

## **4.9 Common Services Tools**

This section describes the tools used by DAAC operators on a day-to-day basis:

1. Common Desktop Environment (CDE) Tool
2. Microsoft Office Professional
3. Netscape Communicator
4. Sun Java System Web Server
5. Batch Insert Utility
6. Data Pool Cleanup Utility
7. Update Granule
8. Data Pool Access Statistics Utility (DPASU) – Rollup Scripts
9. Data Pool Access Statistics Utility (DPASU) – Maintenance Scripts
10. Most Recent Data Pool Inserts Utility
11. Data Pool Collection-to-Group Remapping Utility
12. Data Pool QA Update Utility
13. Data Pool Move Collections Utility
14. Data Pool Hidden Scrambler Utility
15. Data Pool Remove Collection Utility
16. Data Pool Band Backfill Utility

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### 4.9.1 Common Desktop Environment (CDE) Tool

The ECS uses the Common Desktop Environment (CDE) Tool COTS package to manage X windows. It is a commercial graphical user interface for UNIX supporting AIX and linux operating systems. It provides users registered at an ECS site with generalized support for performing the basic operations listed in Table 4.9.1-1.

**Table 4.9.1-1. Common ECS Operator Functions Performed with CDE**

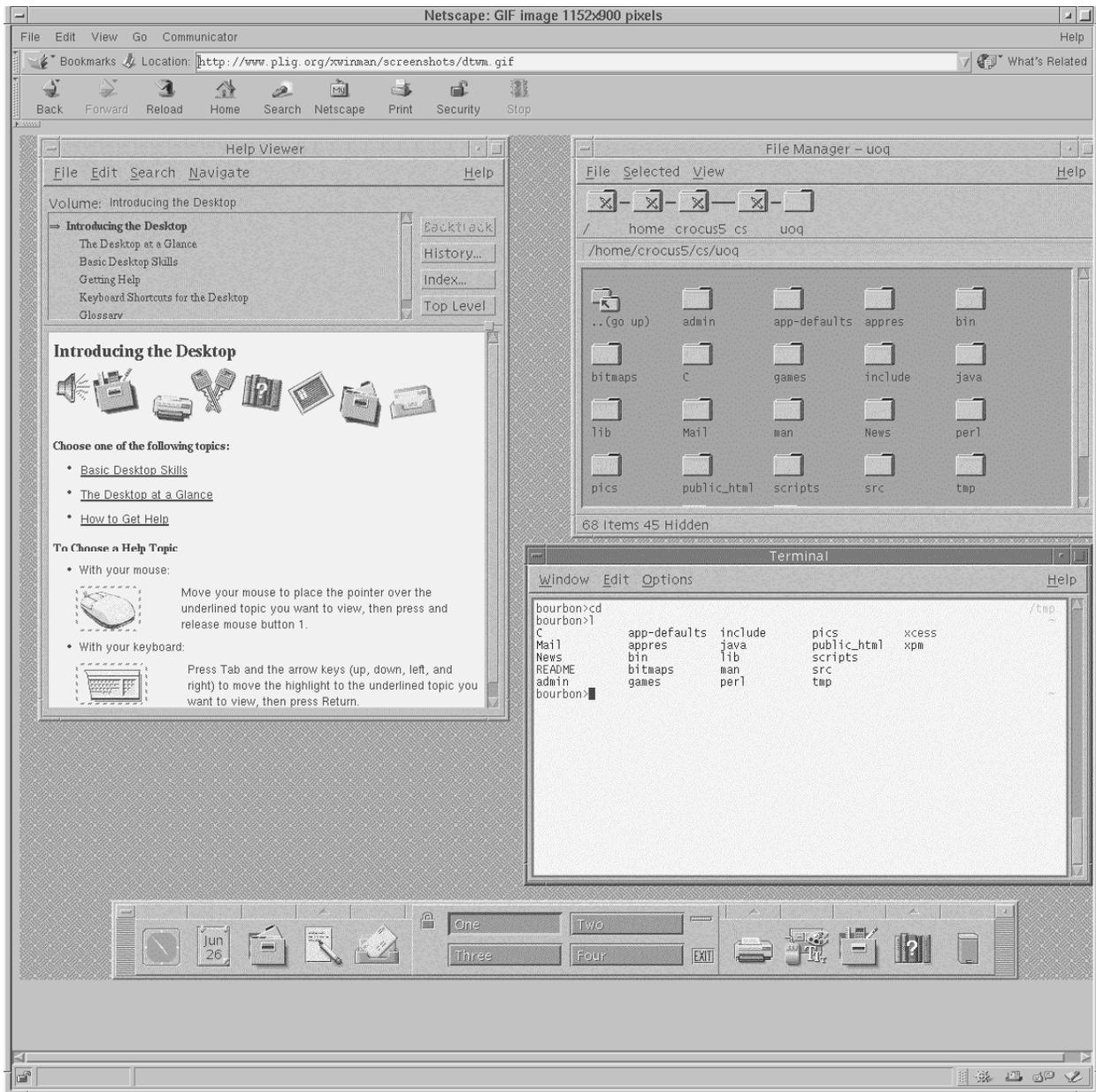
Operating Function	GUI	Description	When and Why to Use
Start a desktop session	Basic login with userid and password	Invokes the CDE window manager.	Access an ECS host.
Use the Front Panel	Front Panel window	Contains set of controls for performing common tasks (i.e., calendar, email, clock, print, file management).	As needed during work session.
Manage files	File Manager	File management tool.	Perform file navigation/manipulation.
Use Application Manager	Application Manager	How to run applications using Application Manager, the main repository for applications in CDE.	Need to invoke applications.
Customize the desktop environment	Style Manager	Allow for customizing the look and behavior of desktop.	Need to customize desktop environment.
Use text editor	Text Editor	Supports creation/editing of short documents (e.g., memos, mail, resource files).	Need to create short documents.
Print	Printing	Explains how to access printers.	Need to print/change default printer.
Use Terminal	Terminal	Explains how to display and customize terminal emulator windows on desktop.	Need to access control terminal window.
Use Icon editor	Icon Editor	Creates files for use as desktop icons or backdrops.	Need to create icons/backdrops.
Use Image Viewer	Image Viewer	Allows for capture, viewing, editing, printing, and translation of monochrome/color image files.	Need to perform image manipulation.

#### 4.9.1.1 Quick Start Using the Common Desktop Environment (CDE) Tool

After being registered as an ECS user by the site administrator, the user accesses the CDE window manager by logging into an ECS host using a defined UserID and password.

### 4.9.1.2 CDE Main Screen

Figure 4.9.1-1 presents an example of the type of support provided by the CDE Window Manager.



**Figure 4.9.1-1. Example of CDE Window Manager Support Features**

The Front Panel window at the lower part of the screen contains a set of icons allowing access to common support features. Through this panel the user can obtain time, date, monitor schedule,

access email, edit text files, print, access file manager to navigate the file system, and application manager to invoke and manage custom applications.

The Help Viewer window to the left of the screen is a support feature the user can invoke to obtain detailed online explanation of CDE support capabilities.

The File Manager window at the upper right of the screen supports navigating the file system and creating, deleting, and moving file objects.

The Terminal window below the File Manager on the screen allows Unix command line access to operating system services.

In addition to the help accessible to the online user, detailed documentation of CDE capabilities from the user standpoint and the system administrator are available from the Sun vendor at the web location:

<http://docs.sun.com>.

### **4.9.1.3 Required Operating Environment**

Refer to the Common Desktop Environment: Advanced User's and System Administrator's Guide.

### **4.9.1.4 Databases**

None.

### **4.9.1.5 Special Constraints**

Access to CDE is available only to registered users of ECS sites.

### **4.9.1.6 Outputs**

The Common Desktop only outputs event and error messages.

### **4.9.1.7 Event and Error Messages**

CDE issues both status and error messages to the operator screen. Error messages are listed in the CDE support documentation accessible at the web link:

<http://docs.sun.com>.

### **4.9.1.8 Reports**

None.

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## 4.9.2 Microsoft Office Professional

EMD provides Microsoft Office Professional to the DAACs to support general office automation tasks. Table 4.9.2-1 lists the operational tasks supported in the Office Professional package.

**Table 4.9.2-1. Common ECS Operator Functions Performed with Microsoft Office**

Operating Function	GUI Program	Description	When and Why to Use
Word processing	Microsoft Word	Allows operator to create, edit, open, save, and print documents. Allows incorporation of material generated in Excel and PowerPoint.	To create and maintain DAAC policies and procedures.
Develop a spreadsheet	Microsoft Excel	Allows operator to manage, format, chart and analyze data imported from the MSS database.	Imports data from the MSS database to create a report on an as needed basis.
Develop a presentation	PowerPoint	Allows operator to produce presentation slides, drawings, handouts, speaker notes, outlines and graphs. Allows incorporation of material generated in Excel and Word.	To develop briefings on an as needed basis.
Develop a database	Microsoft Access	Allows operator to define, create, and maintain databases. Allows operator to query database information and generate reports.	Provides support for as-needed database querying and reporting. Allows export of data to Word and Excel for analysis.

### 4.9.2.1 Quick Start Using Microsoft Office Professional

Microsoft's Program Manager contains the Microsoft Office Professional icon, which can be selected to provide Excel, Word, PowerPoint, and Access icons that launch the applications. Refer to the following Microsoft documentation for more details about its applications:

*Microsoft Word User's Guide*

*Microsoft Excel User's Guide*

*Microsoft PowerPoint User's Guide*

*Microsoft Access User's Guide*

The documentation of Microsoft Office Professional used as a basis and referenced in this section, is for use with the Windows XP operating system.

Microsoft Office Professional is installed exclusively on PCs.

#### **4.9.2.2 Invoking Microsoft Office Professional**

On a PC running Windows XP, the Microsoft Office Professional products can be invoked from the Office toolbar (if present) or the “Start” menu on the desktop display.

#### **4.9.2.3 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 Configuration Management controlled document for each product.

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

The Microsoft Office Professional applications Word, Excel, PowerPoint, and Access work alike and interface with each other as if each were a single program.

#### **4.9.2.4 Databases**

The individual Microsoft Office products maintain their “products” in proprietary file structures:

MS Word = **.doc**

MS EXCEL = **.xls**

MS PowerPoint = **.ppt**

MS Access = **.mdb**

Each release of these products can accept output from previous releases of the same product, and generally, their competitor’s products available at the time of their release. However, they may not be able to use the same file extension name structures created by a later release. See the Special Constraints Section 4.9.2.5 below.

#### **4.9.2.5 Special Constraints**

The version of Microsoft Office Professional installed is Office 2003 for Windows XP. Users must take care when importing files (.doc, .xls, .ppt, and .mdb) and ensure the files are not produced by a later version of these products.

#### **4.9.2.6 Outputs**

The Microsoft Office Professional products display their outputs on screen and produce printed output appropriate to the product.

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

Microsoft Office Professional provides help windows to identify and explain any Microsoft Office error messages.

#### **4.9.2.8 Reports**

Refer to the associated Microsoft User Guide for detailed information on the generation of reports using Word, Excel, PowerPoint, and Access.

### 4.9.3 Netscape Communicator

Netscape Communicator is a GUI interface for browsing the World Wide Web (WWW) and for obtaining information from other sources. Some of the Netscape Communicator functions are:

- View/process text/html files as well as other MIME formats
- Provide an interface to Telnet, Gopher, FTP, Email, and Newsgroups
- Read content of bulletin boards on the world-wide-web

Netscape Communicator is used to perform the following operator functions listed in Table 4.9.3-1. Please refer to the Netscape Communication's Help option for additional information on functionality not explicitly mentioned here.

**Table 4.9.3-1. Common ECS Operator Functions Performed with Netscape Communicator (1 of 2)**

Operating Function	Command/Action	Description	When and Why to Use
View Web Pages	Main window	<ul style="list-style-type: none"> <li>• Operator views pages written in HTML source code.</li> <li>• These pages provide images, text, and form templates.</li> </ul>	To obtain information and to process user-interactive forms.
Process Forms	Main window	<ul style="list-style-type: none"> <li>• Forms are provided for operator input.</li> <li>• Certain operations require a password.</li> </ul>	Used to search or manipulate the existing database (functions add, delete, modify.)
Read a message and attachments	Netscape Mail and Discussions window	Allows the operator to read messages received. If there are any file attachments, they can also be read or processed if they are not text files.	To read a message and if applicable, read or process an attachment.
Reply to a message	Compose Window	Allows the operator to send a message to the originator of the message received or to all recipients of the original message.	To send (reply) messages to the originator of a message or all recipients of the message with an option to include the original message in the reply.

**Table 4.9.3-1. Common ECS Operator Functions Performed with Netscape Communicator (2 of 2)**

<b>Operating Function</b>	<b>Command/Action</b>	<b>Description</b>	<b>When and Why to Use</b>
Send a new message	Compose Window	Allows the operator to create and send a message. Text or binary files can be attached to the message.	To send a new message to one or more recipients with attached files.
Delete/undelete messages	Netscape Mail and Discussions window	Allows the operator to mark messages for deletion. The messages are permanently deleted when the Update option is selected or when quitting Messenger Mailbox. Messages can only be undeleted before Update is selected or before quitting Messenger Mailbox.	To delete messages and free disk storage space.
Browse Bulletin Boards (BB)	Netscape Message Center window	Allows for exchange of information with users and scientists that share the same interest.	To ask or provide information on the BB subject to a large community of users.

#### **4.9.3.1 Quick Start Using Communicator**

For more information, the Netscape Communication's Help option is available online (Open the "Help" pulldown menu from the Netscape Communicator main screen and select Help Contents. The main page with the contents of the Netscape Help appears. The operator can select subjects he/she is interested in by following the available links. By opening the "File" menu on the main page and selecting "Print", a hardcopy of the displayed text can be obtained.

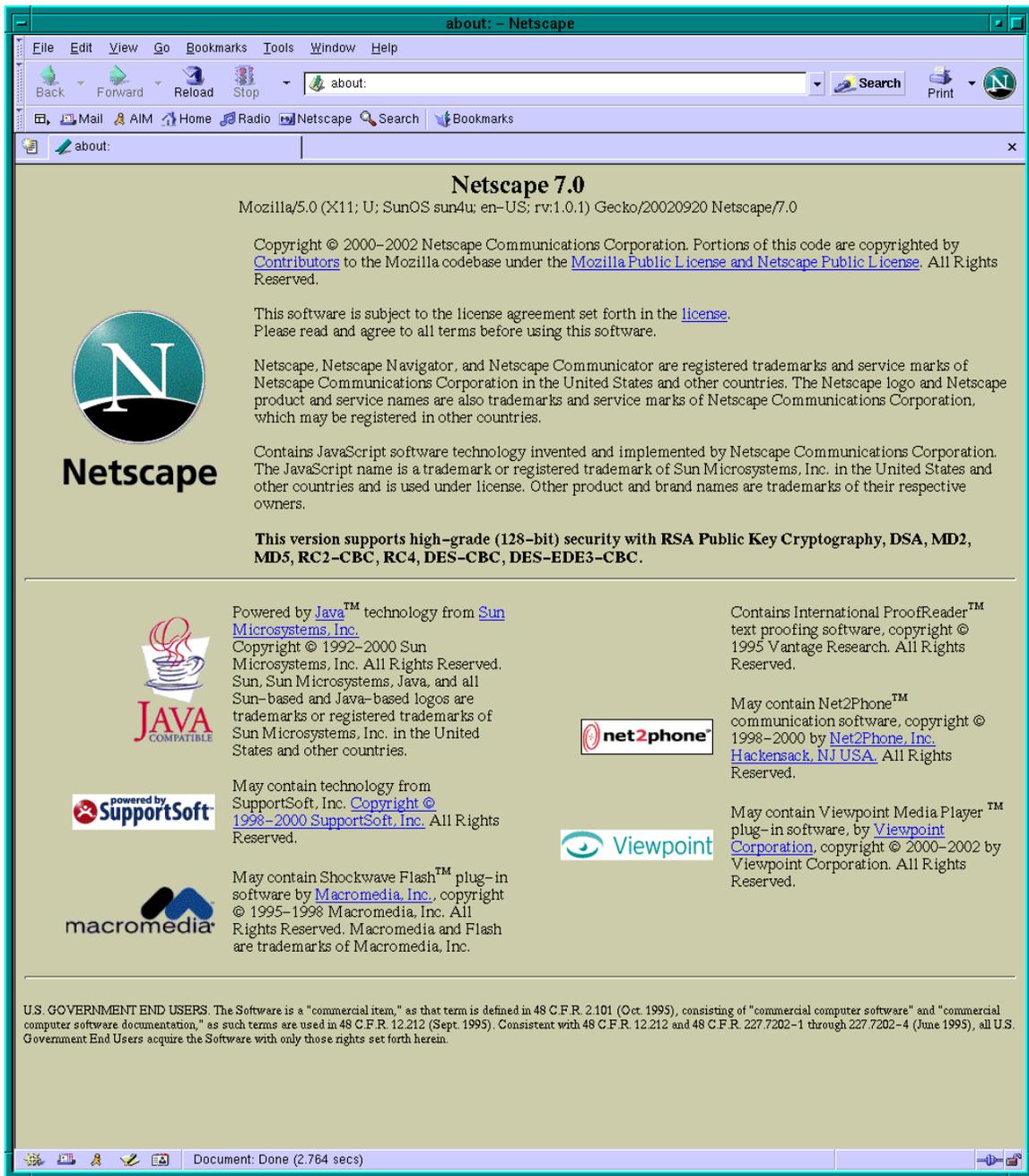
##### **4.9.3.1.1 Command Line Interface**

To execute Netscape Communicator from the command line prompt use:

**> netscape &**

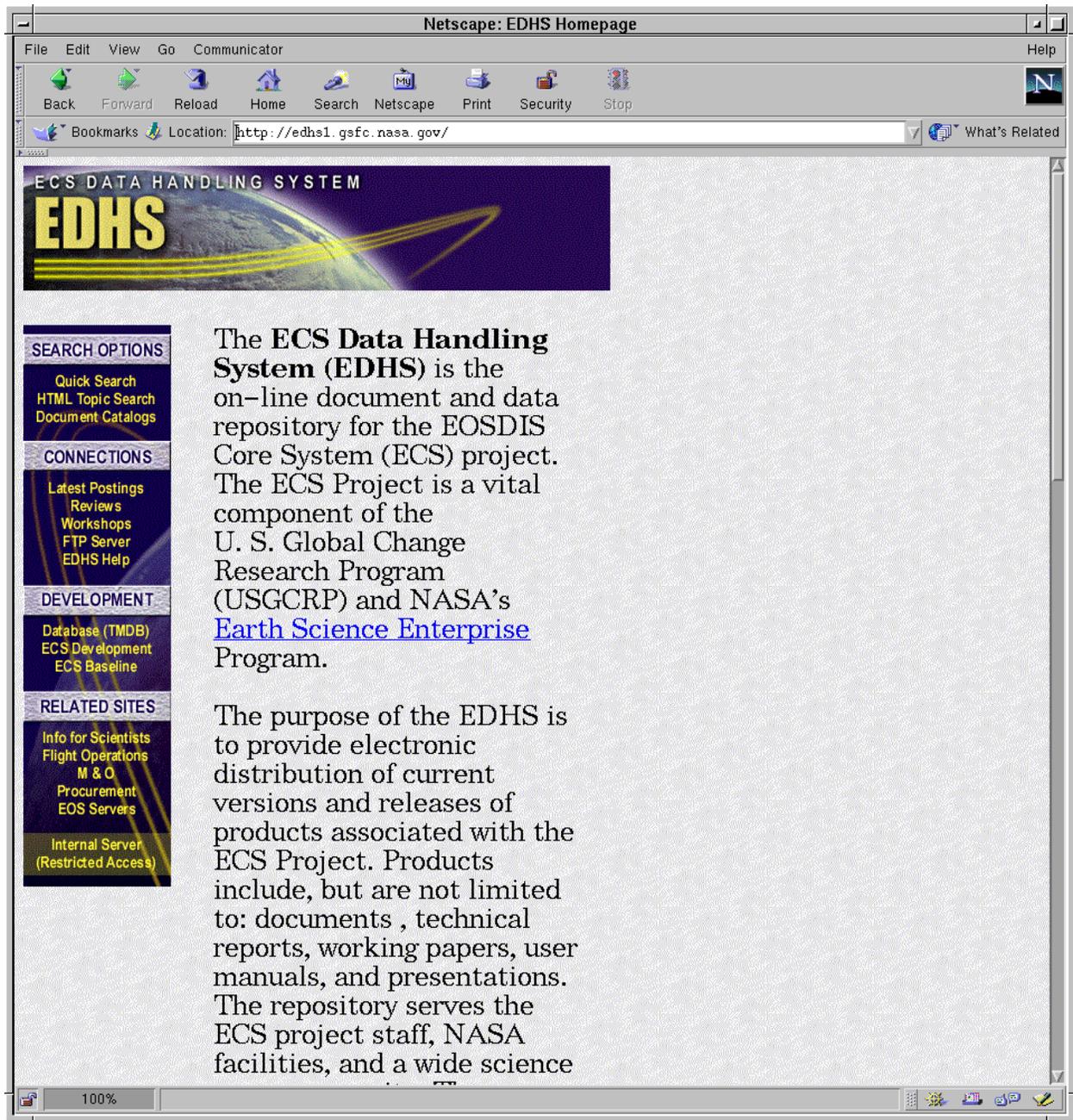
##### **4.9.3.2 Netscape Communicator Main Screen**

Once invoked, Netscape Communicator displays the startup screen shown in Figure 4.9.3-1.



