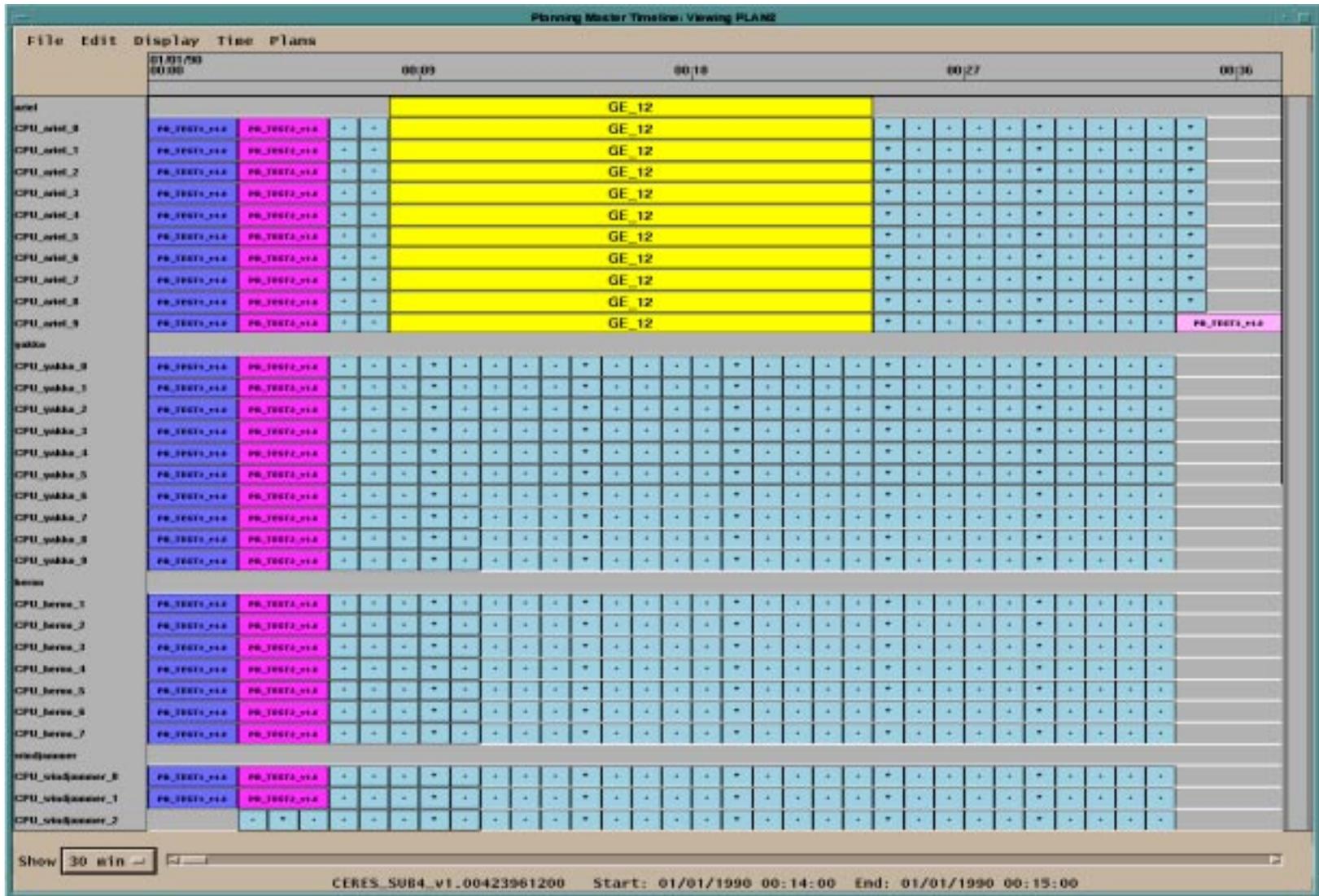


Figure 4.8.2-3. Planning Master Timeline GUI

The Planning Master Timeline Pulldown Menu Options are:

**File**

- **Open Plan:** Opens a previously created plan through a file selection pop-up. It loads it in the main region of the timeline and adds it to the plans menu buttons.
- **Load Configuration:** loads a configuration for the timeline containing a list of resources and color options. It does this through a file selection.
- **Save Configuration:** saves a configuration file.
- **Exit:** quits application.

**Edit** - Is not available in Release 4

**Display** - To select resources and attributes of the display: e.g. colors.

**Time** - To select Start and Stop times of the plan windows.

**Plans** - To elect plans to include

### 4.8.2.3 Required Operating Environment

These GUIs may be hosted on the Planning Server and Queuing Server, Planning Workstation.

For information on the operating environment, tunable parameters and environment variables of Production Strategies User Interface refer to the 920-TDx-013 “Custom Code Configuration Parameters” documentation series. The “x” refers to the installed location, e.g. 920-TDG-013 is for GSFC DAAC.

The following table identifies the supporting products this tool depends upon in order to function properly.

**Table 4.8.2-3. Support Products for Production Planning Workbench**

Product
Sun Solaris 2.5.5
MOTIF 1.2.3
PDPS Database

#### 4.8.2.3.1 Interfaces and Data Types

The Production Planning Workbench has no interfaces external to ECS. It interfaces with the Data Processing Subsystem through the Planning and Data Processing System (PDPS) database to exchange planning information. The PDPS database is populated with information from the SSI&T components after the integration of a new or updated PGE. An element of the Planning system which does not require an operator interface, the Subscription Manager, also interfaces with the ECS Science Data Server Subsystem.

#### 4.8.2.4 Databases

The Production Planning Workbench uses the PDPS database which contains information needed to plan the processing at a DAAC. It is also used for resource planning, containing information on the configured resources and their allocation. Finally, the database is used by the Data Processing

Subsystem, the other major element of the PDPS. The following subsections provide a summary description of the PDPS database table, and tools used with the database.

The SSI&T capability, which is a design component within the Data Processing Subsystem, includes capabilities to support the integration and test of the science software, PGEs, within the production processing environment. As a part of this activity, the SSI&T GUIs, described in Section 4.5 of this document, provide for the entry into the databases used by SSI&T of PGE-related information needed to plan for and run science software. At the conclusion of the SSI&T process, this database information is transferred to the operational databases from the databases established for SSI&T.

The complete database schema is listed in 311-CD-106-005, *Planning and Data Processing Subsystem Database Design and Schema Specifications*.

#### **4.8.2.5 Special Constraints**

There are no special constraints that are associated with the production planning tools.

#### **4.8.2.6 Outputs**

Outputs of the Production Planning Workbench are provided in one of three ways:

Production Planning Workbench GUI responses as described above, including the Production Plan Timeline display, Figure 4.8.2-3.

Updates to the PDPS database (see Section 4.8.2.4).

#### **4.8.2.7 Event and Error Messages**

The Production Planning Workbench provides informational messages or warnings for minor errors which the operator can immediately correct directly on the operator interface. Significant production planning events or errors are logged to the ECS Production Server ALOG file. Both event and error messages are listed in Appendix A.

#### **4.8.2.8 Reports**

Report generation capability is not available in Release 4.

### 4.8.3 Production Strategies User Interface

The Production Strategies User Interface is used to tailor the priority of production requests (PRs). The priority of production requests impacts the development of processing plans. Production Strategy is a method of developing a composite priority from several factors for a production request. These factors may be assigned different proportions of the final priority. The factors themselves are composed of attributes which may be given separate priorities. The factor attributes are then averaged to produce the priority of the factors.

The Production Strategies User Interface provides an option to display the default values for the factors and components.

**Table 4.8.3-1. Common ECS Operator Functions Performed with Production Planning GUIs**

<b>Operating Function</b>	<b>GUI</b>	<b>Description</b>	<b>When and Why to Use</b>
Manage Production Strategies	Production Strategies User Interface	The operator can view, create, modify, or delete Production Strategies.	When the priority of a PR needs to change to adjust processing scheduling.

#### 4.8.3.1 Quick Start Using Production Strategies User Interface

##### 4.8.3.1.1 Invoking Production Strategies User Interface From the Command Line Interface

To execute Production Strategies User Interface from the command line prompt use:

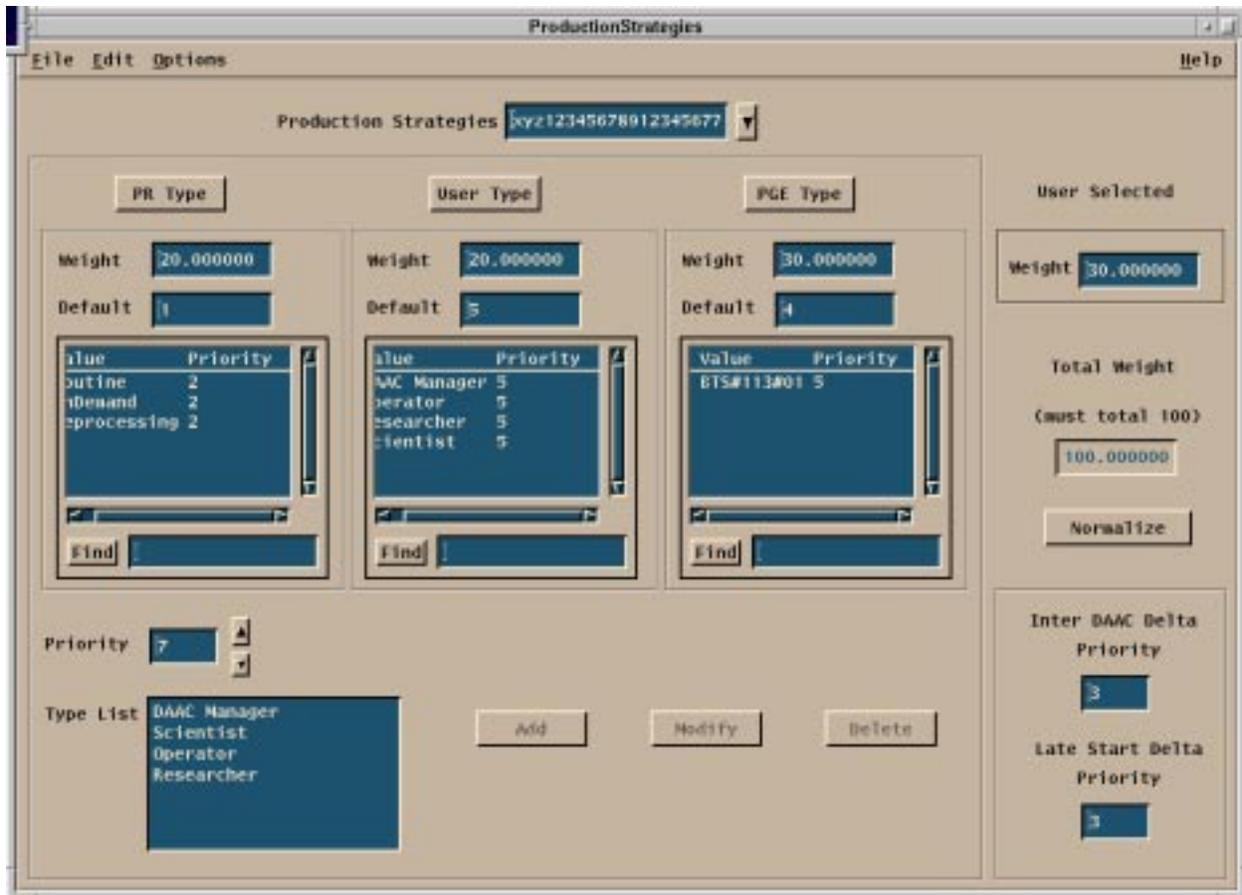
**EcPIProdStratStart** <mode>

<mode> is the ECS Mode for the execution.

Refer to the 920-TDx-013 “Custom Code Configuration Parameters” documentation series, for a listing of EcPIProdStratStart

#### 4.8.3.2 Production Strategies User Interface Main Screen

The Production Strategies main screen is presented in Figure 4.8.3-1.



**Figure 4.8.3-1. Production Strategies Main Screen**

The menu bar for the Production Strategies User Interface GUI contains pulldown menus providing the following capabilities.

**File Pulldown:**

**Open** displays the Open Production Strategies pop-up window shown in Figure 4.8.3-2 with the production strategies currently in the PDPS database.

**New** clears all the display areas on the screen for input.

**Save** saves the displayed values to the database for the production strategy displayed.

**Save As** saves the displayed production strategy to the database as a different strategy.

**Exit** to exit the application.

**Edit Pulldown:**

**Delete** - To delete a production strategy.

**Options** Pulldown:

**ActiveStrategy** - Displays the Active Production Strategy screen shown in Figure 4.8.3-3).

Other options available on the Production Strategies screen:

**Pr Type** selects the PR Type panel as active.

**User Type** selects the User Type panel as active.

**PGE Type** selects the PGE Type panel as active.

**Normalize** adjusts the weighting values to total 100.

**Add** the Type List/Priority pairs displayed on the screen to the selected type.

**Modify** the Type List/Priority pairs displayed on the screen in the selected type.

**Delete** the Type List/Priority pairs displayed on the screen from the selected type.

The parameters associated with the Production Strategies User Interface are used as attributes and weights to generate the priorities for use by the overall Production Plan. All the parameters for the Production Strategies User Interface tools are accessible through the operator GUIs. These parameters are listed in Table 4.8.3-2. The parameters correspond to the sub-schema elements in the PDPS database referenced in Section 4.8.3.4 below.

The Production Strategies creates a two-level scheme for prioritizing the Production Plans. One level divides the plan into components: PR Type, User Type, PGE Type, and the User - Operator. Each of these components (except User - Operator) is further broken down into elements related to the Type. In the picture of the screen these elements may be observed in the list boxes under the type labels. Each of the elements may be assigned a priority.

The element priority assignment is initiated by selecting one of the type buttons. A type button brings one of the type frames into focus and displays the type elements in the Type List in the lower left corner of the screen. Element priorities are assigned or changed by selecting an element in the Type List, choosing a priority in the scroll box above the Type List, and clicking the appropriate button for Add, Modify, or Delete. The result will appear in the type frame list box with the value (element) and priority displayed. The Production Strategies GUI will re-compute the overall type priority based on the current element priorities of that type.

The second level of the priority scheme involves giving “weight” to the types. This “weight” is similar in concept to percentage. Note: the sum of the four “weight” values must equal 100. Each of the types may be given a weight. Additionally the “User - Operator” entering the strategy may contribute a separate weight. As the values are entered, the program will total the weights and display an error dialog if the total is over 100.00. The program will not allow the entry of a weight that causes the total to exceed 100.00. If the total is less than 100.00 the user/operator may use the “Normalize” button to scale the weight values to base 100.00.

**Table 4.8.3-2. Production Strategies Field Descriptions (1 of 2)**

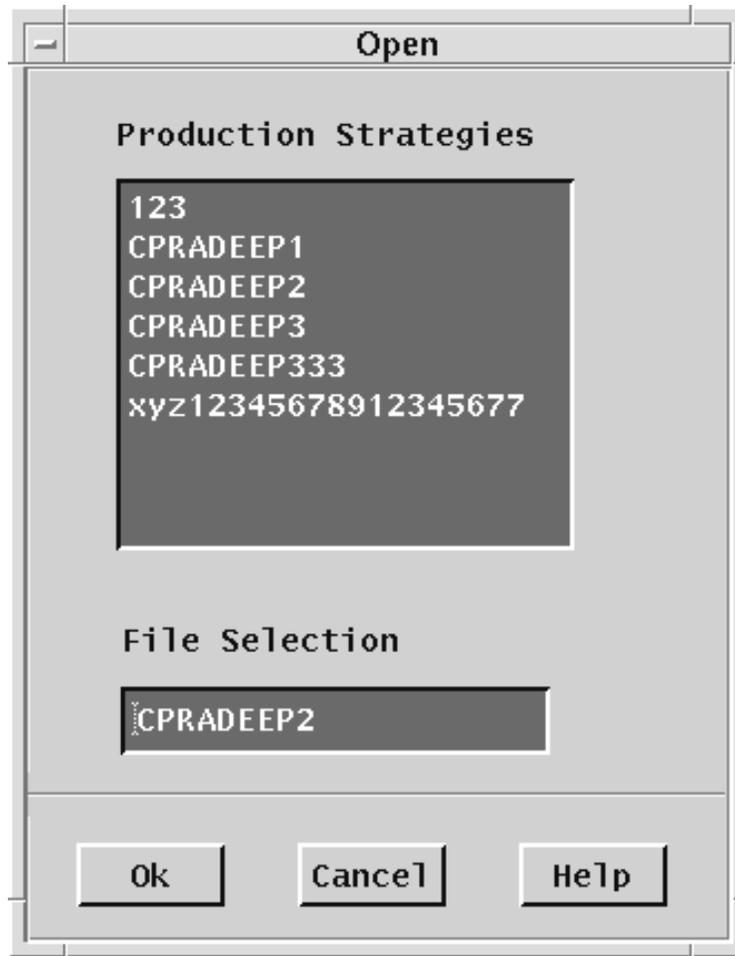
Field Name on screen	Data Type	Size (# of characters)	Entry	Description
Production Strategies	ASCII text--	20	Default = Default	Production Strategy Id
PR Type	--	--	--	Strategy component name (Production Request)
Weight	Floating Pt number	<100.	Default = 20.00000	Weight for this component in final priority computation
Default	Integer	<10	Default = 1	Priority for component.
Routine	Integer	<10	Default = 2	(Sub) priority for Routine Requests
OnDemand	Integer	<10	Default = 2	(Sub) priority for On-Demand Requests
Reprocessing	Integer	<10	Default = 2	(Sub) priority for Reprocessing Requests
User Type	--	--	--	Strategy component name (User Type – all users)
Weight	Floating Pt number	<100.	Default = 20.00000	Weight for this component in final priority computation
Default	Integer	<10	Default = 5	Priority for component.
DAAC Manager	Integer	<10	Default = 5	(Sub) priority for DAAC Manager Users
Operator	Integer	<10	Default = 5	(Sub) priority for Operator Users
Researcher	Integer	<10	Default = 5	(Sub) priority for Researcher Users
Scientist	Integer	<10	Default = 5	(Sub) priority for Scientist Users
PGE Type	--	--	--	Strategy component name (Production Generation Executive)
Weight	Floating Pt number	<100.	Default = 30.00000	Weight for this component in final priority computation
Default	Integer	<10	Default = 4	Priority for component.
BTS#113#01	Integer	<10	Default =5	(Sub) priority for PGE BTS#113#01
User Selected	--	--	--	Strategy component name (User that made the PR)
Weight	Floating Pt number	<100.	Default = 30.00000	Weight for this component in final priority computation – the priority is part of the PR.
Total Weight	Floating Pt number	< 100.	No Default	This field will be zero unless the user enters a weight in one of the 4 weight fields: PR Type Weight, User Type Weight, PGE Type Weight, or User Selected Weight. If that value than becomes > 100.0, hit the “Normalize” button to normalize.
Priority	Integer	< 10	Default = 1	Raise or lower this value by clicking on either the up or the down arrow beside that window.

**Table 4.8.3-2. Production Strategies Field Descriptions (2 of 2)**

<b>Field Name on screen</b>	<b>Data Type</b>	<b>Size (# of characters)</b>	<b>Entry</b>	<b>Description</b>
Type List	ASCII text	20	Default = blank	For an active type (ex., click on the PR Type button), the various valid types appear in this window. Inactive type and their priorities can be added using the "Add" button. Existing active types can be modified using the "Modify" button.
Inter DAAC Delta Priority	Integer	<100	Default = 3	Priority for component.
Late Start Delta Priority	Integer	<100	Default = 3	Priority for component.

**4.8.3.2.1 Open Production Strategy Pop-up**

The Open Production Strategies GUI displays Production Strategies stored in the database. This pop-up is used to select the Production Strategy for display on the Production Strategies Main Screen.

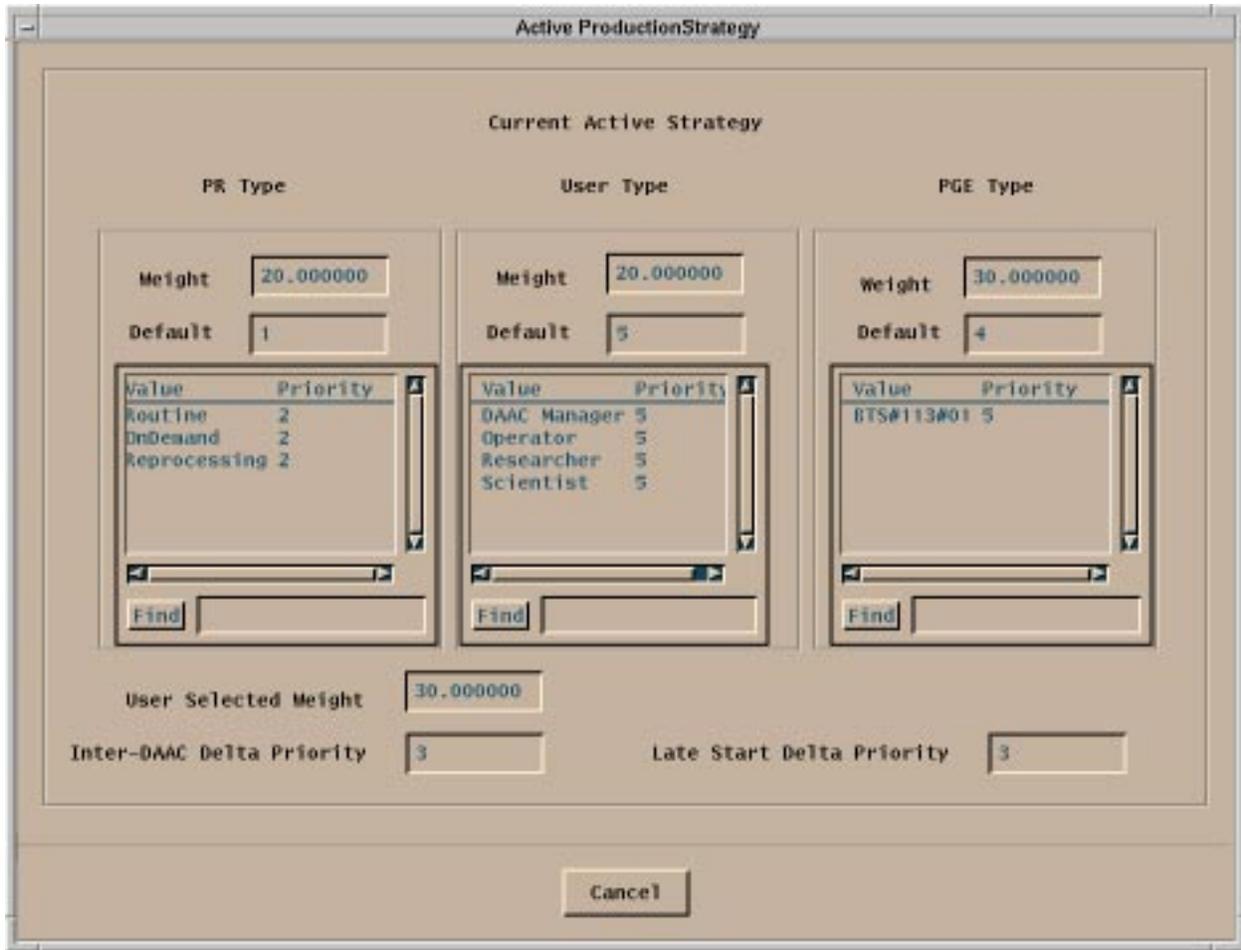


**Figure 4.8.3-2. Open Production Strategies Pop-up**

The production strategies available in the PDPS database are displayed in the Production Strategies window. Selecting one of the displayed strategies will cause the selected strategy to be displayed in the File Selection window. The Open action is completed by clicking the “OK” button to accept the selection or the “Cancel” button to reject it.

#### **4.8.3.2.2 Active Production Strategy GUI**

The Active Production Strategy GUI displays the default values from the PDPS database.



**Figure 4.8.3-3. Active Production Strategy Screen**

The fields displayed on the Active Production Strategy GUI are the same as those on the Production Strategies User Interface, Table 4.8.3-2.

### 4.8.3.3 Required Operating Environment

These GUIs may be hosted on the Planning Server and Queuing Server, Planning Workstation.

For information on the operating environment, tunable parameters and environment variables of Production Strategies User Interface, refer to the 920-TDx-013 “Custom Code Configuration Parameters” documentation series. The “x” refers to the installed location, e.g. 920-TDG-013 is for GSFC DAAC.

The following table identifies the supporting products this tool depends upon in order to function properly.

**Table 4.8.3-3. Support products for Production Strategies User Interface**

Product
Sun Solaris 2.5
MOTIF 1.2.3
PDPS Database

#### **4.8.3.3.1 Interfaces and Data Types**

The Planning Subsystem has no interfaces external to ECS. It interfaces with the Data Processing Subsystem through the Planning and Data Processing System (PDPS) database to exchange planning information. The PDPS database is populated with information via the SSI&T components after the integration of a new or updated PGE. An element of the Planning system which does not require an operator interface, the Subscription Manager interfaces with the ECS Science Data Server Subsystem.

The Planning Subsystem is primarily intended for use by the operations staff of the EOSDIS DAACs. However, the SCFs have the capability to enter Production Requests into the Planning subsystem using the same interface as is described above.

#### **4.8.3.4 Databases**

The Planning Subsystem includes the PDPS database which contains information needed to plan the processing at a DAAC. It is also used for resource planning, as it contains information on the configured resources and their allocation. The database is also used by the Data Processing Subsystem, the other major element of the PDPS. The following subsections provide a summary description of the PDPS database table, and tools used with the database.

The SSI&T capability, which is a design component within the Data Processing Subsystem, includes capabilities to support the integration and test of the science software (PGEs) within the production processing environment. As a part of this activity, the SSI&T GUIs, described in Section 4.5 of this document, provide for the entry into the databases used by SSI&T of PGE-related information needed to plan for and run science software. At the conclusion of the SSI&T process, this database information is transferred to the operational databases from the databases established for SSI&T.

The complete database schema is listed in 311-CD-106-005, *Planning and Data Processing Subsystem Database Design and Database Schema Specifications for the ECS Project*.

#### **4.8.3.5 Special Constraints**

There are no special constraints that are associated with the Production Strategies User Interface tools.

#### **4.8.3.6 Outputs**

Outputs of the Production Strategies User Interface are provided in the following ways:

1. Production Strategies User Interface responses as described above.
2. Updates to the PDPS database (described in Section 4.8.3.3).

#### **4.8.3.7 Event and Error Messages**

The Production Strategies User Interface tool provides informational messages or warnings for minor errors. Significant events or errors are logged to the ECS Production Strategies Server ALOG file. The Error messages are listed in Appendix A.

#### **4.8.3.8 Reports**

The Production Strategies User Interface does not produce any reports.

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## **4.9 Production Processing**

This section describes the Production Processing tools used by DAAC operators:

1. AutoSys/AutoXpert
2. QA Monitoring Tool

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### 4.9.1 AutoSys/AutoXpert

This section describes how AutoSys and AutoXpert are used by DAAC Operations for Production Processing.

AutoSys is a job scheduling and management COTS product that provides mainframe batch scheduling functionality in a distributed UNIX environment. AutoSys has three primary components: AutoSys database, Event Processor, and Remote Agent. The AutoSys database is the repository for all system events, and for all job, monitor, and report definitions. The Event Processor is AutoSys' scheduling engine. It continuously queries the AutoSys database for events to be processed and performs necessary job, resource, and fault management actions. The Remote Agent is a transient process that is initiated by the Event Processor to run a program on the client machine. It sends messages directly to the Data Server to indicate changes in states for the job (e.g., STARTING, SUCCESS, FAILURE).

AutoSys is embedded in the ECS PDPS software specifically to manage the execution of jobs on science processing computers. Jobs that are necessary for the execution of DPRs are created and organized into "job boxes" using a custom API named "Job Management" in the ECS PDPS software.

Operator interaction is limited to "force starting" failed jobs from the Ops Console or from the JobScape GUI and monitoring the progress of jobs from JobScape. Entire job boxes should be canceled using the Planning Subsystem's Production Request Editor. Jobs should not be deleted using the AutoSys Job Definition GUI. This does not communicate with the PDPS database.

For uninterrupted processing, AutoSys supports automatic fault tolerance management via the High Availability option. In this configuration, multiple Event Servers (Primary and Secondary) and Event Processors (Primary and Shadow) can be setup for complete redundancy in case of anomalous situations such as hardware, software, or network problems.

AutoXpert, a companion tool for AutoSys, is an advanced graphical facility for monitoring jobs in AutoSys. Its components are HostScape, JobScape, and TimeScape. HostScape provides a view of the resources, showing active states of machines, Event Server(s), Event Processors(s), and jobs. JobScape presents a PERT-like view of job processing from a logical point of view. TimeScape presents a Gantt-like view of job processing from a temporal point of view. All three GUIs provide user configurable color codes via the X resources file for correlating unique colors to job and resource states.

AutoSys and AutoXpert are used to perform the operating functions listed in Table 4.9.1-1.

**Table 4.9.1-1. ECS Operator Functions Performed with AutoSys/AutoXpert (1 of 3)**

<b>Operating Function</b>	<b>Command/Script or GUI</b>	<b>Description</b>	<b>When and Why to Use</b>
Start the Event Processor(s)	eventor	Starts the Event Processor (and optionally, the Shadow Event Processor).	To start the Event Processor(s). Normally, this would be done when the system is booted*
Startup GUI Console Panel	/usr/ecs/<mode>/CUSTOM/bin/DPS/EcDpPrStartAutosys <AutoSys Instance Id>	Launches AutoSys GUI Control Panel.	To launch Ops Console, HostScape, JobScape, and TimeScape GUIs.
Access database	xql	Invokes direct Sybase database access utility to issue SQL commands.*	Used for troubleshooting purposes.*
Check overall system	chk_auto_up	Check the overall health of the system including the environment, configuration files, Event Server(s), and Event Processor(s).	To determine the overall health of the system for troubleshooting purposes.
Control job execution	JobScape	The GUI provides a display of job's progress.	To monitor jobs.
Determine active and completed jobs	Ops Console	View the list of successfully-completed jobs by selecting the <b>Jobs Completed</b> button.	To view the successfully completed jobs which have been removed from AutoSys.
Generate report	autorep	Generates detailed or summary format report of jobs	To report on the history of job processing.
Manage product license keys	gatekeeper	Manages product license keys.	To manage product license keys.*
Manage security	autosecure	Maintain Edit and Exec Superusers (Edit Superuser can edit any job definition, and Exec Superuser can execute any job and stop the Event Processor(s)).	To manage system security.*
Monitor and manage alarms	Alarm button from Ops Console, HostScape, JobScape, and TimeScape GUIs	View alarms, acknowledge them, and change the status.	To monitor and manage alarms.

**Table 4.9.1-1. ECS Operator Functions Performed with AutoSys/AutoXpert (2 of 3)**

<b>Operating Function</b>	<b>Command/Script or GUI</b>	<b>Description</b>	<b>When and Why to Use</b>
Monitor and manage jobs	Ops Console button from GUI Control Panel	Compact "Control Center" for monitoring jobs and sending events to jobs: (Kill Job, Force Start Job, On Hold, Off Hold). Can also Launch Alarm Manager and view reports on all events sent to a job.	To monitor and manage jobs. See Controlling Job Execution in this section.
Monitor job history	TimeScape button from GUI Control Panel	To see an overall view of processing for jobs running in AutoSys. However, jobs that have finished successfully will have been removed, and jobs not ready to run will be waiting outside of AutoSys. See: Determine active and completed jobs.	To monitor current jobs running.
Monitor jobs by Job Box	JobScape button from GUI Control Panel	Viewing the progress of jobs in the job box. An Event GUI can be brought up by selecting a job and clicking the right mouse button.	To monitor status of a job.
Monitor resources	HostScape button from GUI Control Panel	Monitor machines, Event Server(s), Event Processor(s), and jobs.	To monitor resources and jobs. This GUI can also be used to check resource utilization to see if the processing load is being balanced across machines.
Perform synchronization between database and active/inactive jobs	chase	Verifies what AutoSys thinks is running, is actually running.	This command is run as part of the Event Processor(s) startup, and should not have to be run manually.*
Print AutoSys configuration information	autoflags	Prints AutoSys configuration information such as version and release number, database used, operating system, hostname, and hostid.	To retrieve necessary information to be supplied to the vendor for product license key generation.*
Remove events	archive_events	Removes events and alarms or job_runs information from the database.	This command is run automatically during the daily DB Maintenance cycle.*

**Table 4.9.1-1. ECS Operator Functions Performed with AutoSys/AutoXpert (3 of 3)**

<b>Operating Function</b>	<b>Command/Script or GUI</b>	<b>Description</b>	<b>When and Why to Use</b>
Remove Remote Agent log files	clean_files	*Deletes old Remote Agent log files from client machines which have had jobs started on them.	This command is run automatically during the daily DB Maintenance cycle, and should not have to be run manually.*
Retrieve status of a job	autostatus	Retrieves the status of a job.	To monitor job status.*
Send event	sendevent from command line Send Event button from Ops Console	Sends an event to manage job execution, stop Event Processor(s), and cancel a scheduled event.	To stop the Event Processor(s), since everything else can be done from the GUIs.*
Verify machine	autoping	Verifies that both client and server machines are configured properly, and the client is functioning properly.	To verify a configured machine for troubleshooting purposes.
View job dependencies and conditions	job_depends	Generates a detailed report about the dependencies and conditions of a job.	To view job dependencies and conditions.*
View job queue	Ops Console - Jobs Waiting Button	Used to view jobs in CQ_RELEASED, CQ_HOLD and JIL_FAILUR (either the job is already in AutoSys, or AutoSys environment variables are invalid) states by selecting the <b>Jobs Waiting</b> button.	Verify that jobs have been queued or determine why a queued job was not released.
View successfully-completed jobs	Ops Console - Jobs Completed Button	Used to view jobs that have successfully completed and have been removed by Job Management from AutoSys.	Used to view list of jobs that have finished but are not in AutoSys.
View processing log files	autolog	Viewing the Event Processor log file is an alternative to monitoring all jobs and events using the GUIs.	To monitor jobs, events, and alarms for troubleshooting purposes.*
<b>* Not generally used in normal operations</b>			

#### 4.9.1.1 Quick Start Using Autosys/AutoXpert

The documentation of AutoSys used as a basis and referenced in this section is for version 3.3.7, contained in ECS Release 4.

The documentation of AutoXpert used as a basis and referenced in this section is for version 3.4, contained in ECS Release 4. The AutoXpert documentation may be found at the Internet URL: <http://support.platinum.com/tech/docs.html>.

#### 4.9.1.1.1 Invoking AutoSys/AutoXpert From the Command Line Interface

To invoke AutoSys/AutoXpert, type from the command line prompt:

```
EcDpPrAutosysStart <mode> <AutoSys Instance Id>
```

where:

<mode> is the ECS mode which this AutoSys instance is associated with and

<AutoSys Instance Id> is the instance name of this AutoSys

This script sets the appropriate AutoSys environment variables and issues the **autosvc** command to start the GUI Control Panel.

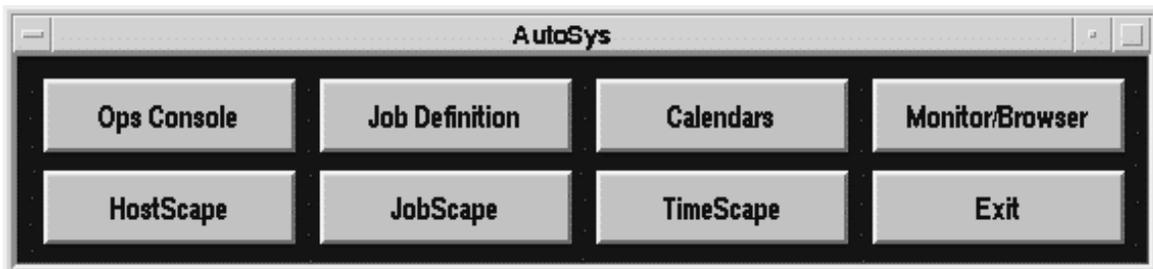
Refer to the 920-TDx-013 “Custom Code Configuration Parameters” documentation series , for a listing of the EcDpPrAutosysStart script.

AutoSys provides various scripts and executables for defining objects, checking system status, accessing the database, monitoring and reporting job status, defining custom calendars, recording sounds, generating license keys, and controlling system security (see *AutoSys User Manual*, Chapter 11 “Using AutoSys Commands”).

AutoXpert can not be invoked by a command line interface. Its functions are invoked by buttons on the AutoSys Main Screen.

#### 4.9.1.2 AutoSys Main Screen

The AutoSys GUI Control Panel provides buttons for launching (bringing up) Ops Console, Job Definition, Calendars (not used), Monitor/Browser (not used), HostScape, JobScape, and TimeScape GUIs. Figure 4.9.1-1 provides a snapshot of the Control Panel GUI.



**Figure 4.9.1-1. AutoSys GUI Control Panel**

For more information about the AutoSys GUI Control Panel please see the *AutoSys Users Manual*, Chapter 5 Defining AutoSys Jobs using the GUI.

#### 4.9.1.2.1 AutoSys Ops Console

The AutoSys Ops Console GUI provides an interface to monitor jobs and alarms in real-time. The GUI provides a Job Selection Dialog for filtering jobs based on various parameters such as type, name, state, and machine. Detailed information about the selected job including starting conditions, dependent jobs, and reports can be viewed. In addition, there are buttons for launching Alarm Manager, Job Definition, and Send Event GUIs.

For more information about the AutoSys Ops Console please see the *AutoSys Users Manual*, Chapter 9 The Operator Console.

##### 4.9.1.2.1.1 ECS-Added Functions to the AutoSys Ops Console

ECS has added the following three buttons to the AutoSys Ops Console:

- Jobs Completed
- Jobs Waiting
- Job Management Client Tool

#### Jobs Completed Display

When this button is selected a display similar to the following appears on the screen:

```
#####  
##### JOBS COMPLETED #####  
#####
```

DPR ID	COMPLETION STATE	PRIORITY
MODPGE01#s02280100DEV04	SUCCESS	250
MODPGE02#s28010500DEV04	SUCCESS	250
MODPGE02#s28011000DEV04	SUCCESS	250
MODPGE02#s28011500DEV04	SUCCESS	250
MODPGE02#s28012000DEV04	SUCCESS	250

These jobs have finished successfully and have been removed from AutoSys so that the database is optimally maintained to increase job throughput. Note that only jobs that have successfully completed are automatically removed from AutoSys under program control. The number of jobs that can exist in AutoSys is controlled by the DPS Job Management configuration parameter,

DpPrAutoSysMaxJobs. The oldest successfully-completed jobs are removed once this limit has been reached.

### **Jobs Waiting Display**

Select this button to display a list of jobs that have been scheduled, but which are waiting for data. When all of the data is available for a job, jobs will be released from this holding queue into AutoSys where they will immediately start to execute.

### **Job Management Client Tool**

The Job Management Client Program can be used to manually override the normal PDPS operations of creating jobs from information in the PDPS database and removing them after they have been successfully completed. *Except for creating and deleting ground event jobs (which must be invoked via this tool), this capability is almost always used only during system testing. You would only need to use this tool if a problem was identified and you were waiting for it to be resolved through normal channels.* You must first select a job box (not a job contained within a job box) to identify a DPR to work with. The following menu is displayed after selecting the **JM Client** button from the AutoSys Ops Console:

```
*** Current DPRId:MODPGE08#s28015500DEV04 Current Mode:DEV04 ***
```

- 0) Exit
- 1) Create DPR Job
- 2) Release DPR Job
- 3) Cancel DPR Job
- 4) Change DPR Id
- 5) View Job Management DPR Queue
- 6) Create Ground Event Job
- 7) Cancel Ground Event Job

enter an option:

Once into the program, you can change DPR IDs by selecting option 4). This DPR ID stays in effect until another DPR ID is entered. Options 1) and 2), taken together, create and put a job into AutoSys, or on the queue, if AutoSys is full (the job will be in a CQ\_RELEASE state). Option 3 can be used to cleanly (as opposed to manually deleting the job from AutoSys) remove a job from AutoSys.

#### **4.9.1.2.2 AutoSys Job Definition**

The AutoSys Job Definition GUI provides an interface to add new jobs, delete existing jobs, and modify attributes for existing jobs. Both Date/Time Options and Adv Features Dialogs can be used to set/modify all job attributes.

For more information about the AutoSys Job Definition please see the *AutoSys Users Manual*, Chapter 5 Defining AutoSys Jobs using the GUI.

*Note: This capability must never be used without first checking with someone who knows something about the system internals. The ECS Job Management software handles the creating, running and removing of successfully-completed jobs. Manually performing these functions bypasses Job Management housekeeping and may cause the processing system to get out of sync, possibly with severe consequences.*

#### **4.9.1.2.3 AutoSys Calendars**

Not used by ECS.

#### **4.9.1.2.4 AutoSys Monitor/Browser**

Not used by ECS.

#### **4.9.1.2.5 AutoSys Alarm Manager**

The AutoSys Alarm Manager GUI provides an interface to monitor and manage alarms. Alarms can be filtered based on type, state, and time; a response can be registered for an alarm; and the state of the alarm can be changed. The Alarm Manager is invoked by clicking on the “Alarm” buttons on either the JobScape or Operator’s Console GUIs.

For more information about the AutoSys Alarm Manager please see the *AutoSys Users Manual*, Chapter 9 The Operator Console.

#### **4.9.1.2.6 AutoXpert HostScape**

The AutoXpert HostScape GUI provides an interface to monitor the states of resources, Event Server(s), Event Processor(s), and jobs. This GUI also provides buttons for launching Alarm and Job Console GUIs. For more information about HostScape see *AutoSys/Xpert User Guide for UNIX* Version 3.4, Product Overview.

#### **4.9.1.2.7 AutoXpert JobScape**

The AutoXpert JobScape GUI provides an interface to monitor states of jobs. This GUI presents a Pert-like (network) view of job processing from a job dependency point of view. Alarm and Job Console GUIs can be launched from this GUI. For more information about JobScape see *AutoSys/Xpert User Guide for UNIX* Version 3.4, Product Overview.

#### **4.9.1.2.8 AutoXpert TimeScape**

The AutoXpert TimeScape GUI provides an interface to monitor states of jobs. This GUI presents a Gantt-like (chart) view of job processing from a time-related point of view. This GUI also provides buttons for launching Alarm and Job Console GUIs. For more information about TimeScape see *AutoSys/Xpert User Guide for UNIX* Version 3.4, Product Overview.

### 4.9.1.3 Required Operating Environment

For all COTS packages, appropriate information on operating environments, tunable parameters, environment variables, and a list of vendor documentation can be found in a CM controlled document for each product. To find the documentation for AUTOSYS, refer to the ECS Baseline Information System web page,

**URL** <http://cmdm.east.hitc.com/>.

No tuning or configuration of the product is required, beyond that required by a normal installation.

#### 4.9.1.3.1 Interfaces and Data Types

AutoSys exchanges data of various types through interfaces within ECS. Table 4.9.1-2 lists AutoSys system interfaces for Version 2.0.

**Table 4.9.1-2. Interfaces Between AutoSys and other ECS PDPS Components**

Interface	Type of Primary Interface Protocols	Type of Backup Interface Protocols	Comments
ECS PDPS Subscription Manager	ECS PDPS Job Management/API	None	Interface between Planning and Data Processing subsystems for releasing Data Processing Request jobs in AutoSys
ECS PDPS Planning Workbench	ECS PDPS Job Management/API	None	Interface between Planning and Data Processing internal software subsystems for adding, deleting, and canceling Data Processing Request and Ground Event jobs in AutoSys

The information in the above table is informational only. It is not needed for normal operations.

#### 4.9.1.4 Databases

All AutoSys information is stored in one of the three Sybase database types. The three types of databases are: Event Server, Monitor Server, and Alarm Server. The Event Server contains all the information about a particular instance of AutoSys such as job definitions, events, monitor and browser definitions, calendar information, and machine definitions. Monitor and Alarm Servers, not used within the ECS, are specialized databases for monitoring events and alarms.

See *AutoSys User Manual*, Chapter 13 “AutoSys Databases” for database schema definitions.

### 4.9.1.5 Special Constraints

None.

### 4.9.1.6 Outputs

AutoSys Event Processor(s), Event Server(s), and Remote Agent maintain log files. Table 4.9.1-3 lists AutoSys output log files.

**Table 4.9.1-3. Outputs**

Output	Description and Format
<code>\$AUTOUSER/out/event_demon.\$AUTOSERV</code>	Event Processor log file
<code>\$SYBASE/install/errorlog</code>	Event Server error log file
<code>AutoRemoteDir/auto_rem.joid.run_num.ntry</code>	Remote Agent log file

### 4.9.1.7 Event and Error Messages

AutoSys issues both status and error messages to the Event Processor log file (`$AUTOUSER/out/event_demon.$AUTOSERV`).

### 4.9.1.8 Reports

AutoSys autorep utility provides a method of generating reports containing information about jobs, machines, and global variables currently defined in the database. Table 4.9.1-4 lists AutoSys reports that can be generated. See the *AutoSys User Manual* for further information.

**Table 4.9.1-4. Reports**

Report Type	Report Description	When and Why Used
job	The report provides information about jobs and their processing status Summary, detail, and query formats can be generated	It should be used primarily for generating production history reports, but also can be used for real-time monitoring of jobs
machine	The report provides status of machines and attributes such as maximum load, current load, and factor Summary, detail, and query formats can be generated	It should be used for real-time monitoring of machines

#### 4.9.1.8.1 Sample Report

Figure 4.9.1-2 shows an autorep job report obtained by using the command:

```
autorep - d -J % > report
```

Job Name Pri/Kit	Last Start	Last End	Status	Run	
BTS#syn1#020704981301	12/11 17:19	12/11 21:08	SUCCESS	9837/1	
Status/[Event]	Time	Ntry	EventState	ProcessTime	Machine
RUNNING	12/11 17:19:01	1	Processed	12/11 17:19:19	
SUCCESS	12/11 21:08:54	1	Processed	12/11 21:08:59	
BTS#syn1#020704981301A	12/11 17:56	12/11 18:00	SUCCESS	9837/2	
Status/[Event]	Time	Ntry	EventState	ProcessTime	Machine
STARTING	12/11 17:19:15	1	Processed	12/11 17:19:19	pdps1
RUNNING	12/11 17:19:19	1	Processed	12/11 17:19:24	pdps1
FAILURE	12/11 17:19:48	1	Processed	12/11 17:19:50	
[ *** ALARM *** ]					
JOBFAILURE	12/11 17:19:50	1	Processed	12/11 17:19:56	pdps1
[ FORCE_STARTJOB ]	12/11 17:56:19	0	Processed	12/11 17:56:27	
STARTING	12/11 17:56:24	2	Processed	12/11 17:56:27	pdps1
RUNNING	12/11 17:56:28	2	Processed	12/11 17:56:32	pdps1
SUCCESS	12/11 18:00:51	2	Processed	12/11 18:00:58	
BTS#syn1#020704981301S	12/11 18:00	12/11 18:11	SUCCESS	9837/1	
Status/[Event]	Time	Ntry	EventState	ProcessTime	Machine
STARTING	12/11 18:00:55	1	Processed	12/11 18:00:58	pdps1
RUNNING	12/11 18:00:59	1	Processed	12/11 18:01:10	pdps1
SUCCESS	12/11 18:11:25	1	Processed	12/11 18:11:32	
BTS#syn1#020704981301P	12/11 19:02	12/11 19:02	SUCCESS	9837/2	
Status/[Event]	Time	Ntry	EventState	ProcessTime	Machine
STARTING	12/11 18:11:29	1	Processed	12/11 18:11:33	pdps1
RUNNING	12/11 18:11:33	1	Processed	12/11 18:11:38	pdps1
SUCCESS	12/11 18:13:20	1	Processed	12/11 18:13:27	
[ FORCE_STARTJOB ]	12/11 19:01:56	0	Processed	12/11 19:02:02	
STARTING	12/11 19:02:02	2	Processed	12/11 19:02:07	pdps1
RUNNING	12/11 19:02:04	2	Processed	12/11 19:02:07	pdps1
SUCCESS	12/11 19:02:22	2	Processed	12/11 19:02:28	

**Figure 4.9.1-2. AutoSys autorep job report**

Figure 4.9.1-3 shows an autorep job report obtained by using the command:

```
autorep -d -m ALL >report
```

Machine Name	Max Load	Current Load	Factor	O/S
chimera	---	---	1.00	Unix
deepsea	---	---	1.00	Unix
guinness	---	---	1.00	Unix
lasher	---	---	1.00	Unix
monet	---	---	1.00	Unix
nessie	---	---	1.00	Unix
pdps1	---	---	1.00	Unix
string1.pdps1	1	0	----	Unix
pdps2	---	---	1.00	Unix
string1.pdps2	2	0	----	Unix
relbsgi	---	---	1.00	Unix
sdps2	---	---	1.00	Unix
seagull	---	---	1.00	Unix
Current Jobs:				
Job Name	Machine	Status	Load	
Priority				
-----		-----	-----	-----
ETS#syn1#020704971301		RUNNING	1	250

**Figure 4.9.1-3. AutoSys autorep job report - all**

## 4.9.2 ECS Quality Assurance (QA) Monitor

ECS QA Monitor processing capabilities enable DAAC operators to perform duties associated with DAAC QA activities. The ECS Quality Assurance (QA) Monitor GUI is the user-interface for entering data requests and displaying data, status, and error messages. The QA Monitor does not produce data products, but communicates with the science data server to retrieve data that have been previously archived.

The QA Monitor GUI is used to perform the operator functions listed in Table 4.9.2-1.

**Table 4.9.2-1. Common ECS Operator Functions Performed with QA Monitor**

Operating Function	Description	When and Why to Use
Query data granules	Initiates a request to search the science archive for data granules within a date <sup>1</sup> interval	When there is a need to know all archived data granules with the same data type and inserted in the archive at a certain time (date interval )
Retrieve data granules	Initiates a request to get data granules from the science archive	When data granule(s) needs to be transferred from archive to local disk for visualization
Visualize data (HDF files)	Display Visualize screen	When graphical images of data granules need to be viewed to assess quality
Update metadata	Initiates a request to archive QA information about data granules	When QA information about data granules needs to be updated in the archive based on DAAC QA activities encompassing use of the Visualize Data function.

### 4.9.2.1 Quick Start Using QA Monitor

The QA Monitor is called to identify, check, and if necessary, update metadata in archived granules. The QA Monitor GUI consists of three screens: the data type to enter a data request, a data granule display window to select data to browse, and a status window to indicate progress or display error messages. Several dialog screens may be activated in the QA process. Some windows are display-only for informational text, while others require user-interaction.

#### 4.9.2.1.1 Invoking QA Monitor Tool From the Command Line Interface

To execute QA Monitor from the command line prompt use:

```
EcDpPrQaMonitorGUIStart <mode>
```

**<mode>** is the ECS Mode for the execution.

---

<sup>1</sup> Data acquisition beginning and ending date.

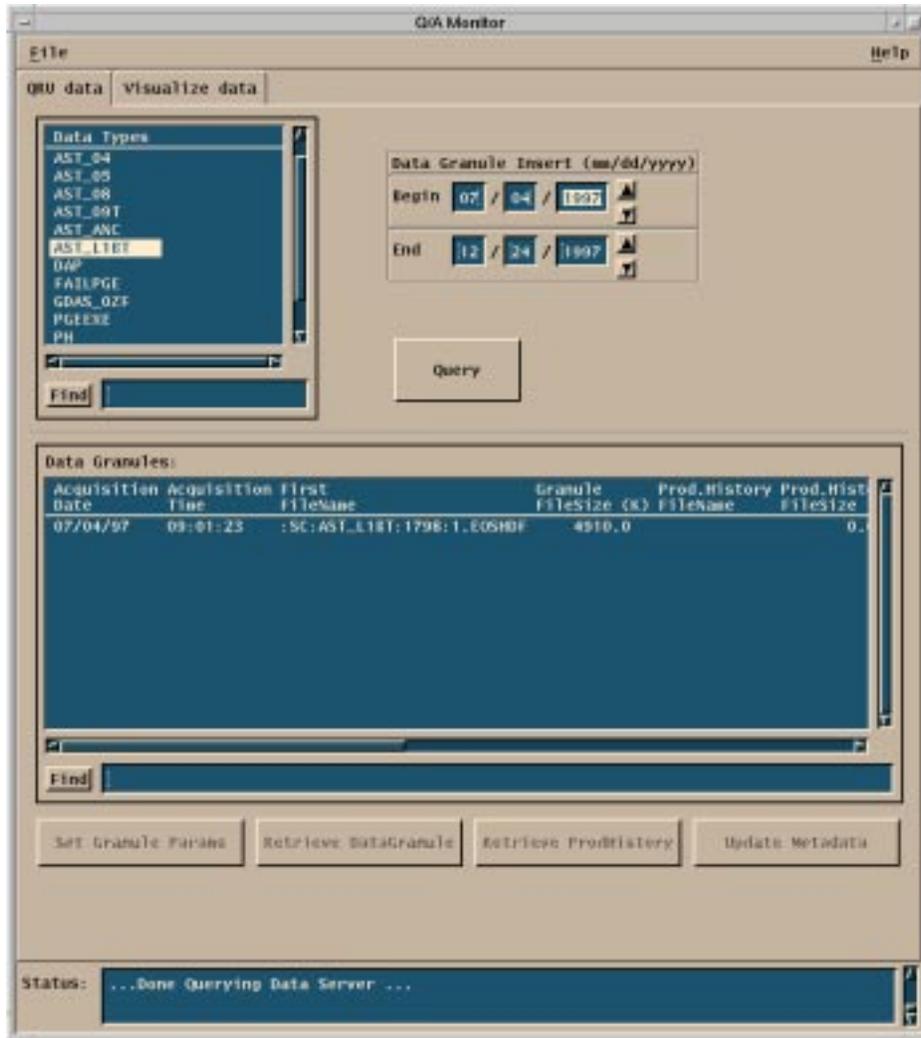
Refer to the 920-TDx-013 “Custom Code Configuration Parameters” documentation series , for a listing of EcDpQaMonitorGUIStart.

#### **4.9.2.2 QA Monitor Main Screen**

The QA Monitor Tool Main Screen shown in Figure 4.9.2-2 provides access to all QA Monitor primary functions. It consists of the QRU (Query/Retrieval/Update) data Tab and the Visualize data Tab. The QRU data Tab is activated when the QA Monitor Main Screen is initialized. A group of related objects is displayed by default to help the operator get started. The Data Types, Data Granules, Date Granule Insert (acquisition date of granules) windows, and the Query pushbutton are displayed, plus four desensitized (grayed-out) pushbuttons. These objects and the QRU data object which controls display of this screen are needed to perform a query. Other available data types are displayed in the Data Types window so the operator can choose which data type to query on. This enforces the sequence of events: query, retrieve and update. The grayed-out pushbuttons are sensitized after a Query, which permits selection of the indicated functions. The Visualize data Tab displays a list of science granules available for browsing.

From this screen, the following functions can be performed:

- Request the Science Data Server to search for specific types of Data Granules (Section 4.9.2.2.1)
- Request the Science Data Server to transfer Data Granules to the operator’s computer
- Request the Science Data Server to transfer Production History to the operator’s computer
- Update Data Granules’ Metadata (Section 4.9.2.2.2)
- View graphical images of Data Granules (Section 4.9.2.2.3)
- Print Display Lists of Data Granules and Data Types (Section 4.9.2.2.4)



**Figure 4.9.2-2. QA Monitor Tool Main Screen**

The operator can select the following menu items from the QA Monitor Main Screen

- **File** This menu contains the following items:

**Print** allows the operator to print the Data Types list and the Data Granules list (Section 4.9.2.2.4)

**Exit** allows the operator to exit the QA Monitor

**Help** The "Help" menu offers the following help choices: (Note: Presently not functional)

**On Help** displays help about using help

**On Context** displays help about individual screen elements. Context sensitive help pops up a scrolled window that displays text about a specific user interface component. There are two ways to get context-sensitive help:

The first way to get context sensitive help is to move focus to an active user interface component (e.g., text entry field, scroll list) and press the Help key. Help will be displayed about that element. If the keyboard does not have a key labeled Help, the F1 key usually functions as the help key.

The second way is to select "On Context" from the Help menu. The cursor will change to a question mark. Clicking on any user interface component will display help about that element.

**On Window** displays high-level help about the window (see "Tutorial" below)

**On Keys** displays help about using the keyboard and general help about standard user interface components that support complex behaviors. Topics include:

1. how to get context sensitive help
2. how to use keyboard mnemonics and accelerators to access menu functions without using the mouse
3. how to navigate between active fields on windows using the keyboard

**Index** is currently not supported.

**Tutorial** displays an extended discussion of the application and its role within the ECS system.

**On Version** identifies what version of ECS software is currently being used.

**On Mode** identifies the operating mode of the ECS software currently being used.

Additionally, the following functions may be selected on the QRU data Tab:

- **Query:** refer to Section 4.9.2.2.1
- **Set Granule Params:** refer to Section 4.9.2.2.2
- **Retrieve Data Granule:** refer to Section 4.9.2.2.1
- **Retrieve ProdHistory:** refer to Section 4.9.2.2.1
- **Update Metadata:** refer to Section 4.9.2.2.2

The following functions may be selected on the Visualize data Tab (refer to Section 4.9.2.2.2):

- **Visualize:** refer to Section 4.9.2.2.3
- **Help:** refer to Section 4.9.2.2.3

#### 4.9.2.2.1 Query and Retrieve Data

The QA Monitor allows the operator to search the data archive for data granules by data type. The available data types are displayed when the main screen comes up and allows the operator to

choose which data type to query on. The operator may accept the default dates or enter new dates to further constrain the search. Clicking on the Query pushbutton initiates the search request. If a search is successful a list of data granules are displayed. Then the operator can have them transferred from the data archive to his computer. Where the data will be located on the operator's computer is a configurable item. To request transfer of a data granule, highlight the row with information about the granule desired by clicking on it then click on the Retrieve Data pushbutton. A message will appear in the Status window indicating the processing status. To get the production history file associated with the granule just click on the Retrieve ProdHist pushbutton.

For a description of the "Query and Retrieve Data" fields, see Table 4.9.2-2 below.

**Table 4.9.2-2. QA Monitor Field Descriptions**

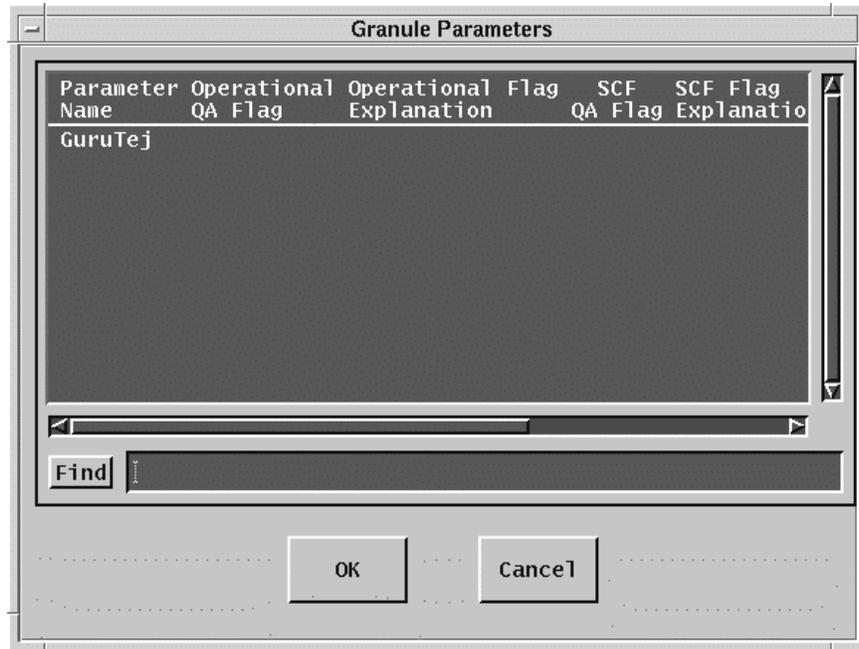
Field Name	Data Type	Size	Entry	Description
Data Granule Insert Begin End	date min max	8 8	initial default value(1/2/1901-6/1/2036) can be changed by operator	The date interval window that data granules are inserted into the data server
Data Types list	single selection	N/A	operator selects a data type from the list displayed at startup	The list of all available data types at a specific DAAC
Data Granules list	multiple selection	N/A	operator clicks data granule row(s) then clicks retrieve pushbutton	The list of all data granules in the date interval above for a particular selected data type are available for retrieval
Status	text	N/A	display status messages only	Display status messages

In addition, the following pushbuttons are provided:

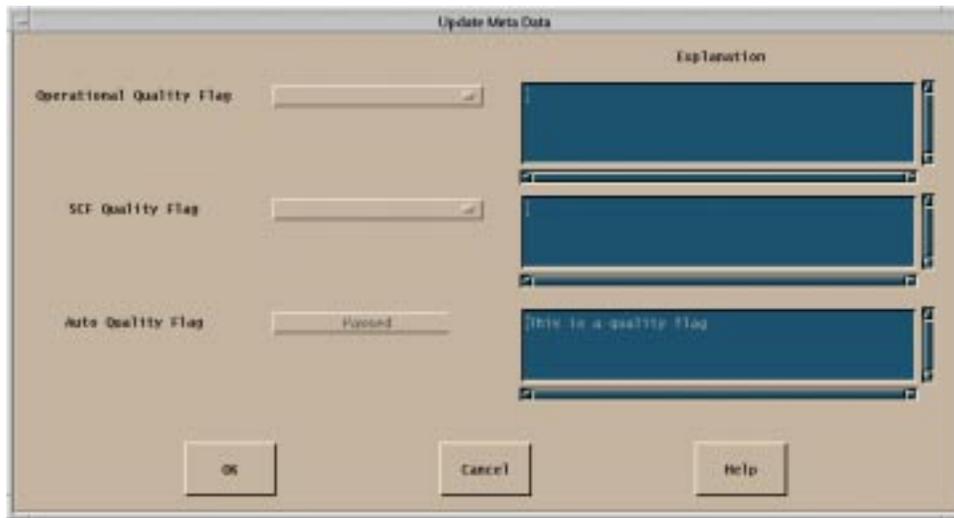
- **Query** populates the list of data granules on the bottom half of the screen for a particular selected data type within a date interval.
- **Find** (below the data types and data granules list) allows the operator to perform a keyword search for information stored in those 2 lists.
- **Retrieve DataGranule** allows the operator to retrieve data granule(s) from the DAAC's data archive to local disk.
- **Retrieve ProdHistory** allows the operator to retrieve a production history tar file from the DAAC's data archive to local disk.
- **Update Metadata** pops up a Granule Parameters screen (see Section 4.9.2.2.2 below).

#### 4.9.2.2.2 Update Metadata

Clicking on one data granule displayed in the Data Granules Field and then the Update Metadata pushbutton brings up the Granule Parameters screen (see Figure 4.9.2-3). The list of parameter names are attributes describing the selected data granule. The settings for the parameters are determined by the DAAC, SCF or PGE. Those settings are displayed along with explanations, if any. After DAAC QA of a data granule the DAAC operator may update the operational QA flag providing an explanation. To update a parameter, click the parameter name then click OK. The Update Metadata screen will be displayed (see Figure 4.9.2-4).



**Figure 4.9.2-3. Granule Parameters Dialog**



**Figure 4.9.2-4. Update Metadata Dialog**

For a description of the “Update Metadata” dialog fields, see Table 4.9.2-3 below.

**Table 4.9.2-3. Update Metadata Field Descriptions (1 of 2)**

Field Name	Data Type	Size	Entry	Description
Operational Quality Flag, SCF Quality Flag	character	N/A	operator selects value	DAAC and SCF quality status setting of a data granule parameter. The valid values are: <ul style="list-style-type: none"> <li>• passed</li> <li>• failed</li> <li>• being investigated</li> <li>• not being investigated</li> </ul>
Operational Quality Explanation, SCF Quality Explanation	character	Less than 150 chars	Operator inputs text	Text describing quality status

**Table 4.9.2-3. Update Metadata Field Descriptions (2 of 2)**

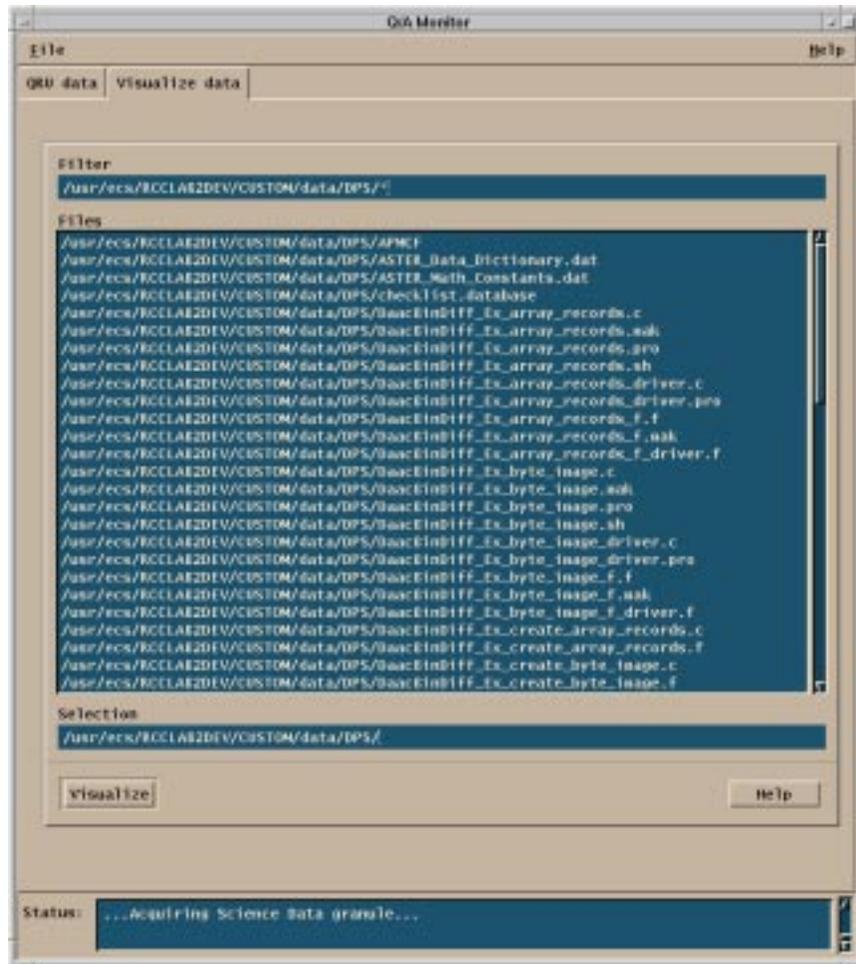
Field Name	Data Type	Size	Entry	Description
Auto Quality Flag	character	N/A	Operator input not allowed	Quality status of a data granule parameter set during data processing. The valid values are: <ul style="list-style-type: none"> <li>• passed</li> <li>• failed</li> <li>• being investigated</li> <li>• not being investigated</li> </ul>
Automatic Quality Explanation	character	N/A	Operator input not allowed	Quality status of a data granule parameter set during data processing.

In addition, the following pushbuttons are provided:

- **OK** sends an update request to the data server to update data granule parameter values.
- **Cancel** will cancel the update request.
- **Help** displays the help for Update Metadata.

#### **4.9.2.2.3 Visualize Data**

Clicking on Visualize data from the QA Monitor GUI main screen brings up the Visualize data Tab (see Figure 4.9.2-5 below). The operator clicks a row with the name of a science file to browse. When the Visualize pushbutton is activated EOSView is invoked. The EOSView GUI requires operator input to produce a graphical image of the science data file (see Section 4.12.7 “EOSView”). Note that the EOSView GUI can only read data products that are in HDF format.



**Figure 4.9.2-5. Visualize Data Tab Stack**

For a description of the “Visualize data” fields, see Table 4.9.2-4 below.

**Table 4.9.2-4. Visualize Data Field Descriptions**

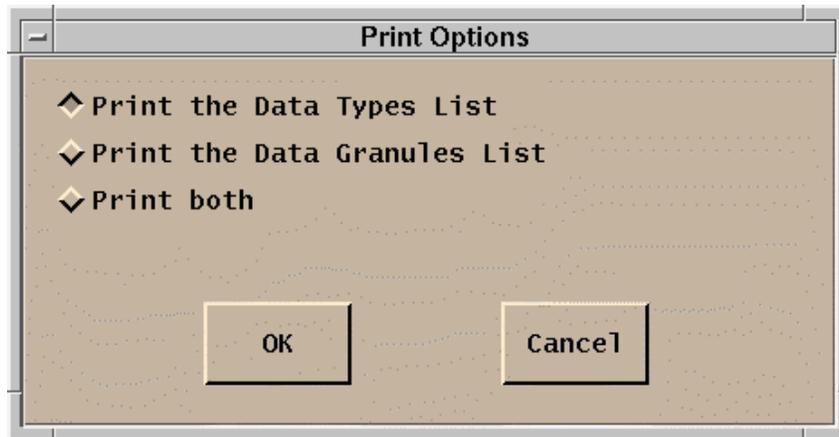
Field Name	Data Type	Size	Entry	Description
Filter	character	N/A	uneditable	Indicates path and filenames to be displayed as established in the configuration file
Files	character	N/A	click on a row	Highlights row information
Selection	character	N/A	uneditable	Full pathname of the file selected for viewing will be displayed

In addition, the following pushbuttons are provided:

- **Visualize** invokes EOSView for visualizing data products.
- **Help** displays help for the file selection box.

#### 4.9.2.2.4 Print Options

Clicking on “File” pull-down menu brings up the Print Options dialog (see Figure 4.9.2-6 below). This dialog allows the operator to select which list, data types list or data granules list, or both, to be sent to the printer.



**Figure 4.9.2-6. Print Options Dialog**

For a description of the “Print Options” fields, see Table 4.9.2-5 below.

**Table 4.9.2-5. QA Monitor Tool Field Descriptions**

Field Name	Data Type	Size	Entry	Description
Print data types list	N/A	N/A	select 1 at a time	This toggle button is selected if the operator wants the data types list to be sent to the printer.
Print data granules list	N/A	N/A	select 1 at a time	This toggle button is selected if the operator wants the data granules list to be sent to the printer
Print both	N/A	N/A	select 1 at a time	This toggle button is selected if the operator wants both lists to be sent to the printer

In addition, the following pushbuttons are provided:

- **OK** sends a print request to the printer for option selected.
- **Cancel** will cancel the print request.

### **4.9.2.3 Required Operating Environment**

For information on the operating environment, tunable parameters and environment variables of The QA Monitor Tool refer to the 920-TDx-013 “Custom Code Configuration Parameters” documentation series . The “x” refers to the installed location, e.g. 920-TDG-013 is for GSFC DAAC.

#### **4.9.2.3.1 Interfaces and Data Types**

The QA Monitor Tool does not have any external interfaces to ECS. However, there is an internal interface to the Science Data Server to query and retrieve data granules, and update metadata. There is also an internal interface to the Advertising server to get all data.

#### **4.9.2.4 Databases**

None

#### **4.9.2.5 Special Constraints**

None.

#### **4.9.2.6 Outputs**

Other than the output displayed to the operator the QA Monitor is responsible for file (science data files in the HDF format) transfers from the science archive to the local disk of the QA Monitor host computer. It also sends data to the science archive to be stored.

#### **4.9.2.7 Event and Error Messages**

The QA Monitor issues status messages to the Status Messages text area at the bottom of the QA Monitor GUI and error messages on pop-up error dialogs. Both event and error messages are listed in Appendix A.

#### **4.9.2.8 Reports**

None.

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## **4.10 Science Data Archive and Distribution**

This section describes the Science Data Archive and Distribution tools used by DAAC operators.

The Data Server Subsystem (DSS) has the responsibility for storing earth science and related data in a persistent fashion, providing search and retrieval access to this data, and supporting the administration of the data, hardware devices, and software products. As part of its retrieval function, the subsystem also provides for distribution of data electronically or on physical media.

The ECS Data Server Operator GUIs provide normal operational control and insight into science data server, storage management, and data distribution subsystem operations. These views into the system are managed by means of three operational tools: the Science Data Server GUI, the Storage Management GUI, and the Data Distribution GUI, respectively.

Each one of these tools will be documented in Sections 4.10.1, 4.10.2, and 4.10.3, respectively.

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## 4.10.1 Science Data Server

The Science Data Server Operator GUI provides the operator two major functions, the management of Earth Science Data Types and the management of all types of requests that the Science Data Server operator is involved with. Details on these two functions are given in Table 4.10.1-1.

**Table 4.10.1-1. Common ECS Operator Functions Performed with the Science Data Server Operator GUI**

Operating Function	GUI	Description	When and Why to Use
Manage Science Data Server Earth Science Data Types (ESDTs)	Data Types Tab	Allows operators to manage the ESDTs offered by the Science Data Server	As needed, to manage data type descriptor information and add ESDTs
Manage Data Server System Requests	System Requests Tab	Allows operators to manage all the requests within each data server component	As required, to manage requests in each data server component

### 4.10.1.1 Quick Start Using the Science Data Server

This section presents an orientation of the Science Data Server Operator GUI for the following components:

- Earth Science Data Type Management
- System Requests Management

#### 4.10.1.1.1 Command Line Interface

To invoke the ECS Data Server Operator GUI, the operator types the following command line:

```
/usr/ecs/<mode>/CUSTOM/utilities/EcDsSdSrvGuiStart <mode>
```

<mode> is the ECS Mode for the execution.

#### 4.10.1.2 Science Data Server Main Screen

The ECS Science Data Server Operator GUI, shown in Figure 4.10.1-1, has two tabs that provide access to each one of the components' screens.

- The Earth Science Data Type Manager is accessed through the **Data Types** tab
- The System Request Manager is accessed through the **System Request** tab.

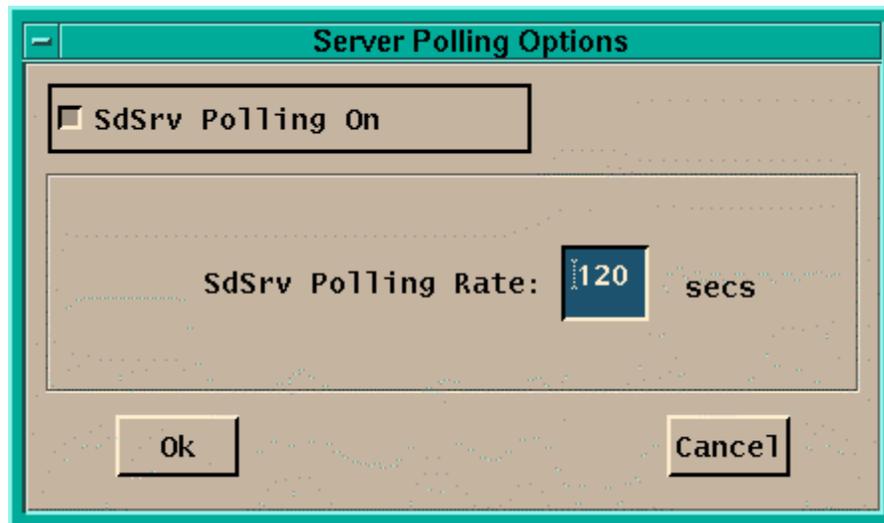


**Figure 4.10.1-1. Science Data Server Operator GUI shown with default Data Types Tab**

The operator can select from the menu bar items at the top of the Science Data Server Operator window for getting help and activating less-frequently used functions. The menu bar capability is available on all Science Data Server Operator GUI screens. The following menus are available:

- **File** - which includes the following item:

- **Exit** (Ctrl-Q) - Exit application (graceful exit).
- **View** - functionality has not been determined as of this time (TBS).
- **Options** - This menu includes the *System Settings* item that opens the Server Polling Options window. Polling of the data server can be switched On/Off and the SdSrv Polling rate can be adjusted through this window (see Figure 4.10.1-2)
- **Help** - which provides context sensitive help.



**Figure 4.10.1-2. Science Data Server - Server Polling Options**

**Table 4.10.1-2. Science Data Server - Server Polling Field Description**

Field Name	Data Type	Size	Entry	Description
Polling Rate	integer	N/A	optional	Specify the rate at which the Science Data Server Operator GUI is updated with data coming from the Data Server.

#### 4.10.1.2.1 Data Types Tab

The Data Types tab is the default screen of the Science Data Server Operator GUI shown in Figure 4.10.1-1. This window provides operations personnel at the DAAC the capability to view descriptor information and add new ESDTs. A list of currently installed ESDTs are shown along with a version number and a brief description of the structure for an ESDT. Additional information

that describes the structure, contents, and services that each existing ESDT provides can be viewed by selecting the data type and clicking on the *View* button.

Table 4.10.1-3 describes the Science Data Server Operator - Data Types fields.