**Figure 4.9.3-1. Netscape Communicator: Browser with Display Field**

Clicking the mouse anywhere in the startup screen causes the browser to display the user's selected home page. An example of a home page is the ECS Data Handling System page shown in Figure 4.9.3-2.



**Figure 4.9.3-2. Netscape Communicator: EDHS Home Page**

From the start-up Netscape Communicator screen, the operator has several choices for loading pages in any of the MIME formats known by Netscape Communicator:

- Move the cursor to a link in the display field and click on this link
- Select a URL from the "Bookmarks" pulldown menu

- Click on “File” and then “Open Page” of the Netscape Communicator Toolbar to enter a URL address or a file
- In the “Location” text field beneath the Toolbar and Directory Buttons, type Ctrl+U (^U) to erase the line and type the desired URL
- Modify a URL displayed in the “Location:” text area. Use the mouse to select the portion to be changed, press <Backspace> to delete the highlighted text, and enter the new text

It is recommended that operators have bookmarks of pages to be accessed frequently (file bookmarks.html in the ~/.netscape directory). Refer to the *Netscape Communicator Reviewer's Guide* for further details.

Buttons at the lower right corner of the screen provide direct access to functionality provided by, respectively, the browser, the mail message, the discussion group, and the composer windows.

#### **4.9.3.3 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 Netscape, refer to the ECS Baseline Information System web page, URL <http://cmdm.east.hitc.com/>.

#### **4.9.3.4 Databases**

Netscape Communicator can interface with Sybase tables via CGI programs when operators process forms. Refer to the appropriate sections for the databases used by ECS tools accessible via Netscape.

While these databases are not directly required for the operation of Netscape Communicator, some form processing features would be hampered if the interface to these databases does not work.

#### **4.9.3.5 Special Constraints**

None.

#### **4.9.3.6 Outputs**

Netscape Communicator provides the outputs listed in Table 4.9.3-2 below.

**Table 4.9.3-2. Netscape Communicator Outputs**

<b>Output</b>	<b>Description and Format</b>
Screen Display	Shows the Netscape Communicator browser GUI screen and adjusts to the screen format.
Hardcopy of Display Window	Printed version of the contents of the display window.
Display Window saved to disk	Contents of the display window can be saved to disk in Text, Source or Postscript format.
Modified, deleted or created data files	Processing of forms allows the operator to modify, delete or create data files.

#### **4.9.3.7 Event and Error Messages**

Netscape Communicator issues both status and error messages to document the status of loading a document or to display the reason for not loading a document. For further information, refer to the *Netscape Communicator Handbook*.

#### **4.9.3.8 Reports**

None.

#### **4.9.4 Sun Java System Web Server**

Sun Java System Web Server 6.1, Service Pack 5 is a multi-process, multi-threaded, secure web server built on open standards. It provides high performance, reliability, scalability, and manageability for any size enterprise, and it includes modules for creating and managing Web content, for extending or replacing functions of the server (e.g., through Java servlets and JavaServer pages), and for providing application-specific services such as security and access control.

In EMD, Sun Java System Web Server is used by several subsystems to access HTML files and to service web-based applications. It is installed locally on machines that run EMD applications relying on it. A distinct instance of a Sun Java System Web Server is created for each such application, one per mode in which the application runs. For example, EMD's Order Manager, Data Pool GUI, and BMGT all need to use Sun Java System Web Server, and each of them runs in the three modes on sites' Data Pool Server machines. Consequently, nine instances of the Sun Java System Web server are required - one for each of the three applications in each mode. Applications communicate with the appropriate instance via a unique port number. The port numbers these Sun Web Servers use can be found in the EMD baseline document, 910-TDA-002, ECS Software Port Mapping Baseline.

An additional instance of the Sun Java System Web Server known as the Administration Server is created whenever Sun Java System Web Server is installed on a machine. You use it to manage all Web Server instances.

Table 4.9.4-1 summarizes the Sun Java System Web Server functions used by EMD and references vendor guides that describe their use. Release Notes are available on the Internet at <http://docs.sun.com/app/docs/doc/819-2479>.

**Table 4.9.4-1. Common EMD Operator Functions Performed with the Sun Java System Web Server (1 of 3)**

Operating Function	Command/Script	Description	When and Why to Use
Administer <i>Sun Java System</i> web servers	Administration Server GUI	Allow operators to add and remove web server instances.	When applications needing web servers are installed or removed.
Set Administration Preferences	Administration Server GUI	Allow operators to: <ul style="list-style-type: none"> <li>• Stop the Administration Server</li> <li>• Edit its listen socket settings</li> <li>• Change the user account under which its processes run</li> <li>• Change its superuser settings</li> <li>• Specify log file options, including log file rotation</li> <li>• Configure JRE paths</li> </ul>	When <i>Sun Java System</i> is installed and when the Administration Server needs reconfiguration.
Provide security and encrypt transactions	Administration Server GUI	Allow operators to: <ul style="list-style-type: none"> <li>• Create a trust database</li> <li>• Request, install, and manage VeriSign and other server certificates</li> <li>• Install and manage certificate revocation lists (CRLs) and compromised key lists (CKLs)</li> <li>• Enable client authentication</li> </ul>	As needed to activate security features designed to safeguard data, deny intruders access, and allow access to those authorized.

**Table 4.9.4-1. Common EMD Operator Functions Performed with the Sun Java System Web Server (2 of 3)**

Operating Function	Command/Script	Description	When and Why to Use
Configure web servers	Server Manager GUI	Allows operators to: <ul style="list-style-type: none"> <li>• Start and stop web server instances</li> <li>• Adjust performance settings</li> <li>• Edit configuration file (magnus.conf) settings and apply them to the server</li> <li>• Add and edit listen sockets</li> <li>• View, manage, and archive logs</li> <li>• Monitor server activity and quality of service</li> <li>• Edit file cache settings</li> </ul>	As needed to improve web server performance, troubleshoot problems, and support use by EMD custom code.
Analyze log files	Server Manager GUI Administration Server GUI	Allows operators to: <ul style="list-style-type: none"> <li>• View access logs</li> <li>• View error logs</li> <li>• Set logging preferences</li> </ul>	As needed to monitor and troubleshoot web server activities.
Monitor servers	Server Manager GUI	Allows operators to: <ul style="list-style-type: none"> <li>• Compile and view a variety of server performance statistics in real-time</li> <li>• Set bandwidth and max connections parameters for enforcing quality of service policies</li> </ul>	As needed to monitor, manage, and troubleshoot web server activities and to tune server performance.

**Table 4.9.4-1. Common EMD Operator Functions Performed with the Sun Java System Web Server (3 of 3)**

Operating Function	Command/Script	Description	When and Why to Use
Program the server	Class Manager GUI	Allows operators to: <ul style="list-style-type: none"> <li>• Install CGI programs, Java Servlets and JavaServer Pages</li> <li>• Configure how the server is to run them</li> </ul>	When installing new server-side applications or changing how the applications are to be run.
Manage server content	Class Manager GUI	Allows operators to: <ul style="list-style-type: none"> <li>• Set primary and additional document directories</li> <li>• Configure document preferences</li> <li>• Configure URL forwarding</li> <li>• Customize error responses</li> <li>• Specify a document footer</li> <li>• Restrict the use of file symbolic links</li> <li>• Set the server to parse HTML files</li> <li>• Set cache control directives</li> </ul>	When creating or altering web server instances, to specify where documents to be served are located. When customized responses to client requests are warranted. When restrictions are needed on information cached by proxy servers.

#### 4.9.4.1 Quick Start Using Sun Java System Web Server

Sun Java System Web Servers are managed with the help of the following four user interfaces:

- Administration Server – contains the Java forms for managing, adding, removing, and configuring web server instances
- Server Manager - contains the Java forms for configuring individual instances of web servers and for adding and configuring classes of virtual servers
- Class Manager – contains the Java forms for managing, adding, removing, and configuring virtual servers. Virtual servers allow you, with a single installed server, to offer companies and individual domain names, IP addresses and some server administration capabilities. A default virtual server is created automatically for each web server instance
- Virtual Server Manager – contains pages that allow you to see and edit all the settings for a single virtual server

**Note:** EMD currently uses multiple instances of the web server rather than virtual servers. In past releases, Sun Java System Web Server’s virtual servers did not support unique configuration information.

The Server Manager, Class Manager, and Virtual Server Manager are accessed from the Administration Server GUI. The Administration Server must be running before the operator can access the Administration Server GUI.

#### 4.9.4.1.1 Command Line Interface

The preferred method for starting the Administration Server operationally is to type the following as root:

```
# /etc/init.d/webserver01 start
```

This starts the administration server using the port specified during installation.

To start the Administration Server GUI and proceed to access the functionality discussed in Section 4.9.4.1, start a web browser then enter the URL for the administration server as follows:

```
http://<servername>.<ECSDomain>.<domain>:<portnumber>
```

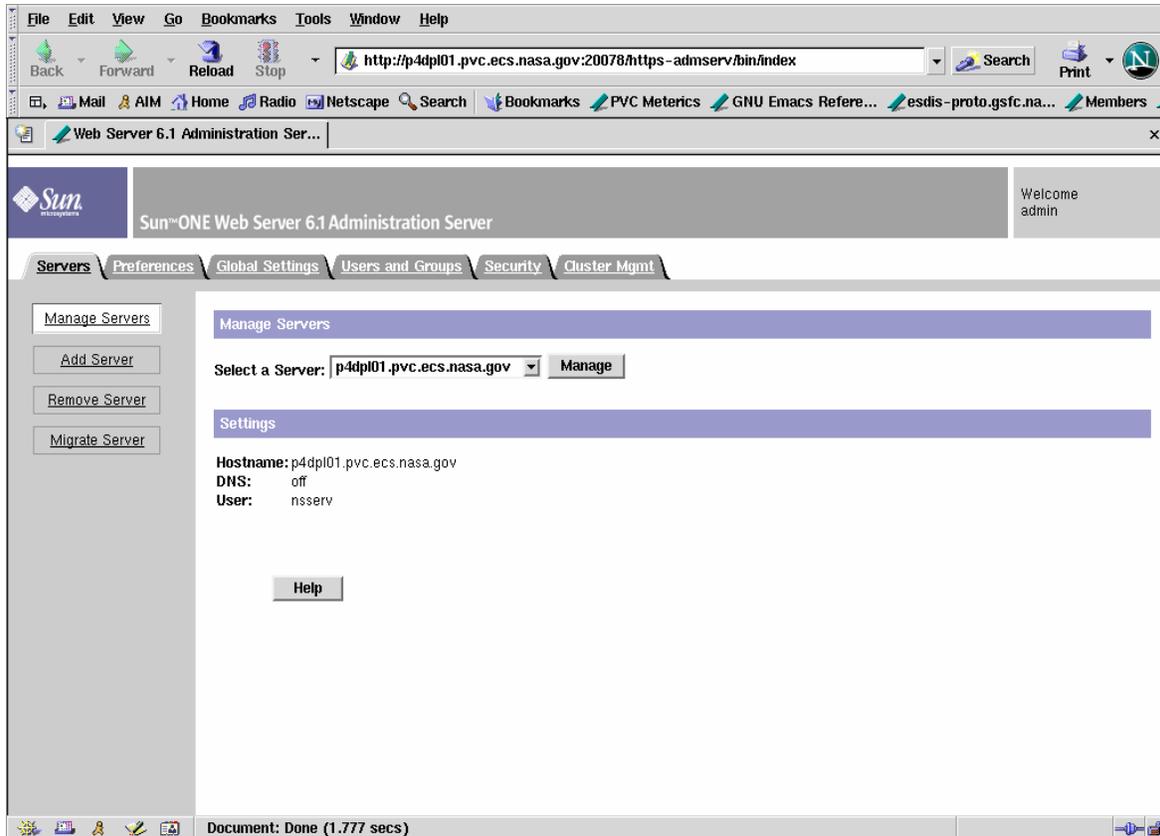
The operator is then prompted for a username and a password. Once this information is entered the Administration Server web page appears as shown in Figure 4.9.4-1.

**Note:** The browser used for this task must be capable of supporting frames and JavaScript. Netscape Communicator 7.0, included in the EMD baseline, is capable of supporting both frames and Java Script.

#### 4.9.4.2 Sun Java System Web Server Main Screen

The Administration Server GUI is Sun Java System's main web server screen. It is used to administer all Sun Java System Web Server instances. The screen has six tabs, each of which contains buttons for accessing Java forms to perform functions that govern the Administration Server or all the other web servers under its control. The tabs are:

- Servers tab (shown in Figure 4.9.4-1) - for adding (i.e., creating) and removing web server instances and invoking the Server Manager GUI. Operators invoke the Server Manager GUI by first selecting a web server from the tab's Select A Server pulldown menu, then pressing the Manage button
- Preferences tab – for stopping the Administration Server; setting runtime options for the Administration Server (such as process owner, port number, and logging parameters); and viewing the Administration Server's access and error logs
- Global Settings tab – for configuring or enabling a directory service, access control, Sun Java System's built-in cron facility, a Java runtime environment or development kit, and SNMP options applicable to all web servers under the Administration Server's control
- Users&Groups tab – for creating and modifying users, groups, and organizational units in an LDAP database. EMD does not presently use an LDAP database, so attempts to access this tab are rejected
- Security tab – for creating a trust database; obtaining, installing, and managing server certificates; and managing certificate revocation and compromised key lists for the Administration Server



**Figure 4.9.4-1. Sun Java System Web Server Administration Server Screen**

- Cluster Management tab – for establishing and maintaining a group of Sun Java System Web Servers on multiple machines that can be administered by a single master Administration Server

#### **4.9.4.2.1 Sun Java System Web Server: Server Manager Screen**

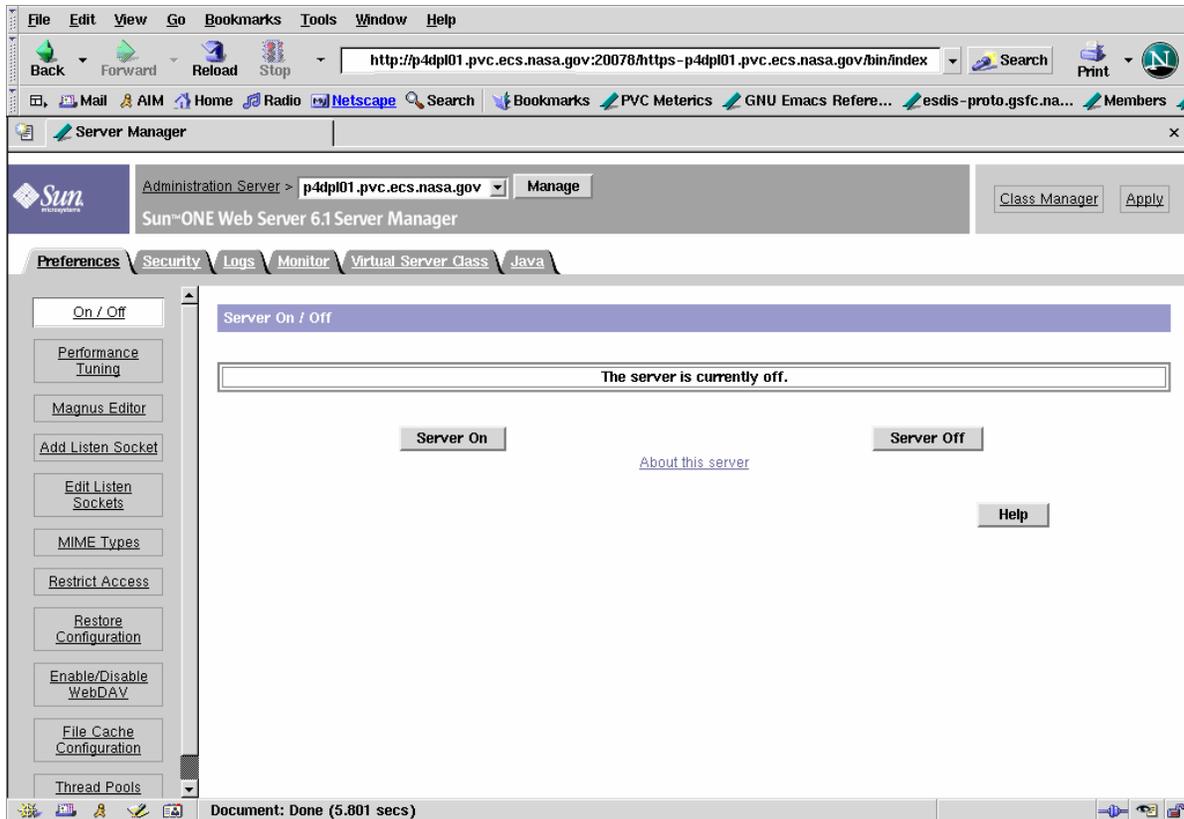
Operators use the Server Manager GUI for managing a web server instance. (Web server instances are created via the Administration Server GUI.). The screen has eight tabs, each of which contains buttons for accessing Java forms to perform functions governing a single web server and its virtual web servers. The tabs are:

- Preferences tab (shown in Figure 4.9.4-2) – for starting and stopping the server and configuring runtime options for it such as port number, MIME types, caching, thread pools and performance tuning parameters
- Security tab – for creating a trust database; obtaining, installing, and managing server certificates; and managing certificate revocation and compromised key lists. This tab functions the same as the Security tab on the Administration Server GUI, but it applies to a web server other than the Administration Server

- Logs tab – for viewing and managing the web server’s access and error logs. Forms also let operators control the amount of information recorded in the access log, configure automatic rotation of log files, and generate statistics based on log contents
- Monitor tab – for monitoring a web server’s activity using built-in monitoring functions and SNMP, and for setting quality of service parameters (i.e., bytes per second and max connections)
- Virtual Server Class tab – for creating and modifying virtual server classes. It also provides access to the Class Manager GUI. By default, all virtual servers in a class have the same settings
- Java tab – for configuring Java features for a web server. This includes enabling web applications, servlets and JavaServer Pages (JSP), configuring Java Virtual Machine attributes, and managing session and JSP cache files
- Legacy Servlets tab – for specifying servlet properties as in Sun Java System
- Search tab – for searching the contents and attributes of documents on the web server. This tab supports creating and maintaining document collections, organizing and re-indexing collections at pre-determined times, and defining text search patterns, and configuring what users see when they get search results

Three buttons that appear above this screen’s tabs are:

- Server Manager – for choosing a different web servers to configure, including the Administration Server
- Class Manager – for invoking the Class Manager GUI to configure virtual servers for the web server
- Apply – for placing configuration changes into effect



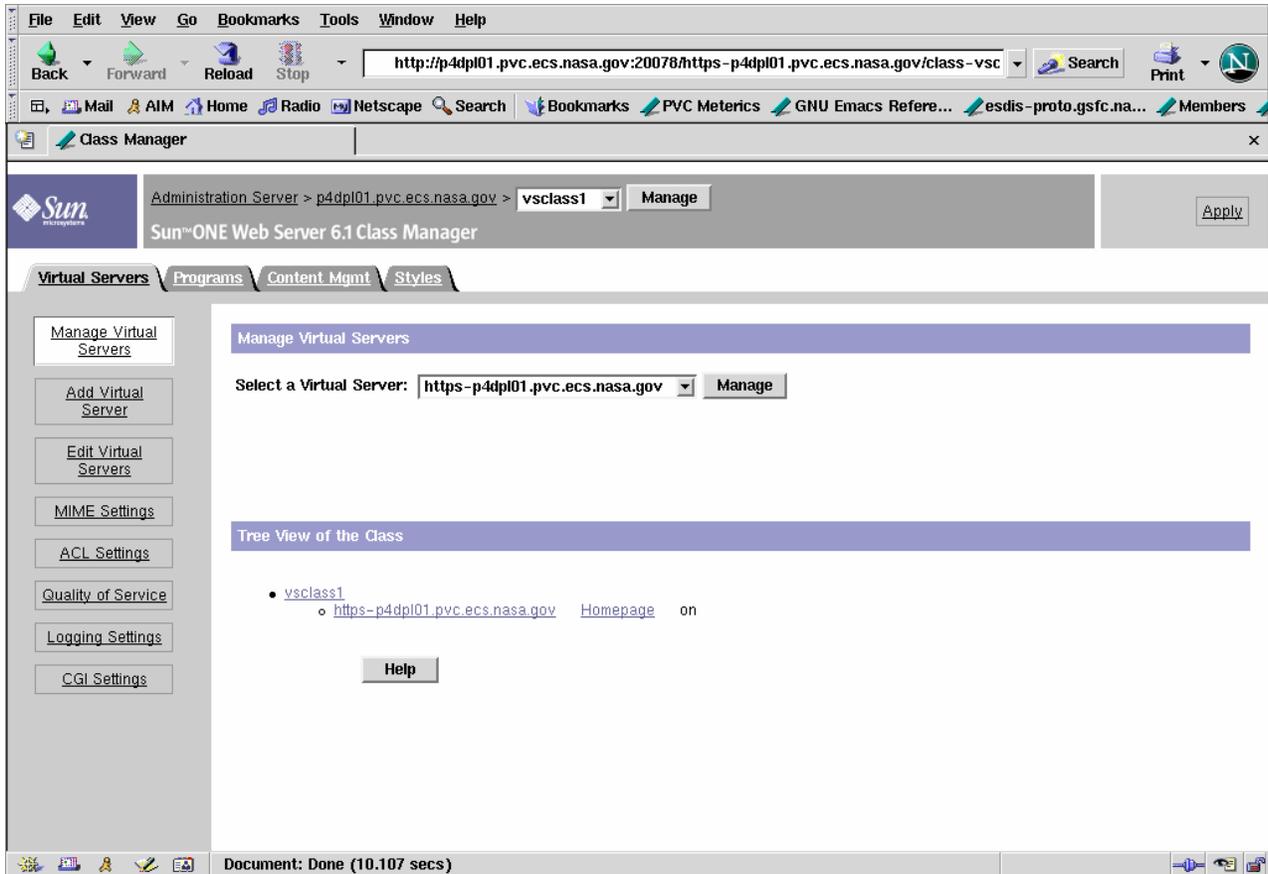
**Figure 4.9.4-2. Sun Java System Web Server: Server Manager Screen**

#### 4.9.4.2.2 Sun Java System Web Server Class Manager Screen

Operators use the Class Manager GUI to create and configure virtual web servers for a web server instance. The Class Manager contains settings that affect a single class or single virtual server. You can set services for the class in the Class Manager, as well as add virtual servers (members of the class) and configure settings for an individual virtual server.

The screen has four tabs, each of which contains buttons for accessing Java forms to perform functions governing all the classes of virtual servers for the web server. The tabs are:

- Virtual Servers tab (shown in Figure 4.9.4-3) – for managing and creating virtual servers and editing basic virtual server properties. Preferences set via this tab govern MIME types, access control lists, quality of service, logging, web applications, and CGI programs used by the virtual servers. The tab also provides access to the Virtual Server Manager GUI. By default, all virtual servers in a class have the same settings.
- Programs tab – for configuring the CGI programs for the virtual server class. Use this tab to specify the location and query handler (if any) of your CGI programs as well as the prefix that URLs can use as an alias for the path to the programs.



**Figure 4.9.4-3. Sun Java System Web Server Class Manager Screen**

- Content Management tab – for managing the web content that the class of virtual servers supports. Use this tab to specify paths to your root and additional document directories, establish directories where users can create and store their own home pages and documents, and define various properties governing how requests for content are to be handled
- Styles tab – for creating, editing, and applying configuration *styles* to files and directories. A style is a collection of predefined options that facilitates assigning properties for the web server’s handling of files and directories

The three buttons appearing above this screen’s tabs are:

- Server Manager – for returning to the Server Manager GUI
- Class Manager – for selecting a different class of virtual servers to manage
- Apply – for placing configuration changes into effect

#### **4.9.4.2.3 Sun Java System Web Server Virtual Server Manager Screen**

Operators use the Virtual Manager GUI to configure a single virtual server. The Virtual Server Manager contains settings that affect a single virtual server. These settings override those initially inherited from the server’s class. The screen has the following two tabs:

- Status tab (shown in Figure 4.9.4-4) – for viewing certain, key attributes of the virtual server. Two of the attributes are hyperlinks to pages for browsing the server’s access and error logs.
- Settings tab – for specifying values for most of the virtual server’s configurable attributes. These attributes (discussed previously), including document root, log file locations, access control lists, MIME types, and CGI parameters.

Four buttons that appear above this screen’s tabs are:

- Server Manager – for returning to the Server Manager GUI
- Class Manager – for selecting a different class of virtual servers to manage
- Virtual Server Manager – for selecting a different virtual server to manage
- Apply – for placing configuration changes into effect

#### **4.9.4.3 Required Operating Environment**

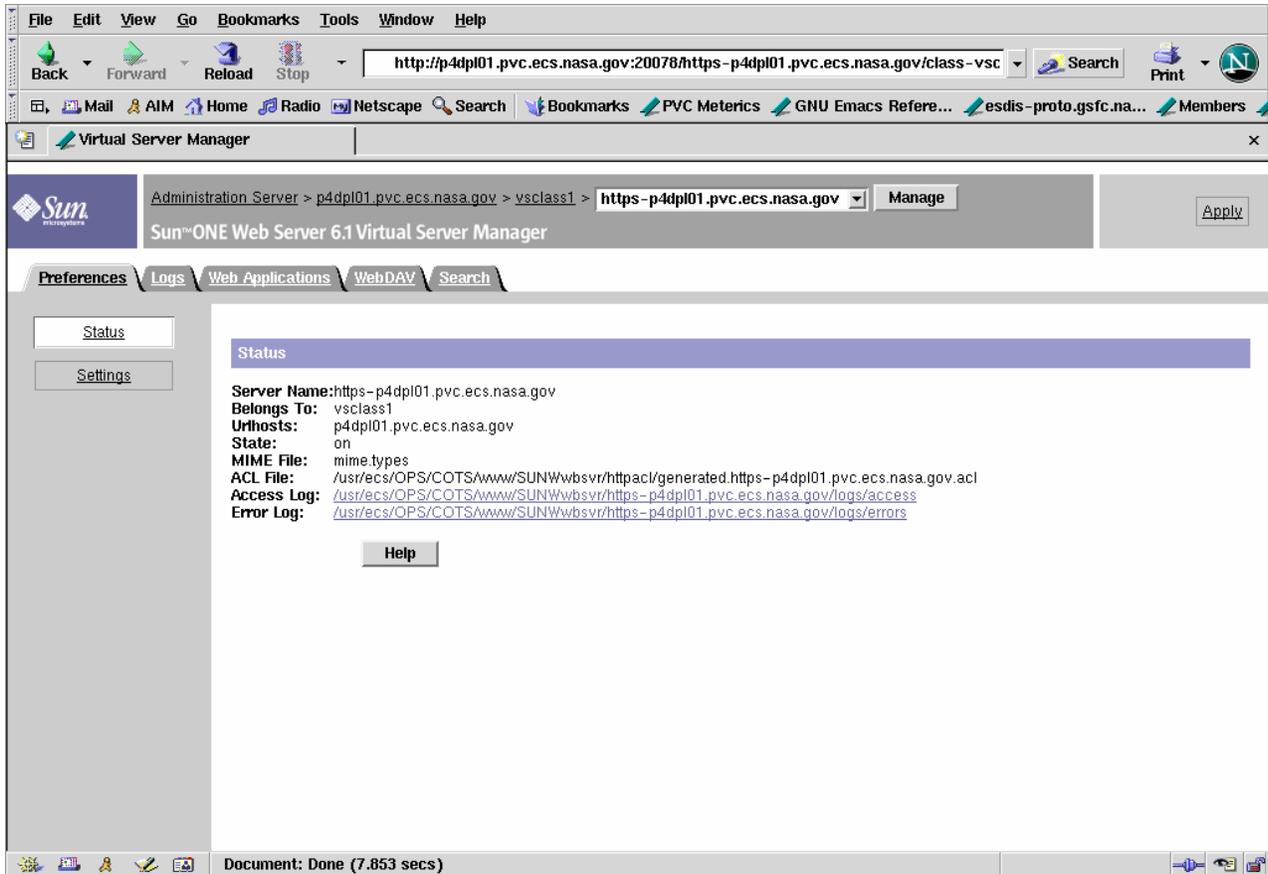
In EMD, the Sun Java System Web Server is deployed to run on Linux machines. Operators must have Netscape Communicator version 7.0 or higher and Java and cookies enabled in their browsers to use it.

#### **4.9.4.4 Databases**

The Sun Java System Web Server uses an internal, trust database to store public and private keys in support of Secure Socket Link encryption. The Administration Server and each server instance can have its own trust database. In addition, Sun Java System Web Server allows operators to define one or more Lightweight Directory Access Protocol (LDAP) databases that virtual servers can use for user authentication. The web servers themselves do not manage LDAP databases, and EMD does not currently use them. Refer to the *Sun Java System Web Server Administrator’s Guide* for further information on databases used by the Web Server.

#### **4.9.4.5 Special Constraints**

None.



**Figure 4.9.4-4. Sun Java System Web Virtual Server Manager Screen**

#### 4.9.4.6 Outputs

The Web Server supports real-time monitoring of web servers' activities. After enabling statistics, operators can view data about connections, the Domain Name Service (DNS), keep alives, cache and virtual servers. These can help them identify how many resources their servers need. Examples include:

- Number of idle (i.e., awaiting connection) threads
- Number of threads dealing with reading requests
- Number of threads dealing with writing responses
- Number of threads dealing with resolving hostnames
- Number of KeepAlive hits and flushes
- Number of DNS cache hits and misses

Additionally, server monitoring provides totals such as:

- Number of bytes received and sent
- Total requests
- Number of requests by type

Number of connections

Enable and monitor statistics using the Monitor Current Activity page, which is accessible from the Monitor tab of the Server Manager GUI.

To monitor a greater variety of server statistics, use Sun Java System's *perfdump* utility. The utility must first be "installed" by editing the web server's *obj.conf* configuration file and restarting the server. Statistics can then be viewed by pointing a browser to <http://<host>/perf>. See the *Performance Tuning, Sizing, and Scaling Guide* for details.

#### 4.9.4.7 Event and Error Messages

Each web server uses two files to record server activity. The *access* log file records requests to the server and server responses. The *error* log file lists errors the server has encountered. Both files typically reside in the web server's logs directory, but operators can control their location. Operators can also have the system automatically archive these files. See the *Administrator's Guide* for details.

For *access* logs only, operators can control the amount and format of what gets logged. They can specify whether to log accesses, what format to use, and whether the server should spend time looking up the domain names of the clients when they access a resource. They can also specify the file be written in common logfile format, flexible log format, or a user customizable format. Specify preferences using the Log Preferences page of the Server Manager GUI or edit the web server's configuration files directly. See the *Administrator's Guide* and the *NSAPI Programmer's Guide* for details.

#### 4.9.4.8 Reports

Operators can generate a report about a web server's activity using Sun Java System Web Server's log analyzer. The report can contain a variety of statistics such as:

- Total hits and totals for various types of errors
- Most recently logged events
- Most frequent users
- Most commonly accessed URLs, and URL accesses exceeding some threshold amount
- Hosts most often accessing the server, and hosts whose accesses exceed some threshold amount

Operators can choose which of the statistics to include in a report, and output can be generated in HTML or text. However, results depend on what events the operators have the web servers log.

Reports are initiated from the Generate Report page, which is accessible from the Logs tab of the Server Manager GUI. Operators can also run program *flexanlg* from the command line. Refer to the *Administrator's Guide*, Chapter 9 - "Using Log Files", for additional information.

## 4.9.5 Batch Insert Utility

The Batch Insert Utility allows operators to insert granules residing in or outside of (non-ECS granules) the ECS archive into the Data Pool. It is a command line utility, which queues the granules up for dispatch by the Data Pool Action Driver (DPAD) for insertion by the Data Pool Insert Utility (DPIU). It accepts either a list of ECS granule identifiers or a list of non-ECS file names. A label identifying a batch of granules is specified as a command-line parameter so that operators can monitor a batch with the Data Pool Monitoring GUI. Thematic collections are also supported so the granules to be inserted can be linked to a theme.

Fault recovery capability is also supported, preventing inserts of duplicate actions inserted from a previous run.

Input is provided via input file or standard input.

### 4.9.5.1 Quick Start using the Batch Insert Utility

Enter the following command to start the Batch Insert Utility:

```
> EcDIBatchInsert.pl mode -ecs | -nonecs [ -file pathname ]  
[ -theme "theme_name" ] [ -label label ]  
[ -rpriority priority ] [ -rperiod period ]  
[ -dpriority priority ] [ -mdonly ]  
[ -verbose ]
```

Table 4.9.5-1 provides a description of these command line parameters.

**Table 4.9.5-1. Command Line Parameters of the Batch Insert Utility (1 of 2)**

Parameter Name	Description
<i>mode</i>	An input parameter specifying the mode of operation. This must be the first parameter passed, and it must be a valid, existing Data Pool mode with a format like OPS or TS1.
-ecs	Indicates that ECS granules are inserted. The input file (see -file) (or standard input) consists of a list of granule ids.
-nonecs	Indicates that non-ECS granules are inserted. The input file (see -file) (or standard input) consists of a list of XML file pathnames.
-file <i>pathname</i>	The pathname of the input file containing a list of either granule ids (if -ecs is specified) or XML pathnames (if -nonecs is specified).
-theme " <i>theme_name</i> "	Theme name to be associated with granules. <i>theme_name</i> is a character string and must match an existing theme name in the Data Pool inventory. Enclose it in quotes if embedded blanks or other special characters are part of the name.

**Table 4.9.5-1. Command Line Parameters of the Batch Insert Utility (2 of 2)**

Parameter Name	Description
-label <i>label</i>	An identifying label to be linked to the batch of granules being inserted. <i>label</i> is a character string. If no batch label (-label) is supplied, the label is set to the first sixteen characters of the input filename (excluding the directory name). If standard input is used in lieu of an input file, a batch label must be specified with the -label option.
-rpriority <i>priority</i>	A retention priority to be applied to all granules being inserted. $255 \geq \textit{priority} \geq 1$
-rperiod <i>period</i>	Number of days to retain all granules being inserted in inventory.
-dpriority <i>priority</i>	A dispatch priority to be applied to all granules being inserted. $255 \geq \textit{priority} \geq 1$
-mdonly	Flag indicating only metadata files are inserted for all granules being inserted.
-verbose	Directs the utility to run using verbose option. Default is non-verbose.

Mandatory parameters include *mode* and either -ecs or -nonecs. *Mode* must be the first parameter supplied.

#### 4.9.5.1.1 Batch Insert Utility Commands

Below are some examples for invoking this utility:

1. `EcDlBatchInsert.pl OPS -ecs -file /home/fred/ECSMODISgranules1 -verbose`

Adds actions to action insert queue for all ECS granules specified by granule ids in the input file. No -label parameter specified, so label is formed from first 16 characters of input filename (ECSMODISgranules). Runs in the verbose mode.