**Table 4.10.1-3. Science Data Server Operator - Data Types Field Description**

Field Name	Data Type	Size	Entry	Description
Data Type ID	character	N/A	system generated	Uniquely identifies the specific type of ESDT.
Name	character	unlimited	system generated	Name of ESDT.
Version	integer	N/A	system generated	Version number of ESDT, assigned starting at 1.0.
Description	character	unlimited	system generated	Includes structure and services available for an ESDT.
Find	character	255	optional	This functionality is provided in order to help the user browsing very long ESDT lists.

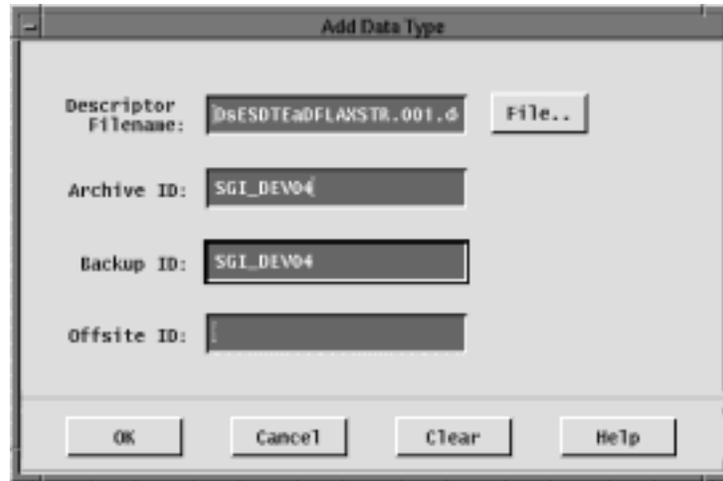
In addition, the following buttons are provided:

- **View** displays ESDT descriptor information (read-only) and its associated dynamic data link library (DLL) filename. Descriptor information consists of groups, objects, and keywords that define an ESDT's metadata, advertised services, subscribable events, data dictionary information, validation criteria, and science parameters. Descriptor information is necessary for the Science Data Server to properly configure itself to perform services related to an ESDT. A DLL is an executable library that is loaded dynamically when needed to fulfill ESDT services. The Science Data Server - Descriptor Information Dialog (see Figure 4.10.1-3 below) provides the following buttons:
  - **Close** exits the dialog without performing any operations.
  - **Help** displays on-line help information.



**Figure 4.10.1-3. Science Data Server - Descriptor Information Dialog**

- **Add** opens the Data Type Dialog (see Figure 4.10.1-4) which is used to add a new ESDT to the existing installed list of data types based upon input information. Click on the **File...** button to display a list of descriptor filenames or DLL filenames to choose from instead of typing them in. Click the **OK** button to add the data type. If no error messages appear, then the operation has been successfully completed. Click the **Cancel** button to close the dialog without performing an operation. Click the **Clear** button to start all over again the process of filling in new information. Click the **Help** button to display on-line help information.



**Figure 4.10.1-4. Science Data Server - Add Data Type Dialog**

Table 4.10-4 describes the Science Data Server - Add Data Type fields.

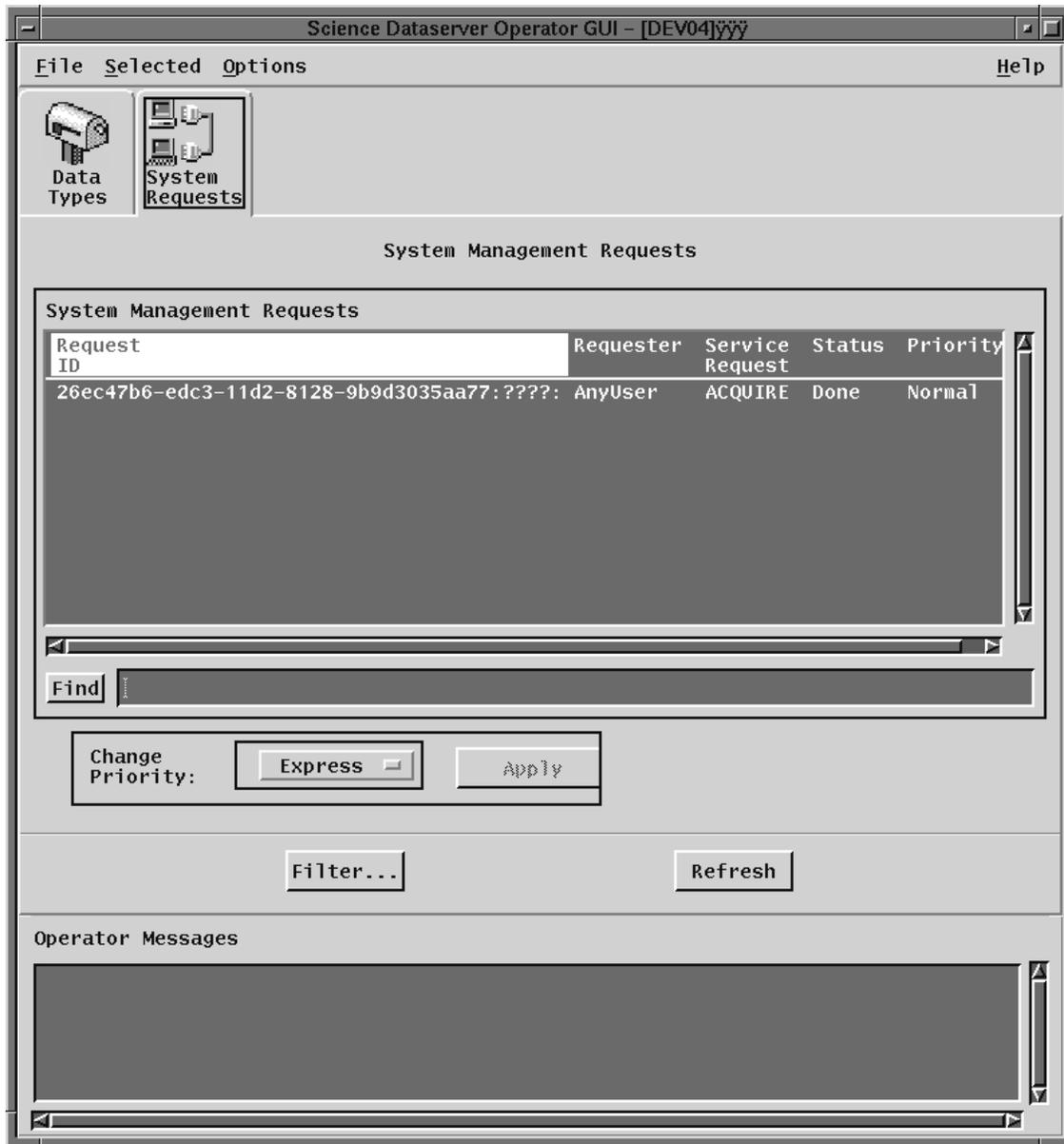
**Table 4.10.1-4. Science Data Server - Add Data Type Field Description**

Field Name	Data Type	Size	Entry	Description
Descriptor Filename	character string	unlimited	required	Name of an ASCII file containing the ESDT descriptor file.
Archive ID	character string	unlimited	required	Handle that will be used to find the ESDT in the Data Server Archive
Backup ID	character string	unlimited	optional	Handle that will be used to find the ESDT in the Backup Data Server Archive
Offsite ID	character string	unlimited	optional	Handle to a backup volume that will store ESDT related information at DAAC other than the original one.

- **Refresh/Reconnect** updates the data type information screen with current information.
- **Operator Messages** provides the functionality that displays informational and error messages to the user.

#### 4.10.1.2.2 System Requests Tab

Clicking the System Requests tab will bring up the System Management Requests window (see Figure 4.10.1-5). This window provides operations personnel at the DAAC the capability to monitor requests the Science Data Server is working with. All requests within the Science Data Server are displayed. The columns of the list can be sorted by positioning the cursor and clicking on the appropriate column of interest. The requests can be filtered by positioning the cursor and clicking on the **Filter** button and entering the attributes on which to filter.



**Figure 4.10.1-5. System Management Requests Window**

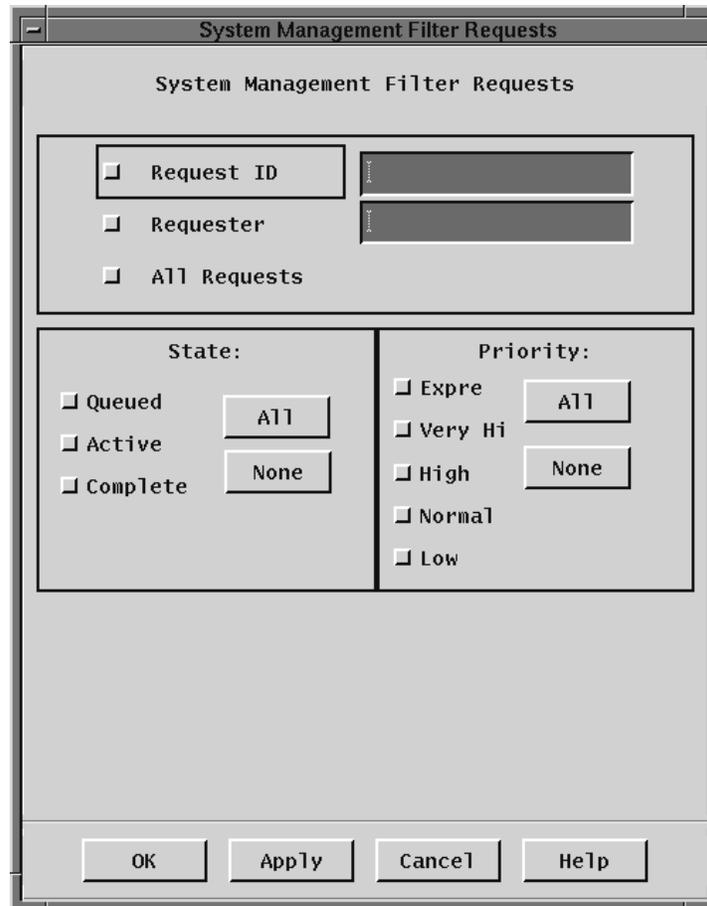
Table 4.10.1-5 describes the System Management Requests Window fields.

**Table 4.10.1-5. System Management Requests Field Description**

Field Name	Data Type	Size	Entry	Description
Request ID	character	unlimited	system generated	Unique identifier for the request.
Requester	variable character	100	system generated	Identifies the user that submitted the request.
Service Request	character	unlimited	system generated	Types of requests handled are Insert, Acquire, and Delete
Status	character	unlimited	system generated	Possible states are Queued, Active and Completed
Priority	variable character	100	system generated	Priority of the data server system requests, i.e., Express, Very High, High, Normal(default), Low.
Find	character	255	optional	If the list is too long, this field can be used to search for an entry

In addition, the following buttons are provided:

- **Change Priority:** changes the priority of each selected request through a pulldown menu. Possible values are: Express, Very High, High, Normal (default), Low.
- **Apply** allows the operator to commit to the priority change selected through the change priority button.
- **Filter...** (see Figure 4.10.1-6) brings up the System Management Filter Requests dialog which provides a selection of attributes on which to filter for the list of System-wide requests. Filter on system management requests by entering the desired information, then clicking on the Request ID or Requester radio button for the desired attribute. Return to the original list of requests by clicking on the All Requests radio button. Click on other filters associated with State and Priority by clicking on the toggle button. Filter on every attribute associated with a category by clicking the **All** button or clear a category of filters by clicking on the **None** button.



**Figure 4.10.1-6. System Management Filter Requests Dialog**

Table 4.10.1-6 describes the System Management Filter Requests Dialog fields.

**Table 4.10.1-6. System Management Filter Requests Field Description**

Field Name	Data Type	Size	Entry	Description
Request ID	character	unlimited	system generated	Unique identifier for the request.
Requester	variable character	100	system generated	Identifies the user that submitted the request.

In addition, the following buttons are provided:

- **OK** implements filter criteria, and the dialog closes.
- **Apply** implements filter criteria, and the dialog remains open for additional filtering.

- **Cancel** closes the dialog without saving
- **Help** displays on-line help information.

Back to the System Requests tab description (figure 4.10.1-5),

- **Operator Messages** provides informational and error messages to the user.
- **Refresh** causes the Data Server to be polled for an update on Requests.

### 4.10.1.3 Required Operating Environment

For information on the operating environment, tunable parameters, and environment variables refer to the 920-TDx-013 “Custom Code Configuration Parameters” documentation series . The “x” refers to the installed location, e.g. 920-TDG-013 is for GSFC DAAC.

#### 4.10.1.3.1 Interfaces and Data Types

Table 4.10.1-7 lists the supporting products that this tool depends upon in order to function properly.

**Table 4.10.1-7. Interface Protocols**

<b>Product Dependency</b>	<b>Protocols Used</b>	<b>Comments</b>
SDSRV and all clients	DCE	via client libraries
SDSRV GUIs	X-11	via client libraries

#### 4.10.1.4 Databases

The Science Data Server Operator GUI does not include the direct managing of any database. It has an interface with the Science Data Server Data Base: however this interface is based on a simple parameter passing function. For further information of the Science Data Server Data Base refer to 311-CD-107-005, *Science Data Server Database Design and Schema Specifications for the ECS Project*.

#### 4.10.1.5 Special Constraints

The Science Data Server Operator GUI runs only if the Science Data Server is running in the background. Note also that at the moment the Science Data Server GUI is started through a command line that specifies the configuration file that is used to initialize the GUI Application.

#### 4.10.1.6 Outputs

There is no processing associated with the operation of this GUI. The information provided to the operator are retrieved from the Data Server Database described in Section 4.10.1.4 and displayed through the screens discussed in Section 4.10.1.2 and the related sub-sections.

#### **4.10.1.7 Event and Error Messages**

Both event and error messages are listed in Appendix A.

#### **4.10.1.8 Reports**

No reports are produced by this tool.

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## 4.10.2 Storage Management Control

This tool enables operations to manage various data storage functions. These functions include the capability to set and modify configurations of various Server Types (e.g., 8mm tape, Archive Server, D3 tape), manage data location within the archive and on disk, configure stacker slots, display storage events which possibly require operator actions, and view backup/restore failures with the ability to restart a backup/restore operation.

The Tool is used to perform the following operator functions listed in Table 4.10.2-1.

**Table 4.10.2-1. Common ECS Operator Functions Performed with This Tool**

<b>Operating Function</b>	<b>Command/Script or GUI</b>	<b>Description</b>	<b>When and Why to Use</b>
Configure Server Devices	Storage Config Tab	Allows operators to organize and configure various Server Devices and manage data flow in and out of various archives.	As needed to add, delete, or modify the configuration of a set of Servers or a Server Device.
View the current cache statistics for the Pull Monitor cache.	Cache Stats. Tab	Allows the operator to view the Pull Monitor cache and view the statistics on its use. Operator can delete expired files.	Used when warning is displayed in the message area informing the operator the cache is getting too full.
Search Event Log	Storage Events Tab	Allows operators to find events from selected parameters	As needed to locate events.
Restart Backup Archive data files.	Menu "Backup"	Allows operator to restart backup operations.	As needed to restart data files as a backup.
Schedule Resources	Resource Schedule Tab	Allows operator to schedule resource availability for storage	As needed to make available or take off-line specific resources

### 4.10.2.1 Quick Start Using Storage Management Control

This section presents an orientation of the Storage Management Control GUIs for the following components:

- Storage Configuration
- Resource Schedule
- Cache Stats.
- Storage Events

#### 4.10.2.1.1 Invoking Storage Management Control from the Command Line Interface

To invoke the Storage Management Control Tool, the following command must be typed at the command line prompt:

```
EcDsStmgtGui ConfigFile <filename> ecs_mode <mode>
```

where:

<filename> is the configuration file name identification to be used by the tool. If [filename] is not specified, the default is the configuration file in the cfg directory.

<mode> corresponds to the mode in Mode Management. If <mode> is not specified, the default is the OPS mode.

#### 4.10.2.2 The Storage Management Control Operator Main Screen

The Storage Management Control Main Screen (see Figure 4.10.2-1 below) can be operated from four tabs which control the four components listed above, Storage Configuration, Resource Schedule, Cache Stats and Storage Events. The operator can select from the menu bar items at the top of the window for each component the following menu functions:

- **File** contains the exit command to close application
- **Options** allows operator to set the polling rate for the event log for the current execution of the application.
- **Backup** allows operator to set up data files as a backup at the operator site and at operator off-sites, to view backup files and to restart backup files.
- **Help** provides context sensitive help to the operator.

Further details on the functionality associated with these menu items see Section 4.2.10.2.2.5. All of the tab screens also have an Operator Message box which displays error conditions, as shown in Figure 4.10.2-1.

##### 4.10.2.2.1 Storage Configuration Tab

This Tab displays Server identification information, and allows the operator to view and control the Server configuration including adding, deleting, and modifying device configurations as well as data file paths through Volume Group control for the Archive Servers. This includes servers to distribute data as well as archive data. Each specific Server can be configured by activating a separate device screen and inserting a set of parameters for that type of Server.



**Figure 4.10.2-1. Storage Management Control - Storage Configuration Tab**

Table 4.10.2-2 describes the Server Type Information fields.

**Table 4.10.2-2. Server Type Information Field Description**

<b>Field Name</b>	<b>Data Type</b>	<b>Size</b>	<b>Entry</b>	<b>Description</b>
Server Type	character	20	preloaded	Type of media for storage and distribution.
# of Servers	integer	N/A	calculated	Number of Servers for this media.
Description	character	100	preloaded	Brief description of Server Type.
Server ID	character	50	required	Name assigned to a specific Server.
Server Status	integer	0 or 1	system generated	Provides "ON-LINE" or "OFF-LINE" status of the specific server.

Note: Figure 4.10.2-1 does not show the last Server type (i.e., Pull Monitor) that can be configured through this tab.

Selecting a Server Type and then clicking on the **View Server** button will bring up information in the Specific Server Information box, whose fields are described in Table 4.10.2-2.

The Storage Configuration Tab includes several buttons. These buttons are: **View Servers**, **Add...**, **Modify**, **Delete**, **View Volume Group Info**, and **View Devices**. The functionality associated with these buttons is discussed below along with the pop-up windows that are displayed when the buttons are depressed.

**Add...** Allows the operator to add a specific server to the configuration. A screen appears as shown in Figure 4.10.2-2, and allows the operator to configure the server with the parameters shown. Different Server Types have different screens to address the particular configuration of that Server Type.

The image shows a dialog box titled "Add Archive Server". It contains the following fields and sections:

- Server Id:** EcDsStArchiveServer
- Pull FTP Host:** [Empty text box]
- Pull FTP User Name:** [Empty text box]
- Pull FTP Password:** [Empty text box]
- Temp. File Directory:** [Empty text box]
- Volume Group Information** (Section Header)
  - Volume Group Name:** [Empty text box]
  - Volume Group Path:** [Empty text box]
- Buttons:** OK, Apply, Cancel

**Figure 4.10.2-2. Add Archive Server Pop-up**

**Table 4.10.2-3. Specific Server Information Field Description**

Field Name	Data Type	Size	Entry	Description
Pull FTP Host	character	unlimited	required	Name of the Pull Volume FTP host
Pull FTP User Name	character	unlimited	required	Name of the Pull FTP User
Pull FTP Password	character	unlimited	required	Password required to access the Pull FTP
Temp. File Directory	character	unlimited	required	Absolute Path to the Temporary File Directory
Volume Group Name	character	unlimited	required	Name of the Volume Group
Volume Group Path	character	unlimited	required	Absolute Path of the Volume Group

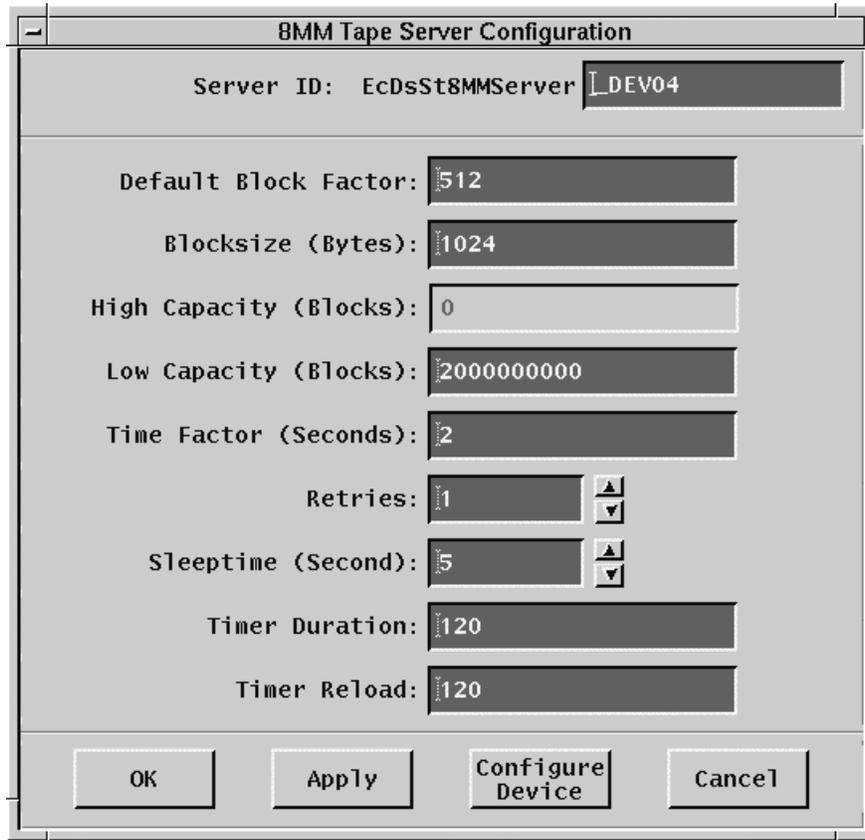
This screen shows the configuration of a Specific Server (in this case the Archive Server). The Server ID is shown at the top. After entries are made in these parameter fields additional control is provided with the following buttons:

- **OK** - Parameter information is saved into a database and the display is closed out.
- **Apply** - Parameter information is saved into a database.
- **Cancel** - Closes the display without saving information to the database.

Note these same above buttons have the same functions in other Server Type configuration displays, so their description will not be repeated for each screen of the same nature (refer to Figures 4.10.2-3, -4, -5, -6, and -7).

Other possible server configuration screens are shown in Figures 4.10.2-3, -4, -5, -6 and -7 for the following server types: 8 MM Tape Server, Distribution FTP Server, Pull Monitor Server, Staging Monitor Server, Printer Server. Other servers not discussed are: CDR Device Server, D3 Device Server, and Ingest FTP.

- **8MM Tape Server Configuration.** Figure 4.10.2-3 shows the 8MM Tape Server screen and Table 4.10.2-4 describes the field information related to this pop-up.



**Figure 4.10.2-3. 8MM Tape Server Configuration Pop-up**

**Table 4.10.2-4. 8MM Tape Server Configuration Information  
Field Description (1 of 2)**

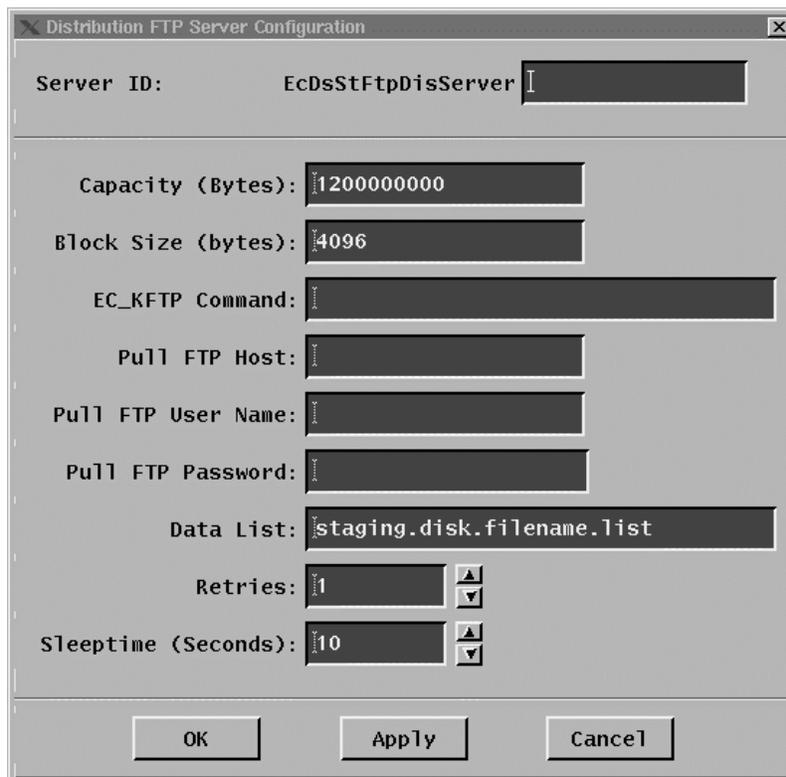
Field Name	Data Type	Size	Entry	Description
Default Block Factor	integer	N/A	required	Size of buffer used in tar command.
Block Size	integer	N/A	required	The number of bytes each block contains.
High Capacity	integer	N/A	required	Highest amount of space available for utilization.
Low Capacity	integer	N/A	required	Lowest amount of space available for utilization.
Time Factor	float	N/A	required	When multiplied by bytes gives a estimated transfer rate.

**Table 4.10.2-4. 8MM Tape Server Configuration Information Field Description (2 of 2)**

Field Name	Data Type	Size	Entry	Description
Retries	integer	N/A	required	Number of retries if the request fails.
Sleeptime	integer	N/A	required	Duration in minutes to wait between retries.
Timer Duration	integer	N/A	required	Duration of timer.
Timer Reload	Integer	N/A	required	Number of reloads.

Note that an additional button is present on the 8MM Tape Server configuration- **the Configure Device** button. Functionality provided by this button is explained below (see Figure 4.10.2-12) where the way the operator is allowed to specifically configure a device will be described.

- **Distribution FTP Server Configuration.** Figure 4.10.2-4 shows the Distribution FTP configuration and Table 4.10.2-5 describes the field information related to this pop-up.



**Figure 4.10.2-4. Distribution FTP Server Configuration Pop-up**

**Table 4.10.2-5. Distribution FTP Server Configuration Information  
Field Description**

<b>Field Name</b>	<b>Data Type</b>	<b>Size</b>	<b>Entry</b>	<b>Description</b>
Capacity	integer	N/A	required	Total amount of space available for utilization.
Block size	integer	N/A	required	The number of bytes each block contains.
EC_KFTP Command	character	255	required	FTP Command server uses.
Pull FTP Host	character	20	required	Name of host where server runs
Pull FTP User Name	character	8	required	User name for account
Pull FTP Password	character	8	required	Password for Distribution FTP account
Data list	character	50	required	Data to FTP
Retries	integer	N/A	required	Number of retries if request fails.
Sleeptime	Integer	N/A	required	Duration in minutes to wait between retries.

- **Pull Monitor Server Configuration.** Figure 4.10.2-5 shows the Pull Monitor Server Configuration and Table 4.10.2-6 describes the field information related to this Pop-up.

**Pull Monitor Server Configuration**

Server ID: EcDsStPullMonitorServer

Original Cache Space (blocks):  Percent When Full:  ▲▼

Available Cache Space (blocks):  Expiration Threshold (hours):  ▲▼

Block Size (bytes):  FTP Notify Timer Duration(seconds):  ▲▼

Expired Files Confirm Delete:

**Disk Capacity**

Fault Disk Level:  ▲▼

Warning Disk Level:  ▲▼

Root Path:

FTP Notify Filename:

Directory:

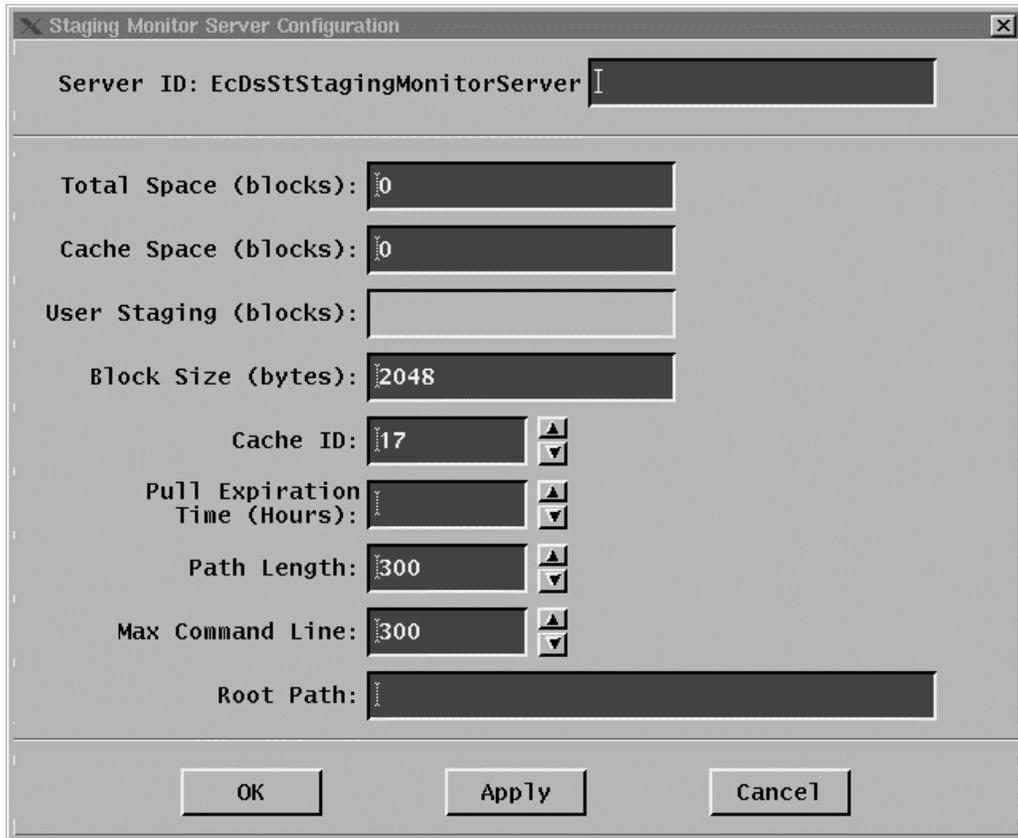
OK Apply Cancel

**Figure 4.10.2-5. Pull Monitor Server Configuration Pop-up**

**Table 4.10.2-6. Pull Monitor Server Configuration Information  
Field Description**

<b>Field Name</b>	<b>Data Type</b>	<b>Size</b>	<b>Entry</b>	<b>Description</b>
Original Cache Space	integer	N/A	required	Amount of space allocated to the Pull Monitor in block size increments.
Available Cache Space	integer	N/A	required	Remaining disk space available in the Pull Monitor cache.
Block Size	integer	N/A	required	Specifies the byte size of the blocks of the Pull Monitor device.
Expired File Confirm Delete	boolean	N/A	required	Have the operator confirm the deletion of expired files.
Percent When Full	float	N/A	required	The percentage of disk space when the Pull Monitor is considered full.
Expiration Threshold	float	N/A	required	Threshold when file expires.
FTP Notify Timer Duration	float	N/A	required	Interval of time used to check pull area for expired files.
Fault Disk Level	float	N/A	required	Highest allowable percentage usage of space allocated.
Warning Disk Level	float	N/A	required	Percentage of allocated space where operator will receive a warning message to clean-up expired files.
Root Path	character	255	required	Path to the device.
FTP Notify Filename	character	255	required	File that contains the list of expired files.
Directory	character	50	required	Created by Pull Monitor when files are linked and FTP'ed.

- **Staging Monitor Server Configuration.** Figure 4.10.2-6 shows the Staging Monitor Server Configuration screen and Table 4.10.2-7 describes the field information related to this pop-up.



**Figure 4.10.2-6. Staging Monitor Server Configuration Pop-up**

**Table 4.10.2-7. Staging Monitor Server Configuration Information Field Description**

Field Name	Data Type	Size	Entry	Description
Total Space	integer	N/A	required	Total amount of space allocated to the Staging Monitor in block size increments.
Cache Space	integer	N/A	required	Amount of read-only cache space available on disk.
User Staging	integer	N/A	system generated	Amount of space allocated to the staging disk. Calculated as the difference between total space and cache space.
Block Size	integer	N/A	required	Specifies the byte size of the blocks of the staging monitor device.
Cache ID	character	N/A	required	Cache identifier
Pull expiration time	integer	N/A	required	Maximum number of hours allowed to the data requestor for pulling files.
Path Length	integer	N/A	required	Length of UNIX file path/file name used in system call.
Max Command Line	integer	N/A	required	Maximum length of UNIX file path/filename.
Root Path	character	255	required	Path to the device.

- **Printer Server** is the one more Server Type for which a screen appears when the operator clicks on the **Add...** on the Storage Configuration Tab. The pop-up window is shown in Figure 4.10.2-7 while the definition of the parameters in that screen is provided in Table 4.10.2-8.



**Figure 4.10.2-7. Printer Server Configuration Pop-up**

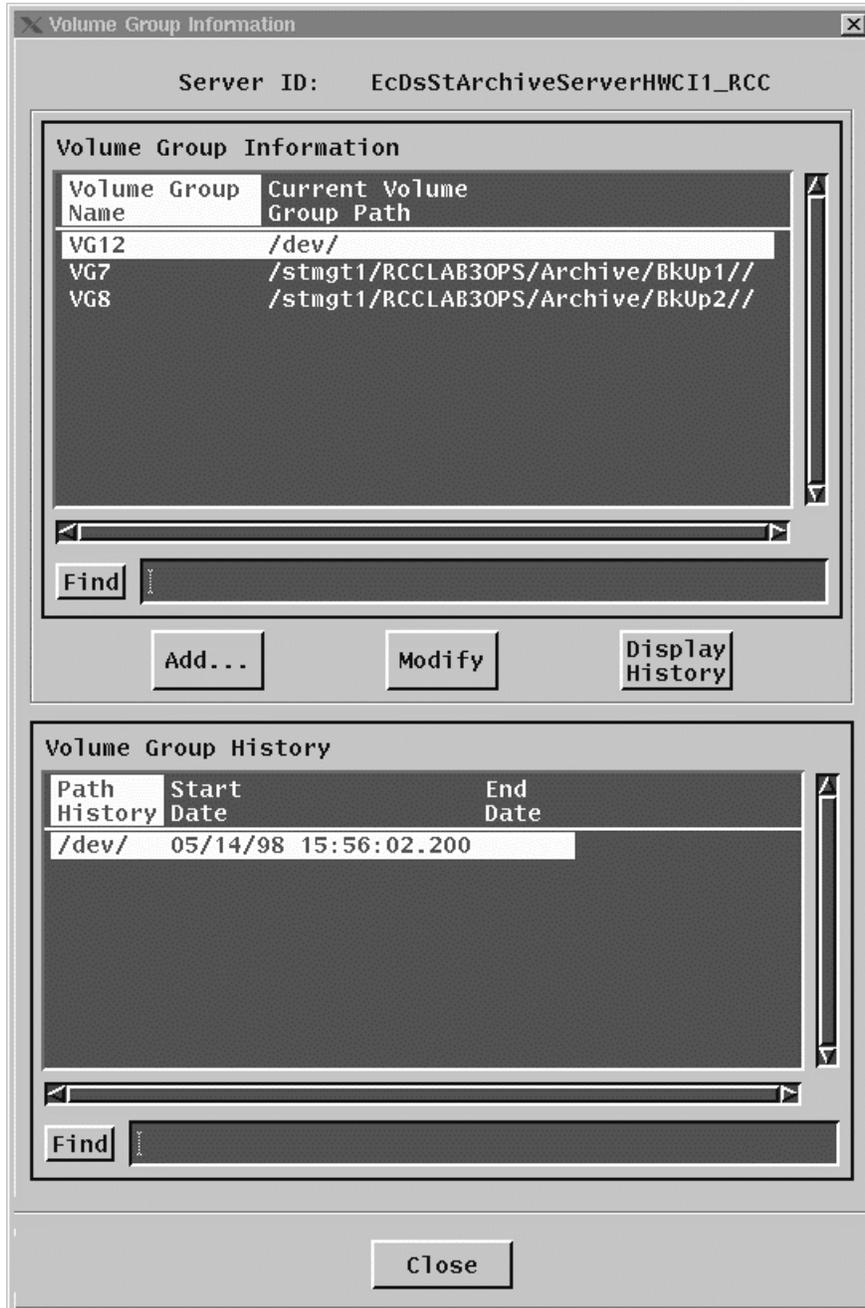
**Table 4.10.2-8. Printer Server Configuration Information  
Field Description**

Field Name	Data Type	Size	Entry	Description
Number of columns	integer	N/A	required	Number of columns in each printed page.
Number of Rows	integer	N/A	required	Number of rows in each printed page
Packing Slips	integer	N/A	required	Number of copies to print.
Print Queue	character	N/A	required	Name of the Queue printer
Time Factor	integer	N/A	required	No functionality is presently associated with this field.

Back to the Storage Configuration Tab description (Figure 4.10.2-1), the **Modify** button allows the operator to modify the configuration of the server highlighted in the Specific Server Information box. The pop-up screens appearing when the operator clicks on the **Modify** are the same as the screens that pop-up when the “Add ...” button is clicked on.

**Delete** allows the operator to delete a specific server from Storage Configuration.

The **View Volume Group Info** button is always grayed-out except for when the Specific Server highlighted in the Specific Server Information box is related to a Volume Group. This button brings up a screen as shown in Figure 4.10.2-8 to view Volume Group Information. Volume Group management control is provided with this display.



**Figure 4.10.2-8. Volume Group Information Pop-up**

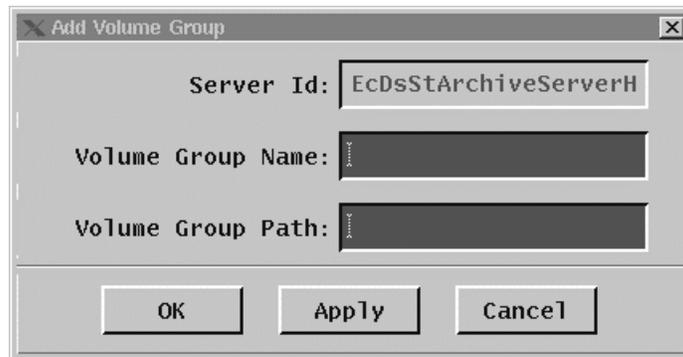
The fields for the Volume Group Information are defined as described in Table 4.10.2-9.

**Table 4.10.2-9. Volume Group Information Field Description**

Field Name	Data Type	Size	Entry	Description
Volume Group Name	character	6	required	The operator gives a name to associate a volume of data with a particular Group Path.
Current Volume Group Path	character	255	required	This entry identifies a path link for a given set of data.
Find	character	N/A	optional	Allows the operator to perform a keyword search for items in the Volume Group Name field
Path History	character	255	system generated	Group Path as in the Current Volume Group Path entry of the Volume Group Information box.
Start Date	character	21	system generated	Start date and time of current path.
End Date	character	21	system generated	End date and time of current path.
Find	character	N/A	optional	Allows the operator to perform a keyword search for items in the Path History field

The following buttons provide configuration over the Volume Groups:

**Add...** Allows the operator to add a Volume Group through the pop-up window shown in Figure 4.10.2-9. The parameters are described in Table 4.10.2-10.

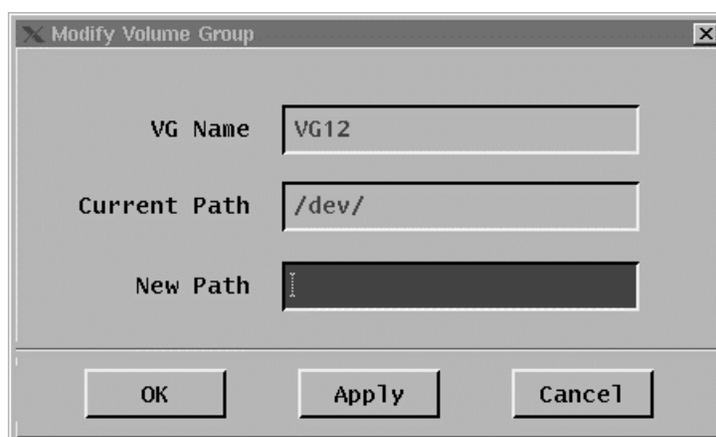


**Figure 4.10.2-9. Add Volume Group Pop-up**

**Table 4.10.2-10. Add Volume Group Field Description**

Field Name	Data Type	Size	Entry	Description
Server ID	character	unlimited	system defined	Server ID where the Volume Group is going to be added
Volume Group Name	character	6	required	The operator gives a name to associate a volume of data with a particular Group Path.
Volume Group Path	character	unlimited	required	The absolute path of the new volume group.

**Modify** Allows the operator to modify an existing Volume Group – see Figure 4.10.2-10. The fields of this pop-up window are described in Table 4.2.10-11.



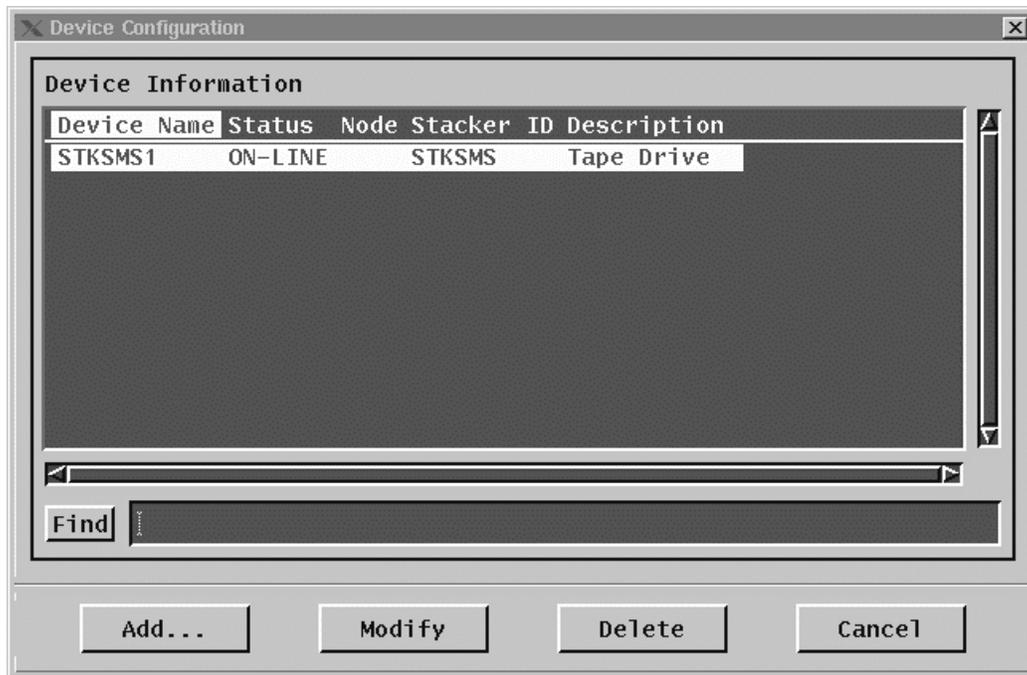
**Figure 4.10.2-10. Modify Volume Group Pop-up**

**Table 4.10.2-11. Add Volume Group Field Description**

Field Name	Data Type	Size	Entry	Description
Volume Group Name	character	6	required	Name of the Volume Group whose path needs to be changed
Current Path	character	unlimited	system defined	The old absolute path for the Volume group that needs to be changed
New Path	character	unlimited	required	The absolute path of the new volume group.

The **Display History** button displays the Volume Group History box as shown at the bottom of the Volume Group Information Figure (4.10.2-8). Related fields are described in Table 4.10.2-9.

Back to the description of the Storage Configuration tab, **View Devices** allows the operator to view and configure a list of devices which correspond to the Specific Server ID. This option is available only to those Servers which have Devices which are: 3490/3490, 8MM Tape, 9 Track, and D3. Clicking on this button displays a screen as shown in Figure 4.10.2-11.



**Figure 4.10.2-11. Device Configuration Pop-up**

Table 4.10.2-12 describes the Device Configuration display fields.

**Table 4.10.2-12. Device Configuration Field Description**

Field Name	Data Type	Size	Entry	Description
Device Name	character	20	required	Operator inserted name of a Device associated with a Server ID.
Status	integer	0 or 1	system generated	System gives status of the Device as "OFF-LINE" or "ON-LINE".
Node	character	20	system generated	Node location of the Device if known.
Stacker ID	character	20	optional*	Stacker ID name for the Device.
Description	character	100	system generated	Description of Device.
Find	character	N/A	optional	Allows the operator to perform a keyword search for items in the Device Name field

Note: A Device can be a stand alone device not associated with a Stacker.

Devices may be added, modified, or deleted as shown (see Figure 4.10.2-11) and by means of the following buttons:

- **Add...** Allows the operator to add a device. Figure 4.10.2-12 shows a screen displayed when this button is selected. Various entries can be inserted into the associated fields to identify Stacker, Drive Number, Drive Tape Slot, Description, Pathname and other parameters. Note that a number of parameters have built in controls to make a selection.
- **Modify** Allows the operator to change any entries made in the parameters with the above **Add...** button.
- **Delete** Allows the operator to delete the Device information of the Device Name highlighted.
- **Cancel** Allows the operator to close the screen without accepting any changes to the inserted information.

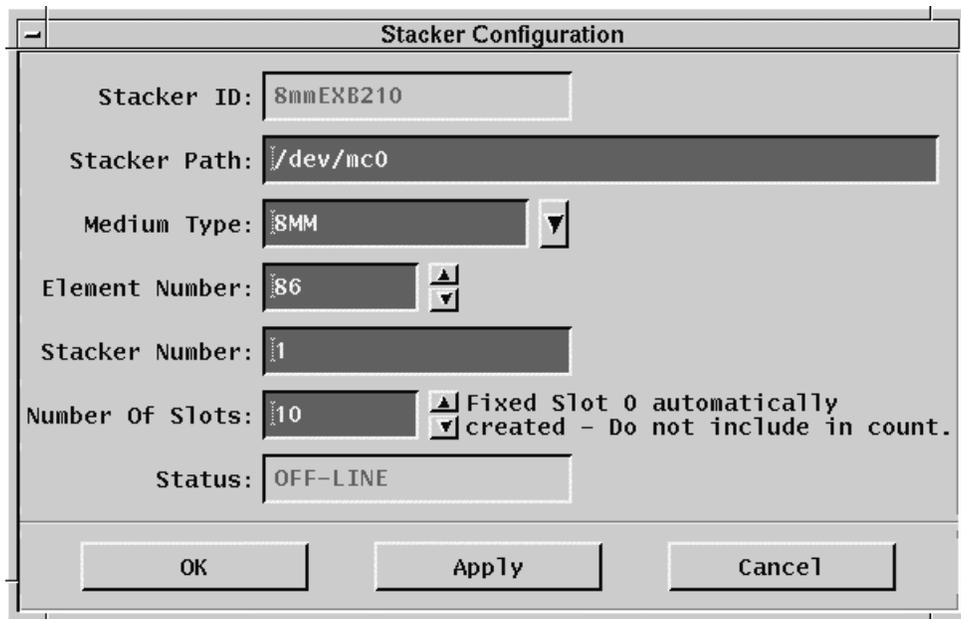
Included with the above standard controls is a **Modify Stacker** button shown in Figure 4.10.2-12. When this button is activated a screen is made available to allow the operator to configure a given Stacker and display Slot Information – see Figure 4.10.2-13 and Table 4.10.2-14. This button is only available when an existing stacker is displayed in the Stacker field.

The image shows a dialog box titled "8MM Tape Device Configuration". It contains several input fields and buttons. The fields are: "Server Id" with the value "EcDsSt8MMServer\_DEVO"; "Stacker" with a dropdown menu showing "8mmEXB210"; "Drive Number" with a spinner box showing "1"; "Device Name" with the value "8mmEXB2101"; "Model" with an empty text box; "Capacity" with a dropdown menu showing "Low"; "SCSI Element Number" with a spinner box showing "82"; "Description" with the value "Tape Drive #1"; and "Pathname" with the value "/dev/rmt/1". At the bottom of the dialog box, there are four buttons: "OK", "Apply", "Cancel", and "Modify Stacker".

**Figure 4.10.2-12. 8MM Tape Device Configuration Pop-up**

**Table 4.10.2-13. Device Configuration Field Description**

Field Name	Data Type	Size	Entry	Description
Server ID	character	20	system generated	The server ID selected by the operator and reported by the system.
Stacker	character	N/A	optional	The stacker the device is in.
Drive Number	character	unlimited	required	ID type name for the Drive
Device Name	character	unlimited	system generated	Device name selected by the user and displayed by the system.
Model	character	unlimited	optional	Device model name, if known.
Capacity	character	N/A	required	Predefined set of capacity level (e.g., low)
SCSI Element Number	integer	unlimited	required	Ordinal number ID of the SCSI device
Description	character	100	system generated	Description of Device.
Path Name	character	unlimited	required	Absolute path that identifies the Device



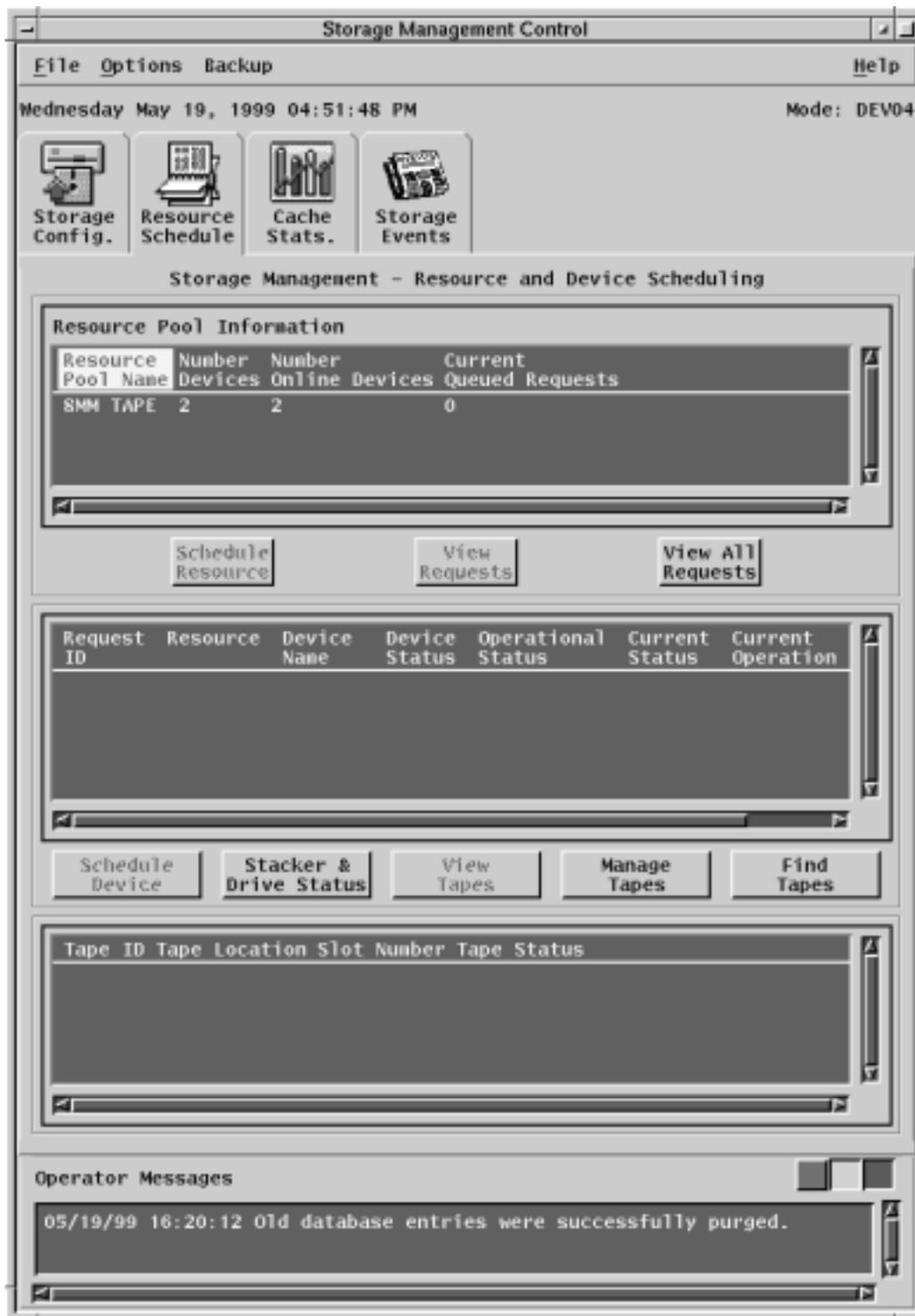
**Figure 4.10.2-13. Stacker Configuration Pop-up**

**Table 4.10.2-14. Stacker Configuration Field Description**

<b>Field Name</b>	<b>Data Type</b>	<b>Size</b>	<b>Entry</b>	<b>Description</b>
Stacker ID	character	20	required	The stacker ID selected by the operator for configuration.
Stacker Path	character	unlimited	required	Absolute path that identifies the Stacker.
Medium Type	character	N/A	optional	Predefined list of medium types.
Element Type	character	N/A	required	Element Type assigned to the Stacker.
Stacker Number	integer	N/A	required	ID number assigned to the Stacker
Number of slots	integer	N/A	required	Total number of slots assigned to the stacker
Status	character	N/A	System provided	Status of the selected stacker

#### **4.10.2.2.2 Resource Schedule**

The Resource Schedule tab allows the operator to schedule the availability of given storage devices based on the present status of the queued request for devices as shown in Figure 4.10.2-14.



**Figure 4.10.2-14. Resource Scheduling Tab**

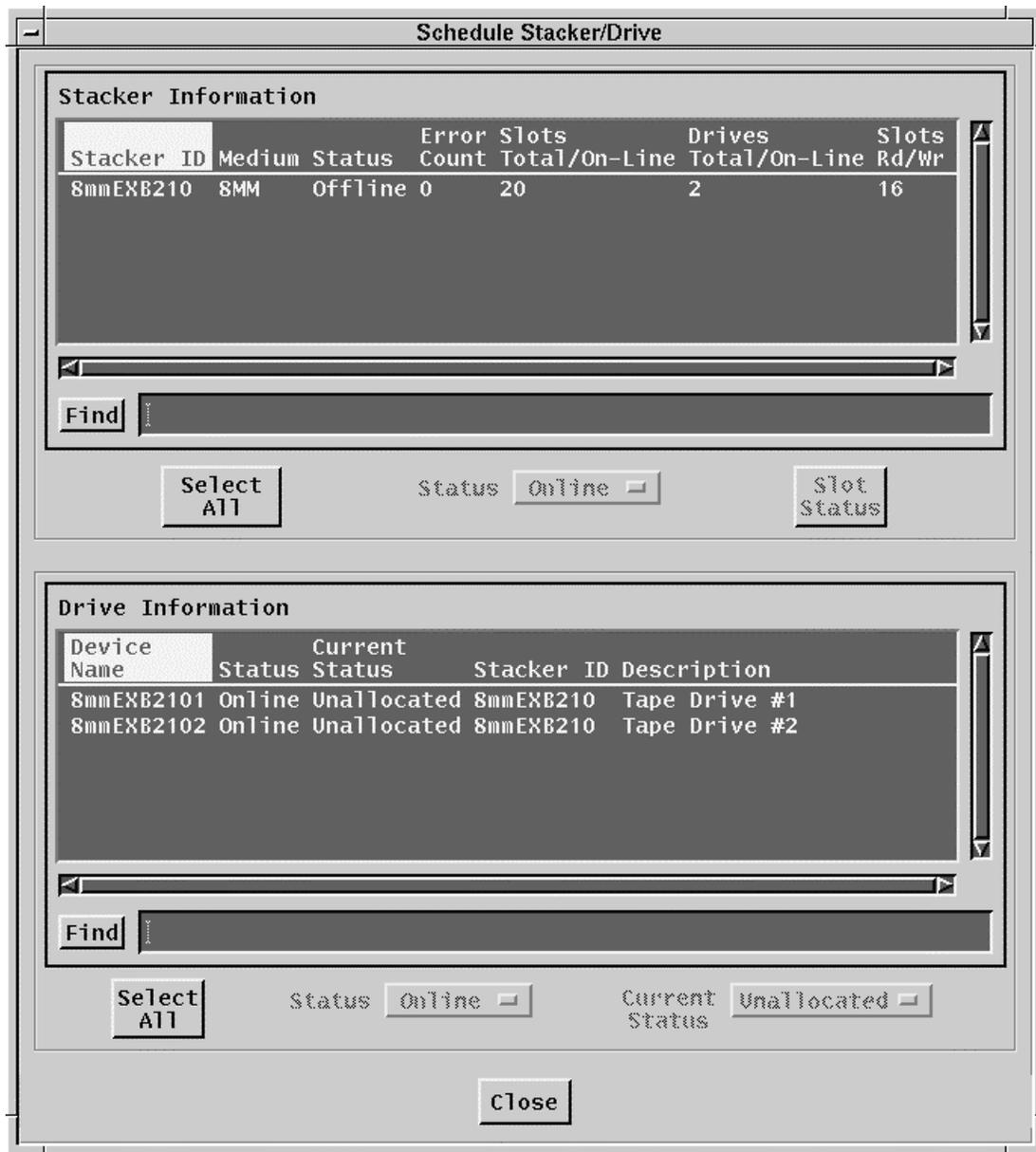
The following functionality is provided through the several buttons present on the Resource Schedule Tab.

- **Schedule Resource** functionality not defined in this version
- ↑ **View Requests** allows the operator to display the requests for resources included in the selected Resource Pool in the box below.
- ↑ **View All Requests** allows the operator to display the requests for resources in the box below, independently from the selection operated in the Resource Pool Information box.
- **Schedule Device** functionality not defined in this version
- ↑ **Stacker and Drive Status** allows the operator to schedule Stackers and Drivers by means of the pop-up window shown in Figure 4.10.2-15. Table 4.10.2-16 provides details on the data fields of the Schedule Stacker/Drive. The scheduling of both Stacker and Drive is allowed through three buttons. Once a Stacker or a Device has been selected, it can be either **Put Online** or **Taken Offline** clicking on the provided buttons. Global selection operations on all the displayed stackers and devices are allowed through the **Select All** buttons.
- **View Tapes** list the available tapes on the box below.
- ↑ **Manage Tapes** allows for the assignment of tapes to tape groups. Tape groups are comprised of tapes that were serviced by a stacker during a given loading of the stacker. The information about other tapes in the group is available from knowing the tape id of one tape in the group. The purpose of the tape group is to make the collating of tapes for different requests a little easier. Management of the tapes consists of creating or deleting tape groups. Once a tape group is created, the tapes in the tape group can be configured with capacity and access. Tapes are added to the tape group in slot number order (the first tape in the group should be the tape that goes into slot 1 of the tray, etc.). Tape groups can then be assigned to or unassigned from a given stacker. A resume activity button allows for the resumption of servicing requests after the stacker has been reloaded.
- ↑ **Find Tapes** button brings up the Tape Information Screen which allows for information about a given tape or another tape in the tape group to be displayed. This information can be used to help collate tapes for a given request.

Table 4.10.2-15 provides information on the data fields shown in the Resource Scheduling Tab.

**Table 4.10.2-15. Resource Scheduling Tab Field Description**

<b>Field Name</b>	<b>Data Type</b>	<b>Size</b>	<b>Entry</b>	<b>Description</b>
Resource Pool Name	character	N/A	System provided	Name of the Resource Pool
Number of Devices	integer	N/A	System provided	Number of device comprised in the Pool
Number Online Devices	integer	N/A	System provided	Number of device in the Pool that are online
Current Queued Requests	integer	N/A	System provided	Number of Requests currently queued
Request ID	character	N/A	System provided	Identifier of the resource request
Resource	character	N/A	System provided	Resource affected by the selected request
Device Name	character	N/A	System provided	Name of the Device affected by the request
Device Status	character	N/A	System provided	Status of the Device
Operational Status	character	N/A	System provided	Online/Offline flag
Current Status	character	N/A	System provided	Current status of the device
Current Operational Status	character	N/A	System provided	Current operational status of the device
Tape ID	character	N/A	System provided	Identifier for the listed tapes
Tape location	character	N/A	System provided	Location of the tape listed
Slot Number	integer	N/A	System provided	Slot number of the tape location
Tape Status	character	N/A	System provided	Online/Offline flag for the listed tape



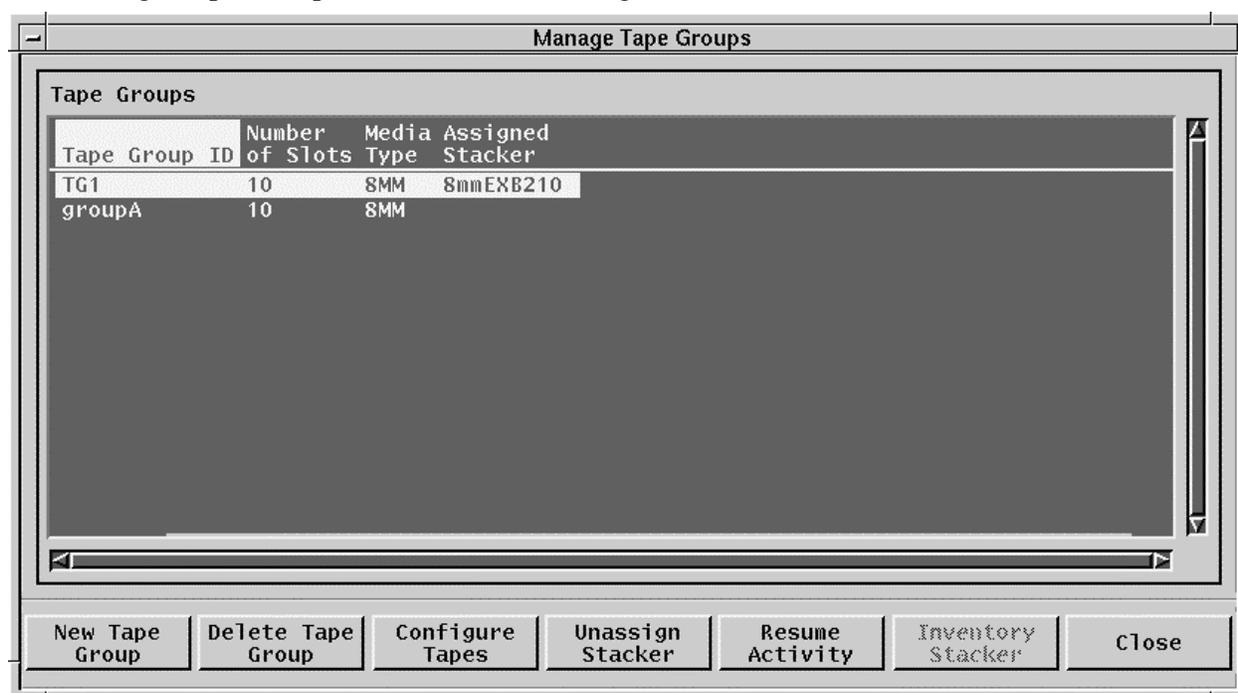
**Figure 4.10.2-15. Schedule Stacker/Drive Pop-up**

**Table 4.10.2-16. Schedule Stacker/Drive Field Description**

Field Name	Data Type	Size	Entry	Description
Stacker ID	character	N/A	System Provided	Identifier of the stacker that is being scheduled
Medium	character	N/A	System Provided	Type of tape used by drive
Status	character	N/A	System Provided	Status of the Stacker
Error Count	integer	N/A	System Provided	Number of errors received on stacker
Slots Total/Online	Integer, Integer	N/A	System Provided	Ratio of the total versus the on line Slots
Drives Total/Online	Integer, Integer	N/A	System Provided	Ratio of the total versus the on line Devices
Slots Rd/Wr	Integer	N/A	System Provided	Ratio of the Read Slots versus write slots
Device Name	character	N/A	System Provided	Name of the Device that is being scheduled
Status	character	N/A	System Provided	Current Status of the device that's being scheduled
Current status	character	N/A	System Provided	Tape drive allocated/ unallocated
Stacker ID	character	N/A	System Provided	ID of the Device's stacker
Description	character	N/A	System Provided	Description of the device

#### 4.10.2.2.2.1 Manage Tape Groups Screen

The Manage Tape Groups screen is shown in Figure 4.10.2-16.



**Figure 4.10.2-16. Manage Tape Groups Screen**

#### 4.10.2.2.2.1 New Tape Group Screen

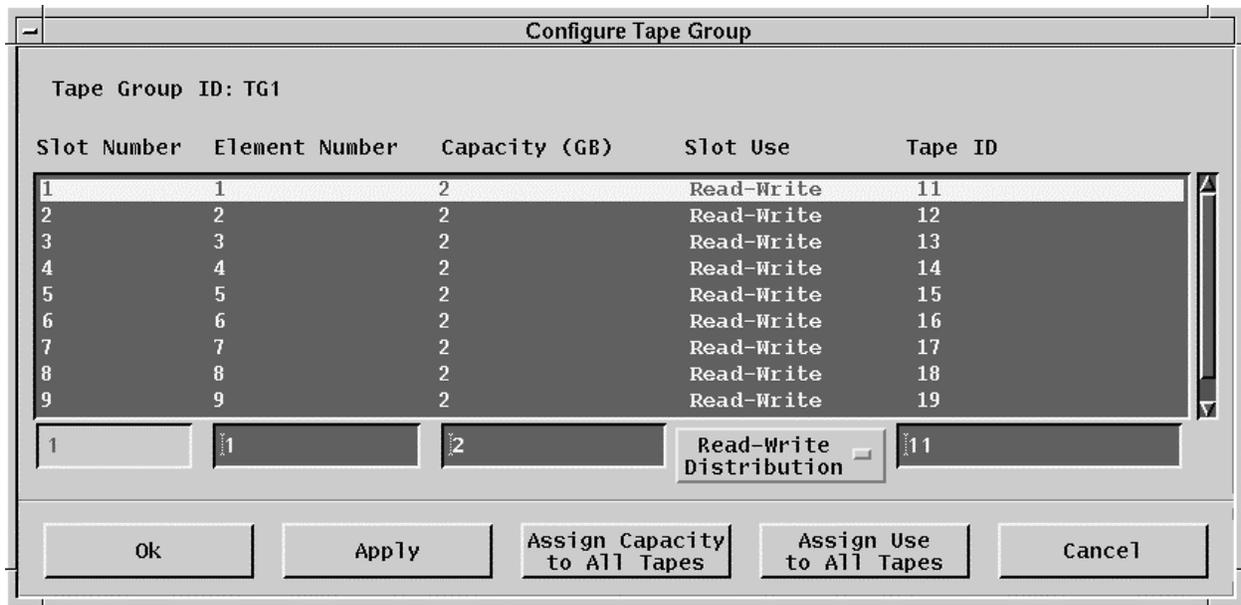
The New Tape Group screen shown in Figure 4.10.2-17 appears when the New Tape Group button on the Manage Tape Groups screen is pushed. The user should enter a unique group name, the number of slots in the group (which should correspond to the number of slots that will be in the stacker using the tapes) and the media type of the tape.



**Figure 4.10.2-17. New Tape Group Screen**

#### 4.10.2.2.2.2 Configure Tape Group Screen

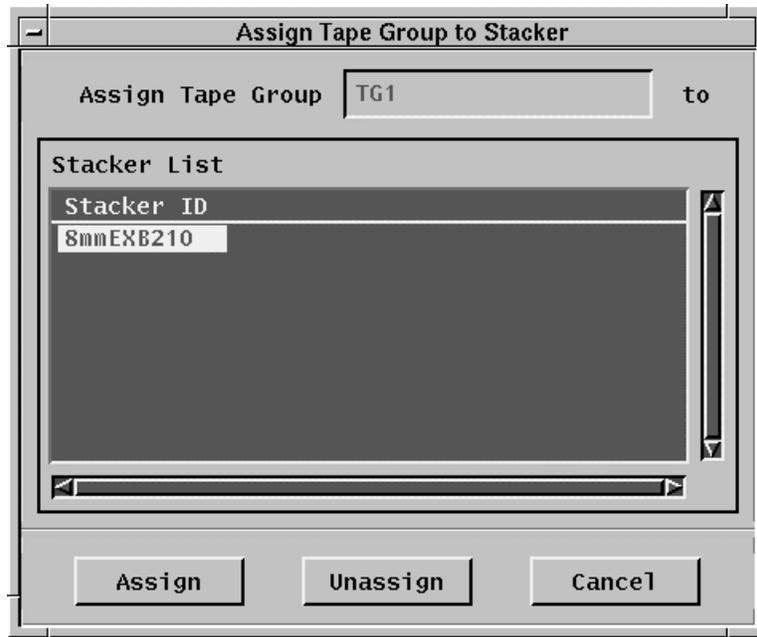
The Configure Tape Group screen shown in Figure 4.10.2-18 appears when the Configure Tape Group button on the Manage Tape Groups screen is pushed. The Configure Tape Group screen has the name of the tape group displayed at the top of the screen. The slot number is along the far left. Rows for element number, capacity, slot use, and tape ids proceed towards the right and can be updated by the operator. The element column should be left as it is. It deals with the SCSI element number for the slot. The capacity for each line can be set independently by selecting a row and entering the capacity box at the bottom of the column. If the Assign Capacity to All Tapes button is pushed, the capacity will be assigned to all of the rows. The slot use can be set for each row by selecting the row and toggling the value in the menu box at the bottom of the column. Again, the slot use for all of the rows can be set to the value of the slot use for the selected row by hitting the Assign Use to All Tapes button. The Cancel button closes the window and does not update the database. Apply updates the database but does not close the window. OK updates the database and closes the window. Entering the Configure Tape Group during operations may set the slot use back to read only in the GUI display. This will not affect operations if the window is closed using cancel. This is a known problem and should be fixed in 5B.



**Figure 4.10.2-18. Configure Tape Group Screen**

#### 4.10.2.2.2.3 Assign Tape Group to Stacker Screen

The Assign Tape Group to Stacker screen shown in Figure 4.10.2-19 is accessed via the Assign Stacker/ Unassign Stacker button. The Assign Stacker button appears if the selected tape group does not have a stacker assigned. If the selected tape group has a stacker assigned, the button changes to a Unassign Stacker button. The Assign Tape Group to Stacker screen has the name of the tape group at the top of the screen. A list of stackers that can service the tape group is in a selection list below the name. Clicking on one of the stackers allows the Assign button to be activated. The Unassign and cancel buttons do not require the selection of a stacker. The Unassign button breaks the assignment of the group to the stacker and closes the Assign Tape Group to Stacker screen. Cancel also closes the screen leaving the tape group in its current assigned/unassigned state. Hitting the Assign button closes the window. If the stacker is not already assigned, the tape group will show the assignment in the Manage Tape Groups screen. If the stacker has already been assigned the assignment will not appear in the Manage Tape Group screen and an error message will appear in the operator messages at the bottom of the STMGIT GUI.



**Figure 4.10.2-19. Assign Tape Group to Stacker Screen**

#### **4.10.2.2.3 Cache Stats. Tab**

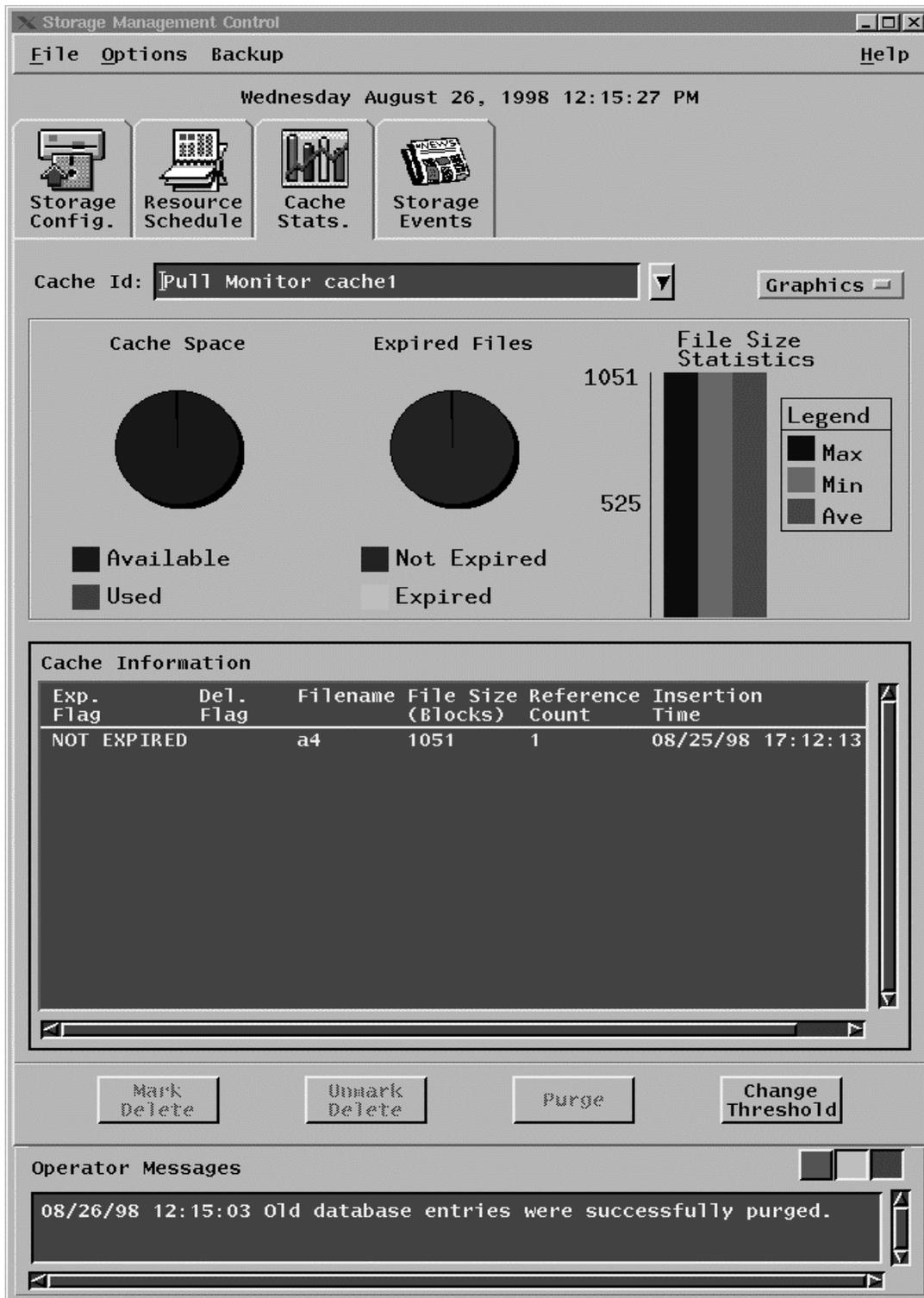
This Tab displays all of the files that are in the Pull Monitor cache. Two views of the same stats are available to the operator one in textual mode the other in graphical mode (see Figures 4.10.2-20 and -21). The selection of the presentation mode is operated through the switch button in the upper right portion of the tab.

It reports general statistics on the entire cache and allows the operator to delete expired files in the cache area. If the cache reaches an operator configurable threshold the operator is warned with a message in the operator messages area. If the operator does not delete expired files and allows the cache to fill, the server will not be able to copy new files to the cache area.

When the **Mark Delete** button is pressed, the selected item in the list is marked for deletion. Multiple items may be selected. When the **Unmark Delete** button is pressed the delete flag is removed for all items selected in the list. When the **Purge** button is pressed, all items marked for deletion are deleted from the cache if they have expired. The **Change Threshold** button displays a small window that allows the operator to change the fault and warning cache space level.



**Figure 4.10.2-20. Cache Stats. Tab Textual Mode**



**Figure 4.10.2-21. Cache Stats. Tab Graphical Mode**

Fields belonging to the Cache Stats Tab are described in the following Table 4.10.2-17.

**Table 4.10.2-17. Cache Stats. Field Description**

<b>Field Name</b>	<b>Data Type</b>	<b>Size</b>	<b>Entry</b>	<b>Description</b>
Current Utilization	float	N/A	system generated	Percent of cache space that is full
Used Space	integer	N/A	system generated	Amount of space in cache that is being used.
Free Space	integer	N/A	system generated	Amount of space in cache that is free
Total Space	integer	N/A	system generated	The total space in the cache
Number of Resident Files	integer	N/A	system generated	The number of files in the cache.
Number of Expired Files	integer	N/A	system generated	The number of files that have expired in the cache.
Maximum File Size	integer	N/A	system generated	The size of the largest file in the cache.
Minimum File Size	integer	N/A	system generated	The size of the smallest file in the cache.
Average File Size	integer	N/A	system generated	The average size of the files in the cache.