2. `cat /home/fred/ECSfile1 | EcDlBatchInsert.pl OPS -ecs -label MODIS_batch1 -verbose`

This example is similar to example 1 but using standard input instead of -file. Note that the -label parameter must be supplied since filename is not accessible to the utility.

3. `EcDlBatchInsert.pl OPS -nonecs -file /home/fred/nonECSVolcanogranules  
-label Chig_volcano -theme "Chiginagak Volcano 2002"`

Adds actions to action insert queue for all non-ECS granules specified by XML pathnames in the input file. All granules are linked with theme name of "Chiginagak Volcano 2002" in inventory. Runs in the non-verbose mode.

4. `EcDlBatchInsert.pl OPS -ecs -file /home/fred/ECSMODISgranules1 -verbose -mdonly`

This example is similar to example 1 but only metadata files are inserted.

5. `EcDlBatchInsert.pl OPS -ecs -file /home/fred/ECSMODISgranules1 -verbose -rpriority  
200`

This example is similar to example 1 with retention priority of granules to be set to 200 in the inventory.

```
6. EcDlBatchInsert.pl OPS -ecs -file /home/fred/ECSMODISgranules1 -verbose -rpriority
   200 -rperiod 10 -dpriority 5
```

This example is similar to example 1 with retention priority of granules to be set to 200 in the inventory, retention period to last 10 days, and dispatch priority set to 5.

#### 4.9.5.2 Batch Insert Utility Main Screen

The Batch Insert Utility does not have a main screen. It has a command line interface only.

#### 4.9.5.3 Required Operating Environment

The Batch Insert Utility runs on Linux platforms.

#### 4.9.5.4 Databases

Table 4.9.5-2 lists the supporting products this tool depends upon to function properly.

**Table 4.9.5-2. Interface Protocols**

Product Dependency	Protocols Used	Comments
Data Pool database	SQL	Via SQL server machines
Perl DBI	DBD::Sybase	Requires proper install of base-lined version of Perl.

If a Sybase error occurs, you are most likely to see the actual Sybase error string displayed on the screen and in the log. Some errors can be the database server is unavailable, the connection to the database was dropped, or there was an error executing the stored procedure. In the event of a Sybase-sourced error, the utility immediately stops running.

In the event that a connection to the Data Pool database or Science Data Server database cannot be established, the utility may repeatedly attempt to connect to the database, depending on how the configuration file was set (see Section 4.9.5.4.1). If, for example, NUM\_RETRIES was set to 5 and SLEEP\_SEC was set to 10, this means it tries to connect 5 times, and waits 10 seconds before each attempt – a total of 50 seconds if all attempts are unsuccessful.

##### 4.9.5.4.1 Configuration File Format – EcDlBatchInsert.CFG

The “config” file contains vital details about how to connect to the Sybase database. Without this file, the utility cannot run. The “config” file must be a single-entry plain text ASCII file, which has the following format:

```
SYB_USER = EcDlBatchInsert
SYB_SQL_SERVER = <string>
SYB_DBNAME = <string>
PGM_ID = <string>
NUM_RETRIES = <integer>
SLEEP_SEC = <integer>
```

**Table 4.9.5-3. Individual Parameter**

<b>Parameter Name</b>	<b>Description</b>
SYB_USER	The user name for the Sybase connection.
SYB_SQL_SERVER	The name of the SQL server for this Sybase connection.
SYB_DBNAME	The name of the Data Pool database you intend to connect to
PGM_ID	Program ID used for connecting to the Data Pool database.
NUM_RETRIES	The number of times the utility attempts to connect to the database before exiting. The recommended default is 5.
SLEEP_SEC	The number of seconds the utility waits ('sleep') between connection attempts. The recommended default is 10.

#### **4.9.5.5 Special Constraints**

The Batch Insert Utility runs only if the Data Pool and Science Data Server database servers are running and if the databases are available. It also assumes the stored procedures are present.

#### **4.9.5.6 Outputs**

Output of events and errors is always appended to a single log file.

#### **4.9.5.7 Event and Error Messages**

Events and error messages are written to the log file. A usage message is displayed to the screen when command-line parameters are incorrectly specified.

The utility produces a log file called EcDIBatchInsert.log in the /usr/ecs/<mode>/CUSTOM/logs directory. If this log file already exists, the new information is automatically appended. If there is no existing log file by this name, a new log file with this name is automatically created.

Since the log file may grow to a considerable size after constant use, it is recommended that it be saved off into a separate file from time to time for maintainability.

#### **4.9.5.8 Reports**

None.

#### 4.9.6 Data Pool Cleanup Utility

The Data Pool Cleanup utility provides a mechanism by which the ECS Operations Staff can remove expired granules and their associated metadata and browse files from the Data Pool disks and corresponding Data Pool database inventory. Qualification of a granule for cleanup is based on two criteria: expiration date/time and retention priority. Both are necessary in selecting which granules are to be removed from the Data Pool. Several enhancements have been made to the "cleanup" capability as part of Synergy IV and EMD Evolution releases. These enhancements are listed below:

1. Capability to clean up ECS data in the Data Pool by file option consisting of geoids (Datatype:Shortname.Versionid:dbID entries)
2. Capability to clean up ECS data in the Data Pool scheduled for deletion through the Science Data Server in addition to cleaning up other data pool data dictated by the command line criteria such as expiration date and retention priority.
3. Capability to only clean up ECS data in the Data Pool scheduled for deletion through the Science Data Server.
4. The cleanup utility shall set the freeSpaceFlag in the DIFileSystems table if the amount of space that was cleaned up exceeds the operator configured limit for that file system.
5. The Cleanup utility shall transparently cleanup the Data Pool when collections reside on different file systems.
6. The utility shall skip the cleanup of collections on file systems that are marked unavailable.
7. The utility shall log the collections skipped during cleanup because of file system unavailability.
8. The cleanup utility shall transparently validate the Data Pool across file systems.
9. The cleanup utility shall skip the validation of collections that reside on unavailable file systems.
10. The cleanup utility shall log the collections skipped for validation if they reside on an unavailable file system.
11. Capability to clean up the "Most Recent Data Pool" utility files prefaced with naming convention *DPRecentInserts* that exist in the top level and collection-level directories.
12. Capability to run in pre-delete, delete DPL only or delete DPL & ECHO modes.
13. Capability added for validation to remove orphans left behind by Order Manager.
14. Capability to remove URL\_EXPORT files for ECHO after a configured number of days.

#### 4.9.6.1 Using the Data Pool Cleanup Utility

The Data Pool cleanup utility is started using the following parameters:

1. For a "cleanup only" run:

a. predelete/finishdelete run sequence

In this case, two runs are required to perform a cleanup, the first with **-echomode predelete** and the second with **-echomode finishdelete**. For example:

```
EcDlCleanupDataPool.pl <mode> -echomode predelete [-noprompt] [-offset  
<offset # of hours>] [-limit <priority limit>] [-theme <themeName>] | [-  
file <fileName>] | [-geoidfile <geoidFileName> | -ecsgrandel
```

and

```
EcDlCleanupDataPool.pl <mode> -echomode finishdelete [-noprompt]
```

**Note:** No other parameter can be specified with the **finishdelete** parameter, with the exception of the **noprompt** parameter.

b. deleteall run

Only one cleanup run is required with **-echomode deleteall**. For example:

```
EcDlCleanupDataPool.pl <mode> -echomode deleteall [-noprompt] [-offset  
<offset # of hours>] [-limit <priority limit>] [-theme <themeName>] | [-  
file <fileName>] | [-geoidfile <geoidFileName> | -ecsgrandel
```

c. theme cross-reference run

For example:

```
EcDlCleanupDataPool.pl <mode> -themexref <themeName> [-noprompt]
```

**Note:** No other parameter can be specified with the **themexref** parameter, with the exception of the **noprompt** parameter.

2. For a "validation only" run:

```
EcDlCleanupDataPool.pl <mode> -orphan | -phantom [-collgroup <groupList>] [-  
maxorphanage <age in # of days>] [-nofix]
```

OR

3. For a "cleanup followed by validation" run:

Specify a command line option *-cleanvalidate* along with the options described in 1 and 2 above.

There are various command line parameters that are used in combination with each other. Table 4.9.6-1 provides a description of these parameters.

**Table 4.9.6-1. Command Line Parameters<sup>1</sup> (1 of 3)**

Parameter Name	Required	Description
noprompt	No	Suppresses all confirmations and warnings normally displayed on the screen. Requires no value. May be used with any other option.
Parameters specific to performing cleanup		
echomode	Yes (for cleanup and clean/validate, not for validation only)	Specifies the method by which the Cleanup utility will report deletion candidates to the ECS Clearing House (ECHO). The echomode parameter can take 3 values: <b>predelete</b> , <b>finishdelete</b> or <b>deleteall</b> . <b>predelete</b> signifies that the cleanup utility will only build the list of items to clean up from the Data Pool and will report them to ECHO through the EcBmBulkURL utility. No actual data will be cleaned up from the disks or database inventory using <b>predelete</b> . A value of <b>finishdelete</b> signifies that the cleanup utility will now delete all of the data that was last found during a run with the <b>predelete</b> parameter. The difference is that the EcBmBulkURL utility will not be invoked because this run is to perform the actual cleanup of the database inventory and disks of what was presumably reported to ECHO during the previous run. A third value of <b>deleteall</b> will indicate that the Cleanup utility should build its list of items to cleanup, actually clean them up and to <i>also</i> notify ECHO via the EcBmBulkURL utility. <b>deleteall</b> does not allow for a time lag between Cleanup deleting the granules and ECHO performing its own clean up of URLs. The <b>predelete/finishdelete</b> run sequence can be viewed as a logical run done in two parts. The normal sequence will be to run Cleanup first with <b>predelete</b> and then with <b>finishdelete</b> . Note that an <b>echomode</b> parameter with a value of <b>finishdelete</b> can only be specified by itself since the list of items to delete will have already been determined by the previous run. If a <b>predelete</b> run is performed, the subsequent run <i>must</i> specify <b>finishdelete</b> in order to perform the actual deletions. This requirement is enforced by the utility to avoid operator error and end-user confusion. The values of <b>predelete</b> and <b>deleteall</b> may be used with each of the other parameters specific to performing Cleanup except <b>themexref</b> (see <b>themexref</b> parameter description).

<sup>1</sup> New parameters for this functionality are shown in **bold**.

**Table 4.9.6-1. Command Line Parameters (2 of 3)**

Parameter Name	Required	Description
offset	No	Specifies hours before (negative) or after (positive) midnight of the previous day from which to delete. Defaults to zero. (Some examples: - <b>offset 5</b> would delete all granules which had expired as of 5 AM of the current day; - <b>offset -5</b> would delete all granules which had expired as of 7 PM yesterday - <b>offset 72</b> would delete all granules which will be expiring in 72 hours measured from the previous day's midnight).
limit	No	Specifies limiting value used for determining which granules will be deleted. Will delete all granules with priority less than or equal to the specified limit. Must be within the range 1–255, 1 being the lowest priority and 255 being the highest priority. Defaults to value specified in configuration file.
file	No	Specifies name of file containing Data Pool granule ids to be deleted. May not be used with any other options other than the <i>noprompt</i> option.
geoidfile	No	Specifies the name of the file containing geoids which are a combination of science type, esdt short name and version id and ECS Science Data Server database id. Granules in this file whose ECS id match those in the data pool are candidates for data pool cleanup if specified by this option. May not be used in conjunction with any other options other than the <i>noprompt</i> option. Note that the geoid file can contain science granules as well as non-science granule because the science data server may delete these type of granules. The input value for this parameter is logically defined to be the output of any Science Data Server phase 1 (EcDsBulkDelete.pl) granule deletion run. This will cause the Data Pool cleanup utility to clean up any Science Data Server granules found in the geoid input file to be removed from the Data Pool database.
ecsgrandel	No	Indicates that only granules removed in the ECS system from the Science Data Server inventory will be removed from the data pool if they exist. This option may not be used in conjunction with any other options other than the <i>noprompt</i> option. No other cleanup will occur.
theme	No	Specifies the name of a theme for which cleanup is to be performed. The Cleanup Utility will clean up granules that would otherwise qualify for cleanup only if the granules are associated with that theme, and remove the granules entirely if they are not associated with any other theme, otherwise only remove the cross references with that theme. The theme name must be enclosed in quotes ("").

**Table 4.9.6-1. Command Line Parameters (3 of 3)**

Parameter Name	Required	Description
themexref	No	Specifies the name of a theme all cross-references of which are to be removed from the Data Pool inventory. This option is specified to remove the theme cross references only. It does not remove any granules. This command line option cannot be used with any other options other than the <i>noprompt</i> option. The theme name must be enclosed in quotes (").
Parameters specific to performing validation		
orphan	No	Specifies that Data Pool validation be performed by performing orphan checking. Orphans are defined as files that are on disk but are no longer part of the Data Pool inventory in the database. The Data Pool inventory validation function will remove all orphan files and links from the Data pool disks unless <i>nofix</i> option was specified. (In order to perform validation either <i>orphan</i> or <i>phantom</i> or both <b>must</b> be provided on command line.)
phantom	No	Specifies that phantom checking be performed. Phantoms are defined as files that exist in the Data Pool inventory in the database, but do not exist on disk. The Data Pool inventory validation function will remove granules affected by any phantom from the inventory and all its remaining files and links from the Data pool disks unless <i>nofix</i> option was specified. (In order to perform validation either <i>orphan</i> or <i>phantom</i> or both <b>must</b> be provided on command line.)
maxorphanage	No	Specifies the maximum orphan age in days. The value specified must be greater than or equal to 10 days. The Data Pool inventory validation function will consider only those files on disk as orphans whose age is equal to or larger than the maximum orphan age specified. If this parameter is omitted, a default value specified in the configuration file will be used.
nofix	No	Specifies that a Data Pool validation be performed, but do not attempt to reconcile the discrepancies found. The validation results will be logged.
collgroup	No	Limit the Data Pool validation to the collection group(s) specified. Single or multiple collection groups can be specified on the command line. Multiple collection groups if provided must be separated by commas, with the string enclosed in double quotes ("), e.g. "MOAT, ASTT". By default, all collection groups in the Data Pool inventory will be included in the validation if this option is not specified.
cleanvalidate	No	Specifies that a cleanup run should be followed by a validation run.

The Data Pool Cleanup utility performs the following as part of the "cleanup" processing:

- Removes all data pool granules along with the associated browse files (if no other granules are cross-referenced to them) and the browse links that meet the specified cleanup criteria, from both the Data Pool inventory and the disks. This occurs when the echomode parameter has a value of **finishdelete** or **deleteall**.
- Removes all recent insert files prefixed with *DPRecentInsert* that are older than 7 days. These files are found in `/datapool/<fs1>/<mode>/user/` and `/datapool/<fs1>/<mode>/user/<group>/<esdt>`.
- Exports a list of deleted granules for ECHO accessibility by invoking an external utility, *EcBmBulkURLStart* if the **echomode** parameter is set to **predelete** or **deleteall**. If there are granules that are being deleted that qualify for ECHO export, this utility generates an XML file containing a list of those granules and stores it in the `/datapool/<fs1>/<mode>/user/URLExport` directory for files that are FTP pulled and FTP pushes files when Bulk URL is configured to FTP Push the data to ECHO. If the Data Pool cleanup utility is run with **echomode finishdelete** then the *EcBmBulkURLStart* utility is not called.
- Removes all HEG conversion files associated with the HEG order IDs that have the status of "DONE" or "FAILED" and a timestamp older than a certain cleanup age. The HEG order IDs are provided in the *DIOrder* table and the cleanup age is specified by the "HEGCleanupAge" parameter in the *DIConfig* table. The HEG conversion files for each order ID are stored in the `/datapool/<mode>/user/downloads/<orderID>` directory. (HEG orders and conversion files are generated when end users request HEG-converted data via Data Pool Web Access.)

(Note that the "URLExport" subdirectory and the "downloads" subdirectory are created at the time of Data Pool installation, owned by user "cmshared" with access permissions set to 775. The Cleanup utility does not create these subdirectories.)

The Data Pool Cleanup utility performs the following as part of the "validation" processing:

- Validates the Data Pool inventory and disk content by checking for the existence of orphans and/or phantoms and removing or just logging them depending on the command line options specified.

The Cleanup Utility has the ability to continue from where it stopped in the event of interruption. Additionally, to alleviate database contention, it allows only one instance of itself to execute concurrently. The Cleanup Utility also provides the **noprompt** option to suppress operator prompts/messages.

In normal operations, the Cleanup Utility will be run once a day as a cron job as a "cleanup only" run executing with **-echomode predelete**. This will build the list of cleanup candidates (based on the expiration date and retention priority) that will be reported to ECHO as those which will be deleted in the next run of cleanup. Also, those granules that have been entered in the Science Data Servers deleted granules table will be reported. On a subsequent run within the same 24-

hour period, the cleanup utility will be run with **-echomode finishdelete** to perform the actual cleanup processing that was reported to ECHO in the **predelete** mode. A validation run can be time consuming and should not be run as often, since it potentially involves the checking of all files in the entire Data Pool inventory against those on the Data Pool disk in order to find and remove the discrepancies. It is advised that the validation function be run using *collgroup* option whenever possible to limit the validation to the user specified collection groups.

Section 4.9.6.1.2 provides some examples along with detailed explanations for executing this utility.

#### 4.9.6.1.1 Cleanup Configuration File

The Data Pool Cleanup utility uses a configuration file, *EcDICleanupDataPool.CFG*, located in */usr/ecs/<mode>/CUSTOM/cfg* directory. The configuration parameters are stored in a **PARAMETER = VALUE** format with each parameter/value pair as a separate line entry in the file. Table 4.9.6-2 describes the configuration parameters.

**Table 4.9.6-2. Configuration Parameters**

Parameter Name	Value Description
SYB_USER	Sybase login name for the user of the Data Pool database.
SYB_SQL_SERVER	Name of Sybase SQL Server hosting Data Pool database.
SYB_DBNAME	Name of Data Pool database.
PGM_ID	Program identifier used as seed to generate database password.
DEFAULT_LIMIT	Default priority limit if a limit (-limit) is not provided via command line.
NUM_RETRIES	Number of times database operation will be attempted.
SLEEP_SEC	Number of seconds between retries.
MAX_ORPHAN_AGE	Maximum age in days in qualifying a file as an orphan. A file must have an age greater than or equal to this value in order to be considered as an orphaned file. The parameter value must be 10 days or greater.
URL_EXPORT_RETENTION_PERIOD	The maximum age in days that a URL_EXPORT will be retained. The suggested value for this field is "30"
ORDER_OUTPUT_COLLECTIONS	A list of collection groups that should not be processed during orphan validation. Files in these directories will be ignored when determining orphans. The suggested value for this field is "OUTPUTS BRWS"
MAX_ORDER_AGE	The number of days for which a file in the order only directory will not be counted as an orphan. Suggested value for this field is 15.

## 4.9.6.1.2 Examples

### 4.9.6.1.2.1 Examples for "Cleanup Only " Run

**Note:** Each invocation of the utility that involves cleanup will also automatically clean up recent insert files and HEG conversion files associated with orders that have the status of “DONE” or “FAILED”. In addition the cleanup utility will invoke the Bulk Export utility to report deleted granules back to ECHO.

1. Initiate Cleanup suppressing all user prompts and display messages, and report candidates to ECHO

```
EcDlCleanupDataPool.pl OPS -echomode predelete -noprompt
```

This command will generate a list of all granules in OPS mode with retention priorities less than or equal to the configured default limit (see Table 4.9.6-2) and expiration date/times on or before midnight of the previous day and report them to ECHO through the EcBmBulkURL. It will also turn off all prompts, removing the need for operator intervention. This form is suitable for running cleanup as a background job.

To actually clean up the data from the inventory and disks, a subsequent run must be made as follows using the echomode parameter of **finishdelete**:

```
EcDlCleanupDataPool.pl OPS -echomode finishdelete
```

2. Initiate Cleanup with default limit and date/time

```
EcDlCleanupDataPool.pl OPS -echomode predelete
```

This command will generate a list of all granules in OPS mode with retention priorities less than or equal to the configured default limit and expiration date/times on or before midnight of the previous day and report them to ECHO through the EcBmBulkURL utility. To actually clean up the data from the inventory and disks, a subsequent run must be made as follows using the echomode parameter of **finishdelete**:

```
EcDlCleanupDataPool.pl OPS -echomode finishdelete
```

3. Initiate Cleanup with a specific priority limit

```
EcDlCleanupDataPool.pl OPS -echomode predelete -limit <priority  
limit>
```

This command will generate a list of granules with retention priorities less than or equal to < priority limit > and expiration date/times on or before midnight of the previous day and report them to ECHO through the EcBmBulkURL utility.

For example, to clean up granules which had expired on or before midnight of the previous day and had a retention priority less than or equal to 100, the command would be the following:

```
EcDlCleanupDataPool.pl OPS -echomode predelete -limit 100
```

To actually clean up the data from the inventory and disks, this run would be followed by a subsequent invocation utilizing the **-echomode** parameter with a value of **finishdelete**:

```
EcDlCleanupDataPool.pl OPS -echomode finishdelete
```

#### 4. Initiate Cleanup using a list of granules

```
EcDlCleanupDataPool.pl OPS -echomode predelete -file <file name>
```

This command will generate a list of granules whose granule ids are specified in <file name> and report them to ECHO through the EcBmBulkURL utility. The granule IDs are Data Pool granule IDs. Note that the **-limit** and **-offset** parameters can not be specified with **-file** option.

For example, to clean up two specific granules with IDs 1234 and 5678, a file "twograns.dat" could contain the following:

```
1234
```

```
5678
```

and the command would be the following:

```
EcDlCleanupDataPool.pl OPS -echomode predelete -file twograns.dat
```

To actually clean up the data from the inventory and disks, this run would be followed by a subsequent invocation utilizing the **-echomode** parameter with a value of **finishdelete**:

```
EcDlCleanupDataPool.pl OPS -echomode finishdelete
```

#### 5. Initiate Cleanup using a list of geoids

```
EcDlCleanupDataPool.pl OPS -echomode predelete -geoidfile  
geoidlist.dat
```

This command will generate a list of all the granules in the Data Pool whose Science Data Server ECS IDs match the ECS IDs that are enumerated in the geoid list and report them to ECHO. For example to clean up two specific ECS granules with geoids of SC:MISL0DF.001:27056 and SC:MOD01.004:27057, a file geoidlist.dat could contain the following:

```
SC:MISL0DF.001:27056
```

```
SC:MOD01.004:27057
```

To actually clean up the data from the inventory and disks, this run would be followed by a subsequent invocation utilizing the **-echomode** parameter with a value of **finishdelete**:

```
EcDlCleanupDataPool.pl OPS -echomode finishdelete
```

6. Initiate Cleanup limiting the cleanup utility to only clean up granules found in the ECS granule event history table

```
EcDlCleanupDataPool.pl OPS -echomode predelete -ecsgrandel
```

This command will generate a list of all of the granules in the Data Pool that have entries in the ECS granule event history table that were marked as candidates for Science Data Server granule deletion. The list will be reported to ECHO as cleanup candidates through the EcBmBulkURL utility. It will not clean up any other Data Pool granules regardless of the configured retention priority or expiration date.

To actually clean up the data from the inventory and disks, this run would be followed by a subsequent invocation utilizing the **-echomode** parameter with a value of **finishdelete**:

```
EcDlCleanupDataPool.pl OPS -echomode finishdelete
```

7. Initiate Cleanup with an offset from the previous midnight

```
EcDlCleanupDataPool.pl OPS -echomode predelete -offset <hours>
```

This command will generate a list of all granules with retention priorities less than or equal to the configured default limit and expiration date/times on or before midnight of the previous day plus or minus the offset. It will report the cleanup candidates to ECHO via the EcBmBulkURL utility.

For example, let's suppose we wanted to clean up all granules that expired on or before 7pm yesterday. The command for this would be:

```
EcDlCleanupDataPool.pl OPS -echomode predelete -offset -5
```

Similarly, if we wanted to clean up all granules that will expire 48 hours in the future (actually 48 hours from the previous midnight), the command would be:

```
EcDlCleanupDataPool.pl OPS -echomode predelete -offset 48
```

As in previous examples, to actually clean up the data from the inventory and disks, each of these runs would be followed by a subsequent invocation utilizing the **-echomode** parameter with a value of **finishdelete**:

```
EcDlCleanupDataPool.pl OPS -echomode finishdelete
```

#### 8. Limit the cleanup to a specific theme

```
EcDlCleanupDataPool.pl OPS -echomode predelete -offset <hours> -  
theme <themeName>
```

This command is the same as the one described in the Example 7 except the cleanup will be limited to a specified theme <themeName>.

As in previous examples, to actually clean up the data from the inventory and disks, the run would be followed by a subsequent invocation utilizing the **-echomode** parameter with a value of **finishdelete**:

```
EcDlCleanupDataPool.pl OPS -echomode finishdelete
```

#### 9. Remove all cross-references to a specific theme

```
EcDlCleanupDataPool.pl OPS -noprompt -themexref <themeName>
```

This command removes all granule cross references to a specified theme <themeName> from the Data Pool inventory. It does not delete the granules or the physical granule files.

10. Initiate a Data Pool cleanup run to report cleanup candidates to ECHO and to subsequently remove the granules from the Data Pool database inventory and disks

```
EcDlCleanupDataPool.pl OPS -echomode deleteall
```

The **deleteall** value of the **echomode** parameter indicates the cleanup utility will report all cleanup candidates to ECHO and remove the inventory entries from the Data Pool database as well as clean up the physical files from the disks. The **echomode** parameter value of **deleteall** can be used with all other cleanup parameters except **-themexref**.

**Note;** The **deleteall** option operates in the same manner that Cleanup did prior to Synergy IV in that it reports to ECHO and deletes in one step rather than two.

#### 4.9.6.1.2.2 Examples for "Validation Only" Run

1. Initiate a Data Pool Validation suppressing all user prompts and display messages

```
EcDlCleanupDataPool.pl OPS -orphan -phantom
```

This command validates the Data Pool by checking for orphans and phantoms and removes any discrepancies found from the Data Pool inventory and the disks. In checking for orphans, a default maximum orphan age provided via the configuration parameter MAX\_ORPHAN\_AGE will be used. In

addition it will ignore any files in the directories specified in the configuration parameter ORDER\_OUTPUT\_COLLECTIONS. It will also clean up order only orphans that are older than the number of days specified in the configuration parameter MAX\_ORDER\_AGE.

## 2. Initiate a Data Pool Validation without fixing discrepancies found

```
EcDlCleanupDataPool.pl OPS -orphan -phantom -nofix
```

This command performs the same Data Pool validation run as in Example 8, except that the discrepancies found will not be fixed but will be logged.

## 3. Initiate a Data Pool Validation but limit the validation to specified collection group(s)

```
EcDlCleanupDataPool.pl OPS -orphan -phantom -collgroup  
"MOAT,ASTT"
```

This command performs the same Data Pool validation run as in Example 8, except that the validation checking will be limited to the collection groups MOAT and ASTT.

### 4.9.6.1.2.3 Examples for "Cleanup followed by Validation" Run

#### 1. Initiate a Data Pool Cleanup and Validation suppressing all user prompts and display of messages

```
EcDlCleanupDataPool.pl OPS -echomode predelete -cleanvalidate -  
orphan -phantom
```

This command will first generate a list of all granules in OPS mode with retention priorities less than or equal to the configured default limit and expiration date/times on or before midnight of the previous day. It will report the cleanup candidates to ECHO via the EcBmBulkURL utility. It will then validate the Data Pool by checking for both orphans and phantoms and will remove all discrepancies found from the Data Pool inventory and the disks.

As in previous examples, to actually clean up the data from the inventory and disks, the run would be followed by a subsequent invocation utilizing the **-echomode** parameter with a value of **finishdelete**:

```
EcDlCleanupDataPool.pl OPS -echomode finishdelete
```

#### 2. Initiate a Data Pool Cleanup and Validation specifying maximum orphan age via command line

```
EcDlCleanupDataPool.pl OPS -echomode predelete -cleanvalidate -  
orphan -maxorphanage 5
```

This command is the same as the one described in Example 2 of Section 4.9.6.1.2.2, except that the validation step will only check for orphans using the maximum orphan age of 5 days provided via command line, and no phantom checking will be performed.

As in previous examples, to actually clean up the data from the inventory and disks, the run would be followed by a subsequent invocation utilizing the **-echomode** parameter with a value of **finishdelete**:

```
EcDlCleanupDataPool.pl OPS -echomode finishdelete
```

3. Initiate a Data Pool Cleanup and Validation limiting the validation to specified collection group(s)

```
EcDlCleanupDataPool.pl OPS -echomode predelete -cleanvalidate -
orphan -phantom -collgroup "MOAT,ASTT"
```

This command is the same as the one described in Example 2 of Section 4.9.6.1.2.2, except that the validation step will limit the Data Pool validation to the two collection groups MOAT and ASTT specified via command line.

As in previous examples, to actually clean up the data from the inventory and disks, the run would be followed by a subsequent invocation utilizing the **-echomode** parameter with a value of **finishdelete**:

```
EcDlCleanupDataPool.pl OPS -echomode finishdelete
```

#### 4.9.6.2 Data Pool Cleanup Utility Main Screen

The Data Pool Cleanup Utility does not have a main screen. It has a command line interface only.

#### 4.9.6.3 Required Operating Environment

The Cleanup Utility will run on a Linux platform.

#### 4.9.6.4 Databases

Table 4.9.6-3 lists the supporting products that this tool depends upon in order to function properly.

**Table 4.9.6-3. Product Dependencies**

Product Dependency	Protocols Used	Comments
Data Pool database	SQL	Via SQL server machines

#### 4.9.6.5 Special Constraints

The Data Pool Cleanup utility runs only if the Data Pool database server is running and if the database is available. It also assumes the stored procedures are present.

The DAACs currently run the cleanup utility as a cron job that runs at a set time each evening. To accommodate the pre-delete capability, a script could be written to call Cleanup with **predelete** and then with **finishdelete**. A sleep statement could be inserted between the two invocations. This script could then be run as a cron job. Optionally, Cleanup could be run manually: DAACs may choose to run with **predelete** from the command line, wait for the email notification of success from ECHO, and then run with **finishdelete**.

**Note:** If a run that used an echomode parameter of **predelete** is not followed by a run that specifies an echomode parameter value of **finishdelete**, Cleanup will fail and log an error. This is done to avoid the situation where granules reported to ECHO in the first run as deleted are not actually deleted in the next run of cleanup. The ECHO system could easily get out-of-sync with the Data Pool.

#### 4.9.6.6 Outputs

Output of update events and errors will be always appended to a single log file.

#### 4.9.6.7 Event and Error Messages

Usage errors will be displayed to the screen. Processing error messages are written to the log files.

#### 4.9.6.8 Reports

None.

#### 4.9.6.9 Logs

The utility produces a log file called EcDICleanup.log in the /usr/ecs/<mode>/CUSTOM/logs directory. If this log file already exists, the new information will automatically be appended. If there is no existing log file by this name, a new log file with this name will automatically be created.

Since the log file may grow to a considerable size after constant use, it is recommended that it be saved off into a separate file from time to time for maintainability.

#### 4.9.6.10 Recovery

The Data Pool Cleanup Utility provides a capability to recover from an execution failure caused by situations such as the system faults or database errors leaving all or some of the deletes unprocessed. The utility will detect such failure upon the next run and continue processing the deletes that were left unprocessed in the previous run. The operator is given no choice as to recovery. Recovery will proceed or the Data Pool inventory and disk files will be in a corrupted state. Most Recent Insert files that may have not been cleaned up during previous runs due to utility interruption or failure will be cleaned up on succeeding runs.

#### **4.9.6.11 Sybase Error Handling**

If a Sybase error occurs, you will most likely see the actual Sybase error string displayed on the screen and in the log. Some errors can be that the database server is unavailable, that the connection to the database was dropped, or that there was an error executing the stored procedure. In the event of a Sybase-sourced error, the utility will immediately stop running.

In the event that a connection to the Data Pool database can not be established, the utility may repeatedly attempt to connect to the database, depending on how the configuration file was set. If, for example, NUM\_RETRIES was set to 5 and SLEEP\_SEC was set to 10, this means it will try to connect 5 times, and will wait 10 seconds before each attempt – a total of 50 seconds if all attempts are unsuccessful.

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## 4.9.7 Update Granule

The Update Granule Utility provides the ECS Operations Staff with a command-line interface to update the expiration date and optionally the retention priority of granules in the Data Pool inventory. The granules in the Data Pool inventory can be ECS or non-ECS granules. The utility can perform updates for

1. A single Data Pool granule
2. Multiple Data Pool granules
3. Granules associated with a theme name.

A single granule update can be performed by providing the granule ID, expiration date, and an optional retention priority via command-line input. Multiple granules can be updated by providing, via command line an input file, which contains a list of granule IDs, expiration date and an optional retention priority for each granule to be updated. To update the granules associated with a specific "theme", the operator must specify a valid theme name, expiration date and the optional retention priority via command line. When updating the granules associated with a theme, the utility updates the expiration date of a granule associated with that theme if and only if the new expiration date specified is later than the current expiration date of the granule, and the retention priority of a granule associated with that theme if and only if the new retention priority specified is higher than the current retention priority of the granule.

The utility, by default, displays summary information to the operator and prompts for confirmation before executing the update. All warning/error messages and confirmation prompts can be suppressed using the *noprompt* option. This option is suitable for running the utility as a background process, as a cron job, or other automated tasking.

No specific automatic recovery mechanism is provided for this utility. If there is a database fault, system fault, or the utility was inadvertently interrupted, it is sufficient for the operator to simply re-run the utility providing the same command-line parameters.

Input is provided via an input file.

### 4.9.7.1 Quick Start using the Update Granule Utility

The Update Granule Utility is a Perl script residing in `/usr/ecs/<mode>/CUSTOM/utilities` directory. The utility can be run using the following command line syntax.

```
EcDlUpdateGranule.pl <mode> [-noprompt] -file <fileName>
```

OR

```
EcDlUpdateGranule.pl <mode> [-noprompt]
    -grnid <granuleID> | -theme <themeName>
    -exp <expirationDate>
    [-ret <retentionPriority>]
```

Table 4.9.7-1 provides a description of the command line parameters.

**Table 4.9.7-1. Command Line Parameters of the Update Granule Utility**

Parameter Name	Description
<mode>	An input parameter specifying the mode of operation. This must be the first parameter passed, and it must be a valid, existing Data Pool mode with a format like OPS or TS1.
-noprompt	Directs the utility to run using the "noprompt" display option. The utility suppresses the displaying of all messages to the screen and updates the granules without prompting the operator for confirmation. This option is suitable for running the utility as a background process.
-file <filename>	An input parameter specifying the file to be used to input granule data to the utility. <filename> is the name of a file containing a list of granule triplets. Each triplet is a separate line entry in the input file and consists of granule ID, expiration date, and an optional retention priority. The granule ID in each triplet corresponds to the granule ID in the DGranules table in the Data Pool database.
-grnid <granule ID>	An input parameter specifying the granule information to be entered manually at the command line. The <granule ID> parameter must be a positive integer containing no more than 16 digits and corresponds to the granuleid in the DGranules table in the Data Pool database.
-theme <theme name>	An input parameter specifying a valid theme name. The theme name is a character string and must match an existing theme name in the Data Pool inventory and is case sensitive. <b>Note:</b> If the theme name contains spaces like "Volcano Eruption", it <i>must</i> be enclosed in single or double quotes, or only the first word of the title is used (an error could also occur when running the script).
-exp <expiration Date>	An input parameter specifying the new expiration date to be applied to the science granule indicated by the <granule ID>. The <expiration Date> has the format YYYY/MM/DD.
-ret <retention priority>	An input parameter specifying the new retention priority to be applied to the science granule indicated by the <granule ID>. The <retention priority> must be a positive integer within the range of 1 to 255, 1 being the lowest retention priority and 255 being the highest retention priority.

#### 4.9.7.1.1 Update Granule Utility Commands

Below are some examples for invoking this utility:

1. `EcDlUpdateGranule.pl <mode> -file <file name>` Updates the granules provided via an input file. The utility displays all summary information and prompts the operator to confirm the update.
2. `EcDlUpdateGranule.pl <mode> -grnid <granule id> -exp <expiration date> -ret <retention priority>` Updates the expiration date and retention priority for a single



**Table 4.9.7-2. Configuration Parameters**

Parameter Name	Description
SYB_USER	The user name for the Sybase connection.
SYB_SQL_SERVER	The name of the SQL server for this Sybase connection.
SYB_DBNAME	The name of the database you intend to connect to.
PGM_ID	Program ID used for connecting to the Data Pool database.
NUM_RETRIES	The number of times the utility attempts to connect to the database before exiting. The recommended default is 5.
SLEEP_SEC	The number of seconds the utility waits ('sleep') between connection attempts. The recommended default is 10.

#### 4.9.7.2 Update Granule Utility Main Screen

The Update Granule Utility does not have a main screen. It has a command line interface only.

#### 4.9.7.3 Required Operating Environment

The Update Granule Utility runs on Linux platforms.

#### 4.9.7.4 Databases

Table 4.9.7-3 lists the supporting products that this tool depends upon in order to function properly.

**Table 4.9.7-3. Interface Protocols**

Product Dependency	Protocols Used	Comments
Data Pool database	SQL	Via SQL server machines
Perl DBI	DBD::Sybase	Requires proper install of Perl 5.005

If a Sybase error occurs, you are most likely to see the actual Sybase error string displayed on the screen and in the log. Some of the errors that can occur are the database server is unavailable, the connection to the database was dropped, or there was an error executing the stored procedure. In the event of a Sybase-sourced error, the utility immediately stops running.