#### **4.10.2.2.4 Tape Information Screen**

The Tape Information screen shown in Figure 4.10.2-22 appears when the Find Tapes button on the Manage Tapes screen is pushed. At the top of the screen, there is an entry field for a tape id. When a tape id is entered, the location field below the tape id is filled in with the current known location of the tape. If the taped is part of a group that has been assigned to a stacker, then the stacker id appears in that field. The operator has the ability to enter a new location for the tape. The status, request id, and tape group id for the tape are also displayed. Towards the bottom of the screen is a selection list which is filled in with the other tapes in the tape group. Clicking on one of them displays the information for that tape at the upper part of the screen. An OK button will save any changes to the location for the selected tape and close the screen. Apply saves the changes to the location but does not close the screen. View Requests brings up a new screen that provides information about all of the tapes associated with the request. Cancel closes the screen without saving any changes for the location of the tape.

**Tape Information**

Tape ID:

Location of Tape:   
(Optional Entry)

Tape Status:

Request ID:

Tape Group ID:

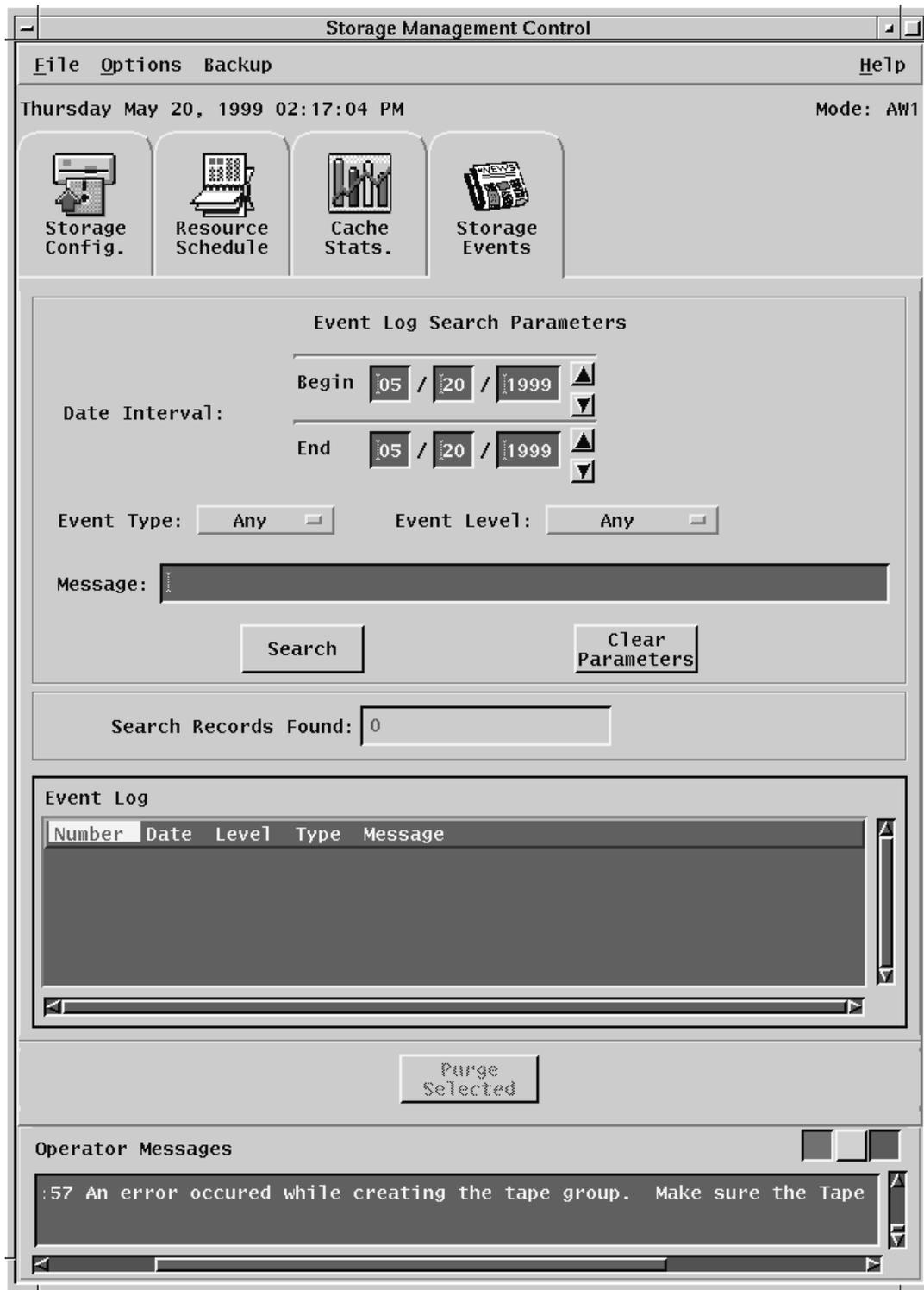
**Tape Group Information**

Tape ID	Request ID	Tape Location	Slot Number
11		8mmEXB210	1
12		8mmEXB210	2
13		8mmEXB210	3
14		8mmEXB210	4
15		8mmEXB210	5
16		8mmEXB210	6
17		8mmEXB210	7
18		8mmEXB210	8

**Figure 4.10.2-22. Tape Information Screen**

#### 4.10.2.2.4 Storage Events Tab

This Tab (shown in Figure 4.10.2-23) allows the operator to search for events in the Event Log. Various search parameters are shown in the Event Log Search Parameter box. When the **Search** button is selected, the results are shown in the Event Log box.



**Figure 4.10.2-23. Storage Events Tab**

The **Clear Parameters** button deletes entries made in the Event Log Search Parameters data fields. The **Purge Selected** button, when selected, deletes the entries in the Event Log which are highlighted (“Selected”) by the operator. A context sensitive **Help** button provides the operator with information on the listed events,

Table 4.10.2-18 describes the Event Log fields.

**Table 4.10.2-18. Event Log Field Description**

Field Name	Data Type	Size	Entry	Description
Date	date/time	21	system generated	Date and time event was entered into the Event Log. GMT in the format: mm/dd/yy hh:mm:ss.sss
Level	character	11	system generated	Classification of event into various defined (TBS) Levels.
Type	character	10	system generated	Classification of event into various defined (TBS) Types.
Message	character	255	system generated	Message as entered in the Event Log.

Note: the same fields are reported in the “Operator Messages” box in Figure 4.10.2-23. The data type, size, and the description are the same while the entry is “optional” based on the search criteria that the operator uses.

#### 4.10.2.2.5 Storage Management Control Menu Screens Available

The following screen (shown in Figure 4.10.2-24) is made available when the **Backup/Restart** menu function is activated from the **File/Backup** menu:



**Figure 4.10.2-24. Restart Backup Pop-up**

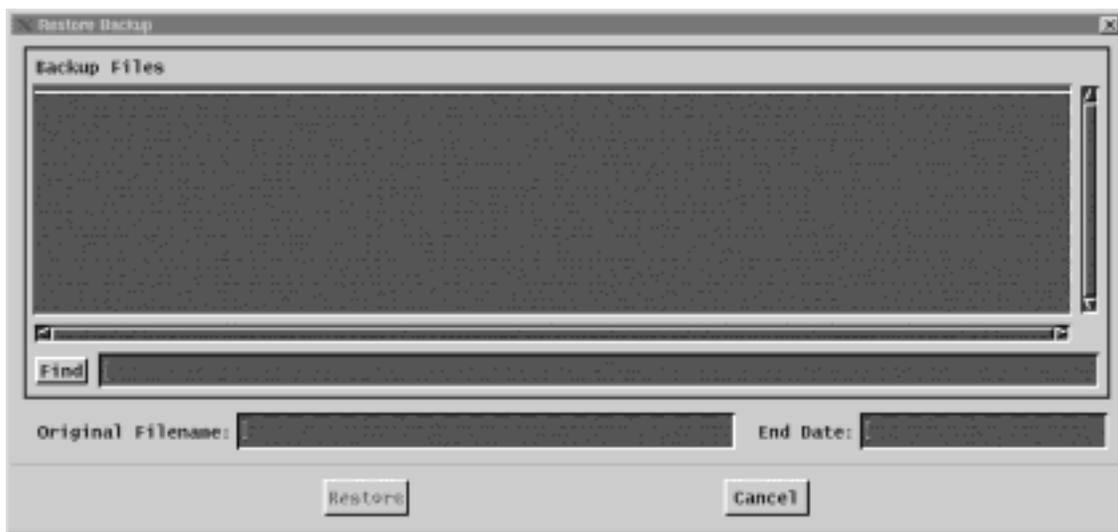
Table 4.10.2-19 describes the Restart Backup fields.

**Table 4.10.2-19. Restart Backup Field Description**

Field Name	Data Type	Size	Entry	Description
Filename	character	100	system generated	File name which uniquely identifies file.
Start Date	date/time	21	system generated	Date and time at the start of the file. GMT in the format: mm/dd/YY hh:mm:ss.sss
Transfer Stage	character	9	system generated	Stage of file transfer.
Transfer Status	character	9	system generated	Status of file transfer.
Archive ID	character	30	system generated	Identification of data in Archive files.
Backup ID	character	30	system generated	Identification of data in Backup files.
Offsite ID	character	3	system generated	Identification of Site where files are located.
Find	character	255	optional	Allows the operator to perform a keyword search for items in the Device Name field

The pop-up screen shown in Figure 4.10.2-25 shows up when the **Restore Backup** menu item is selected from the **File/Backup** menu.

The operator is given the possibility to enter the **Original Filename** and the **End Date** of the backup file that has to be restored as specified in the following Table 4.10.2-20.

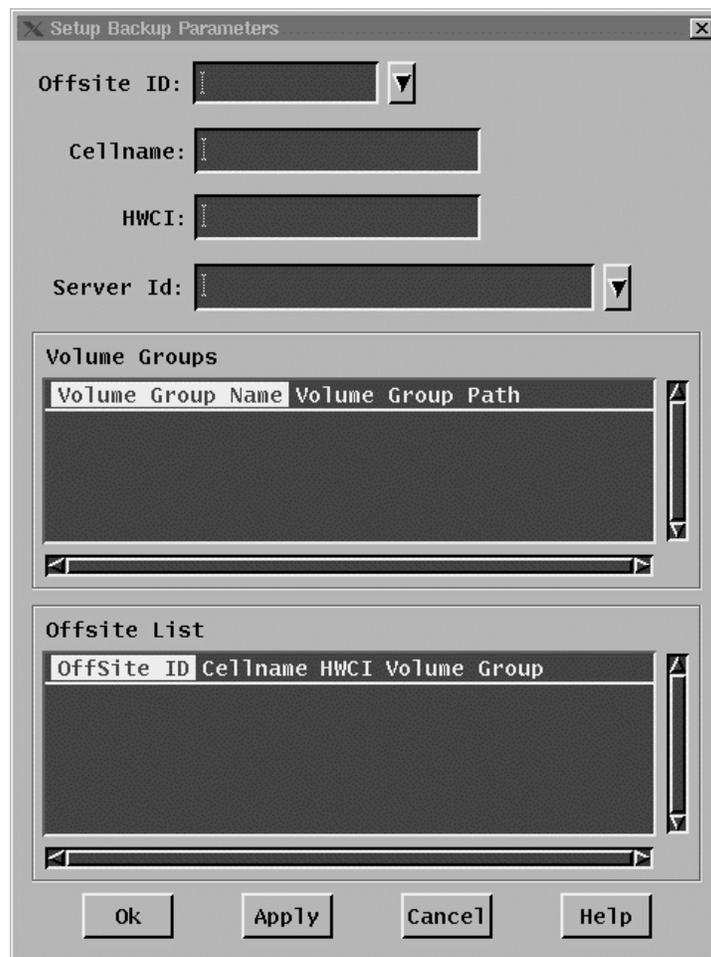


**Figure 4.10.2-25. Restore Backup Pop-up**

**Table 4.10.2-20. Restore Backup Field Description**

Field Name	Data Type	Size	Entry	Description
Original Filename	character	100	system generated	File name which uniquely identifies the backup file to be restored.
End Date	date/time	21	system generated	Date and time at the end of the file. GMT in the format: mm/dd/YY hh:mm:ss.sss

Selecting the menu item **Setup** from the **File/Backup** menu allows the operator to define parameters for both the on-site and off-site backups. Figure 4.10.2-26 shows the pop-up window that the operator uses for this purpose. Table 4.10.2-21 describes the parameters that are used in the pop-up window.



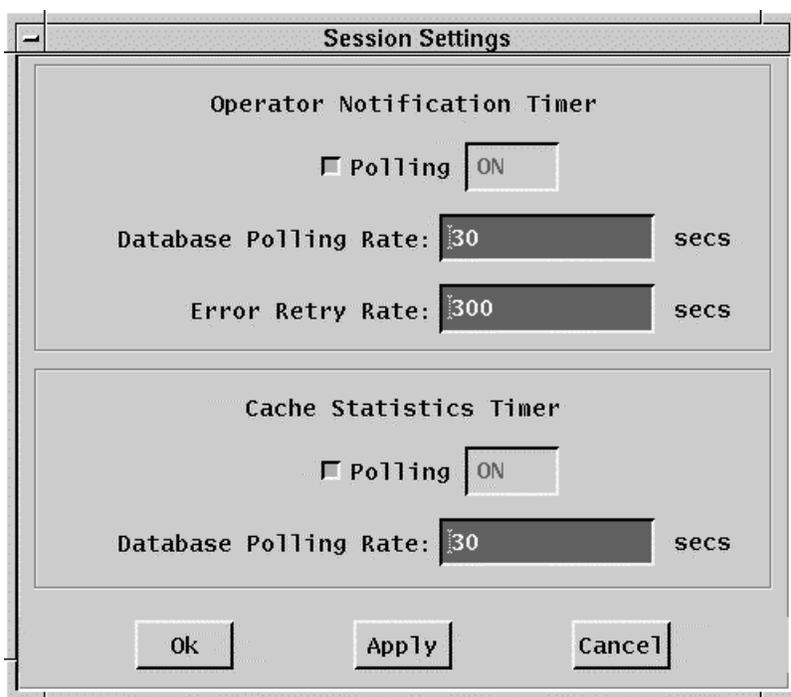
**Figure 4.10.2-26. Setup Backup Pop-up**

**Table 4.10.2-21. Setup Backup Field Description**

Field Name	Data Type	Size	Entry	Description
Offsite ID	character	N/A	optional	List of selectable offsite identifier
Cellname	character	N/A	optional	DCE cell name of the selected ECS site
HWCI	character	N/A	optional	Name of the Hardware Configuration Item
Server ID	character	N/A	optional	ID of the server that is used for the back up
Volume Group Name	character	unlimited	required	Volume Group Name that is Backed-up
Volume Group Path	character	unlimited	required	Absolute Path for the Volume Group that is Backed-up

Selecting the Options Menu Item from the File menu shows the pop up window that allows the operator to select the polling rate for the event log – see Figure 4.10.2-27.

A **Database Polling On** button allows the operator to switch the **Database Polling Rate** on or off.



**Figure 4.10.2-27. Polling Rate Selection Pop-up**

The affected parameters are shown in Table 4.10.2-22.

**Table 4.10.2-22. Polling Rate Field Description**

Field Name	Data Type	Size	Entry	Description
Database Polling Rate	integer	unlimited	optional	Rate at which the event log is update
Error Retry Rate	integer	unlimited	optional	Rate at which an update of the event log is attempted after error condition detection.
Database Polling Rate	integer	unlimited	optional	Rate at which the cache statistics are updated

The **Ok** button implements the new selections and closes the pop-up window.

The **Cancel** button ignores the changes and closes the window.

### 4.10.2.3 Required Operating Environment

For information on the operating environment, tunable parameters, and environment variables of the Storage Management Control Tool refer to the 920-TDx-013 “Custom Code Configuration Parameters” documentation series . The “x” refers to the installed location, e.g. 920-TDG-013 is for GSFC DAAC.

The following 4.10.2-17 table identifies the supporting products this tool depends upon in order to function properly.

**Table 4.10.2-23. Support Products for Storage Management Control**

Product Dependence	Protocol Used	Comments
Sybase	SQL	Checkpoint, configuration and request management for the server.
DCE	OODCE	Interprocess communication

### 4.10.2.4 Databases

The Storage Management Tool uses data that is provided by the Storage Management Database. For details about the Storage Management Database please refer to DID 311-CD-108-005, *Storage Management Database Design and Schema Specifications*.

### 4.10.2.5 Special Constraints

AMASS has to be up in order for the Storage management Tool to archive and retrieve files. Moreover the FTP server on the ACP host has to have debug logging enabled to write filename of pulled files to syslog for pull notification to the pull monitor.

#### **4.10.2.6 Outputs**

None.

#### **4.10.2.7 Event and Error Messages**

See Appendix A, Error Messages

#### **4.10.2.8 Reports**

None.

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### 4.10.3 Data Distribution Tool

The Data Distribution Requests GUI displays detailed information on individual data distribution requests and provides the capability to filter requests, change the priority of requests, and mark requests as shipped. The GUI's main window provides the operations personnel at the DAACs the capability to manage the data distribution requests. A synopsis of the functions performed by the Data Distribution Requests Tool is given in Table 4.10.3-1.

**Table 4.10.3-1. Common ECS Operator Functions Performed with the Data Distribution Tool**

Operating Function	Tab	Description	When and Why to Use
Manage Data Distribution Request Activities	Distribution Requests Tab	Allows operators to view and track data distribution requests	As required to monitor detailed information on data distribution request activities, change priority of requests, and mark requests as shipped, suspend/resume selected requests, suspend/resume all requests, and filter requests.

#### 4.10.3.1 Quick Start Using Data Distribution

The following sub-sections present an overview of the Data Distribution Tool.

##### 4.10.3.1.1 Invoking ECS Data Distribution Tool from the Command Line Interface

To start the Data Distribution Tool, the operator types the following command line:

```
EcDsDdistGuiStart <mode>
```

<mode> is the ECS mode for the execution.

#### 4.10.3.2 Data Distribution Main Screen

The Data Distribution Tool Main Screen has five tabs:

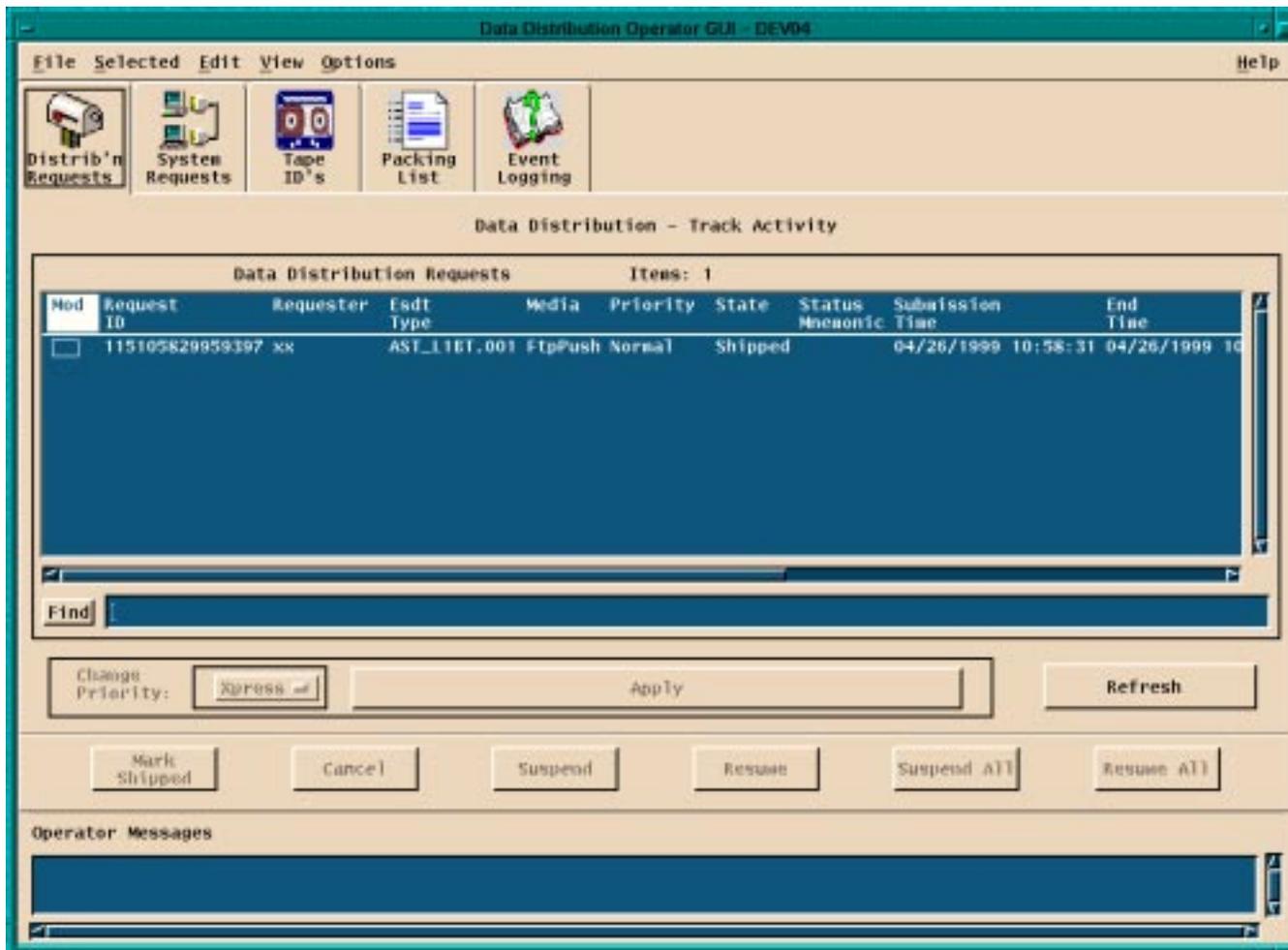
- The **Data Distribution Requests** which provides the functionality needed to track the activity related to product distribution requests.
- The **System Request** whose functionality has not yet been defined as of ECS Release 5A delivery.

- The **Tape ID's** which allows tapes to be searched from the Distribution list based on the ID or Distribution Request Number.
- The **Packing List** whose functionality has not yet been defined as of ECS Release 5A delivery.
- The **Event Log Search Parameters** whose functionality has not yet been defined as of ECS Release 5A delivery.

The following sub-sections describe the graphical elements that characterize the user interface of the above tabs.

#### **4.10.3.2.1 The Data Distribution Requests Tab**

The Data Distribution Requests Tab shown in Figure 4.10.3-1 is the default tab that appears when the Data Distribution Tool is invoked.



**Figure 4.10.3-1. Data Distribution Main Screen showing Data Distribution Request Tab**

The Data Distribution Request tab displays data distribution requests. The major component is the Track Activity panel which lists the data distribution requests currently being handled by the Data Distribution server. The total number of requests is displayed at the top of the panel in the Items field. Several parameters associated with each individual request are displayed. The list can be sorted by column. All of the parameters included for each request are identified and described in Table 4.10.3-2.

**Table 4.10.3-2. Data Distribution - Track Activity Panel Field Description (1 of 2)**

Field Name	Data Type	Size	Entry	Description
MOD	boolean	1		Checkmark that shows which requests have been selected and/or modified by the operator during the current session
Request ID	character	unlimited	system generated	Unique identifier for the request.
Requester	character	unlimited	system generated	Identifies the user that submitted the request.
Media	character	unlimited	system generated	Type of media to be used for distribution. Values are CD-ROM, 9-Track, 8mm, 4mm, FtpPush, and FtpPull.
Priority	character	unlimited	system generated	Priority at which the distribution request is processed relative to other distribution requests, Normal is its default value. Other Values are: Xpress, Vhigh, High, and Low.
State	character	unlimited	system generated	Request states are: pending, active, staging, waiting for shipment, shipped, canceled, transferring, suspended, suspended with errors.
Status Mnemonic	character	unlimited	system generated	Displays a small message that indicates there is an operator message attached to the request.
Submission Time	date/time	19	system generated	Time when the submit service was invoked upon the request. The time is standard GMT The format used is: mm/dd/yyyy hh:mm:ss.
End Time	date/time	19	system generated	Time when the distribution request has been satisfied. Time is in standard GMT, the format is mm/dd/yyyy hh:mm:ss.
Total Size (bytes)	integer	unlimited	system generated	Total size in bytes of the data to be distributed in the request.
Media # Completed	integer	unlimited	system generated	# of media that have been already filled up by the distribution request that is being processed
# Media	integer	max # of Media configurable	system generated	# of Media that need to be used to completely fulfill a (media) distribution request.
# Granules	integer	unlimited	system generated	# of granules comprising the distribution request

**Table 4.10.3-2. Data Distribution - Track Activity Panel Field Description  
(2 of 2)**

Field Name	Data Type	Size	Entry	Description
# of Files	integer	unlimited	system generated	Number of files in the distribution request.
Order ID	character	unlimited	system generated	the unique order ID that the entire data server use for identifying the distribution request
Ordered State	character	20	system generated	Request State can be changed directly by the operator by means of the button provided on the Track Activity screen (see below). See "State" field for values.

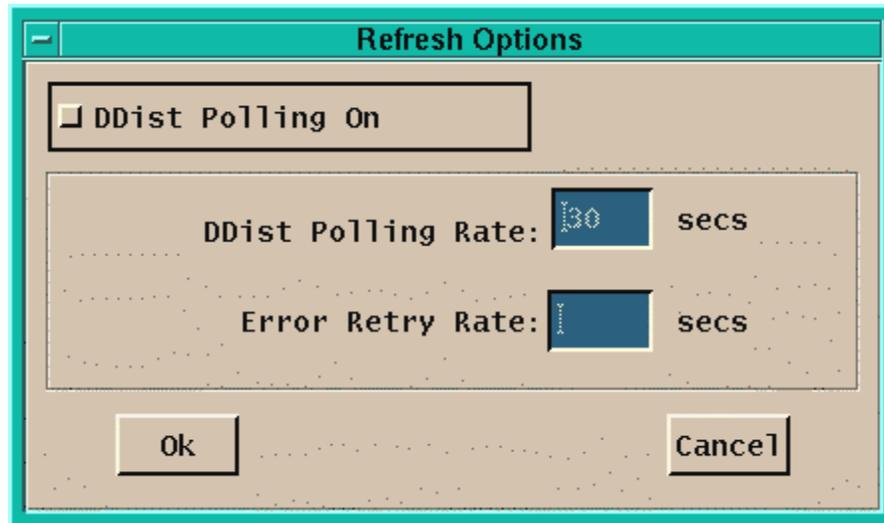
The operator can select from the menu bar items at the top of the Data Distribution GUI window for getting help and activating less-frequently used secondary functions. The menu bar capability is available on all Data Server GUI screens. The following menus are available:

- **File** includes the following items:
  - **View** opens a text viewer window
  - **Open...** not yet associated with any specific functionality as of this time
  - **Open Terminal** opens an XTerm window
  - **Save** not yet associated with any specific functionality as of this time
  - **Save As...** not yet associated with any specific functionality as of this time
  - **Go up** not yet associated with any specific functionality as of this time
  - **Go down** not yet associated with any specific functionality as of this time
  - **Go Home** not yet associated with any specific functionality as of this time
  - **Go To...** not yet associated with any specific functionality as of this time
  - **Print** not yet associated with any specific functionality as of this time
  - **Close** not yet associated with any specific functionality as of this time
  - **Exit** (Ctrl-Q) which exits the application (graceful exit).
- **Select** opens the a menu comprising the following items:
  - **Select All** not yet associated with any specific functionality as of this time
  - **Deselect All** not yet associated with any specific functionality as of this time

- **Change Permissions** not yet associated with any specific functionality as of this time
- **Edit** that includes the following items:
  - **Undo** not yet associated with any specific functionality as of this time
  - **Cut** not yet associated with any specific functionality as of this time
  - **Copy** not yet associated with any specific functionality as of this time
  - **Paste** not yet associated with any specific functionality as of this time
  - **Clear** not yet associated with any specific functionality as of this time
  - **Delete** not yet associated with any specific functionality as of this time
- **View** includes the following items:
  - **Refresh** redraws the window
  - **Filter** opens the Filter Control window
  - **Detailed** sends the detailed information of the selected distribution request to the operator messages text field
- **Options** includes the following items:
  - **System Settings** opens the Refresh Options window where the operator is given the option to toggle the **DDist base polling** *On* and *Off* through the provided toggle button (see Figure 4.10.3-2). In case the operator decided to have the polling of the Data Distribution Database *On*, the polling rate is editable. Details on the parameters that can be input by the operator in the Refresh Options screen are provided in Table 4.10.3-3
  - **Verify Connection** will check the connections to the Distribution server, and send the connection status to the Operator message text field
  - **Reconnect** will attempt to reestablish communications to the Distribution server
- **Help** provides on-line help to the operator.

**Table 4.10.3-3. Refresh Options Field Description**

Field Name	Data Type	Size	Entry	Description
DDist Polling Rate	integer	0-9999	optional	Allows the operator to specify the polling rate in seconds for updating the Task Activity Window (default is 30 sec).
Error Retry Rate	integer	0-9999	optional	Time in seconds that the system is going to wait before trying to poll the Data Server, after a failed attempt (currently not yet supported).



**Figure 4.10.3-2. Refresh Options Window**

The Data Distribution Tab includes additional functionality associated with the following buttons:

- **Apply** allows the operator to change the priority of the distribution requests selected in the Track Activity panel. Available selections are Xpress, Vhigh, High, Normal (default), and Low. The priority selection is handled through a pull down menu.
- **Mark Shipped** allows the operator to change the state of the selected Hard Media distribution request from waiting for shipment to shipped when the request has actually been shipped.
- **Filter** brings up the Filter Request Dialog (see Figure 4.10.3-3) which provides a selection of attributes from the list of distribution requests on which to filter. Filter on **Request ID** and **Requester** is done by selecting the corresponding toggle button and entering the desired information. Selecting the **All Requests** radio button returns to the original state of the request list. Further request filtering is allowed by selecting one or more media type radio buttons. The operator filters on all Media types by clicking the **All** button or clears all selected filters by clicking on the **None** button. Options for the Media

Type, as shown in fig. 4.10.3-3, include: CD-ROM, 9-Track, 8 mm, 4 mm, Electronic Push, and Electronic Pull.

Filtering is also allowed based on possible States of the request by selection through the available radio buttons in the **State:** panel. By clicking on **All** the operator can filter on all possible states. All selected filters can be cleared by clicking on the **None** button. Selectable States include: Pending, Active, Staging, Transferring, Cancelled, Suspended, Suspended with Errors, Waiting for Shipment, and Shipped.

In addition, the following pushbuttons are available:

- **OK** applies all selected filters and closes the filter dialog.
- **Apply** implements all filters and keeps the filter dialog open (in case other filtering needs to be done.)
- **Cancel** closes the filter dialog without applying the selected filters.
- **Help** displays on-line help information.

Table 4.10.3-4 describes the Data Distribution - Filter Requests fields.

The image shows a filter dialog box with the following sections:

- Request ID:** A text input field.
- Requester:** A text input field.
- All Requests:** A checkbox.
- Media Type:** A section with checkboxes for CD-ROM, 9-Track, 8 mm, 4 mm, D3, Electronic Push, and Electronic Pull. It also contains 'All' and 'None' buttons.
- State:** A section with checkboxes for Pending, Active, Staging, Transferring, Cancelled, Suspended, Suspended with Errors, Waiting for Shipment, Shipped, and Failed. It also contains 'All' and 'None' buttons.
- Buttons:** 'OK', 'Apply', 'Cancel', and 'Help' buttons at the bottom.

**Figure 4.10.3-3. Data Distribution - Filter Requests Dialog**

**Table 4.10.3-4. Data Distribution - Filter Requests Field Description**

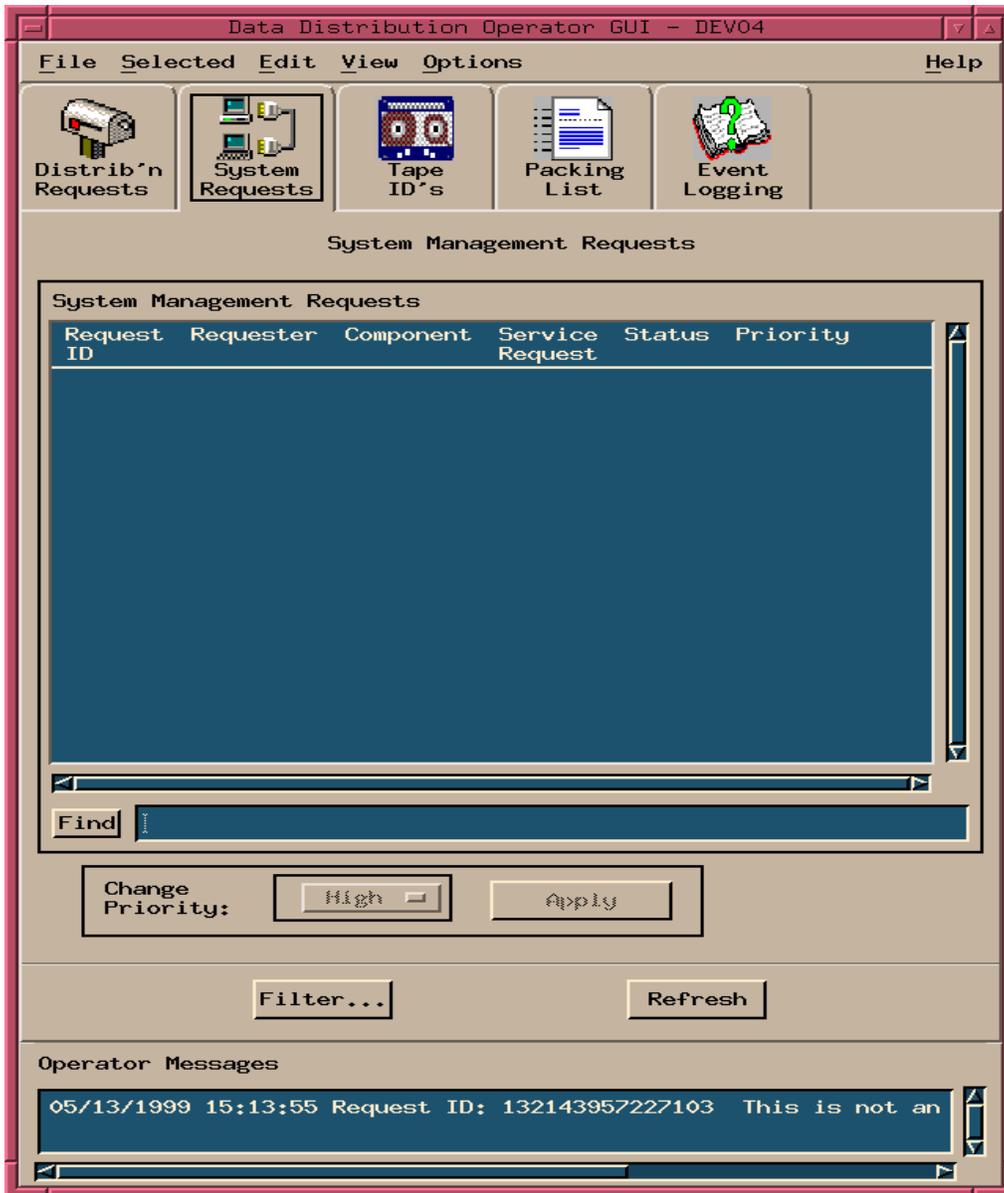
<b>Field Name</b>	<b>Data Type</b>	<b>Size</b>	<b>Entry</b>	<b>Description</b>
Request ID	character	unlimited	Operator Selected	Unique identifier for the request.
Requester	variable character	unlimited	Operator Selected	Identifies user that submitted the request.

Back to the Data Distribution Tab, the following additional buttons are also available:

- **Refresh** updates the Data Distribution Request screen with the most recent list of requests.
- **Cancel**, **Suspend** and **Resume** allow the operator to, respectively, cancel, suspend or resume the requests selected in the Track Activity list.
- Finally the **Suspend All** and **Resume All** buttons suspend all and resume all requests currently present in the Data Distribution server.
- **Operator Messages**: any error encountered during an operation to a request in the list is displayed in the operator messages window at the bottom of the screen.

#### **4.10.3.2.2 System Requests Tab**

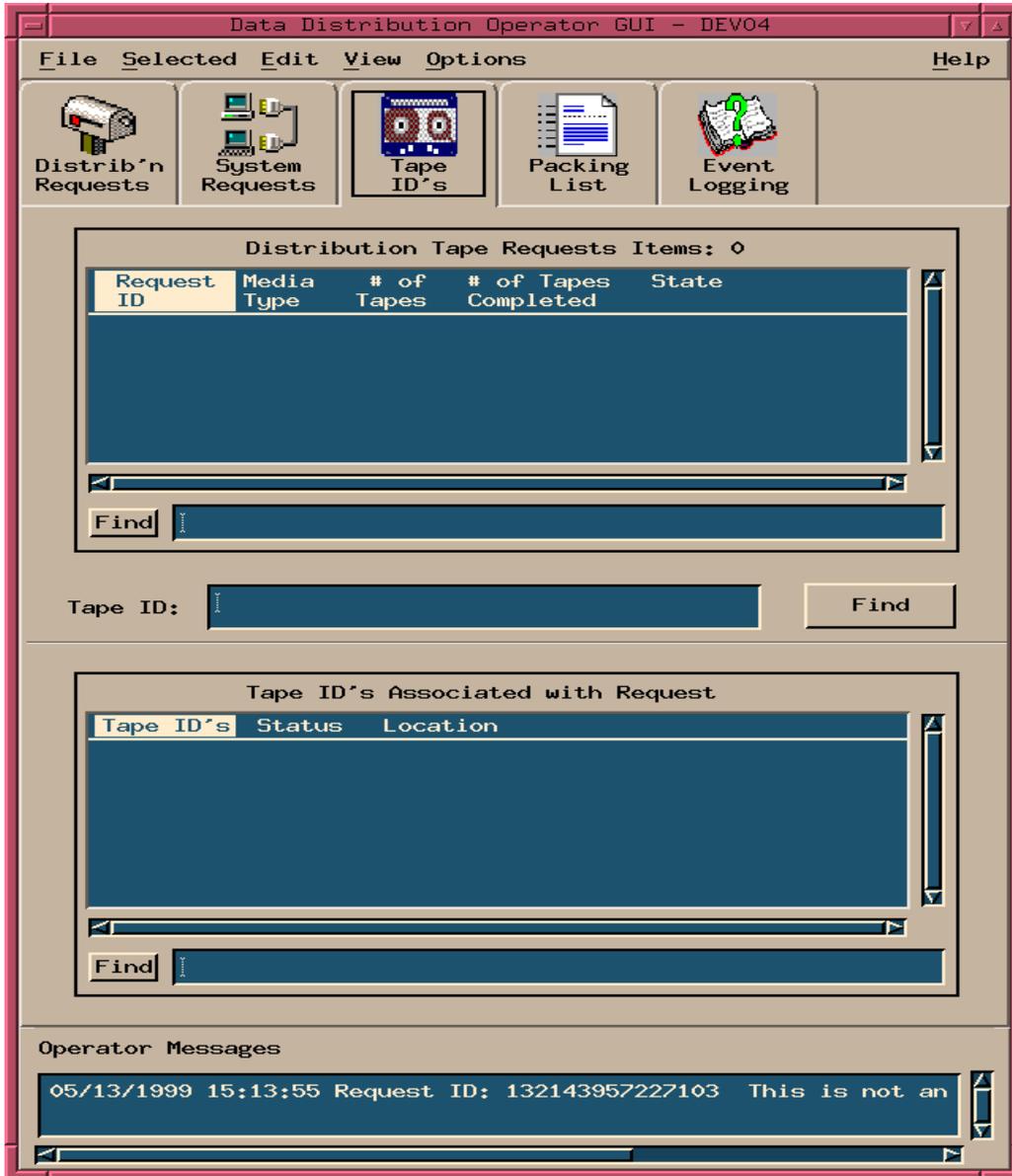
The functionality associated with the System Requests tab shown in Figure 4.10.3-4 is not yet defined, as of ECS Release 5A delivery.