In the event a connection to the Data Pool database can not be established, the utility can repeatedly attempt to connect to the database, depending on how the configuration file was set (see Section 4.9.7.4.2). If, for example, NUM\_RETRIES was set to 5 and SLEEP\_SEC was set to 10, this means it tries to connect 5 times, and waits 10 seconds before each attempt – a total of 50 seconds if all attempts are unsuccessful.

#### 4.9.7.5 Special Constraints

The Update Granule Utility runs only if the Data Pool database server is running and if the database is available. It also assumes the stored procedures are present.

#### **4.9.7.6 Outputs**

Output of update events and errors is always appended to a single log file. Unless the *noprompt* option is specified on the command line, confirmation prompts and information are always displayed to the screen.

#### **4.9.7.7 Event and Error Messages**

By default, confirmation messages are displayed to the operator, as well as any error conditions that may arise. Error messages are also written to the log files. With the *noprompt* option, all messages to the screen are suppressed and only written to the log file. Command-line syntax errors are displayed regardless of the *noprompt* option.

The utility produces a log file called `EcDIUpdateGranule.log` in the `/usr/ecs/<mode>/CUSTOM/logs` directory. If this log file already exists, the new information is automatically appended. If there is no existing log file by this name, a new log file with this name is automatically created.

#### **4.9.7.8 Reports**

None.

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## **4.9.8 Data Pool Access Statistics Utility (DPASU) – Rollup Scripts**

The Data Pool Access Statistics Utility (hereafter referred to as “DPASU”) provides the ECS Operations Staff with several capabilities related to collecting access statistics for the Data Pool database. The DPASU encompasses two types of scripts: rollup and maintenance. The rollup scripts read and parse access logs to compile statistics and store those records in the Data Pool database, while the maintenance scripts backup, restore, and delete data in the related Data Pool database tables.

These scripts may be run on the command-line, and must be run with an operations mode. Details and instructions on how to run and configure these scripts are provided in subsequent sections.

### **4.9.8.1 Data Pool Access Rollup Scripts**

The Data Pool access rollup scripts provide the ECS Operations Staff with the capability to parse the Data Pool web access and FTP logs for Data Pool access information and store the access information in the Data Pool database. For each Data Pool file access found in the FTP or web access logs, the rollup scripts store into the Data Pool database (in the DIGranuleAccess table) the time of access, the corresponding granule ID, the file type (metadata, browse or science), the file size (in bytes), the access type (FTP or HTTP), and the age of granule at access time (i.e., the number of days the granule has been in the Data Pool at the time of access). Such information collected over a period of time can provide useful statistical information regarding the Data Pool access patterns and provides insight into planning future support.

There are two Data Pool access rollup scripts, one for rolling up Web accesses (EcDIRollupWebLogs.pl) and the other for rolling up FTP accesses (EcDIRollupFwFtpLogs.pl). The scripts are installed and run on the Data Pool host x4dpi01.

Each rollup script is a command-line utility allowing the operator to optionally pass input parameters. Operationally, the rollup script is run in a cron job, with the crontab file specifying when the rollup script shall start its daily execution. Each time the rollup scripts are run, they roll up the Data Pool accesses that occurred over a specified 24-hour period in the past and store them into the Data Pool database.

By default, the start date of the 24-hour rollup period is one day prior to the date when the rollup script is executed. However, the rollup scripts allow a non-default start date of the rollup period to be specified via command line. This capability is provided to allow the DAAC operator to run the rollup scripts manually to compile statistics for a particular date for which the regular cron job may not have run for some reason.

To allow flexibility for each DAAC to specify the start time of the 24-hour rollup period, the start time is provided as a configuration parameter (ROLLUP\_START\_TIME). (See Section 4.9.8.3.3 for description of configuration parameters.) For example, if the start time is configured as 0:00 hours (midnight), then the rollup period will always cover a 24 hour period starting from 0:00 on the rollup start date. If the start time is configured as 6:00 hours, the rollup period always covers a 24-hour period starting from 6AM of the rollup start date.

Each of the Data Pool access rollup scripts work as follows. The script first parses the specified FTP or Web access log(s) for Data Pool access events. After the log files are parsed, the captured data is written to a temporary “flat file” – a tab-delimited text file. This file gets exported to the Data Pool database, where it is stored in a temporary table (DIftpAccessLog or DIWebAccessLog). The rollup script then uses information in the temporary access log tables and other Data Pool database tables to determine the information to be written to the DIGranuleAccess table. The flat file is removed and an entry is made into the DIAccessRollup table to keep a record of which periods have been successfully “rolled up” to prevent the accidental reprocessing of that period.

Normally the Data Pool access rollup scripts are run by cron. Unless the cron job was completely successful, no entry is made into the DIAccessRollup record table to indicate the rollup period was processed. Therefore, the DAAC operator is able to reprocess that period by manually running the rollup scripts from the command line.

#### 4.9.8.1.1 Invoking the Data Pool Access Rollup Scripts from the Command Line Interface

Entering the following commands run the rollup scripts:

% **EcDIRollupWebLogs.pl** <command line parameters>

% **EcDIRollupFwFtpLogs.pl** <command line parameters>

There are various optional and required command line parameters used in combination with each other. Table 4.9.8-1 provides a description of these parameters.

**Table 4.9.8-1. Command Line Parameters of the DPASU (1 of 2)**

Parameter Name	Necessity	Description
<MODE>	Required	Indicates the Data Pool MODE the script is to run in. This parameter has the following constraints: It must be the first parameter with no label The <MODE> must imply a valid directory path An example of a <MODE> is OPS, TS1, TS2, et cetera.
-noprompt	Optional	Turns on the “noprompt” display mode – suppressing all output to the screen. This should be used in cron jobs or other scenarios where output to a display is not desired. The default display mode writes messages to the screen.
-flatfile <path/file>	Optional	Provides an alternative path/file name for the flat file produced by the parser. This is only useful with the –nodelete option.
-nodelete	Optional	Prevents the flat file from being deleted once the DPASU completes its run.

**Table 4.9.8-1. Command Line Parameters of the DPASU (2 of 2)**

Parameter Name	Necessity	Description
-fwftp <path/file(s)>	Optional	Indicates an alternative FIREWALL FTP log path/file(s) to be used instead of the configured default path/file(s). Use of a wildcard character is permitted in the file name, but if a wildcard is used, the path/file name must be enclosed in quotes (e.g. "/usr/ecs/OPS/COTS/firewall/logs/datapoolftplog.*"). <b>For <i>EcDIRollupFwFtpLogs.pl</i> only.</b>
-web <path/file(s)>	Optional	Indicates an alternative web log path/file(s) to be used instead of the configured default path/file. Use of a wildcard character is permitted in the file name, but if a wildcard is used, the path/file name must be enclosed in quotes (e.g., "usr/ecs/OPS/CUSTOM/logs/WebAccess.log*"). <b>For <i>EcDIRollupWebLogs.pl</i> only</b>
-start <date>	Optional	Indicates the alternative start date for the rollup period with the format YYYY/MM/DD. This can be used to process previously uncovered periods. The default date is the date cron actually runs the DPASU on a day-to-day basis.

#### 4.9.8.1.2 Default Rollup Period

By default, the rollup period begins 24 hours before the current date (i.e., the date on which the rollup script is run, either manually or by cron) plus the configured rollup start time (see Section 4.9.8.3.3 for configuration of the ROLLUP\_START\_TIME parameter). For example, if the rollup script is run on September 23, and the configured rollup start time is "2:00", the Rollup period begins on September 22 at 2:00 a.m. and ends on September 23 at 1:59 a.m.

This means the Rollup script scans the specified log(s) for all entries having an access time between Sep 22 2:00 a.m. and Sep 23 1:59 a.m. Note that the 24-hour rollup period must be in the past as compared to the time the rollup script is run. The rollup script does not execute and terminates with an error if it detects the rollup period that was specified spans into a future time.

#### 4.9.8.1.3 Specifying an Optional Start Date of Rollup Using `-start` Option

The rollup scripts allow an optional rollup period start date to be specified via command line using the `-start` option. With this option, a valid date must be entered in the following ordinal format:

YYYY/MM/DD

Because this is an optional *start* date, the end date gets 24 hours *added* to it. Therefore, if at the command-line the operator enters `-start 2002/09/18` (presumably because cron failed to run the DPASU Rollup on that day), the rollup scripts look for all entries with access times between 09/18/2002 02:00 and 09/19/2002 01:59.

The scripts check the input date at the command line to make sure it is valid before it parses the logs.

#### 4.9.8.1.4 Running Data Pool Access Rollup Scripts with *cron*

The Data Pool access rollup scripts are run by *cron* on a daily basis at a consistent time of day. There are a number of factors to consider when determining at what time to run the rollup scripts each day. Factors are:

- a. The rollup scripts should be run at a time of day that is **AFTER** the configured rollup start time. (A good rule of thumb is to have the scripts run at least one half hour after the rollup start time.) This ensures the 24-hour rollup period has completed at the time the rollup scripts are run.

**Example 1:** If the rollup start time is 2:00 a.m., the *cron* should run the rollup scripts at a time after 2:30 a.m.

**Example 2:** If the rollup start time is 22:00, the *cron* should run the rollup scripts at a time after 22:30, but *not* after 23:59 because any time after that is the next day.

- b. It is recommended the rollup scripts be run by *cron* at a time of day when Data Pool access activity is low – e.g., during the early morning hours.
- c. The rollup scripts should be run **BEFORE** the daily Data Pool Cleanup script is run, to minimize chances that information about files accessed during the 24-hour rollup period has been removed from the Data Pool database. (If this information has been removed, the rollup scripts are unable to write information for those files in the `DIGranuleAccess` table.)
- d. The rotation/renaming times of the Web Access and FIREWALL FTP log files and the time the corresponding rollup script is run must be taken into consideration in determining, which log files to parse and whether to use a wildcard in the specification of the log file path.

For example, consider the case where the FIREWALL FTP log is rotated/renamed each day at 01:00, and the FTP rollup script is run at 03:00 with a rollup start time of 02:00. When the rollup script is run at 03:00 on September 22, 2002, the rollup period is September 21, 2002 02:00 through September 22, 2002 01:59. The FIREWALL FTP log (e.g. `datapoolftplog.1`) which was rotated/renamed at 01:00, now only contains accesses for the time period September 22, 2002 01:00 through September 22, 2002 03:00 (the current time). The previous FIREWALL FTP log (e.g. `datapoolftplog.0`), contains accesses for the time period September 21, 2002 01:00 through September 22, 2002 00:59. To capture information for the entire rollup period, the ftp rollup script must be configured to parse both the `datapoolftplog.1` and `datapoolftplog.0`.

This may be accomplished either by running the ftp rollup script twice, once against `datapoolftplog.1` and once against `datapoolftplog.0`, or by running the script once and using a wildcard to specify the ftp log path. (Note that wildcard path names must be enclosed in quotes if used on the command line with the `-web` or `-fwftp` command line parameters, but do NOT need to be enclosed in quotes if used with the configuration parameters `WEB_LOG_PATH` or `FTP_FIREWALL_LOG_PATH`. See sections 4.9.8.1.5 and 4.9.8.1.6)

- e. To prevent or minimize the chances of database contention, it is recommended the daily cron job for rolling up FIREWALL FTP access logs and the daily cron job for rolling up web access logs be staggered, so the two rollup scripts do not run at the same time.

In the case that *cron* fails to run the Data Pool access rollup scripts on a given day, the operator can manually run either script, specifying the date(s) missed using the `–start` command line parameter.

#### 4.9.8.1.5 Specifying Alternative Paths for FIREWALL FTP or Web Access Logs

The operator can specify an access log file path different than that specified in the configuration file by using the `–web` and/or `–fwftp` command line parameters. If alternative access log file paths are used with the command line options `–web` and `–fwftp`, any wildcards used to indicate multiple files matching a pattern need to be enclosed in quotes. If they are not, the rollup scripts cannot use the files you intended. The scripts *internally* (i.e., not the shell) match all files indicated by wildcards on the command line.

For example, the path

```
/usr/ecs/OPS/COTS/firewall/logs/datapoolftplog.*
```

must be enclosed in quotes as follows

```
"/usr/ecs/OPS/COTS/firewall/logs/datapoolftplog.*"
```

to ensure the wildcard character (\*) is properly passed

Keep in mind that quotes around wildcard path names are only required on the command line; they are NOT required in the configuration file.

#### 4.9.8.1.6 Intermediate Flat File

The rollup scripts create an intermediate flat file from the log entries that contain all the data that will be exported to the database via bulk copy procedure (bcp). Normally, this file is temporarily placed in a data directory and then deleted, once the scripts have completed running. The operator can keep that flat file by specifying the `–nodelete` option. By default, the intermediate flat file is created in the following directory:

```
usr/ecs/<MODE>/CUSTOM/data/DPL/
```

The operator can specify an alternate path and name for this file on the command line using the `–flatfile` option.

#### 4.9.8.1.7 Command-line Examples

Here are some examples of executing the Data Pool access rollup scripts from the command line.

Example 1:

```
EcDiRollupWebLogs.pl OPS –noprompt –nodelete –start 2002/12/22
```

Run Web rollup script in -noprompt display mode for an optional 24-hour rollup period starting from December 22, 2002, at the configured rollup start time. The -nodelete option prevents the flat file from being erased upon completion.

Example 2:

*EcDlRollupFwFtpLogs.pl OPS -noprompt*

Run FIREWALL FTP rollup script in -noprompt display mode for the default 24-hour rollup period starting from yesterday at the configured rollup start time. This example is typical of syntax used in the crontab file.

Example 3

*EcDlRollupFwFtpLogs.pl OPS -start 2002/02/15 -fwftp "/usr/logs/\*.log "*

Run FIREWALL FTP Rollup script in prompted mode, for an optional 24-hour rollup period starting from February 15, 2002, at the configured rollup start time, but use the FIREWALL FTP access logs stored in an alternative path /usr/logs.

**4.9.8.2 Data Pool Access Statistics Main Screen**

The Data Pool Access Statistics does not have a main screen. It is a command line interface.

**4.9.8.3 Required Operating Environment**

The Data Pool access rollup scripts run in a Linux operating environment.

**4.9.8.3.1 Interfaces to supporting products**

Table 4.9.8-2 lists the supporting products that this tool depends upon in order to function properly.

**Table 4.9.8-2. Interface Protocols**

<b>Product Dependency</b>	<b>Protocols Used</b>	<b>Comments</b>
Data Pool database	SQL	Via SQL server machines
Perl DBI	DBD::Sybase	Requires proper install of Perl

**4.9.8.3.2 Access Log File Formats**

The Data Pool access rollup scripts are dependent on a particular format of both the FIREWALL FTP and Web access logs. If the format of these log files changes, it is quite possible the scripts can incorrectly read certain fields and consequently provide incorrect or misleading rollup reports, and can even prevent the scripts from running at all. It is important to have the rollup script code adjusted if the FIREWALL FTP or WEB access log formats change in any way. Subsequent sections provide format details for these access logs.

### 4.9.8.3.3 Configuration Files for Data Pool Access Rollup Scripts

The Data Pool access rollup scripts use configuration files containing details about how to connect to Sybase and about where the log files exist. The file *EcDIWebRollup.CFG* contains the configuration parameters for the Web Rollup script whereas *EcDIftpFwRollup.CFG* contains the configuration parameters for the FTP Rollup script. Without the configuration files, the scripts can not run. Each configuration file must be a plain text ASCII file, which has the following format, not necessarily in this order:

```

SYB_USER = <string>
SYB_SQL_SERVER = <string>
SYB_DBNAME = <string>
NUM_RETRIES = <integer>
SLEEP_SEC = <integer>
WEB_LOG_PATH = <path and file name>
FTP_FIREWALL_LOG_PATH = <path and file name>
ROLLUP_START_TIME = <time of day>

```

Table 4.9.8-3 describes the individual configuration parameters mentioned above.

**Table 4.9.8-3. Data Pool Access Configuration Parameters for Rollup Scripts**

Parameter Name	Description
SYB_USER	The user name for the Sybase connection.
SYB_SQL_SERVER	The name of the SQL server for this Sybase connection.
SYB_DBNAME	The name of the Data Pool database you intend to connect to.
NUM_RETRIES	The number of times the utility attempts to connect to the database. The recommended default is 5.
SLEEP_SEC	The number of seconds the utility waits ('sleep') between connection attempts. The recommended default is 10.
WEB_LOG_PATH	The path and file name for the Data Pool Web Access custom code log. This parameter is valid for <i>EcDIWebRollup.CFG</i> only. The web rollup script automatically uses this path (and file or files) if an alternative one is not explicitly provided. Wildcards are permitted and do not need to be enclosed in quotes.
FTP_FIREWALL_LOG_PATH	The path and file name for the default ftp access log. This parameter is valid for <i>EcDIftpFwRollup.CFG</i> only. The FIREWALL FTP rollup script automatically uses this path (and file or files) if an alternative one is not explicitly provided. Wildcards are permitted and do not need to be enclosed in quotes.
ROLLUP_START_TIME	The configurable time of day the rollup script uses as an anchor to start looking at log entries with, i.e., "3:00". 24-hour time must be used for this entry.

### 4.9.8.4 Databases

The Data Pool Access Statistics utility uses the Sybase ASE Server.

#### 4.9.8.5 Special Constraints/Dependencies

The Data Pool access rollup scripts function only if the Data Pool database server is running and if the Data Pool database is available. The rollup scripts also assume the required stored procedures are present in the Data Pool database.

Special modules are also required to run this utility. If those modules are not present or are located in an unfamiliar directory, it fails to run. Table 4.9.8-4 describes the modules required to run the rollup scripts.

**Table 4.9.8-4. Data Pool Access Special Modules**

Name	Description
EcDIDbInterface.pm	Database interface and connection module.
EcDIDateTime.pm	Date/time grabber with millisecond resolution.

#### 4.9.8.6 Outputs

Rollup information is entered in the Data Pool database in the DIGranuleAccess table. If the `-noprompt` option is not on, examining status and other messages are printed to the screen. Log messages are also recorded (see below).

#### 4.9.8.7 Event and Error Messages

All event and error messages generated from the rollup scripts are written to the respective log files. When the scripts are run in the prompted mode (default), the messages are also displayed to the screen in addition to writing to the logs.

#### 4.9.8.8 Reports

None.

#### 4.9.8.9 Recovery Procedures

In the case that *cron* fails to run the Data Pool access rollup scripts on a given day, the operator may manually run either script, specifying the date(s) missed using the `-start` command line parameter. See Section 4.9.8.1.3 for details.

## 4.9.9 Data Pool Access Statistics Utility (DPASU) – Maintenance Scripts

The Data Pool Access Statistics Utility (hereafter referred to as “DPASU”) provides the ECS Operations Staff with several capabilities related to collecting access statistics for the Data Pool database. The DPASU encompasses two types of scripts: rollup and maintenance. The rollup scripts read and parse access logs to compile statistics and store those records in the Data Pool database, while the maintenance scripts backup, restore, and delete data in the related Data Pool database tables.

These scripts may be run on the command-line, and must be run with an operations mode. Details and instructions on how to run and configure these scripts are provided in subsequent sections.

### 4.9.9.1 Data Pool Access Maintenance Scripts

The Data Pool access maintenance scripts are operational support tools used for archiving, deleting, and backing up granule access data in the Data Pool database. Each of these scripts can be run on the command line and connects to the Data Pool database to process data contained therein. These scripts are installed and run on the Data Pool database host (x0acg0n), in the /usr/ecs/<mode>/CUSTOM/dbms/DPL directory. All of these scripts involve access to the Data Pool tables DIGranuleAccess, DIGranuleSubscription, and DIAccessRollup.

#### **Archive Utility - *DI DbArchiveAccessStat***

This script archives data contained in DIGranuleAccess, DIGranuleSubscription, and DIAccessRollup by writing this data to an ASCII file based on an operator-specified time range.

#### **Delete Utility - *DI DbDeleteAccessStat***

This script removes data contained in DIGranuleAccess, DIGranuleSubscription, and DIAccessRollup based on an operator-specified time range.

#### **Restore Utility - *DI DbRestoreAccessStat***

This script restores data archived by the archive utility (contained in the ASCII file) into DIGranuleAccess, DIGranuleSubscription, and DIAccessRollup.

### 4.9.9.2 Invoking the Maintenance Utilities from the Command Line Interface

Entering the following commands start the maintenance utilities:

> **UtilityName <command line parameters>**

There are various command line parameters used in combination with each other. Table 4.9.9-1 provides a description of these parameters

**Table 4.9.9-1. Command Line Parameters of the DPASU Access Maintenance Scripts**

Parameter Name	Description
<MODE>	The mode in which the utility is being executed.
<STARTDATE>	The beginning date time range for archiving, deleting, or restoring the data. The format for this parameter is yyyyymmdd.
<STOPDATE>	The ending date time range for archiving, deleting, or restoring the data. The format for this parameter is yyyyymmdd.
<ARCHIVEDIR>	The absolute path where the generated ASCII files are stored when archiving or restoring data (this parameter only applies to the archiving and restoring scripts). The ASCII files are generated from the archive utility. The file name follows the convention <tablename>.dat.<startdate><stopdate>.
<USERNAME>	The Sybase login name.
<SERVER>	The Sybase Server where the Data Pool database located.
<DBNAME>	The name of the Data Pool database.

The parameters shown here are those used for all of the maintenance scripts. See the “Utility Commands” section for each script for specific usage. Please note that these parameters must be provided in the exact order as shown in the examples below.

Each of the scripts prompts the user to enter the password for the Sybase login.

### 4.9.9.3 Archive Utility Commands

The archive utility must be run with the following parameters in this exact order. There is only one command-line permutation:

```
DlDbArchiveAccessStat <MODE> <STARTDATE> <STOPDATE> <ARCHIVEDIR> <USERNAME> <SERVER> <DBNAME>
```

Example:

```
DlDbArchiveAccessStat OPS 20020405 20020505 /home/DBArchive/DataPool/ Labuser01
SybSQL_srvr DataPool_DB
```

The above example archives data to files and stores them in a specified directory.

### 4.9.9.4 Delete Utility Commands

The Delete Utility must be run with the following parameters in this exact order. There is only one command-line permutation:

```
DlDbDeleteAccessStat <MODE> <STARTDATE> <STOPDATE> <USERNAME> <SERVER> <DBNAME>
```

Example:

```
DlDbDeleteAccessStat OPS 20020912 20020913 Labuser01 SybSQL_srvr DataPool_DB
```

The above example deletes data in a specified time range.

#### 4.9.9.5 Restore Utility Commands

The Restore utility must be run with the following parameters in this exact order. There is only one command-line permutation:

```
DlDbRestoreAccessStat <MODE> <STARTDATE> <STOPDATE> <ARCHIVEDIR> <USERNAME> <SERVER>
<DBNAME>
```

Example:

```
DlDbRestoreAccessStat OPS 20020405 20020505 /home/DBArchive/DataPool/ Labuser01
SybSQL_srvr DataPool_DB
```

The above example restores data in a specified time range from a specified archive directory.

#### 4.9.9.6 Data Access Statistics Main Screen

The Data Pool Access Statistics utility does not have a main screen. It has a command line interface.

#### 4.9.9.7 Required Operating Environment

The maintenance utilities run on a Linux platform.

##### 4.9.9.7.1 Interfaces to Supporting Products

Table 4.9.9-2 lists the supporting products that these tools depend upon to function properly.

**Table 4.9.9-2. Interface Protocols**

Product Dependency	Protocols Used	Comments
SDSRV database	SQL	Via SQL server machines

#### 4.9.9.8 Databases

The Data Pool Access Statistics utility uses the Sybase ASE Server.

#### 4.9.9.9 Special Constraints

The maintenance utilities run only if the Data Pool database is available and the Sybase server is running.

#### 4.9.9.10 Outputs

There are no outputs from the maintenance scripts, except the error messages to the log.

#### 4.9.9.11 Event and Error Messages

All error messages are written to the log files, which are DlDbRestoreAccessStat.log, DlDbArchiveAccessStat.log and DlDbDeleteAccessStat.log.

#### **4.9.9.12 Reports**

None.

#### 4.9.10 Most Recent Data Pool Inserts Utility

The most recent data pool insert utility provides the ECS Operations Staff with a command-line interface for listing the most recent additions to data pool. Output of this utility is a set of files that a user could download and quickly inspect for new Data Pool additions. In operation, this utility would be configured to run as a cron job.

Utility takes in a date command-line parameter representing the day user is interested in. Files inserted into Data pool on this day would be listed in the output files. If a date is not provided, the utility uses the previous date as a default with a time range of midnight to midnight.

Since this utility requires connection to database, there will be a configuration file containing all information needed for accessing database. Further more, all error messages would be written to an error log file in /usr/ecs/<MODE>/CUSTOM/logs directory.

##### 4.9.10.1 Using Most Recent Data Pool Inserts Utility

Utility would mainly be run as a cron job.

For command line usage, utility is started by entering the following:

> **EcDIMostRecentInsert.pl** <MODE> [-insertDate <YYYY/MM/DD>]

Command line parameters and corresponding descriptions that could be used with Most Recent Data Pool Inserts utility are listed in Table 4.9.10-1.

**Table 4.9.10-1. Command Line Parameter  
Most Recent Data Pool Inserts Utility**

Parameter Name	Required	Description
MODE	Yes	An input parameter that specifies the mode of operation. This must be the first parameter passed, and it must be a valid, existing Data Pool mode such as OPS or TS1.
insertDate	No	An optional parameter specifying date in which user is interested. If date parameter is not present, previous day date is used by default. Date format is YYYY/MM/DD.

Executing this utility requires the mode as the first input parameter else a fatal error would be returned. If the date parameter is present, it must conform to the following format YYYY/MM/DD. Incorrect input parameters would result in errors being written to log file.

##### 4.9.10.2 Most Recent Data Pool Inserts Utility Commands

Examples of how to use this utility is shown below:

**1. EcDIMostRecentInsert.pl OPS -insertDate 2003/02/28**

Queries database and creates file containing listings Data Pool additions for day 2003/02/28 for OPS mode.

**2. EcDIMostRecentInsert.pl OPS**

Since “-insertDate” command line parameter is not entered, the previous day is

used by default. Queries database and creates files listing recent additions to database for previous day for OPS mode.

#### 4.9.10.3 Required Operating Environment

The O/S requirements is Linux 2.x.

#### 4.9.10.4 Interfaces and Data Types

Table 4.9.10.2 lists the supporting products that this tool depends upon in order to function properly.

**Table 4.9.10-2. Interface Protocols**

Product Dependency	Protocols Used	Comments
Data Pool database	SQL	Via SQL server machines

#### 4.9.10.5 Configuration File Format – EcDIMostRecentInsert.CFG

The “config” file contains vital details about how to connect to the Sybase database. Without this file, the utility can not run. The config file must be a single-entry plain text ASCII file, which has the following format:

```
SYB_USER = <string>
SYB_SQL_SERVER = <string>
PGM_ID = <string>
SYB_DBNAME = <string>
NUM_RETRIES = <integer>
SLEEP_SEC = <integer>
```

Breakdown of the individual parameters:

Parameter Name	Description
SYB_USER	The user name for the Sybase connection.
SYB_SQL_SERVER	The name of the SQL server for this Sybase connection.
SYB_DBNAME	The name of the database you intend to connect to
PGM_ID	Program ID used for connecting to the Data Pool database.
NUM_RETRIES	The number of times the utility will attempt to connect to the database before exiting. The recommended default is 5.
SLEEP_SEC	The number of seconds the utility will wait ('sleep') between connection attempts. The recommended default is 10.

#### 4.9.10.6 Special Constraints

EcDIMostRecentInsert utility runs only if the Data Pool database server is running and if the database is available. It also assumes the stored procedures are present.

#### 4.9.10.7 Outputs

Output of this utility is a set of files. One file located at top level Data Pool directory named DPRecentInserts\_<YYYYMMDD> and a file in each of the collection level directories named DPRecentInserts\_<ShortName>\_<VersionID>\_<YYYYMMDD>.

File DPRecentInserts\_<YYYYMMDD> contains distinct ShortNames and VersionIds while file DPRecentInserts\_<ShortName>\_<VersionID>\_<YYYYMMDD> contains ShortName, VersionId and fully qualified.

**Note:** The EcDIMostRecentInsert.pl would shut down and log an error message if it is unable to create a file at the top level data pool directory. If it is unable to create file at the collection level directory, program would log an error message and continue with processing other valid directories. Also, each time utility runs with the same input argument, the contents of the previously created file are over written.

#### 4.9.10.8 Event and Error Messages

Usage and processing error messages are written to log file.

#### 4.9.10.9 Reports

None.

#### 4.9.10.10 Logs

The utility produces a log file called *EcDIMostRecentInsert.log* in the */usr/ecs/<MODE>/CUSTOM/logs* directory. If this log file already exists, the new information will automatically be appended. If there is no existing log file by this name, a new log file with this name will automatically be created.

#### 4.9.10.11 Recovery

If there is an execution failure as a result of database server or system shut down, operator simply re-runs the script. This would create a new set of files (i.e. over writing previous ones) listing additions to Data Pool for the specified insert date.

#### 4.9.10.12 Sybase Error Handling

The utility is highly dependent on Sybase server. Connection failure to Sybase Server would simply result in program termination and error logged to log file.

**Note:** The utility may repeatedly attempt to connect to the database, depending on how the configuration file was set. As an example, NUM\_RETRIES set to 5 and SLEEP\_SEC set to 10 in configuration file would mean the utility would try to connect 5 times, and will wait 10 seconds before each attempt.

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### 4.9.11 Data Pool Collection-to-Group Remapping Utility

The Data Pool Collection-to-Group Remapping Utility will allow DAAC Operations to re-assign a Data Pool collection to a collection group different from the one to which the collection was assigned originally. This command line utility will be used to remap collections between groups.

**Note:** Prior to using this utility you must set the “Insert Enabled Flag” to off using the Data Pool Maintenance GUI for the source collection.

#### 4.9.11.1 Using the EcDIRemap utility

The Data Pool Collection-to-Group Remapping Utility is invoked as follows:

```
>EcDIRemap.pl <mode> -esdt <source collection name> -version <source collection version> -oldgrp <group to which the collection currently belongs> -newgrp <group to which the current collection will be mapped>
```

There are various command line parameters that are used in combination with each other. Table 4.9.11-1 provides a description of these parameters.

**Table 4.9.11-1. Command Line Parameters**

Parameter Name	Required	Description
mode	Yes	The mode in which the utility will run.
esdt	Yes	Specifies the name of the source collection that is being remapped
version	Yes	Specifies the version of the source collection that is being remapped
oldgrp	Yes	Specifies the name of the source collection group that contains the source collection
newgrp	Yes	Specifies the destination group where the source collection is to be mapped

Section 4.9.11.3 provides some examples along with detailed explanations for executing this utility.

#### 4.9.11.2 Data Pool Collection-to-Group Remapping Utility Configuration File

The Data Pool Collection-to-Group Remapping utility uses a configuration file, EcDIRemap.CFG, located in /usr/ecs/<mode>/CUSTOM/cfg directory. The configuration parameters are stored in a PARAMETER = VALUE format with each parameter/value pair as a separate line entry in the file. Table 4.9.11-2 describes the configuration parameters.

**Table 4.9.11-2. Configuration Parameters**

Parameter Name	Value Description
SYB_USER	Sybase login name for the user of the Data Pool database.
SYB_SQL_SERVER	Name of Sybase SQL Server hosting Data Pool database.
SYB_DBNAME	Name of Data Pool database.
PGM_ID	Program identifier used as seed to generate database password.
NUM_RETRIES	Number of times database operation will be attempted.
SLEEP_SEC	Number of seconds between retries.

### 4.9.11.3 Examples for Remapping a Collection

1. Remap a collection MOD29, Version 4 from the group MOST to the group MOSS in the OPS mode:

```
EcDlRemap.pl OPS -esdt MOD29 -version 4 -oldgrp MOST -newgrp MOSS
```

The utility will remap the directory from the old collection MOD29.004 beneath the MOST group to the collection MOD29.004 under the MOSS group. The Data Pool database inventory will be updated to reflect the new location of the files.

Previous directory structure before remapping (example):

```
/datapool/OPS/user/MOST/MOD29.004/2000.10.31/MOD29.A2000305.h11v11.004.20012651  
13249.hdf
```

New directory structure following the remapping:

```
/datapool/OPS/user/MOSS/MOD29.004/2000.10.31/MOD29.A2000305.h11v11.004.20012651  
13249.hdf
```

### 4.9.11.4 Required Operating Environment

The Group remapping utility will run on a Linux platform.

### 4.9.11.5 Interfaces and Data Types

Table 4.9.11-3 lists the supporting products that this tool depends upon in order to function properly.

**Table 4.9.11-3. Interface Protocols**

Product Dependency	Protocols Used	Comments
Data Pool database	SQL	Via SQL server machines

### 4.9.11.6 Special Constraints

The Data Pool Collection-to-Group Remapping utility requires that the “Insert Enabled Flag” be turned off using the Data Pool Maintenance GUI for the source collection prior to running the

utility. If this is not done, the utility will provide an error message to the user indicating this condition and promptly exit. Also the utility expects that the group to which the user is mapping the collection exists in the Data Pool database. In addition, the user is to be aware that the utility does not allow remapping the Browse (Browse.001) collection. Data Pool functionality assumes that the browse collection is always located in the group “BRWS”. Also, the utility doesn’t allow users to map any collection to the BRWS group. The user is given an error message and the utility exits if either of these cases is true. The utility checks to see if the given collection is part of the old or source group. If not, the utility informs the user and exits. The Group Mapping utility runs only if the Data Pool database server is running and if the database is available. It also assumes the stored procedures are present.

#### **4.9.11.7 Outputs**

Output of update events and errors will be always appended to a single log file.

#### **4.9.11.8 Event and Error Messages**

Usage errors will be displayed to the screen. Processing error messages are written to the log files.

#### **4.9.11.9 Reports**

None.

#### **4.9.11.10 Logs**

The utility produces a log file called EcDIRemap.log in the /usr/ecs/<mode>/CUSTOM/logs directory. If this log file already exists, the new information will automatically be appended. If there is no existing log file by this name, a new log file with this name will automatically be created.

Since the log file may grow to a considerable size after constant use, it is recommended that it be saved off into a separate file from time to time for maintainability.

#### **4.9.11.11 Recovery**

The EcDIRemap.pl utility will be able to recover from aborted runs by using the DIRecoveryParameters table to checkpoint its progress. In the event of an aborted run, the utility will read the recovery parameters table to determine at which point the utility left off when it aborted. This will ensure that remappings that were taking place prior to the abort will finish correctly. After recovery processing takes place, the utility will then process the current run by acting on the latest input parameters. For example, if the original command line was:

```
EcDIRemap.pl OPS -esdt MOD29 -version 4 -oldgrp MOST -newgrp MOSS
```

If this run were aborted and a new invocation of the utility was initiated with a different collection and different source and destination groups as follows:

```
EcDIRemap.pl OPS -esdt AST_L1A -version 3 -oldgrp ASTT -newgrp ASTA
```

Then the utility would give a message to the standard output and log indicating a recovery was in process for remapping MOD29.004 collections from the old group (MOST) to the new group (MOSS) was taking place. As soon as the recovery was finished, the utility would indicate that it would now process the remapping of AST\_L1A.003 from the ASTT group to the ASTA group.

#### **4.9.11.12 Sybase Error Handling**

If a Sybase error occurs, you will most likely see the actual Sybase error string displayed on the screen and in the log. Some errors can be that the database server is unavailable, that the connection to the database was dropped, or that there was an error executing the stored procedure. In the event of a Sybase-sourced error, the utility will immediately stop running.

In the event that a connection to the Data Pool database can not be established, the utility may repeatedly attempt to connect to the database, depending on how the configuration file was set. If, for example, NUM\_RETRIES was set to 5 and SLEEP\_SEC was set to 10, this means it will try to connect 5 times, and will wait 10 seconds before each attempt – a total of 50 seconds if all attempts are unsuccessful.

### 4.9.12 QA Update Utility

The QA Update Utility provides the EMD Operations Staff with a command-line interface to update the QA data for granules in the Data Pool inventory. Both inventory and corresponding XML files on disk will be updated.

The utility operates in two modes, depending on the command-line parameters. It can either read an input file specified on the command-line or a directory containing multiple input files, if no file is specified. Each input file contains a list of granule db ids and the QA updates to be performed for those granules. These files, called “undo” files, are generated by the QAMUT utility in its “undo” directory. Therefore, the QA Update must be run after QAMUT has been run.

Fault recovery capability is also supported allowing continued processing of a partially processed list of QA updates due to a database server fault or an operating system error. When the utility detects un-processed QA updates left over from a previous run it automatically goes into recovery mode to complete processing them.

#### 4.9.12.1 Using the QA Update Utility

The QA Update Utility is started by entering the following command:

> **EcDIQaUpdateStart** <command line parameters>

There are various command line parameters that are used in combination with each other. Table 4.9.12-1 provides a description of these parameters.

**Table 4.9.12-1. Command Line Parameters of the QA Update Utility**

Parameter Name	Description
-mode <mode>	Specifies the mode of operation. This must be the first parameter passed, and it must be a valid, existing Data Pool mode with a format like OPS or TS1.
-file <filename>	Specifies the file to be used as input to the utility. <filename> is the name of a file containing a list of granule db ids and their QA update information. It must reside in the QAMUT undo directory (see ConfigurationFile table). This parameter is optional. If no -file parameter is provided, the utility will read all undo files in the QAMUT undo directory as input.

There is no required ordered sequence of the parameters except for the <MODE> - this must be first parameter or a fatal error will be returned. The combination of these remaining inputs must be valid. A command line input error results in a ‘usage’ syntax display, and in most cases will also explain why the input was incorrect.