**Figure 4.10.3-4. System Requests Tab**

### 4.10.3.2.3 Tape ID's Tab

The purpose of the Tape ID's tab shown in Figure 4.10.3-5 is to find and display Distribution Tape Request Items and Tape ID's associated with these requests.



**Figure 4.10.3-5. Tape ID's Tab**

The tab contains two list panels, one for Distribution Tape Requests and the other for Tape ID's Associated with Request. The first list displays the total number of tape requests at the top of the panel. Several parameters associated with each individual request are displayed to the user through

this panel. The list can be sorted by column. All of the parameters included for each request in the Distribution Tape Requests panel are listed and described in Table 4.10.3-5.

**Table 4.10.3-5. Distribution Tape Requests Items Field Description**

Field Name	Data Type	Size	Entry	Description
Request ID	character	unlimited	system generated	Unique identifier for the request.
Media Type	character	unlimited	system generated	Type of tape media to be used for distribution. Values are 9-track, 8mm, 4mm.
# Tapes	integer	max # of Media	system generated	# of Media that need to be used to completely fulfill a media distribution request.
# Tapes Completed	integer	unlimited	system generated	# of Media that have already been filled up by the distribution request that is being processed
State	character	unlimited	system generated	Request states are: pending, active, staging, waiting for shipment, shipped, canceled, transferring, suspended, suspended with errors.

The second list displays the total set of tapes associated with the request selected in the first list. Several parameters associated with each individual request are displayed to the user through this panel. The list can only be sorted by Tape ID column. All of the parameters included for each request in the Tape Ids Associated with Request panel are listed and described in Table 4.10.3-6.

**Table 4.10.3-6. Tape ID's Field Description**

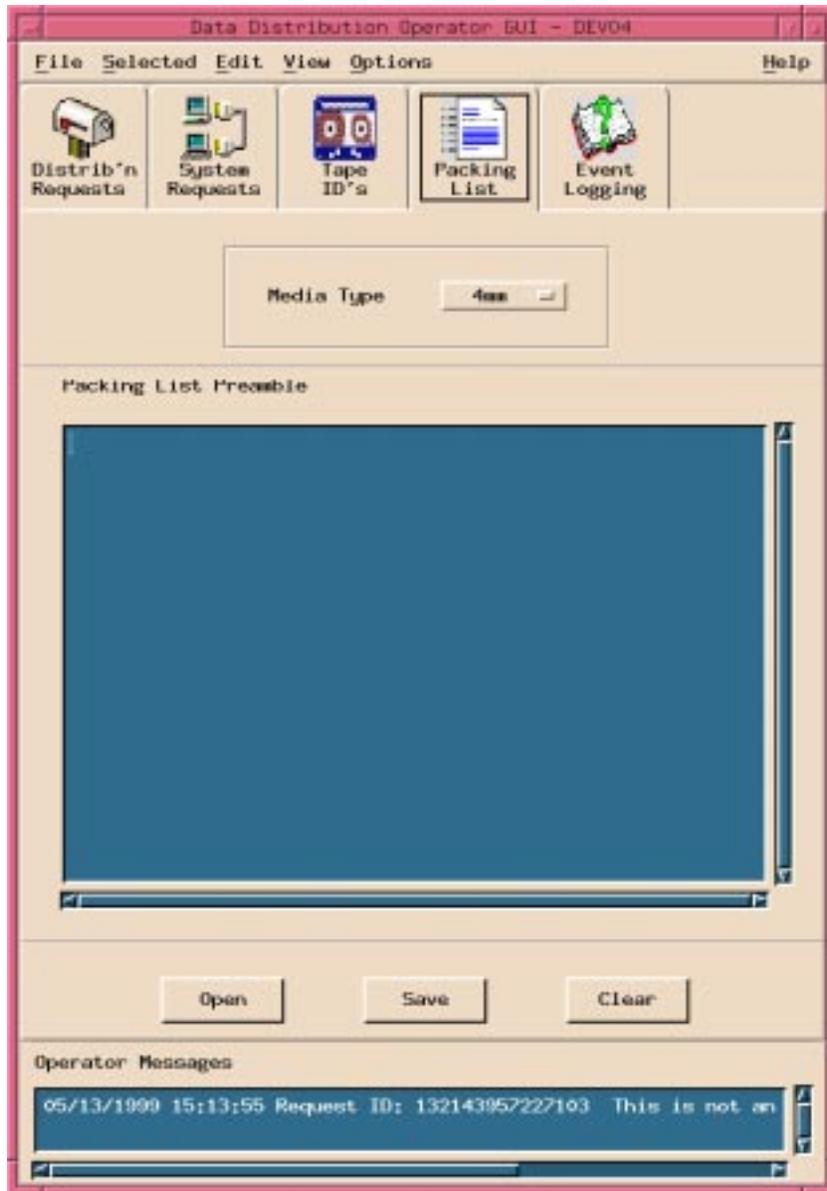
Field Name	Data Type	Size	Entry	Description
Tape ID	character	unlimited	system generated	Unique identifier for the tape.
Status	character	unlimited	system generated	Storage Management description of the tape status.
Location	character	unlimited	system generated	Physical location of the tape.

The Tape ID's tab includes additional functionality associated with the following button:

- **Find** allows the operator to search the database for a specified Tape ID. If found, the tape's associated Request ID will be displayed in the Distribution Tape Requests list, and all of the tapes associated with the Request are listed in the Tape ID list.

#### 4.10.3.2.4 Packing List Tab

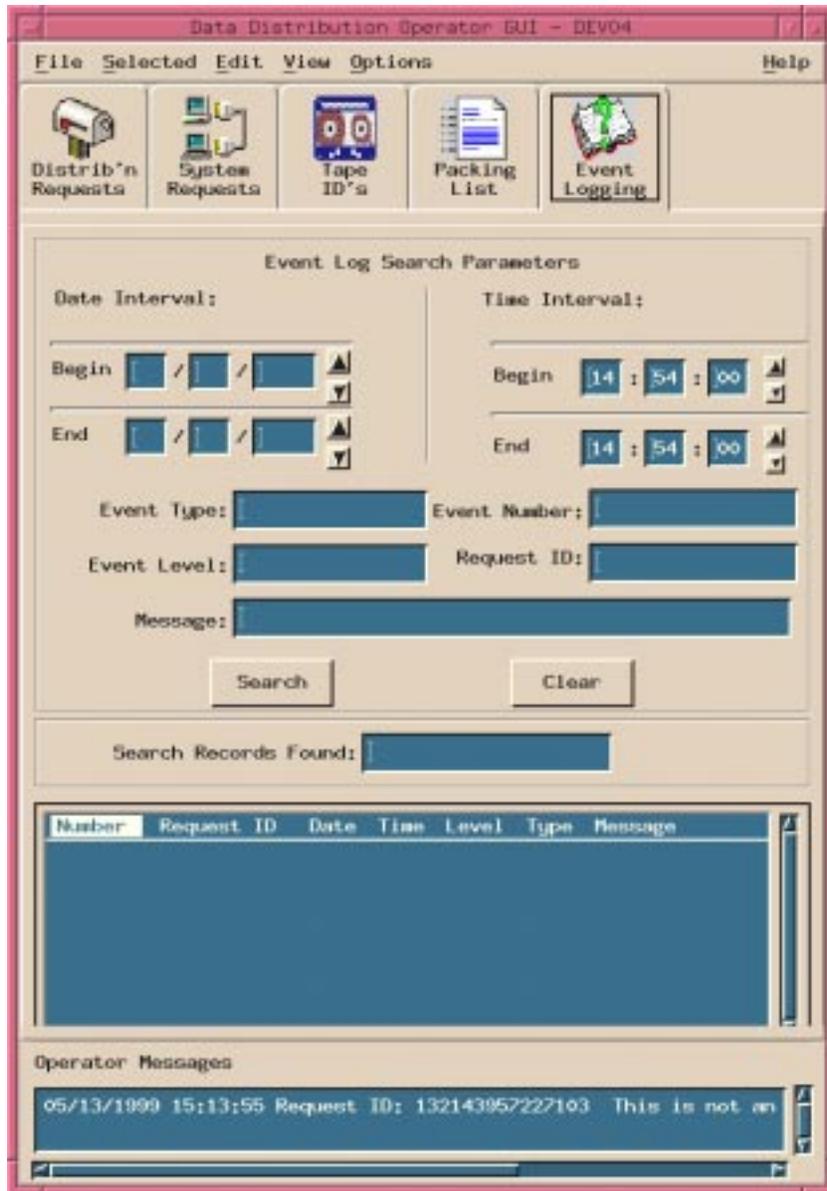
The functionality associated with the Packing List tab as shown in Figure 4.10.3-6 is not yet defined, as of ECS Release 5A delivery.



**Figure 4.10.3-6. Packing List Tab**

#### **4.10.3.2.5 Event Log Search Parameters Tab**

The functionality associated with the Event Logging tab shown in Figure 4.10.3-7 is not yet defined, as of ECS Release 5A delivery.



**Figure 4.10.3-7. Event Logging Tab**

### 4.10.3.3 Required Operating Environment

For information on the operating environment, tunable parameters, and environment variables refer to the 920-TDx-013 “Custom Code Configuration Parameters” documentation series . The “x” refers to the installed location, e.g. 920-TDG-013 is for GSFC DAAC.

#### 4.10.3.3.1 Interfaces and Data Types

Table 4.10.3-7 identifies the supporting products this tool depends upon in order to function properly.

**Table 4.10.3-7. External Interface Protocols**

<b>Product Dependency</b>	<b>Protocol Used</b>	<b>Comments</b>
DDIST and all clients	DCE	via DDIST client libraries

#### 4.10.3.4 Databases

The Data Distribution Requests Tool displays and updates the list of distribution requests after retrieving the information from the EcDsDistributionServer database associated with a mode. Mode refers to the system environment (e.g., OPS, TS2). Details about the architecture of the EcDsDistributionServer database can be found in the applicable section of DID 311-CD-101-005, *Data Distribution Database Design and Schema Specifications for the ECS Project*.

#### 4.10.3.5 Special Constraints

The Data reported in the Task Activity window has to be retrieved from the Data Distribution database, as specified in the previous paragraph. The Data Distribution database must then be up and running before invoking the Data Distribution Tool.

#### 4.10.3.6 Outputs

The Data Distribution Tool mainly is used to display data produced by other ECS components and does not generate any specific output.

#### 4.10.3.7 Event and Error Messages

Both event and error messages are listed in Appendix A.

#### 4.10.3.8 Reports

None

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## **4.11 User Services Tools**

This section describes the User Services tools used by DAAC operators:

1. User Account Management Tool
2. Order Tracking
3. Remedy Action Request System
4. B0 Search and Order Tool (B0SOT)
5. Data Dictionary Maintenance Tool
6. Subscription Editor
7. Database Installation and Maintenance Scripts

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### 4.11.1 User Account Manager

The User Account Manager is used by DAAC operators to process new accounts and manage existing ones. The User Account Management GUI, shown in Figure 4.11.1-4, contains two tabs: the **Request Account** tab and the **Profile Account** tab. The **Request Account** tab allows operators to select a request, create ECS accounts, delete the request after an account is successfully created, update any modified attributes in the database, delete a user request from the database, deny requests to become a registered user, and view any edits made. The **Profile Account** tab allows an operator to retrieve and update an existing account, change ECS (DCE) passwords, delete an account, view an entire user profile, and view any modifications made to an account. The User Account Management GUI is used to perform the operator functions listed in Table 4.11.1-1 below.

**Table 4.11.1-1. Common ECS Operator Functions Performed with the User Account Management GUI (1 of 3)**

Operating Function	GUI/Command	Description	When and Why to Use
retrieve request list	<ul style="list-style-type: none"> <li>Request Account tab</li> </ul>	<ul style="list-style-type: none"> <li>retrieves pending, denied, or all requests as specified</li> </ul>	to see all requests with specific status for a user account
retrieve by status	<ul style="list-style-type: none"> <li>Click on Retrieve by Status button</li> </ul>	set retrieving status to pending, denied, or all	set the request filter with status specified.
create a registered user account from a list of pending requests	<ul style="list-style-type: none"> <li>Request Account tab</li> <li>– highlight pending request</li> <li>– fill out information (personal, addresses, account), then click on Create Account button</li> </ul>	creates a DCE account and a profile in Sybase	when a pending request is approved
edit an Request Account	<ul style="list-style-type: none"> <li>Request Account tab</li> <li>– highlight the request</li> <li>– edit account information, then click Apply Edit button</li> </ul>	<ul style="list-style-type: none"> <li>updates modified attributes to the database</li> <li>View Edit button allows operator to view modified information</li> </ul>	when account information changes
delete a user request	<ul style="list-style-type: none"> <li>Request Account tab</li> <li>– highlight user request selection, then click on Delete Request button</li> </ul>	<ul style="list-style-type: none"> <li>deletes a request to become a registered ECS user</li> <li>user request is deleted without confirmation</li> </ul>	when a denied request no longer need in request database or when a duplicate request exist
deny a pending request	<ul style="list-style-type: none"> <li>Request Account tab</li> <li>– highlight the pending request then click Deny Request button</li> </ul>	<ul style="list-style-type: none"> <li>denies a request for ECS account</li> <li>notifies requester via e-mail that the request has been denied</li> </ul>	when a security manager decides to deny the request

**Table 4.11.1-1. Common ECS Operator Functions Performed with the User Account Management GUI (2 of 3)**

<b>Operating Function</b>	<b>GUI/Command</b>	<b>Description</b>	<b>When and Why to Use</b>
update an existing account	<ul style="list-style-type: none"> <li>• Profile Account tab</li> <li>– highlight the existing account to be updated</li> <li>– modify the information (personal, addresses, account), then click Update Account button</li> </ul>	<ul style="list-style-type: none"> <li>• updates account information in Sybase</li> <li>• View Edit button allows the operator to view which information has been modified</li> </ul>	when account information needs to be updated
change V0 Gateway password	<ul style="list-style-type: none"> <li>• Profile Account tab</li> <li>– select DAR information tab</li> <li>– click on Change V0GW Password button</li> </ul>	<ul style="list-style-type: none"> <li>• changes V0 Gateway password</li> </ul>	as necessary to change V0 Gateway password
change a user DCE password	<ul style="list-style-type: none"> <li>• Profile Account tab</li> <li>– highlight user account</li> <li>– click on Change DCE Password button</li> </ul>	<ul style="list-style-type: none"> <li>• changes existing password to a new one</li> <li>• DAAC operator will be responsible for this operation</li> </ul>	for security purposes or if the user forgot their password
delete account	<ul style="list-style-type: none"> <li>• Profile Account tab</li> <li>– highlight user account</li> <li>– click on Delete Account button</li> </ul>	<ul style="list-style-type: none"> <li>• deletes a registered user account (DCE account and profile)</li> <li>• User account will be deleted from the database table</li> <li>• A pop up dialog box appears to confirm the operation</li> </ul>	when an account is no longer required by the user
view User Account Profile	<ul style="list-style-type: none"> <li>• Profile Account tab</li> <li>– highlight user account</li> <li>– click on View Entire Profile button</li> </ul>	displays user's personal and account information, mailing, shipping and billing addresses	to obtain a summary of user account information on one "page"
change Aster category	<ul style="list-style-type: none"> <li>• Profile Account tab</li> <li>– select DAR information tab</li> <li>– select new Aster category in the Aster Category Combo box</li> <li>– click on Apply Edit button</li> </ul>	changes existing Aster category to a new one	as necessary
delete Dar privilege	<ul style="list-style-type: none"> <li>• Profile Account tab</li> <li>– select DAR information tab</li> <li>– click on Apply Edit button</li> </ul>	delete Dar privilege	as necessary

**Table 4.11.1-1. Common ECS Operator Functions Performed with the User Account Management GUI (3 of 3)**

Operating Function	GUI/Command	Description	When and Why to Use
Sort list of user profile or Request Account	<ul style="list-style-type: none"> <li>click on the item label of title bar in the list box</li> </ul>	sort user profile or request list	as necessary

#### 4.11.1.1 Quick Start Using User Account Manager

##### 4.11.1.1.1 Invoking User Account Manager From the Command Line Interface

To execute User Account Manager from the command line prompt use:

```
EcMsAcRegUserGUIStart <mode>
```

Where:

<mode> is the ECS mode in which to operate.

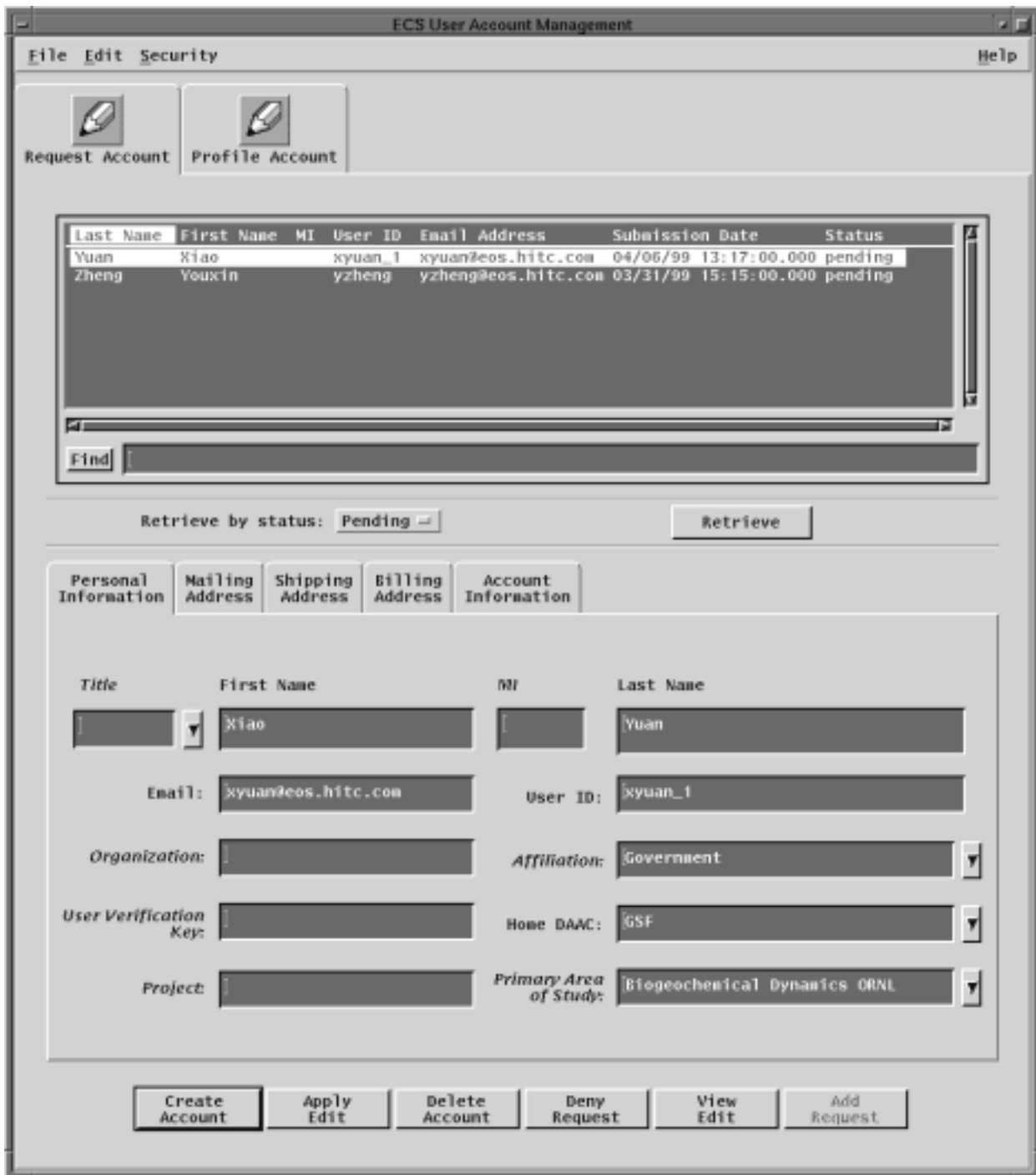
Refer to the 920-TDx-013 “Custom Code Configuration Parameters” documentation series , for a listing of EcMsAcRegUserGUIStart

##### 4.11.1.2 User Account Manager Main Screen

The User Account Manager main screen is shown in Figure 4.11.1-1 with the Request Account tab selected. From this screen, an operator has access to both the Request Account tab and the Profile Account tab information. The menu bar allows the operator to exit the application (via the File pulldown menu) or obtain additional help through the Help pulldown menu.

##### 4.11.1.2.1 Request Account Tab

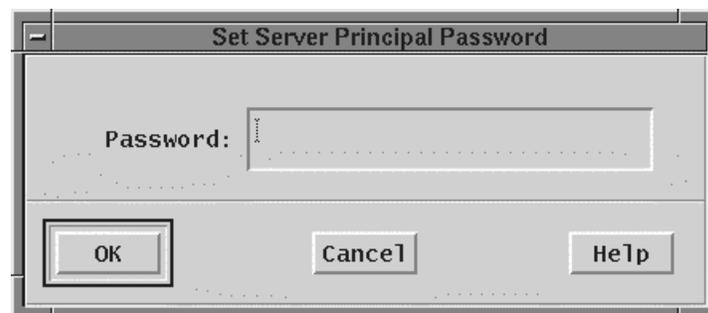
The Request Account tab provides a window for displaying/finding/sorting user information, options to sort and retrieve request information, and five tabs that contain user information such as personal information, addresses, and account information.



**Figure 4.11.1-1. User Account Manager Main Screen**

In addition, the following pushbuttons are provided for the Request Account tab:

- **Retrieve by status** -- Select a status to filter accounts. Statuses are: pending status, denied status, or all. Default is Pending
- **Retrieve** -- retrieves summary information on users requesting an account by the status selected with the **Retrieve by status** button.
- **Create Account** -- creates an ECS user account including a DCE account and profile. An ECS login userId (DCE userId) and V0 Client authenticator will be given to the user. The operator must provide a Server Principal password (a.k.a., DCE Cell Admin password) on the dialogue GUI shown in Figure 4.11.1-2 in order to create an account).
- **Apply Edit** -- a confirmation dialog appears before allowing the operator to update edited information to the user request database
- **Delete Request** -- a confirmation dialog appears before allowing the operator to delete a user request
- **Deny Request** -- a confirmation dialog appears before allowing the operator to deny a user request application
- **View Edit** -- used to view modifications made to Request Account personal, address and account information fields. When this button is pressed, tabs that contain fields that have been edited are highlighted. For example, Figure 4.11.1-3 shown below indicates that one or more Account Information fields have been edited. Note, however, the individual fields that have been edited will not be highlighted.
- **Add Request** -- adds a new request to the user request database (note that a users first and last name, e-mail and phone number must be entered before the request can be added.



**Figure 4.11.1-2. Server Principal Password Dialogue GUI**



**Figure 4.11.1-3. Request Account with Edited Areas Highlighted**

#### 4.11.1.2.1.1 Personal Information Tab

The Personal Information area of the Request Account tab shown in Figure 4.11.1-3 is used to record personal information about the user requesting an account. Table 4.11.1-2 describes the type of information which is contained in this field.

**Table 4.11.1-2. Personal Information Tab Field Description**

Field Name	Data Type	Size	Entry	Description
Retrieve	Selection	n/a	optional default: Pending	retrieves summary information on users requesting an account by pending status, denied status, or all
Title	Character	5	optional, selection from dropdown list	title (e.g., Mr., Dr., Mrs., etc.)
First Name	Character	20	required	<ul style="list-style-type: none"> <li>• first name of user requesting an account</li> <li>• retrieved from database table</li> </ul>
MI	Character	1	optional	<ul style="list-style-type: none"> <li>• middle initial of user requesting an account</li> <li>• retrieved from database table</li> </ul>
Last Name	Character	20	required	<ul style="list-style-type: none"> <li>• last name of user requesting an account</li> <li>• retrieved from database table</li> </ul>
Email	Character	256	required	<ul style="list-style-type: none"> <li>• email address of user requesting an account</li> <li>• retrieved from database table</li> </ul>
User ID	Character	12	optional	<ul style="list-style-type: none"> <li>• ID number of user requesting an account</li> <li>• retrieved from database table</li> </ul>
Organization	Character	31	optional	<ul style="list-style-type: none"> <li>• organization for a user (e.g., Hughes)</li> <li>• retrieved from database table</li> </ul>
User Verification Key	Character	20	optional	<ul style="list-style-type: none"> <li>• user Verification Key</li> <li>• retrieved from database table</li> </ul>
Affiliation	Character	16	optional, selection from dropdown list	<ul style="list-style-type: none"> <li>• government, university, etc.</li> <li>• retrieved from database table</li> </ul>
Project	Character	30	optional	<ul style="list-style-type: none"> <li>• EOS, etc.</li> <li>• retrieved from database table</li> </ul>
Home DAAC	Character	12	required, selection from dropdown list	<ul style="list-style-type: none"> <li>• DAAC that user requesting an account is assigned to</li> <li>• retrieved from database table</li> </ul>
Primary Area of Study	Character	20	optional, selection from dropdown list	<ul style="list-style-type: none"> <li>• research field</li> <li>• retrieved from database table</li> </ul>

#### 4.11.1.2.1.2 Address Tabs (Mailing, Shipping, and Billing)

These three tabs provide fields to fill in the address information to send mail, shipments and bills. Figure 4.11.1-4 is a sample of the Mailing Address tab. Because these tabs contain identical fields, only one figure is being shown.

Last Name	First Name	MI	User ID	Email Address	Submission Date	Status
Yuan	Xiao		xyuan_1	xyuan@eos.hitc.com		pending
Zheng	Youxin		yzheng	yzheng@eos.hitc.com	03/31/99 15:15:00.000	pending

Retrieve by status: Pending [v] [Retrieve]

Personal Information | **Mailing Address** | Shipping Address | Billing Address | Account Information

Address: [1616 McCormick Drive]  
[ ]  
[ ]

City: [Upper Marlboro] State/Province: [Maryland] [v]

ZIP/Postal Code: [20774] Country: [United States] [v]

Telephone: [ ] Fax: [ ]

[Create Account] [Apply Edit] [Delete Account] [Deny Request] [View Edit] [Add Request]

Figure 4.11.1-4. Mailing Address Tab

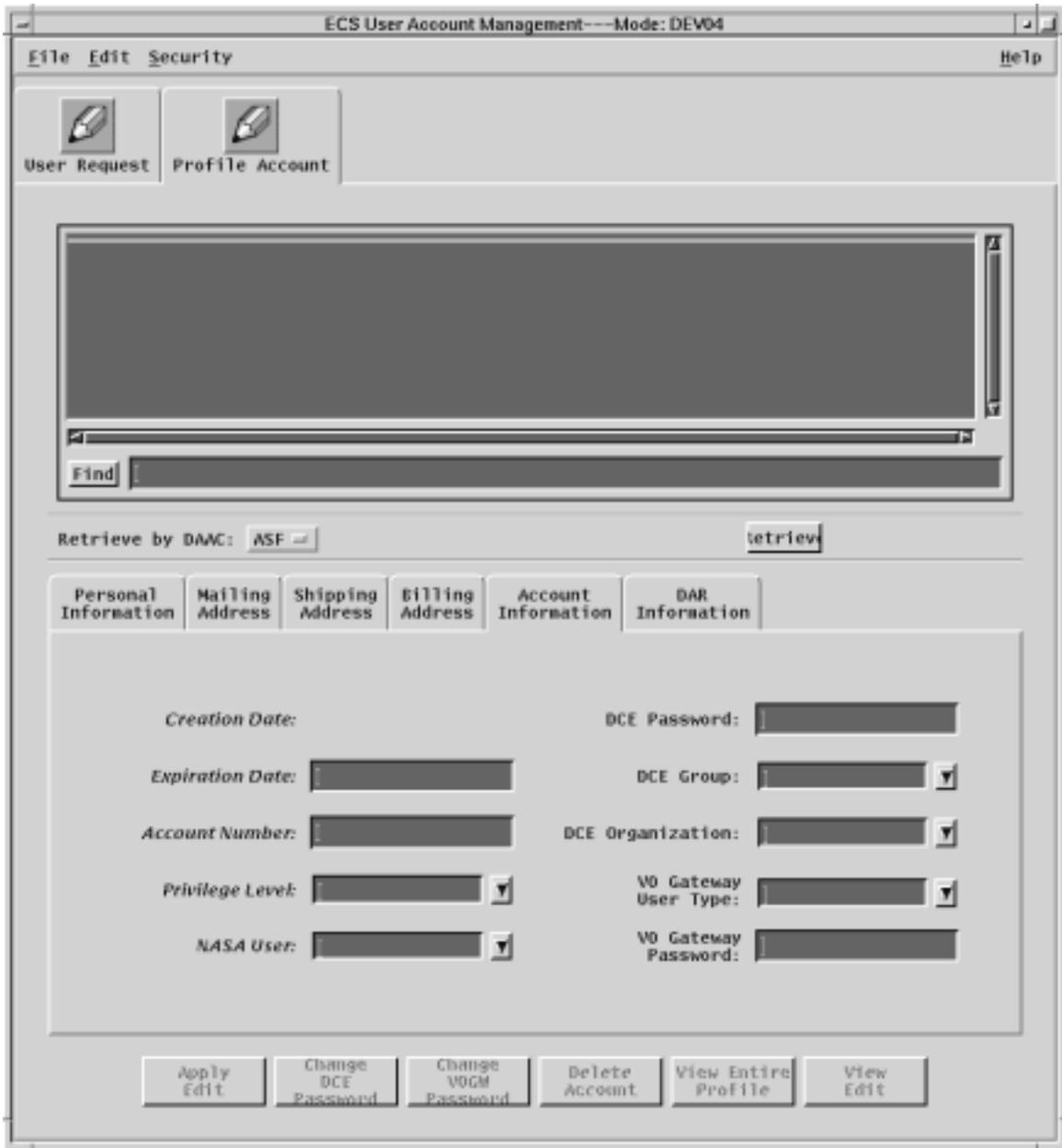
Table 4.11.1-3 describes the type of information contained in the Mailing, Shipping, and Billing Address fields.

**Table 4.11.1-3. Mailing, Shipping, and Billing Address Tab Field Description**

Field Name	Data Type	Size	Entry	Description
Address (1)	Character	32	optional	<ul style="list-style-type: none"> <li>street name address of user requesting an account, line 1</li> <li>retrieved from database table</li> </ul>
Address (2)	Character	32	optional	<ul style="list-style-type: none"> <li>street name address of user requesting an account, line 2</li> <li>retrieved from database table</li> </ul>
Address (3)	Character	32	Optional	<ul style="list-style-type: none"> <li>street name address of user requesting an account, line 3</li> <li>retrieved from database table</li> </ul>
City	Character	30	optional	<ul style="list-style-type: none"> <li>city name address of user requesting an account</li> <li>retrieved from database table</li> </ul>
State/Province	Character	20	optional, selection from dropdown list	<ul style="list-style-type: none"> <li>state name address of user requesting an account</li> <li>retrieved from database table</li> </ul>
Country	Character	30	optional, selection from dropdown list	<ul style="list-style-type: none"> <li>country name address of user requesting an account</li> <li>retrieved from database table</li> </ul>
ZIP/Postal Code	Character	15	optional	<ul style="list-style-type: none"> <li>zip code of user requesting an account</li> <li>retrieved from database table</li> </ul>
Telephone	Character	22	optional	<ul style="list-style-type: none"> <li>telephone number of user requesting an account</li> <li>retrieved from database table</li> </ul>
Fax	Character	22	optional	<ul style="list-style-type: none"> <li>facsimile (fax) number of user requesting an account</li> <li>retrieved from database table</li> </ul>

#### 4.11.1.2.1.3 Account Information Tab

The Account Information tab shown in Figure 4.11.1-5 contains information such as date that an account was created and revised, when the account expires, privilege level and media preference.



**Figure 4.11.1-5. Account Information Tab**

Table 4.11.1-4 provides a description of the Account Information tab fields.

**Table 4.11.1-4. Account Information Field Description**

Field Name	Data Type	Size	Entry	Description
Creation Date	Character	20	system generated	date that the account was created
Expiration Date	Sybase smalldatetime	see Sybase references	operator input, optional	date that the account expires
Account Number	Character	20	system generate from SmartStream Accounting Software	ECS account number
Privilege Level	Character	10	operator input, optional selection from dropdown list	user privilege level, for example: high, low
NASA User	Character	1	operator input, optional, selection from dropdown list	NASA user, "Y" or "N"
DCE Password	Character	See DCE references	required for create an account, operator input	DCE login password, assigned by operator
DCE Group	Character	See DCE references	required for create an account, operator input	DCE group belongs to, assigned by operator
DCE Organization	Character	See DCE references	required for create an account, operator input	DCE organization belongs to, assigned by operator
V0Gateway User Type	Character	50	required for create an account, operator input, selection from dropdown list	V0 client gateway user type, assigned by operator
V0 Gateway Password	Character	20	required for create an account, operator input	used to generate V0 gateway unique authenticator, assigned by operator



**Figure 4.11.1-6. Print Screen Dialog when Account Created**

### 4.11.1.2.2 Profile Account tab

The Profile Account tab shown in Figure 4.11.1-6 provides a window for displaying/finding/sorting user information, and five tabs that contain user information such as personal information, addresses, and account information. The menu bar allows the operator to exit the application using the File pulldown menu or obtain additional help using the Help pulldown menu.

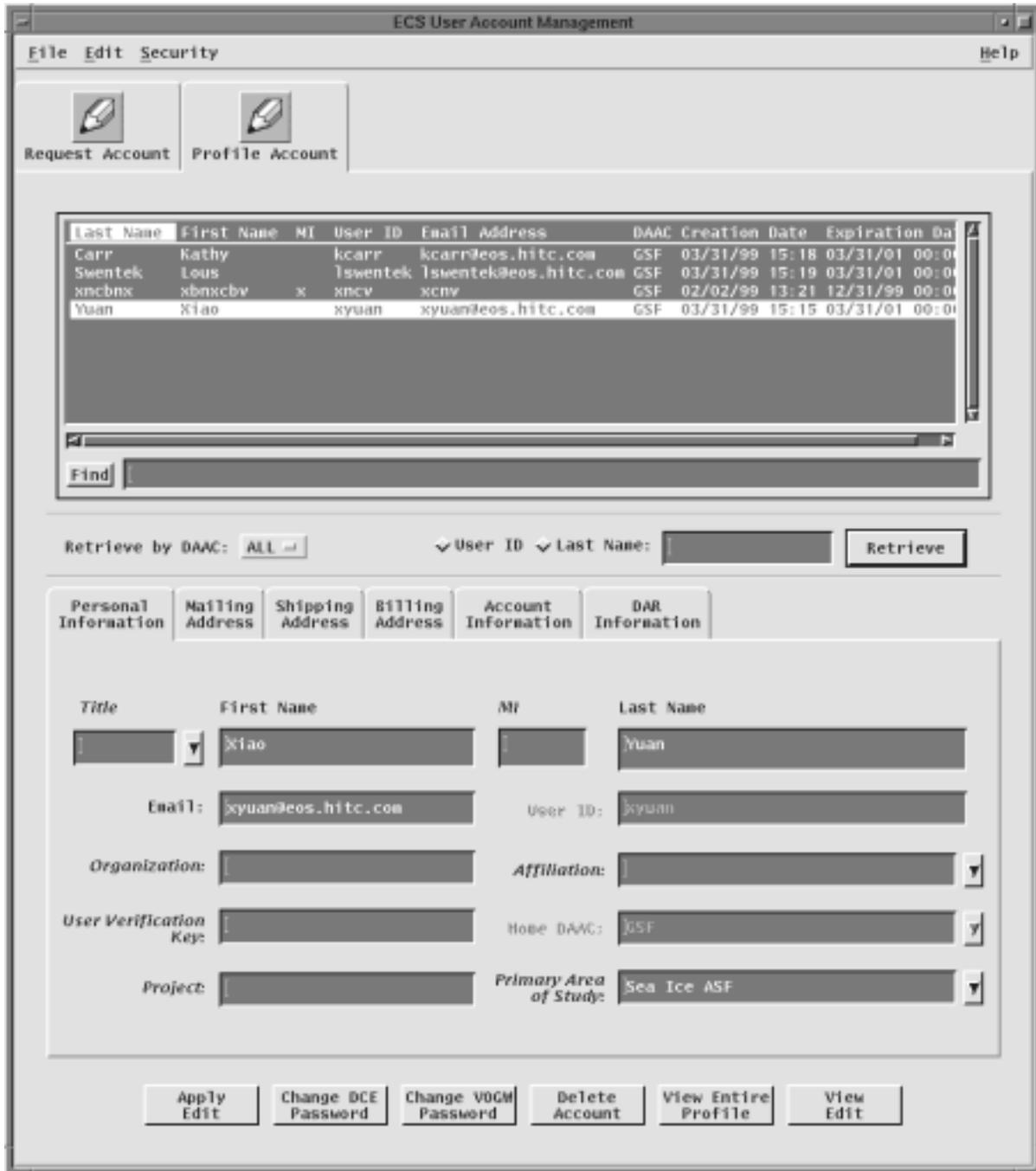
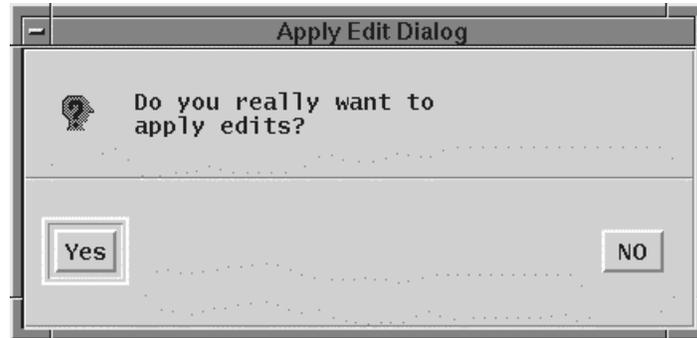


Figure 4.11.1-6. Profile Account GUI

In addition the following pushbuttons are provided:

- ↑ **Apply Edit** -- a confirmation dialog appears before allowing the operator to update the edited information to the user profile database



**Figure 4.11.1-7. Apply Edit confirmation dialogue GUI**

- ↑ **Change DCE Password** – this button causes a dialogue box as shown in Figure 4.11.1-8 to appear. It is used to change a DCE password.



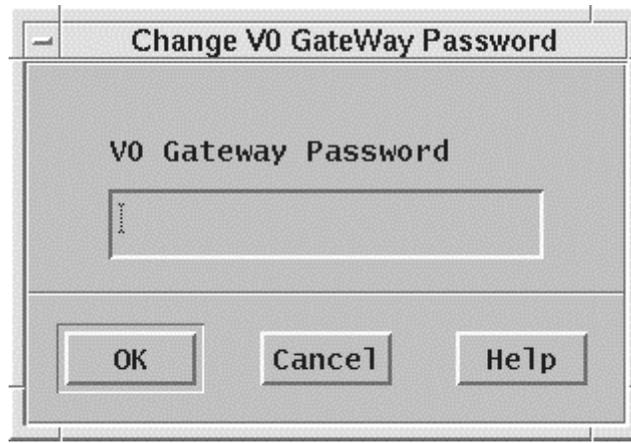
**Figure 4.11.1-8. Change DCE Password Dialog GUI**

Table 4.11.1-5 describes the Change DCE Password Dialog fields.

**Table 4.11.1-5. Change DCE Password Dialog Field Description**

Field Name	Data Type	Size	Entry	Description
DCE Password	Character	See DCE reference	input by operator	DCE account password

- ↑ **Change V0GW Password** is used to change a V0 Gateway password. Clicking on this button brings up the dialog shown in Figure 4.11.1-9:



**Figure 4.11.1-9. Change V0 Gateway Password Dialog**

Table 4.11.1-6 describes the Change V0 Gateway Password Dialog fields.

**Table 4.11.1-6. Change DCE Password Dialog Field Description**

Field Name	Data Type	Size	Entry	Description
V0 Gateway Password	Character	20	required, operator input	password to generate ECS (V0 gateway) authenticator

- ↑ **Delete Account** -- a confirmation dialog appears before allowing the operator to delete an ECS account, including its DCE account and profile from the database. This confirmation dialogue is similar to that shown in Figure 4.11.1-7.
- ↑ **View Entire Profile** – view entire user profile in a one page screen as shown in Figure 4.11.1-10. This screen contains the information from the Personal Information tab, Mailing Address tab, Shipping Address tab, and Billing Address tab.

PERSONAL INFORMATION		ACCOUNT INFORMATION	
Name:	Xiao Yuan	Date Created:	02/15/99 13:49:09.000
E-mail Address:	xyuan@ess.bitc.com	Expiration Date:	12/31/99 00:00:09.000
Organization:		Privilege Level:	HIGH
User ID:	xyuan	NASA User:	
User Verification Key:		Account Number:	
Telephone:	301-925-0587	VD Gateway User Type:	VDGATES
Affiliation:	University		
Project:			
Home DNAC:	OSF		
Primary Area Of Study:	Global Biosphere GSPC		
MAILING ADDRESS		SHIPPING ADDRESS	
Address:	1616 McCornick Drive	Address:	
City:	Upper Marlboro	City:	
State/Province:	Maryland	State/Province:	
Country:	United States	Country:	
Zip/Postal Code:	20774	ZIP/Postal Code:	
Telephone:		Telephone:	
Fax:		Fax:	
BILLING ADDRESS			
Address:	1616		
City:			
State/Province:			
Country:			
ZIP/Postal Code:			
Telephone:			
Fax:			

Close

**Figure 4.11.1-10. View Entire Profile**

- ↑ **View Edit** is used to view modifications made to a user's account. When this button is pressed, the tabs that contain information that has been edited will be highlighted. For example, Figure 4.11.1-11 shown below indicates to the operator that one or more Mailing Address and Account Information fields have been edited. Note, however, the individual fields that have been edited are not highlighted.



**Figure 4.11.1-11. Profile Account with Edited Areas Highlighted**

#### **4.11.1.2.2.1 Personal Information Tab**

The Personal Information area of the Profile Account tab shown above in Figure 4.11.1-7 is used to record personal information about an existing account. Table 4.11.1-2 describes the type of information which is contained in this field.

#### **4.11.1.2.2.2 Address Tabs (Mailing, Shipping, and Billing)**

These three tabs provide fields to fill in the address information to send mail, shipments and bills. The screens are identical to those shown in Section 4.11.1.2.1.2.

#### **4.11.1.2.2.3 Account Information Tab**

The Account Information tab contains information similar to that shown in the Request Account tab shown in Figure 4.11.1-5.

#### **4.11.1.2.2.4 DAR Information Tab**

The DAR Information tab (shown in Figure 4.11.1-12 below) contains information about a Dar user.



**Figure 4.11.1-12. Dar Information Tab**

Table 4.11.1-7 describes the Dar Information Tab fields.

**Table 4.11.1-7. Account Information Field Description**

Field Name	Data Type	Size	Entry	Description
Dar expedited data	Sybase bite	see Sybase for details	Display, selection from dropdown list	True indicates user can request expedited data, false indicates user is not authorized to request expedited data.
Aster category	Character	20	optional, operator input, selection from dropdown list	Aster category is not completely defined for Release 4. It refers to Science user categories.
Delete Dar Privilege	Push button		optional, operator input	<ul style="list-style-type: none"> <li>• Set Aster category to 0</li> <li>• Set Dar expedited data to False</li> <li>• Send an email to Japan which indicate Aster category is 99</li> </ul> <p>Note: 0 is a non-valid value (e.g., a deleted privilege), but 99 is sent to ASTER via Email because 0 is non-valid. See previous description.</p>

### 4.11.1.3 Required Operating Environment

For information on the operating environment, tunable parameters and environment variables of The User Account Manager refer to the 920-TDx-013 “Custom Code Configuration Parameters” documentation series . The “x” refers to the installed location, e.g. 920-TDG-013 is for GSFC DAAC.

#### 4.11.1.3.1 Interfaces and Data Types

User Account Manager exchanges data with Sybase, using Rogue Dbtools++ as the primary interface protocol.

#### 4.11.1.4 Databases

The User Account Manager stores user request data in table MsAcUsrRequest and user profile data in table MsAcUsrProfile in the MSS database (Sybase). The MSS database for Release 4 is described in the *Management Support Subsystem Database Design and Schema Specifications*, 311-CD-105-005. The operator may have to identify individual data fields by examination of the descriptions in the documentation.

#### 4.11.1.5 Special Constraints

The operator needs DCE cell administrative privileges to start the User Account Manager.

#### **4.11.1.6 Outputs**

Outputs from the Account Manager GUI are the information displayed on the screens described in Section 4.11.1.2 and error messages.

#### **4.11.1.7 Event and Error Messages**

User Account Manager issues both status and error messages to screen and log file. Both event and error messages are listed in Appendix A.

#### **4.11.1.8 Reports**

The User Account Manager application does not generate reports.

### 4.11.2 Order Tracking

The Order Tracking tool provides the capability to track order status and its associated request status. The operator can retrieve orders by user name, order ID, or request ID. Order and request status are displayed on a graphic interface. Operators can query orders by different states using pre-defined selections. The Order Tracking tool is used to perform the following operator functions listed in Table 4.11.2-1.

**Table 4.11.2-1. Common ECS Operator Functions Performed with the Order Tracking Tool (1 of 2)**

Operating Function	GUI	Description	When and Why to Use
Query order	<ul style="list-style-type: none"> <li>ECS Data Order Tracking GUI</li> <li>Query Order button</li> </ul>	retrieves orders by Order ID, Request ID, or User name and displays them in the window at the bottom of the screen	to see the status of an order or its associated requests
Filter orders	<ul style="list-style-type: none"> <li>ECS Data Order Tracking GUI</li> <li>Filter by Status toggle buttons</li> <li>Select All and Deselect All pushbuttons</li> </ul>	<ul style="list-style-type: none"> <li>orders can be filtered by their status (e.g., pending, canceled)</li> <li>orders can be filtered using all status selections</li> <li>filter selections can be cleared</li> </ul>	to narrow the search for orders to what the operator wants
Delete order	<ul style="list-style-type: none"> <li>ECS Data Order Tracking GUI</li> <li>Delete Order button</li> </ul>	<ul style="list-style-type: none"> <li>selected order will be deleted</li> </ul>	to delete selected order
Update order	<ul style="list-style-type: none"> <li>ECS Data Order Tracking GUI</li> <li>Update Order button</li> </ul>	Update status and description of selected order	to update the status and description of order
Shipping information	<ul style="list-style-type: none"> <li>Query Requests button from the ECS Data Order Tracking GUI</li> <li>Shipping Information GUI</li> </ul>	displays shipping information for an order	to determine the destination for an order
Query request	<ul style="list-style-type: none"> <li>Query Requests button on ECS Data Order Tracking GUI</li> </ul>	retrieves requests for an order	to see the status of a request
Delete request	<ul style="list-style-type: none"> <li>Delete Request button from the ECS Data Order Tracking GUI</li> </ul>	delete a request of the order	to delete the request for an order
Update request	<ul style="list-style-type: none"> <li>Update request button from the ECS data Order tracking GUI</li> </ul>	update the status and description of a request	update the status and description for a request

**Table 4.11.2-1. Common ECS Operator Functions Performed with the Order Tracking Tool (2 of 2)**

<b>Operating Function</b>	<b>GUI</b>	<b>Description</b>	<b>When and Why to Use</b>
Verify user selection	<ul style="list-style-type: none"> <li>• select from user list</li> <li>• Verify User Selection GUI</li> </ul>	displays user names and addresses	to verify that the user selected is correct
Sort list of user orders or user requests	<ul style="list-style-type: none"> <li>• click on the item label of title bar</li> </ul>	sort user order profile or request list	

#### **4.11.2.1 Quick Start Using Order Tracking**

##### **4.11.2.1.1 Invoking Order Tracking From the Command Line Interface**

To execute Order Tracking from the command line prompt use:

**EcMsAcOrderGuiStart <mode>**

**<mode> is the ECS mode in which to run.**

Refer to the 920-TDx-013 “Custom Code Configuration Parameters” documentation series , for a listing of EcMsAcStartOrder\_GUI

##### **4.11.2.2 ECS Data Order Tracking Main Screen**

This screen allows the operator to retrieve an order by user name, order ID, or request ID.



**Figure 4.11.2-2. ECS Data Order Tracking GUI**

Table 4.11.2.-2 describes the ECS Data Order Tracking fields.

**Table 4.11.2-2. Order Tracking Main Screen Field Descriptions**

Field Name	Data Type	Size	Entry	Description
Last Name	character	20	optional	user's last name
First Name	character	20	optional	user's first name
Order ID	character	10	optional	unique order id
Request ID	character	10	optional	unique request id

The menubar gives the operator the following selections: File, Edit and Help.

- **F**ile – the only option available under this pulldown menu is to exit the Order Tracking tool
- **E**dit – provides “Clear Query Parameters” options to let user clean the all screen input.
- **H**elp – brings up help question mark which can point to different button.

The user can filter an order by status. The **Filter by Status** choices include:

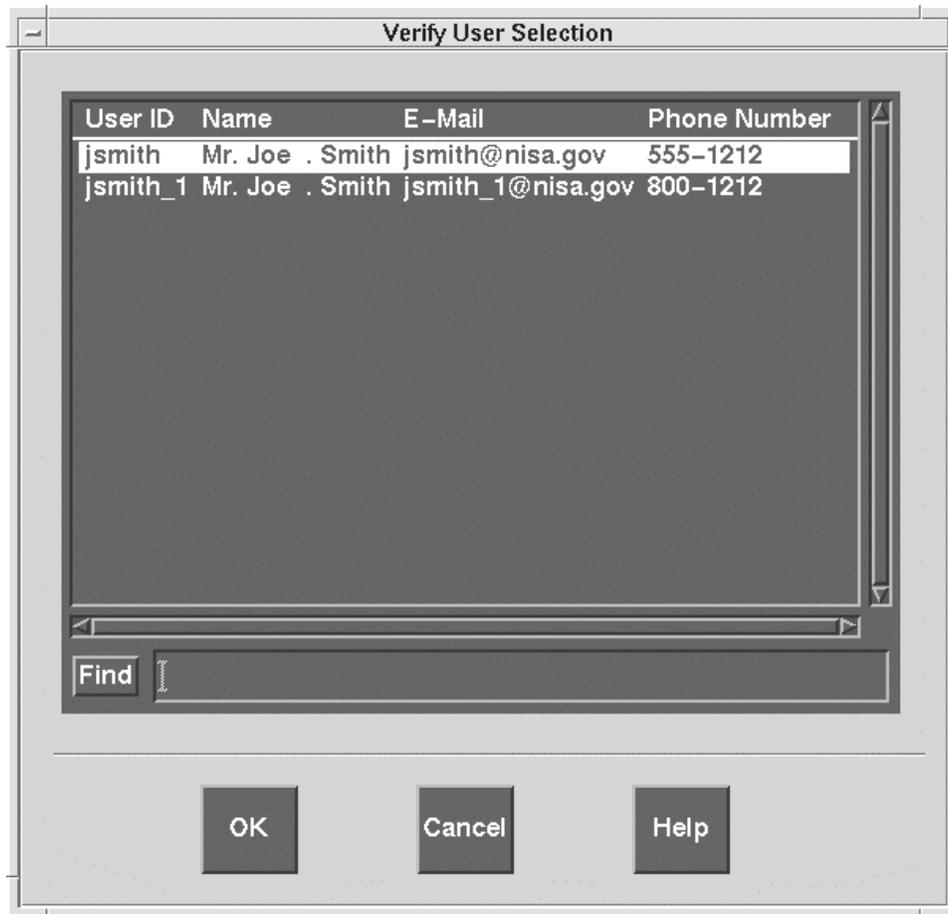
- Pending
- Operator Intervention
- Staging
- Transferring
- Not Found
- Waiting for Shipment
- Shipped
- Aborted
- Canceled
- Terminated
- Subsetting
- Subsetting Staging
- Prep for Distribution
- SDSRV Staging
- The **Select All** button selects all items listed above
- The **Deselect All** button removes toggle buttons that had been selected

In addition, the following pushbuttons are available:

- The **Query Orders** button will search for orders based upon the parameters that have been selected and display them in the scrollable window at the bottom of the screen. If only one order is found, all the requests related to this order will also be displayed in the Request List scrollable window.
- The **Delete Order** button will delete order selected.
- The **Update Order** button will update status and description of the order.
- The **Show Shipping Information** button brings up the Shipping Information GUI (see section 4.11.2.2.2)
- The **Query Request** button brings up the request list to the Request List scrollable window. The function is similar to the **Query Orders** button.
- The **Delete Request** button will delete request selected.
- The **Update Request** button will update status and description of the request.

#### **4.11.2.2.1 Verify User Selection**

When retrieving orders by user name, it's possible for identical user names to be found in the database. If the name selected is not unique in the database, the Verify User Selection screen (Figure 4.11.2-3) is displayed to pick from duplicate user names.



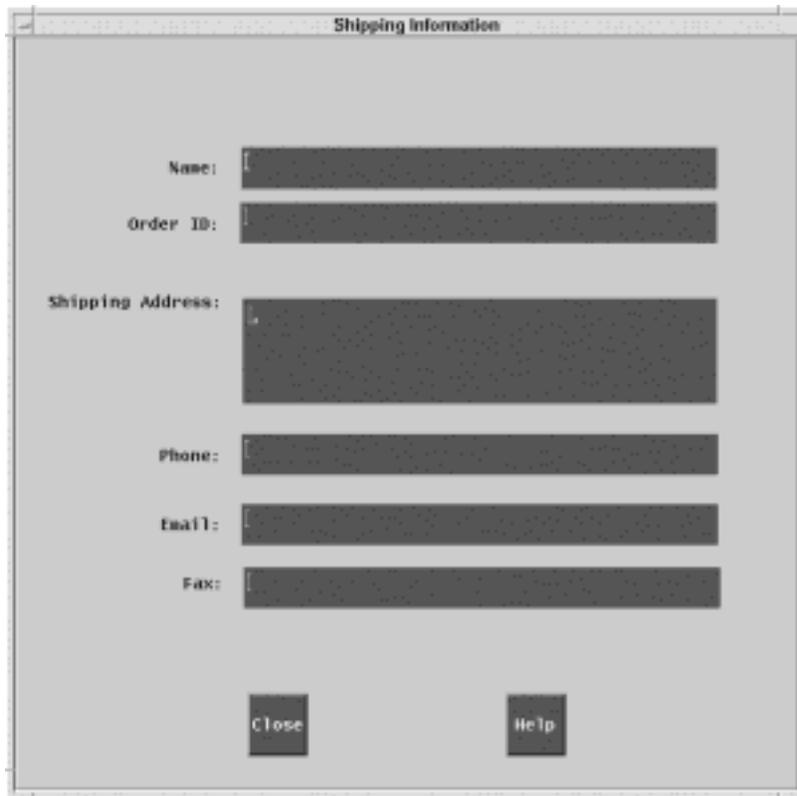
**Figure 4.11.2-3. Verify User Selection GUI**

In addition, the following pushbuttons are provided:

- The **Find** button allows the operator to search for different names
- The **OK** button accepts the highlighted section, retrieves order information and returns to main screen
- The **Cancel** button quits the Verify User Selection screen
- The **Help** button brings up help information box

#### **4.11.2.2.2 Shipping Information Screen**

The Shipping Information screen shown in Figure 4.11.2-4 provides shipping address information for an order when user clicks on the Shipping Information button.



**Figure 4.11.2-4. Shipping Information GUI**

Table 4.11.2-3 describes the Shipping Information GUI fields.

**Table 4.11.2-3. Shipping Information GUI Field Description**

Field Name	Data Type	Size	Entry	Description
Name	character	41	system generated	who request the order
Order ID	character	10	system generated	unique order id
Shipping Address	character	139	system generated	shipping address for the order
Phone	character	22	system generated	phone number
Email	character	64	system generated	e-mail address
Fax	character	22	system generated	fax number

In addition the following pushbuttons are provided:

- **Close** – exits the screen and returns to the ECS Order Tracking GUI
- **Help** – brings up help information box

### **4.11.2.3 Required Operating Environment**

For information on the operating environment, tunable parameters and environment variables of the Order Tracking Tool refer to the 920-TDx-013 “Custom Code Configuration Parameters” documentation series . The “x” refers to the installed location, e.g. 920-TDG-013 is for GSFC DAAC.

#### **4.11.2.3.1 Interfaces and Data Types**

Order data comes from the V0 Gateway, V0 Client and database server.

#### **4.11.2.3 Databases**

The Order Tracking tool uses the MSS database installed at each DAAC. The database for Release 4 is described in the *Management Support Subsystem Database Design and Schema Specifications*, 311-CD-105-005. The operator may have to identify individual data field by examination of the descriptions in the document. The following tables are stored in the Sybase database: EcAcOrder, EcAcRequest, EcAcOrderId and EcAcRequestId. All parameters are generated and monitored by Sybase and cannot be modified by the operator.

#### **4.11.2.5 Special Constraints**

None.

#### **4.11.2.6 Outputs**

Outputs from the Order Tracking GUI are the information displayed on the screens described in this section (4.11.2) and error messages. Errors will be logged to a log file using process framework.

#### **4.11.2.7 Event and Error Messages**

The ECS Order Tracking GUI reports both status and error messages to the operator, and are listed in Appendix A.

#### **4.11.2.8 Reports**

The Order Tracking application does not generate reports. Reports can be produced using SQR Report Writer (see Section 4.1.6, “SQR Report Writer”).

### **4.11.3 Remedy Action Request (User Contact Log)**

The User Contact Log support has been implemented within the Remedy Action Request System described in Section 4.2.3. This section will be removed in the next release of ECS.

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#### **4.11.4 B0 Search and Order Tool**

This section is removed from the Release 5A delivery and will be deleted in the next release of ECS. Its function is now implemented by the V0 Client associated with the EOS Data Gateway (EDG). Further documentation on the V0 Client/EDG can be found at <http://harp.gsfc.nasa.gov:80/~imswww/pub/imswelcome/index.html>.

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### 4.11.5 Data Dictionary Maintenance

The Data Dictionary Maintenance Tool (DDMT) GUI allows operators to perform common tasks associated with the upkeep of the Data Dictionary databases. The Data Dictionary is a large relational database, consisting of tables which provide information about the data collections making up the ECS system. Examples of the types of information stored in the Data Dictionary include the time and locations of data gathered, sensors and instruments used to gather the data, and locations where the data is stored. The DDMT GUI provides operators the capability to query the Data Dictionary Database in order to create, ingest, view, modify, and export data types.

The Tool is used to perform the following operator functions listed in Table 4.11.5-1

**Table 4.11.5-1. Common ECS Operator Functions Performed with DDMT**

Operating Function	Command/Script or GUI (Tab)	Description	When and Why to Use
Modify Data Dictionary Database	Modify Data	<ul style="list-style-type: none"> <li>Select the data type(*)</li> <li>Edit the data type</li> </ul>	To find and modify items or groups of related items in Data Dictionary database, update specific attributes, and create links to other items in the database.
Check and ingest Valids (Import Valids)	Read Valids File	To check the collection descriptions for any errors and, after correction, Ingest them into the Data Dictionary database.	To gather V0 attribute definitions to be used when mapping V0 terms to ECS terms
Map Attributes	Map Attributes	To translate non-ECS terminology to ECS	When non-ECS terminology must be reconciled with ECS terminology.
Export Valids	Write Valids File	To send description of ECS data collections to agencies outside of ECS system.	To create valids files for delivery to external systems such as V0 system
Create Multiple Collection	Create Multiple Collection	To Create collection of collections in the Data Dictionary Database	This feature is not available in Release 5
Release Collection	Release Collection	Release the collection to other DAACs marked as releasable to public or not.	This feature is not available in Release 5

(\*) In this context data type is a group of related data dictionary items such as Attributes, Collections, etc.

### **4.11.5.1 Quick Start Using Data Dictionary Maintenance**

Before DDMT is used, the Data Dictionary Server must be up and running.

#### **4.11.5.1.1 Invoking DDMT From the Command Line Interface**

To execute DDMT from the command line prompt enter:

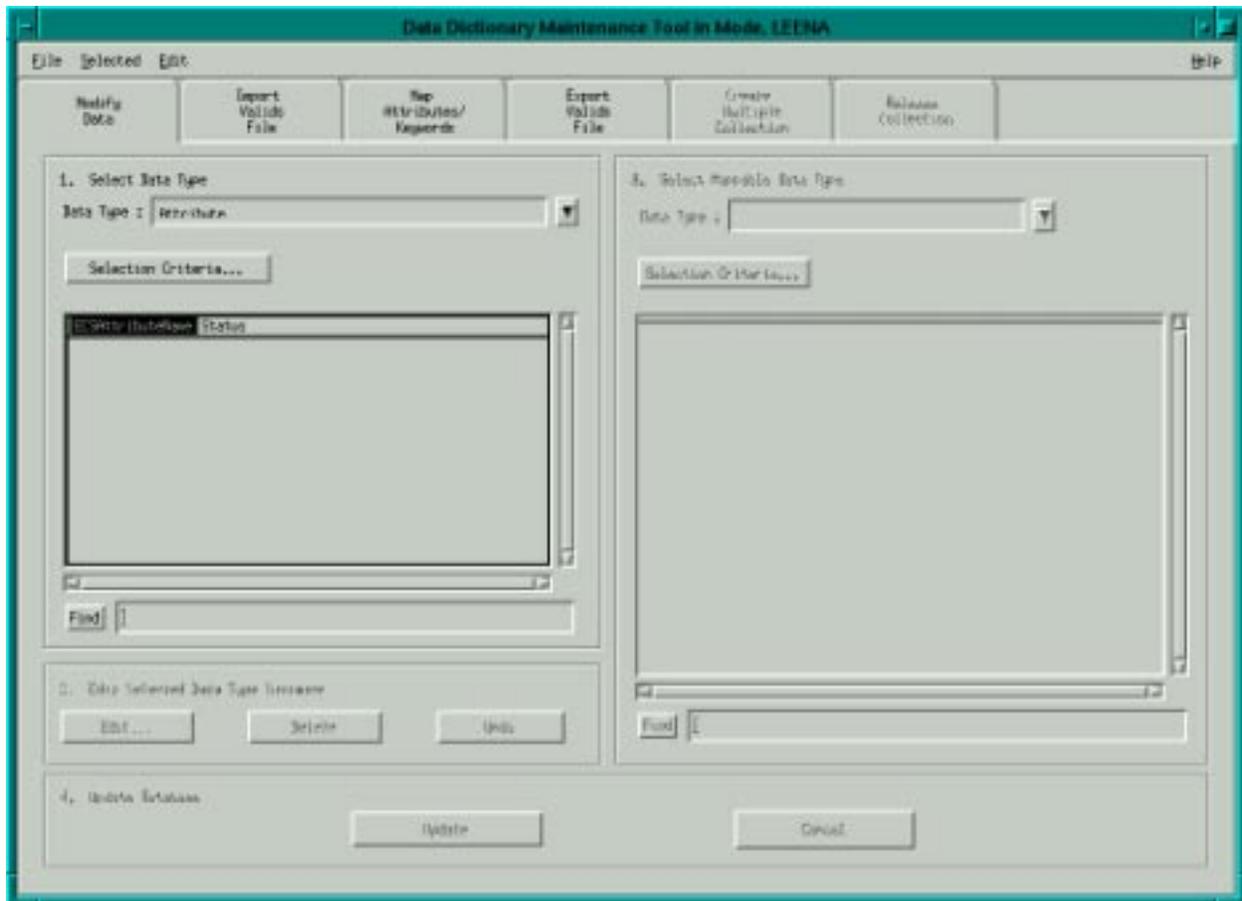
```
/usr/ecs/<mode>/CUSTOM/bin/DMS/EcDmDdMaintenanceTool.csh <mode>
```

**<mode>** is the ECS mode under which the program is to run.

**The .csh** file is the UNIX “shared” file containing parameters for the tool.

#### **4.11.5.2 DDM Main Screen**

The DDMT main screen provides access to the DDMT function tabs. The DDMT GUI tool is broken down into six tabs: Modify Data, Read Valid file, Map Attributes, Write Valid File, Create Multiple Collection, and Release Collection. Only four of these tabs (Modify Data, Read Valid file, Map Attributes, and Write Valid File) are available in Release 5. The Modify Data tab is the default tab.



**Figure 4.11.5-1. Data Dictionary Maintenance Main Screen Showing the Modify Data Tab**

The operator can select from the menu bar items at the top of the DDMT window for getting help and activating less-frequently used secondary functions. The menu bar capability is available on all DDMT GUI screens. The following menus are available:

- **File** - provides a short cut for the users. This menu contains the following items:
  - **New Attribute** - Brings up the Attribute Editor screen, through which a new attribute can be inserted into the DataDictionary database.
  - **Open** -Desensitized.
  - **Save and Save As** - Desensitized.
  - **Exit** - Exit application

- **S****elect**ed - provides operations to be performed. This menu contains the following options:
  - **Deselect All** - Desensitized.
  - **Select All** - Desensitized.
  - **Edit** - Desensitized.
- **E****dit** - allows for pasting and cutting of text. This menu contains the following options:
  - **Undo** : Available to undo the previous action while a secondary keyword is selected.
  - **Cut** : Desensitized.
  - **Copy** : Desensitized.
  - **Paste** : Desensitized..
  - Clear All** : Clears all the list boxes and performs the first primary attribute database query.
  - **Delete** : Desensitized.
- **H****elp** - displays general and context sensitive help. This menu contains the following:
  - **On Help** - provides detailed help on using help.
  - **On context** - Displays help for the control/field selected after activating this button.
  - **On window** - Displays help for the window selected after activating this button.
  - **On Keys** - provides help on keyboard and mouse usage, and general help on interacting with user interface components.
  - **Index** Not available for Release 5.
  - **Tutorial** Not available for Release 5.
  - **On Version** Not available for Release 5.

**Tabs** - the Tabs open DDMT function screens(tabs) that are used to perform the functions associated with the tab title. These functions are described below in the sections for the tabs.

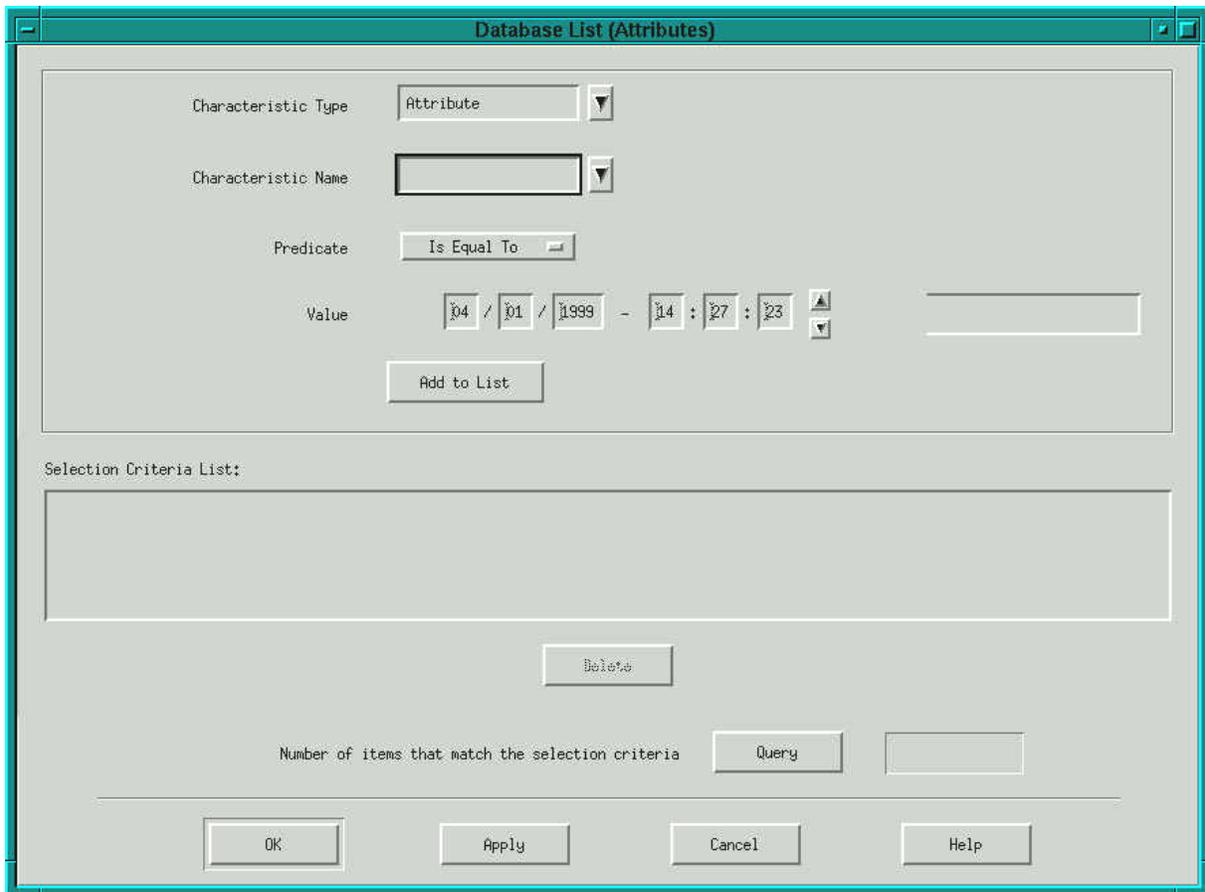
The data fields on the DDMT Main Screen are components of the individual tabs.

### 4.11.5.2.1 Modify Data Tab

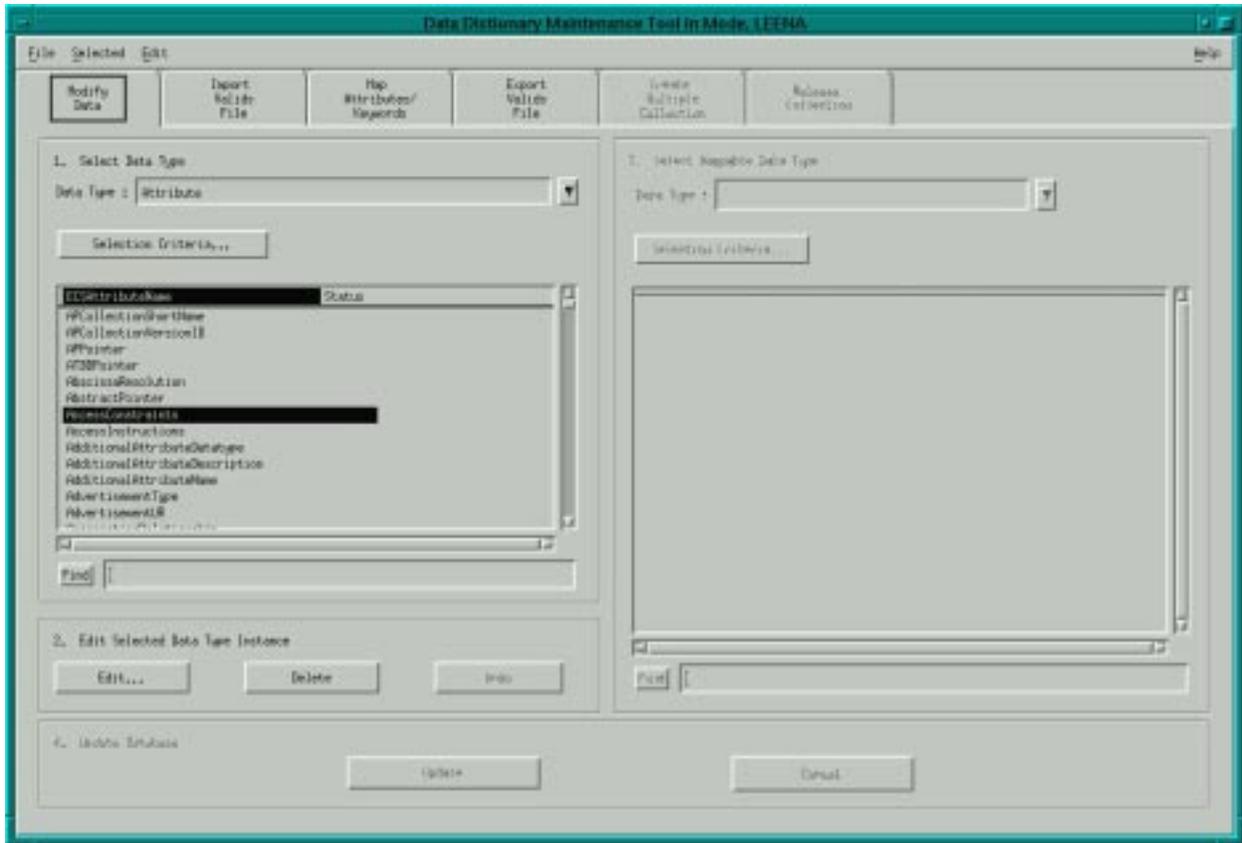
The Modify Data tab allows the operator to edit ECS Core Attributes. Upon selecting 'Attribute' from the Data Type drop down list (Figure 4.11.5-1), the Selection Criteria button becomes sensitized. When this button is pushed, the Database List (Attributes) screen (Figure 4.11.5-2) is displayed.

#### 4.11.5.2.1.1 Editing ECS Core Attributes

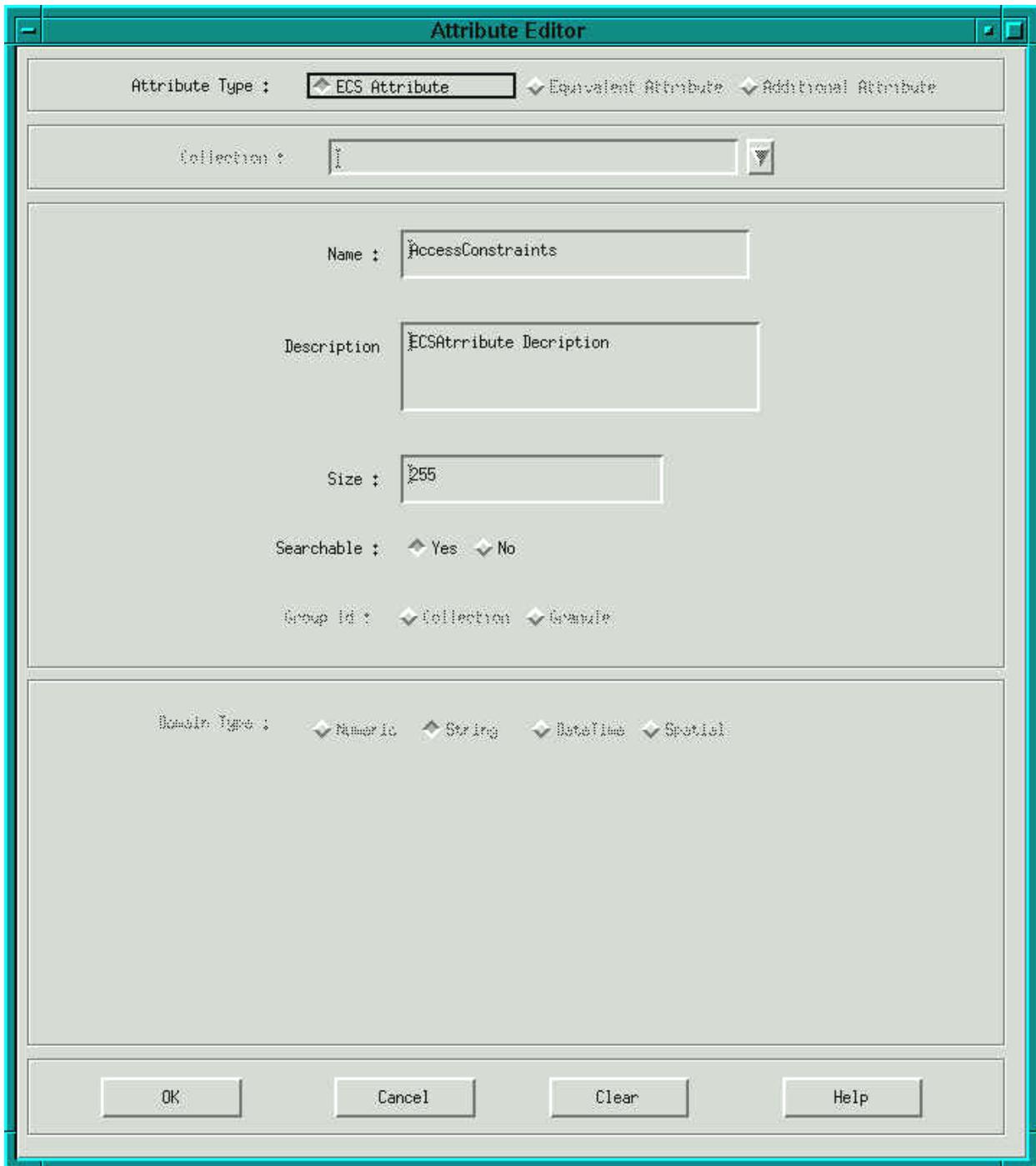
On entering/setting the values for the fields appropriately, based on what attribute the operator would like to edit, and clicking the OK button at the bottom, a list of attributes is displayed on the Main Screen(Figure 4.11.5-3). The operator after selecting an attribute can click on edit or delete button. The Attribute editor screen (Figure 4.11.5-4), which is displayed when the operator clicks on the edit button, allows the operator to edit the values of the attribute. To delete an attribute the operator has to click on the delete button. The edited or the deleted attributes are not written to the database until the update button is clicked. The operator can either undo a single action by clicking on the undo button, or can undo all the action by clicking on the cancel button. The attribute(s) edited can be committed to the database by clicking the update button.



**Figure 4.11.5-2. Database List (Attributes) Screen**



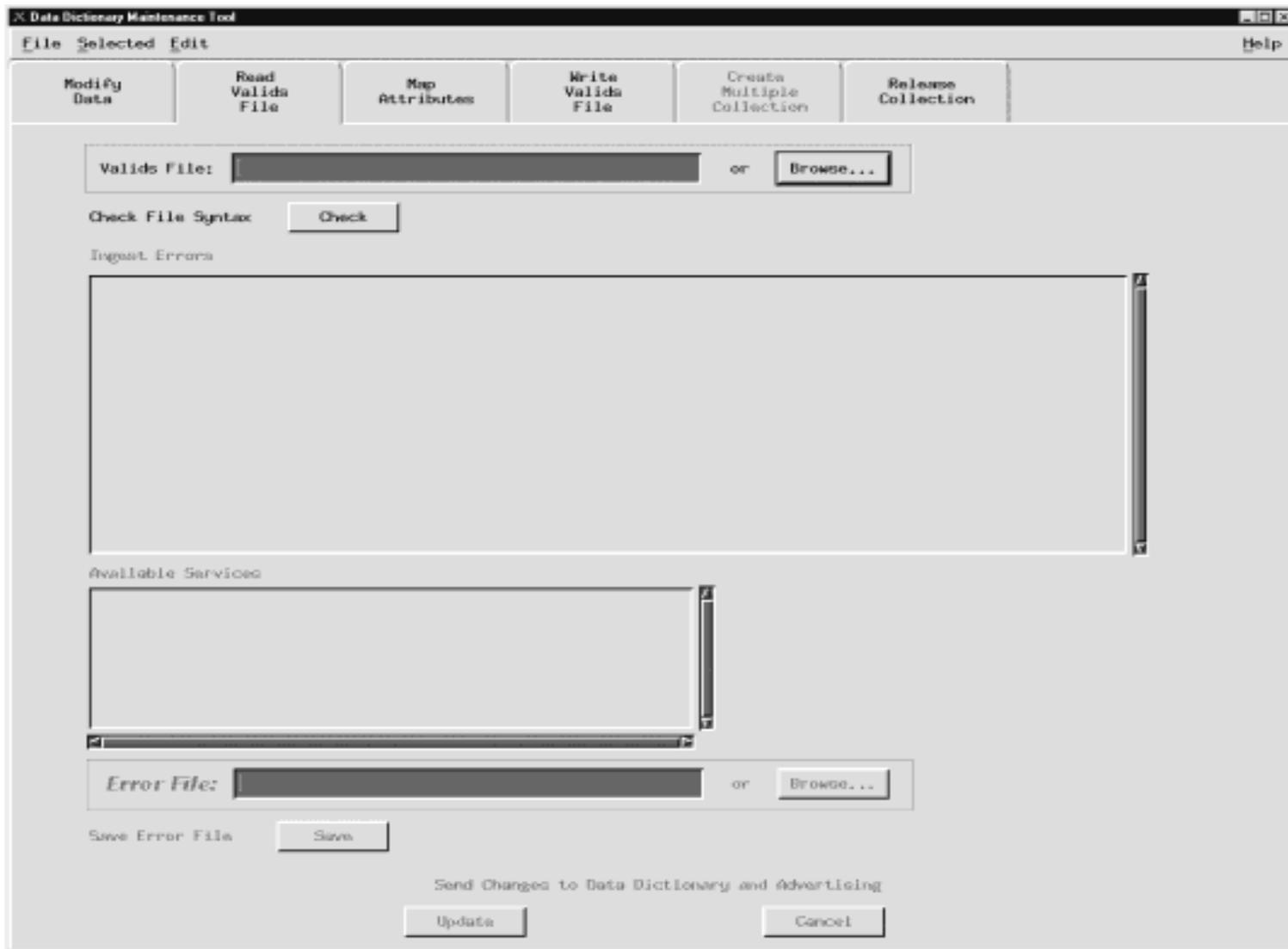
**Figure 4.11.5-3. Modify Data tab with attribute list**



**Figure 4.11.5-4. Attribute Editor Screen**

#### **4.11.5.2.2 Import Valids File Tab**

Figure 4.11.5-5 on the following page shows the Read Valids File tab of the Data Dictionary Maintenance window.



**Figure 4.11.5-5. Read Valid File Tab**

This screen is used to check the database and ingest valids files. The information about new collections will be sent to the operator in the form of a file containing collection descriptions. This will be a “Valids” file, which contains the information about one or more collections. This GUI allows the operators to read in the files and run an error checking function. If there are no errors, the collection description will be ingested into the Data Dictionary. If any errors are found, a list of all errors will be saved to file to be sent to the source for the valids and keyword definitions files, so that corrections can be made. Figure 4.11.5-5 shows the Read Valids File tab.

Click on the Valid File Syntax **Check** button to check the file for syntactic errors.

The Ingest Errors window will display any error that occurred during error checking function. If there are any fatal errors within the file syntax, the Update button will not be sensitized. This means that the operator can not ingest the file. The operator can select the Save button to save the list of all errors to a file. If there are no errors, the Update button will be sensitized and the Valids File can be ingested into the database by clicking on that button.

The Import Valids File tab provides the following dropdown menu options:

- **File** - provides a short cut for the expert users. This menu contains the following items:
  - New** -Desensitized.
  - **Open** - Opens the specified file only in the Read Valids File.
  - **Save and Save As** - Saves the Error Dialog to the specified file, without closing the file..
  - **Exit** - Exit application
- **Selected** - provides operations to be performed. This menu contains the following options:
  - **Deselect All** - Desensitized.
  - **Select All** - Desensitized.
  - **Edit** - Desensitized.
- **Edit** - allows for pasting and cutting of text. This menu contains the following options:
  - **Undo** : Available to undo the previous action while a secondary keyword is selected.
  - **Cut** : Desensitized.
  - **Copy** : Desensitized.
  - **Paste** : Desensitized..

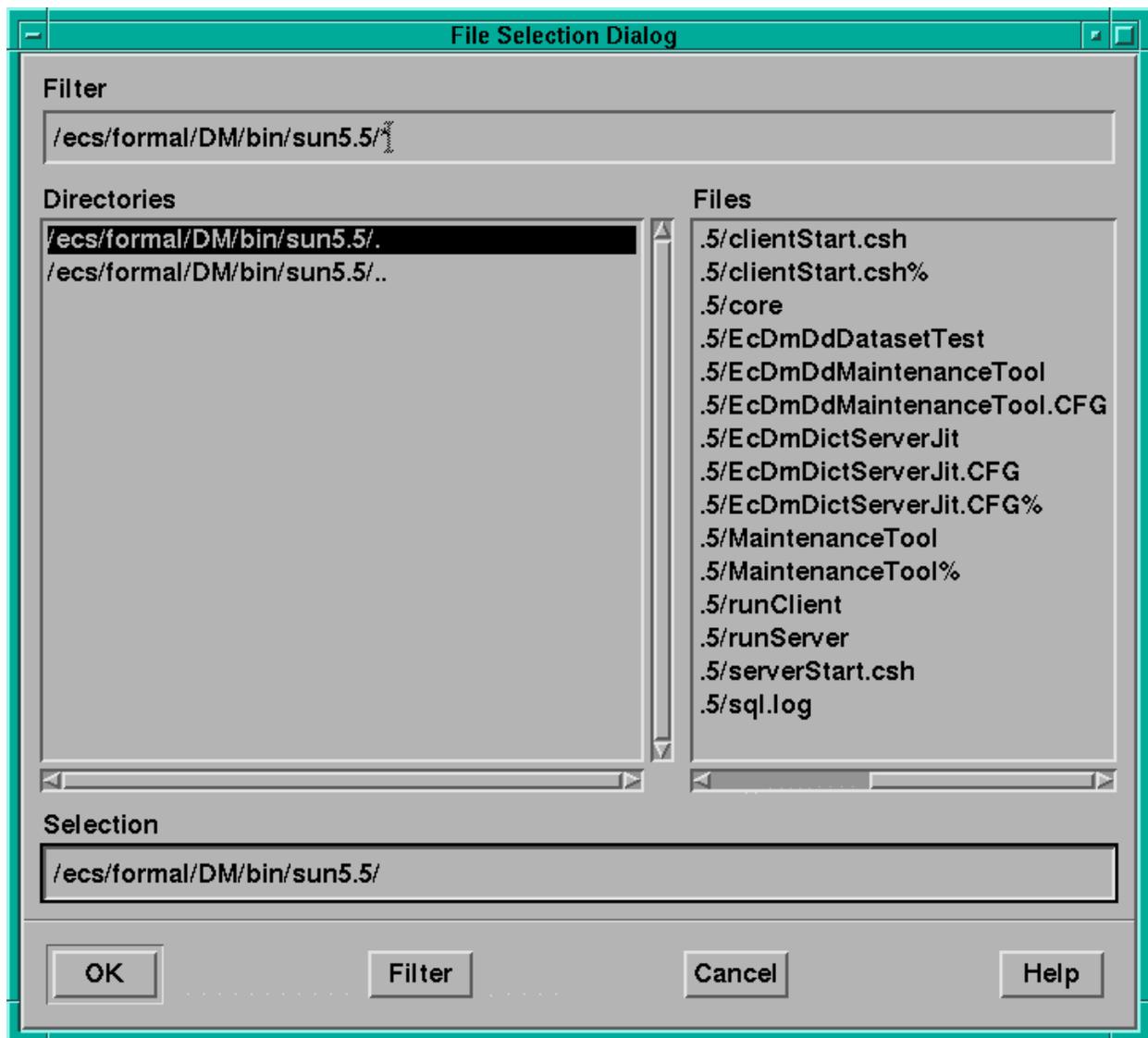
- 
- Clear All** : Clears all the content of the field within the tabs.
- **Delete** : Desensitized.
- **Help** - displays general and context sensitive help. This menu contains the following:
  - **On Help** - provides detailed help on using help.
  - **On context** - Displays help for the control/field selected after activating this button.
  - **On window** - Displays help for the window selected after activating this button.
  - **On Keys** - provides help on keyboard and mouse usage, and general help on interacting with user interface components.
  - **Index** Not available for Release 5.
  - **Tutorial** Not available for Release 5.
  - **On Version** Not available for Release 5.

The detailed description of this tab is in the Table 4.11.5-2.

**Table 4.11.5-2. The Read Valids File Field Description**

Field Name	Data Type	Size	Entry	Description
Valids File	TEXT	100	Keyboard	Valids file to be ingested by tool
Ingest Error	TEXT	N/A	NOT INPUT	Instance of syntax error.
Available Service	TEXT	N/A	NOT INPUT	A list of available services for collection.
Error File	TEXT	100	Keyboard	Output file for errors in input file syntax

The operator can specify in the Valid File window, the ASCII valid file that needs to be inserted in the Data Dictionary Database. Or by clicking the Browse button which brings up the File Select Pop-up shown in Figure 4.11.5-6. The detailed field description of this screen is in Table 4.11.5-3.



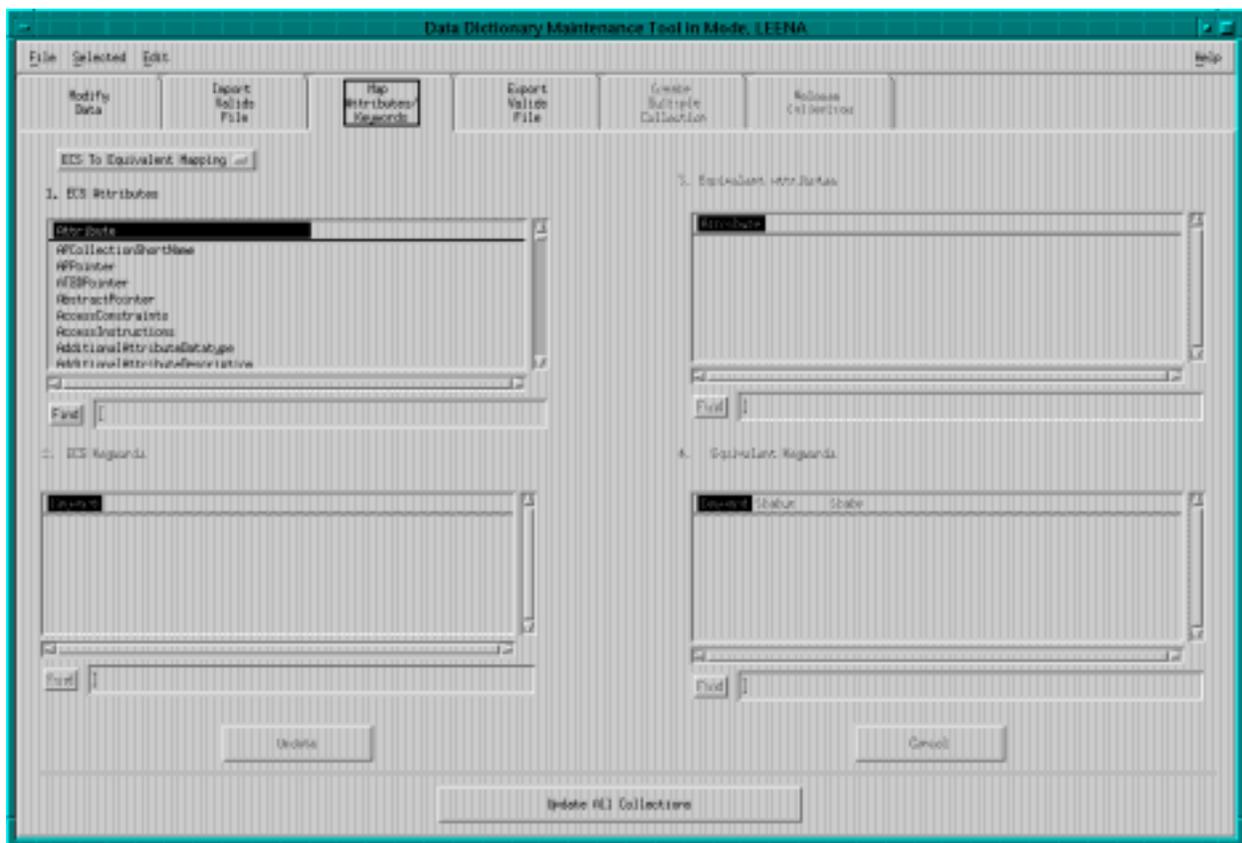
**Figure 4.11.5-6. File Select Pop-up**

The operator can use the Filter window to limit the selected files to be displayed. Select the desired directory and the corresponding file from the Directories and Files window. The selected file will be displayed on the Selection window. By clicking OK button the File Selection Dialog will pop down and selected file will be displayed in the Valids File window.

**Table 4.11.5-3. The File Selection Field Descriptions**

Field Name	Data Type	Size	Entry	Description
Filter	TEXT	100	Keyboard	wildcard search criteria
Directories	LIST	N/A	Click	select directory to browse
Files	LIST	N/A	Click	select file to read
Selection	TEXT	100	Keyboard	select file to read

#### 4.11.5.2.3 Map Attributes/Keywords Tab



**Figure 4.11.5.7. Map Attributes Tab**

The Data Dictionary database contains descriptions of collections from ECS and sources outside ECS. All ECS collections use a standard set of terms to describe their data, but non-ECS collections may contain non-ECS terminology. The Map Attributes GUI allows the operator to set up an association between ECS and non-ECS attributes and keywords. An operator can choose non-ECS terms from a list and map that to the correct corresponding ECS term. Figure 4.11.5-7 shows the Map Attribute GUI. Once the operator is satisfied with the mappings they have set up they may commit these mappings to the database using the update button. To relate these mappings to collections the operator should click on the update all collections button.

The Map Attribute File Tab provides the following dropdown menu options:

- **File** - provides a short cut for the expert users. This menu contains the following items:
  - New** -Desensitized.
  - **Open** - Desensitized.
  - Save and Save AS.** - Desensitized.
  - **Exit** - Exit application
- **Selecte**d - provides operations to be performed. This menu contains the following options:
  - **Deselect All** - Deselects all Attributes and Keywords displayed on the tab.
  - **Select All** - Selects all Attributes and Keywords displayed on the Tab.
  - **Edit** - Desensitized.
- **Edit** - allows for pasting and cutting of text. This menu contains the following options:
  - **Undo** : Desensitized.
  - **Cut** : Desensitized.
  - **Copy** : Desensitized.
  - **Paste** : Desensitized..
  - Clear All** : Clears all the content of the field within the tabs.
  - **Delete** : Desensitized.
- **Help** - displays general and context sensitive help. This menu contains the following:
  - **On Help** - provides detailed help on using help.
  - **On context** - Displays help for the control/field selected after activating this button.

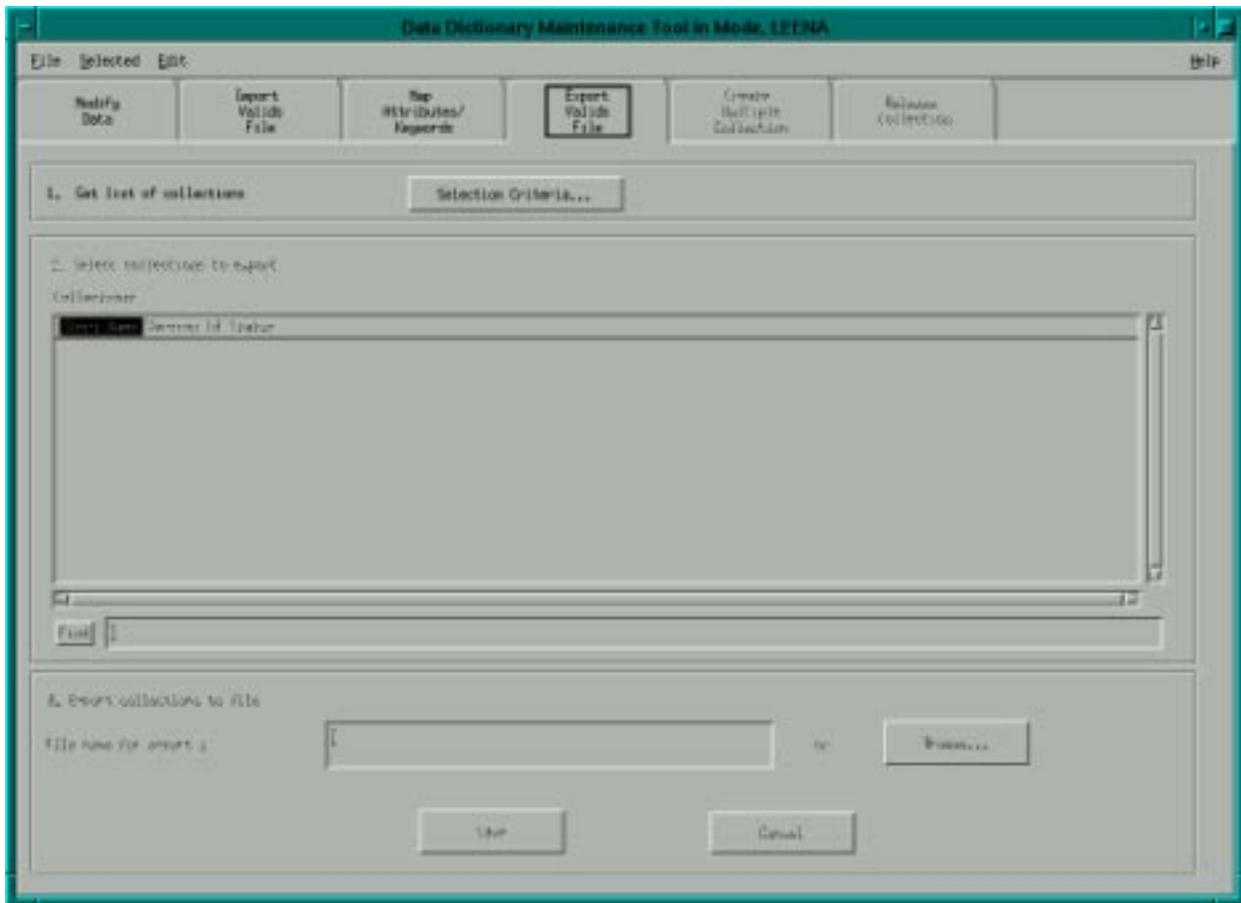
- **On window** - Displays help for the window selected after activating this button.
- **On Keys** - provides help on keyboard and mouse usage, and general help on interacting with user interface components.
- **Index** Not available for Release 5.
- **Tutorial** Not available for Release 5.
- **On Version** Not available for Release 5.

**Table 4.11.5-4. The Map Attributes Field Description**

<b>Field Name</b>	<b>Data Type</b>	<b>Size</b>	<b>Entry</b>	<b>Description</b>
Attributes	TEXT	N/A	Click	An Ecs of non-Ecs attribute
Keyword	TEXT	N/A	Click	An Ecs of non-Ecs keyword

#### **4.11.5.2.4 Export Validates File Tab**

This Export Validates File tab allows operators to send descriptions of data Collection that exist in the database to outside of the ECS system. Validates files are used for this purpose. This tab allows the operators to select the desired collection and specify the name/locations for the file to be written.



**Figure 4.11.5-8. Export Valid File Tab**

Clicking on the Selection Criteria button brings up the Database list dialog. By clicking on the OK button a list of collections will be displayed on the Collections List. By double clicking on the collection(s) that the operator wishes to export, export status is attached to the collection(s). Then the operator can specify where he/she wants to write the valid file to, in the Valid File text box, or by clicking Browse button operator can choose the location/path. By clicking on the Save button the valids are written to the specified file.

The Export Valid File tab provides the following dropdown menu options:

- **File** - provides a short cut for the expert users. This menu contains the following items:
  - New** - Desensitized.
  - Open** - Desensitized.
  - Save and Save AS..** - Saves the Error Dialog to the specified file, without closing the file..

- **Exit** - Exit application
- **S**elect**d**- provides operations to be performed. This menu contains the following options:
  - **Deselect All** - Desensitized.
  - **Select All** - Desensitized.
  - **Edit** - Desensitized.
- **E**dit - allows for pasting and cutting of text. This menu contains the following options:
  - **Undo** : Available to undo the previous action while a secondary keyword is selected.
  - **Cut** : Desensitized.
  - **Copy** : Desensitized.
  - **Paste** : Desensitized..
  - Clear All** : Clears all the content of the field within the Tabs.
  - **Delete** : Desensitized.
- **H**elp - displays general and context sensitive help. This menu contains the following:
  - On Help** - provides detailed help on using help.
  - On context** - Displays help for the control/field selected after activating this button.
  - On window** - Displays help for the window selected after activating this button.
  - **On Keys** - provides help on keyboard and mouse usage, and general help on interacting with user interface components.
  - Index** Not available for Release 5.
  - Tutorial** Not available for Release 5.
  - On Version** Not available for Release 5.

**Table 4.11.5-5. The Export Validates File Field Descriptions**

Field Name	Data Type	Size	Entry	Description
Collections	LIST	N/A	Click	List of possible collections
Collection to Write	LIST	N/A	Click	List of collections to export
Valid File	TEXT	100	Keyboard	File name for generated valids file

#### **4.11.5.2.5 Release Collection Tab (not part of drop 5 release)**

The Release Collection function is not be available in the ECS Release 5.

#### **4.11.5.2.6 Create Multiple Collection Tab (not part of drop 5 release)**

The Create Multiple Collection function is not be available in the ECS Release 5.

#### **4.11.5.3 Required Operating Environment**

DDMT runs on the dms1 host

For information on the operating environment, tunable parameters and environment variables of DDMT refer to the 920-TDx-013 “Custom Code Configuration Parameters” documentation series. The “x” refers to the installed location, e.g. 920-TDG-013 is for GSFC DAAC.

##### **4.11.5.3.1 Interfaces and Data Types**

DDMT exchanges data of various types through interfaces with Data Dictionary Server which runs in the background.

##### **4.11.5.4 Database Schema**

The DDMT process uses the Data Management database. Documentation for this database for Release 4 is ECS document 311-CD-102-005, *Data Management Database Design and Schema Specifications (Draft)*. The operator may have to identify individual data fields by examination of the descriptions in the documentation. Some data may be directly accessible through the database software.

##### **4.11.5.5 Special Constraints**

Data Dictionary Server must be running

##### **4.11.5.6 Outputs**

Output from the DDMT consists of the data displayed on the screens described in Section 4.11.5.2, database updates or additions to the database referenced in Section 4.11.5.4, and error and event messages described in Section 4.11.5.7

#### **4.11.5.7 Event and Error Messages**

DDMT uses the ECS Process Framework error logging.

#### **4.11.5.8 Reports**

None.

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#### **4.11.6 Subscription Editor**

The subscription editor allows an operator to manually enter subscriptions to the IDG Subscription Server. The ability to submit subscriptions automatically has been integrated into the Production Request Editor. This tool allows the operations staff flexibility in submitting subscriptions. The Subscription Editor also has the ability to register subscriptions on behalf of the SCF user as well as the PDPS production system (subscription manager). But this functionality will also be available in the more user-friendly IDG Subscription tool (see Section 4.12.9 “Subscription Server”). Submitting/Withdrawing subscriptions is functionally separated from the receipt of subscription notifications; the reception of the notification is the responsibility of the Subscription Manager.

The subscriptions that are built are slightly different for the two classes of users. Those for the Subscription Manager send notifications via the IDG asynchronous message passing mechanisms using a logical queue name defined in the configuration file for this tool. The logical queue name is a DCE CDS directory entry which is the destination for the IDG asynchronous notification, and to which the Subscription Manager registers interest in arriving messages.

The subscriptions built for the other class of users send notifications by e-mail. When building a subscription for an end user, information is entered about the client who will receive the notification is entered by the operator. The ECS user-id has to be supplied for the SCF user; this is used within the IDG subscription server to determine an e-mail account to which notification is sent.

A subscription is built from an advertisement of the subscription. The advertising subsystem maintains a list of all the “events” which may be subscribed to within the ECS system. The PDPS production system is basically interested in INSERT events for ESDTs (to be made aware when new data arrive into the ECS). The events are created/defined during the process of adding an ESDT to the Science Data Server, the events are actually advertised by the IDG subscription server(s). SCF users may browse the list of subscribable events from the Earth Science Online Directory. The Subscription Editor software accesses the advertisements for subscribable events by searching on their “internal service name” within the advertising database.

PDPS Subscription Editor is used to perform the operator functions listed in Table 4.11.6-1.

**Table 4.11.6-1. Common ECS Operator Functions Performed with PDPS Subscription Editor**

Operating Function	Command	Description	When and Why to Use
Start <i>PDPS Subscription Editor</i> program	<b>EcPISubsEditStart</b>	This will bring up the <i>PDPS Subscription Editor</i>	To manually enter or cancel subscriptions.
manually enter subscriptions to the IDG Subscription Server	<b>EcPISubsEditStart</b>	The program will query the operator for the input parameters necessary to submit the subscription	When the Subscription Manager or SCF user requires a subscription to be manually entered.
manually cancel subscriptions to the IDG Subscription Server	<b>EcPISubsEditStart</b>	The program will query the operator for the input parameters necessary to cancel the subscription	When the Subscription Manager or SCF user requires a subscription to be manually canceled.

#### 4.11.6.1 Quick Start Using Subscription Editor

The PDPS Subscription Editor is a custom developed utility and should be used only by operations personnel.

##### 4.11.6.1.1 Invoking PDPS Subscription Editor From the Command Line Interface

To execute PDPS Subscription Editor from the command line prompt use:

> **EcPISubsEditStart** MODE [APP\_ID]

The MODE parameter specifies the mode the program is to run in. The Subscription Editor can run in any mode. Modes are established by the DAAC Operations staff.

The parameter APP\_ID establishes a unique identifier for the running program. It is an integer. If the value of a running program is selected the script will terminate with a message indicating another APP\_ID must be chosen.

Refer to the 920-TDx-013 “Custom Code Configuration Parameters” documentation series , for a listing of **EcPISubsEditStart**.

The command line interface is used to input responses to program prompts. The program produces the following sequence of prompts:

Would you like to view the complete list of ESDTs known to PDPS? (y/n):  
 Is recipient PLS Subscription Manager (Y/N):  
*if recipient is PLS Subscription Manager - Y:*  
     Enter ESDT data type name (as appears in the PDPS database):  
     Override the provider [provider name] defined for this ESDT (Y/N):  
     Submit (S)/Withdraw(W):  
*if recipient is not PLS Subscription Manager - N:*  
     Enter user id:

Enter email address (for subscription notification):  
 Enter ESDT data type name (as appears in the PDPS database):  
 Override the provider [provider name] defined for this ESDT (Y/N):  
 Submit (S)/Withdraw(W):  
 Specify the Internal Service Name  
 Enter 'd' for default Insert Event service.

#### 4.11.6.2 Subscription Editor Main Screen

There is no GUI or CHUI for the PDPS Subscription Editor. The input/output with the program is performed at the command line.

#### 4.11.6.3 Required Operating Environment

The PDPS Subscription Editor is run on the SUN.

For information on the operating environment, tunable parameters and environment variables of PDPS Subscription Editor refer to the 920-TDx-013 "Custom Code Configuration Parameters" documentation series . The "x" refers to the installed location, e.g. 920-TDG-013 is for GSFC DAAC.

The following table identifies the supporting products this tool depends upon in order to function properly.

**Table 4.11.6-2. Support products for PDPS Subscription Editor**

Interface (facility)
IDG Subscription Server
IOS Advertising Server

#### 4.11.6.3.1 Interfaces and Data Types

**Table 4.11.6-3. PDPS Subscription Editor Interfaces**

Interface (facility)	Type Interface Protocols	Description	Comments
MSS	Process Framework	Used for error logging	Via ECPfClient
IOS	OODCE/Client	Obtain advertisements describing the events for subscriptions	Advertising database. Events are managed by DSS.
IDG	OODCE/Client	Cancel or submit subscriptions	Subscription Server
PDPS	Sybase Client	Access the PDPS database	

#### **4.11.6.4 Databases**

The PDPS Subscription Editor uses the PDPS database, the IDG Subscription Server database, and the IOS Advertising database. The PDPS database for Release 4 is ECS document 311-CD-106-005, *Planning and Data Processing Subsystem Database Design and Schema Specifications*. The IDG Subscription Server database is 311-CD-109-005, *Subscription Server Database Design and Schema Specifications*. The IOS Advertising database is 311-CD-104-005, *Interoperability Subsystem (IOS) Database Design and Schema Specifications*.

#### **4.11.6.5 Special Constraints**

ESDTs must have been registered with PDPS through the SSIT process. The ESDTs and their associated events must be installed into the SDSRV, the IDG's Subscription Server, and the IOS's Advertising Server.

#### **4.11.6.6 Outputs**

The PDPS Subscription Editor output consists of data returned to the command line interface, error messages as described in Section 4.11.6.7, and updates to the PDPS and IDG subscription server database.

#### **4.11.6.7 Event and Error Messages**

The PDPS Subscription Editor program issues error messages which are listed in Appendix A.

#### **4.11.6.8 Reports**

None.

#### 4.11.7 Database Installation and Maintenance Scripts

A set of eleven standard database scripts have been created for the DDIST, IOS, INGEST, MSS, PDPS, SDSRV, STMG, and SUBSRV subsystems to facilitate database installation and database administration activities. These scripts are designed to be accessible from both the command line and the ECS Assist installation tools. The scripts follow a standard naming convention across each subsystem consisting of a prefix, of the format *EcXXXX*, identifying the subsystem component and a root identifying the primary database command or purpose performed by the script. For example a script to define login IDs used by the IOS advertising server would be called *EcIoAdDbLogin*.

A description of each of the suggested standard scripts is given Table 4.11.7-1. Details about the applicable scripts for each subsystem may be found in the appropriate subsystem-specific 311 documentation.

**Table 4.11.7-1. Common ECS Operator Functions Performed with Database Installation and Maintenance Scripts (1 of 2)**

Operating Function	Command	Description	When and Why to Use
Add Login	DbLogin	Add existing system login to the SQL server.	Use when installing an ECS custom application to add the pre-defined set of Unix logins used by the application to the appropriate SQL server.
Add User	DbUser	Add user ID to a database	Use when installing an ECS custom application to add the pre-defined set of User IDs used by the application to the appropriate database.
Create Database	DbBuild	Build a new empty database and load with initial start-up data.	Use when installing an upgraded Release/drop or an ECS custom application into a mode where there is no existing data that needs to be retained.
Upgrade Database	DbPatch	Upgrade tables to new schema while retaining existing data.	Use when installing an upgraded Release/Drop of an ECS custom application into a mode containing existing data that needs to be retained.
Drop objects	DbDrop	Remove all database objects (tables, triggers, stored procedures, domains, rules, user-defined data types) from a database.	Should not be used independently by the Operator. Used by DbBuild script during installation to remove obsolete objects from the database.

**Table 4.11.7-1. Common ECS Operator Functions Performed with Database Installation and Maintenance Scripts (2 of 2)**

<b>Operating Function</b>	<b>Command</b>	<b>Description</b>	<b>When and Why to Use</b>
Backup database	DbDump	Create a backup file for the database.	Use to create a backup of the database that can be used in the event of database corruption or disk failure.
Restore database	DbLoad	Restore a database from a backup file.	Use to recover from database corruption or disk failure.
Update database statistics	DbStat	Updates the database statistics used by the Sybase query optimizer.	Use on a regular frequency to update database statistics to optimize query response times.
Remove ESDT	DbClean	Removes all data for a single ESDT from the database.	Use to de-install an ESDT from a subsystem database.
Purge data	DbPurge	Removes and/or archived expired data.	Use on a periodic basis to delete expired
Check install	EcDsDesc	Verifies database install	Use after running DbBuild or DbPatch to confirm that subsystem database was properly installed.

#### **4.11.7.1 Quick Start Using Database Installation and Maintenance Scripts**

The database installation and maintenance scripts are a custom developed utility and should be used only by database administration personnel.

##### **4.11.7.1.1 Invoking Database Installation and Maintenance Scripts From the Command Line Interface**

To execute Database Installation and Maintenance Scripts from the command line prompt use:

**Scriptname <mode> <dbo\_id> <passwd> <sqlserver> <dbname>**

Scriptname specifies the name of the database script to be executed.

The <mode> parameter specifies the mode in which the database to be used is found.

The <dbo\_id> parameter specifies the user ID of the database owner for the database to be used.

The <passwd> parameter specifies the password of the database owner for the database to be used..

The <sqlserver> parameter specifies the name of the SQL server under which the database to be used is found.

The <dbname> parameter specifies the name of the database to be used.

#### 4.11.7.1.2 Invoking Database Installation and Maintenance Scripts using ECS Assist.

All scripts except EcDbDesc can be invoked using the ECS Assist installation tool using the DATABASE command button. Further information on using ECS Assist may be found elsewhere in this document.

#### 4.11.7.3 Required Operating Environment

The Database Installation and Maintenance Scripts may be run on the SUN, SGI, or HP.

For information on the operating environment, tunable parameters and environment variables of Database Installation and Maintenance Scripts refer to the 920-TDx-013 “Custom Code Configuration Parameters” documentation series . The “x” refers to the installed location, e.g. 920-TDG-013 is for GSFC DAAC.

The following table identifies the supporting products this tool depends upon in order to function properly.

**Table 4.11.7-2. Support products for Database Installation and Maintenance Scripts**

Interface (facility)
Sybase SQL Server

#### 4.11.7.3.1 Interfaces and Data Types

None.

#### 4.11.7.4 Databases

The Database Installation and Maintenance Scripts uses the DDIST, DM, INGEST, IOS, MSS, SDSRV, STMGT, or SUBSRV database as applicable. Description of each of these databases is found in the following documents:

311-CD-101-005, *Data Distribution Subsystem Database Design and Schema Specifications*

311-CD-102-005, *Data Management Subsystem Database Design and Schema Specifications*

311-CD-103-005, *Ingest Subsystem Database Design and Schema Specifications*

311-CD-104-005, *Interoperability Subsystem Database Design and Schema Specifications*

311-CD-105-005, *System Management Support Subsystem Database Design and Schema Specifications*

311-CD-106-005, *Planning and Data Processing Subsystem Database Design and Schema Specifications*

311-CD-107-005, *Science Data Server Subsystem Database Design and Schema Specifications*

311-CD-108-005, *Storage Management Subsystem Database Design and Schema Specifications*

311-CD-109-005, *Subscription Server Database Design and Schema Specifications*. The IOS Advertising database is 311-CD-104-005, *Interoperability Subsystem (IOS) Database Design and Schema Specifications*.

#### **4.11.7.5 Special Constraints**

None.

#### **4.11.7.6 Outputs**

None.

#### **4.11.7.7 Event and Error Messages**

The Database Installation and Maintenance Scripts issues error messages which are reported on the Sybase error log.

#### **4.11.7.8 Reports**

None.