### 4.9.12.2 QA Update Utility Commands

Below are some examples for invoking this utility:

1. `EcDlQaUpdateStart -mode <mode> -file <file name>`

Updates QA information for the granules provided via *file\_name*.

2. `EcDlQaUpdateStart -mode <mode>`

Updates QA information for the granules provided via all undo files in the QAMUT undo directory. See QAMUT documentation for details. This is suitable for running in the background or as a cron job.

### 4.9.12.3 Required Operating Environment

The QA Update Utility will run on a Linux platform.

### 4.9.12.4 Interfaces and Data Types

Table 4.9.12-2 lists the supporting products that this tool depends upon in order to function properly.

**Table 4.9.12-2. Interface Protocols**

Product Dependency	Protocols Used	Comments
Data Pool database	SQL	Via SQL server machines

### 4.9.12.5 Input File Format

All input (undo) files are expected to reside in the QAMUT's undo directory (e.g. /usr/ecs/OPS/CUSTOM/data/DSS/QAMUT/QAMUTUndo) and follow the naming convention and format enforced by the QAMUT. An undo file contains the following fields:

SequenceNo, ShortName, VersionID, **dbID**, LGID, **ParameterName**, **FlagName**, OldQualityFlag, OldQualityFlagExplan, **NewQualityFlag**, **NewQualityFlagExplan**. Only some of these fields are needed by the utility (those in bold) and the others get filtered out before storing them in working tables in the database.

This is an example of two lines from an undo file:

```

2          MOD13A2          1          2002719804
MOD13A2.A2000193.h01v09.002.2000240111936.hdf      1 km 16 days EVI
Quality          Science Failed  OPS EOC 12Hr InFormal Run.030821145017
Failed  OPS EOC 12H Formal Run 082503

3          MOD13A2          1          2002719804
MOD13A2.A2000193.h01v09.002.2000240111936.hdf      1 km 16 days MIR
reflectance     Science Failed  OPS EOC 12Hr InFormal Run.030821145017
Failed  OPS EOC 12H Formal Run 082503

```

#### 4.9.12.6 Configuration File Format – EcDIQaUpdate.properties

The configuration file contains vital details about how to connect to the Sybase database. Without this file, the utility can not run. The configuration file must be a single-entry plain text ASCII file, which has the following format:

```

SYB_USER = <string>
SYB_SQL_SERVER = <string>
SYB_DBNAME = <string>
PGM_ID = <string>
DB_NUM_RETRIES = <integer>
DB_SLEEP_SEC = <integer>
FILE_NUM_RETRIES = <integer>
FILE_SLEEP_SEC = <integer>
NUM_XML_THREADS = <integer>
QAMUT_UNDO_DIR = <string>
LOG_SIZE = <integer>
NUM_LOGS_TO_CYCLE = <integer>
LOG_DETAIL_LEVEL = <level>

```

Breakdown of the individual parameters is shown in Table 4.9.12-3:

**Table 4.9.12-3. Configuration File (1 of 2)**

Parameter Name	Description
SYB_USER	The user name for the Sybase connection.
SYB_SQL_SERVER	The name of the SQL sever for this Sybase connection.
SYB_DBNAME	The name of the database you intend to connect to
PGM_ID	Program ID used for connecting to the Data Pool database.
DB_NUM_RETRIES	The number of times the utility will attempt to connect to the database before exiting. The recommended default is 5.
DB_SLEEP_SEC	The number of seconds the utility will wait ('sleep') between connection attempts. The recommended default is 10.
FILE_NUM_RETRIES	The number of times the utility will attempt to open an XML file for update before giving up on that file. The recommended default is 5.
FILE_SLEEP_SEC	The number of seconds the utility will wait ('sleep') between XML file open attempts. The recommended default is 10.
NUM_XML_THREADS	The number of threads the utility will use to update QA information in XML files. Maximum of 10.
QAMUT_UNDO_DIR	Name of directory containing QAMUT undo file(s), which are used input to the utility.
LOG_SIZE	Size in bytes of each log. When this size is reached in the first log file, a second log file will be created, and so on, up to NUM_LOGS_TO_CYCLE files.
NUM_LOGS_TO_CYCLE	Number of logs to cycle through. For example, if NUM_LOGS_TO_CYCLE=3, 3 logs will eventually be created, named EcDIQaUpdate.log.0, EcDIQaUpdate.log.1, and EcDIQaUpdate.log.2, with EcDIQaUpdate.log.0 always being the latest.

**Table 4.9.12-3. Configuration File (2 of 2)**

Parameter Name	Description
LOG_DETAIL_LEVEL	Level of detail of log messages. Can be one of the following: DEBUG – log low-level debug messages DETAILED – log detailed messages INFO – key informational messages WARNING – warning and fatal messages Messages will be generated for the specified level and above, e.g. if DETAILED is specified, all DETAILED, INFO, and WARNING messages will be generated. DEBUG messages will be ignored.

#### **4.9.12.7 Special Constraints**

The QA Update Utility runs only if the Data Pool database server is running and if the database is available. It also assumes the stored procedures are present.

#### **4.9.12.8 Outputs**

Output of update events and errors will be always appended to the log files.

#### **4.9.12.9 Event and Error Messages**

Usage errors will be displayed to the screen. Processing error messages are written to the log files.

#### **4.9.12.10 Reports**

None

#### **4.9.12.11 Logs**

The utility produces log files in the /usr/ecs/<mode>/CUSTOM/logs directory. Log file behavior is specified by parameters in the configuration file (see Table 4.9.12-3). The logs can be configured to be of a certain size (LOG\_SIZE). When the first log reaches that size, a second log is created, and this continues up to the number of logs specified (NUM\_LOGS\_TO\_CYCLE). When all the logs have been filled, the same logs in the rotation are used again (overwritten) in the same order. If any of the log files already exist and are not yet full, the new information will automatically be appended. If there is no existing log file by this name, a new log file with this name will automatically be created. Logs are named EcDIQaUpdate.log.n, where n=0 .. NUM\_LOGS\_TO\_CYCLE.

#### **4.9.12.12 Recovery**

The QA Update Utility provides a capability to recover from an execution failure caused by situations such as the system faults or database errors leaving all or some of the QA updates unprocessed. The utility will detect such failure upon the next run and continue processing the QA updates that were left unprocessed in the previous run. The operator is given no choice as to recovery. Recovery will proceed or the Data Pool inventory and disk files will be in a corrupted state.

#### **4.9.12.13 Sybase Error Handling**

If a Sybase error occurs, you will most likely see the actual Sybase error string displayed on the screen and in the log. Some errors can be that the database server is unavailable, that the connection to the database was dropped, or that there was an error executing the stored procedure. In the event of a Sybase-sourced error, the utility will immediately stop running.

In the event that a connection to the Data Pool database can not be established, the utility may repeatedly attempt to connect to the database, depending on how the configuration file was set. If, for example, NUM\_RETRIES was set to 5 and SLEEP\_SEC was set to 10, this means it will try to connect 5 times, and will wait 10 seconds before each attempt – a total of 50 seconds if all attempts are unsuccessful.

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### 4.9.13 Data Pool Move Collections Utility

The Move Collections Utility provides the EMD Operations Staff with a command-line interface to move collections from one file system to another. The utility requires command-line parameters that specify the collection (shortname and version id) to be moved and the target file system path. The utility also supports a verbose option. This option allow for enabling or suppressing detailed information displayed to the screen and log for the operator. The default is non-verbose, which allows an operator to run the utility as a background process. Fault recovery is also supported, allowing completion of a partially moved collection due to a database server fault or an operating system error.

The utility relies on the fact that symbolic links will be set from the collection's old filesystem to its new filesystem. For example, before a move, a collection might be located here: /datapool/OPS/user/FS1/MOAT/AIRABRAD.007. After invoking the utility with a target filesystem of FS2, it will be moved to /datapool/OPS/user/FS2/MOAT/AIRABRAD.007 with a symbolic link from its old location, i.e. /datapool/OPS/user/FS1/MOAT/AIRABRAD.007



/datapool/OPS/user/FS2/MOAT/AIRABRAD.007

These links will be persistent and allow for backward compatibility via a "shadow directory". The shadow directory will be set up during the transition to StorNext and multiple file systems, as explained in ticket OP\_S4\_06.

The file system move is implemented as a copy operation to the new collection directory location, followed by removal of the old collection directory and its contents. The utility then establishes a link to the new location in place of the old directory. As a result, existing URL will not be invalidated by the move and no updated URLs need to be exported to ECHO. However, any existing URLs and file pointers will be invalid from the time when the utility starts deleting the existing directories until the time the link is established. During this time:

- A Data Pool ftp user or an EDG user clicking on a URL might experience a temporary error when trying to access files and directories associated with the moving collection. File transfers that are already in progress when deletion begins should complete normally.
- FTP Pull users could experience similar temporary problems when they try to access links in FTP Pull directories that were established by the OMS and that point to granules in the moving collection.
- The PDS may encounter file access errors when using OMS provided file path names for granules in the moving collection.

In addition, the following errors may occur during a collection move:

- During the time a collection is being moved, the Data Pool Web GUI will return an error if a user tries to access the collection via a bookmark. It will flag the collection and not display it as an active link on the collection drill down web page, the temporarily preventing drill down access to the collection.

- The Data Pool insert service will look up the collection path in the Data Pool database during the insert process. The collection path is updated once the copy step is complete. Any Data Pool insert processes that looked up the copy path BEFORE it was updated will insert their granules into the old directory location. If these granules are not copied but then removed, they would become phantoms and could trigger additional errors downstream, e.g., in distribution; alternatively, if they are not removed they would cause the move process to fail, as the Data Pool insert service would re-create the deleted directories.
- The OMS looks up granule file locations immediately before performing an FTP Push operation. If the lookup occurs just before the collection information in the Data Pool database is updated, but the copy operation starts after the file was deleted, the FTP Push operation will fail and cause an operator intervention. Since the time window between file location look up and ftp push start is small, the chances for that occurring are very small. The operator would need to resubmit the request, and since the directory entry will now have been updated, the ftp push operation will succeed.

If the above impacts are not acceptable, operators can suspend inserts and web access for the original file system by marking it as "unavailable" in the DPM GUI. This would also halt staging operations for that file system in OMS. To prevent errors, operators would need to verify before activating an order that it does not reference granules from the collection that is being moved. Operations will need to use a different mechanism to alert FTP users of the unavailability; and to prevent access, operations would need to take other measures, such as changing the directory permissions.

#### 4.9.13.1 Using the Move Collections Utility

The Move Collections Utility is started by entering the following command:

```
> EcDIMoveCollection.pl <mode> -shortname <shortname>
                        -versionid <versionid>
                        -targetfs <file system path>
```

There are various command line parameters that are used in combination with each other. Table 4.9.13-1 provides a description of these parameters.

**Table 4.9.13-1. Command Line Parameters of the Move Collections Utility**

Parameter Name	Description
<mode>	An input parameter that specifies the mode of operation. This must be the first parameter passed, and it must be a valid, existing Data Pool mode with a format like OPS or TS1. This parameter is mandatory. <b>Note:</b> The user will be prompted if the utility is run in OPS mode to prevent any accidental loss of data.
-verbose	Directs the utility to run using verbose option. Some information will be displayed to the screen and detailed information will be written to the utility's log. Default is nonverbose. (See Note)
-shortname <shortname>	An input parameter that specifies the shortname of the collection to be moved. This parameter is mandatory.
-versionid <versionid>	An input parameter that specifies the version identifier of the collection to be moved. Do not specify leading zeros. This parameter is mandatory.
-targetfs <file system path>	An input parameter that specifies the relative target file system path to which the collection is being moved. Note that all Data Pool file systems must be mounted under the Data Pool root (e.g. (/datapool/OPS/user)). This parameter is mandatory.

There is no required ordered sequence of the parameters except for the <MODE> - this must be first parameter or a fatal error will be returned. The combination of these remaining inputs must be valid. A command line input error results in a 'usage' syntax display, and in most cases will also explain why the input was incorrect.

#### 4.9.13.2 Move Collections Utility Commands

Below are some examples for invoking this utility:

```
1. EcDlMoveCollection.pl <mode> -shortname MODVOLC
   -versionid 1 -targetfs fs1 -verbose
```

Moves the files, browse links, and inventory information for the collection **MODVOLC.001** from its current directory as specified in the database to the new filesystem **fs1**. The collection will be moved from /datapool/<mode>/user/MOAT to /datapool/<mode>/user/fs1/MOAT. The utility will be run using verbose option, which displays information to screen and to the log.

```
2. EcDlMoveCollection.pl <mode> -shortname MODVOLC
   -versionid 1 -targetfs fs1
```

Same as 1) but in non-verbose mode. No output to the screen and less detail in the log.

#### 4.9.13.3 Required Operating Environment

The Move Collections Utility will run on a Linux platform.

#### 4.9.13.4 Interfaces and Data Types

Table 4.9.13-2 lists the supporting products that this tool depends upon in order to function properly.

**Table 4.9.13-2. Interface Protocols**

Product Dependency	Protocols Used	Comments
Data Pool database	SQL	Via SQL server machines
Perl DBI	DBD::Sybase	Requires proper install of baselined version of Perl.

#### 4.9.13.5 Input File Format

N/A

#### 4.9.13.6 Configuration File Format – EcDIMoveCollection.CFG

The “config” file contains vital details about how to connect to the Sybase database. Without this file, the utility can not run. The config file must be a single-entry plain text ASCII file, which has the following format:

```

SYB_USER = <string>
SYB_SQL_SERVER = <string>
SYB_DBNAME = <string>
PGM_ID = <string>
NUM_DB_RETRIES=<integer>
DB_SLEEP_SEC=<integer>
NUM_DELETE_RETRIES=<integer>
DELETE_SLEEP_SEC=<integer>

```

See Table 4.9.13-3 for a breakdown of individual parameters.

**Table 4.9.13-3. Configuration File Parameters (1 of 2)**

Parameter Name	Description
SYB_USER	The user name for the Sybase connection.
SYB_SQL_SERVER	The name of the SQL sever for this Sybase connection.
SYB_DBNAME	The name of the database you intend to connect to
PGM_ID	Program ID used for connecting to the Data Pool database. The value of this parameter must be set to 10000022 for this program.
NUM_DB_RETRIES	The number of times the utility will attempt to connect to the database before exiting. The recommended default is 5.
DB_SLEEP_SEC	The number of seconds the utility will wait ('sleep') between connection attempts. The recommended default is 10.
NUM_DELETE_RETRIES	The number of times the utility will rescan the old collection directory prior to deleting it. If the delete fails, it is most likely because the directory is not empty because some granules were inserted after the move started. The repeated rescanning for these files handles this case. The recommended default is 5.

**Table 4.9.13-3. Configuration File Parameters (2 of 2)**

Parameter Name	Description
DELETE_SLEEP_SEC	The number of seconds the utility will wait ('sleep') between old collection directory rescans/deletes. The recommended default is 10.

#### **4.9.13.7 Special Constraints**

The Move Collections Utility runs only if the Data Pool database server is running and if the database is available. It also assumes the stored procedures are present.

#### **4.9.13.8 Outputs**

Output of update events and errors will be always appended to a single log file.

#### **4.9.13.9 Event and Error Messages**

Usage errors will be displayed to the screen. Processing error messages are written to the log files.

#### **4.9.13.10 Reports**

None

#### **4.9.13.11 Logs**

The utility produces a log file called EcDIMoveCollection.log in the /usr/ecs/<mode>/CUSTOM/logs directory. If this log file already exists, the new information will automatically be appended. If there is no existing log file by this name, a new log file with this name will automatically be created.

Since the log file may grow to a considerable size after constant use, it is recommended that it be saved off into a separate file from time to time for maintainability.

#### **4.9.13.12 Recovery**

The Move Collections Utility provides a capability to recover from an execution failure caused by situations such as the system faults or database errors leaving all or some of the file moves unprocessed. The utility will detect that an execution failure occurred at startup, whereupon the operator will be prompted as to whether recovery will be attempted or not. If the operator chooses to recover, the utility will complete the processing of file moves that were left unprocessed in the previous run. Upon completion of the recovery, the utility will run again with the current command-line parameters. An operator may not wish to recover (e.g. if the target filesystem has become corrupted or full). In this case, recovery will not be attempted, and the utility will run with the current command-line parameters. The moveFlag will automatically get reset to "N". Any files that were copied to the target file system would have to be manually deleted by the operator.

#### **4.9.13.13 Sybase Error Handling**

If a Sybase error occurs, you will most likely see the actual Sybase error string displayed on the screen and in the log. Some errors can be that the database server is unavailable, that the connection to the database was dropped, or that there was an error executing the stored procedure. In the event of a Sybase-sourced error, the utility will immediately stop running.

In the event that a connection to the Data Pool database can not be established, the utility may repeatedly attempt to connect to the database, depending on how the configuration file was set. If, for example, NUM\_RETRIES was set to 5 and SLEEP\_SEC was set to 10, this means it will try to connect 5 times, and will wait 10 seconds before each attempt – a total of 50 seconds if all attempts are unsuccessful.

#### 4.9.14 Data Pool Hidden Scrambler Utility

The Data Pool Hidden Scrambler utility provides a mechanism by which the ECS Operations Staff can encrypt or re-encrypt the names of Data Pool hidden directories, both on the file system and in the Data Pool database.

The Data Pool Hidden Scrambler utility may be run with either the “transition” option (one time only, when hidden directory names are first created in the database for all Data Pool collections), or the “rename” option (when hidden directory names need to be re-encrypted, either to respond to a security breach, or on a scheduled basis at the DAAC, depending on DAAC security policy). This utility should be run as `cmshared`, `cmanymode`, or similar

##### 4.9.14.1 Using the Data Pool Hidden Scrambler Utility

The Data Pool Hidden Scrambler utility should be started by the user `cmshared` (or similar). The Data Pool Hidden Scrambler utility is started by entering the following command:

```
EcDIHiddenScramblerDataPool.pl <mode> <command line parameters>
```

There are four command line parameters that may be used. Table 4.9.14-1 provides a description of those parameters.

**Table 4.9.14-1. Command Line Parameter**

Parameter Name	Required	Description
transition	No	This parameter may not be used with any of the other command line parameters. Specifies that the utility should be run with the transition option.
collgroup	No	This parameter may not be used with the “transition” parameter, nor with the “shortname”/“versionid” parameters. Specifies that the utility should be run with the rename option, for all collections in the indicated collection group.
shortname	No	This parameter may not be used with the “transition” parameter, nor with the “collgroup” parameter. It must be used with the “versionid” parameter. Specifies that the utility should be run with the rename option for the indicated collection only.
versionid	No	This parameter may not be used with the “transition” parameter, nor with the “collgroup” parameter. It must be used with the “shortname” parameter. Specifies that the utility should be run with the rename option for the indicated collection only.

The Hidden Scrambler utility performs the following as part of the “rename” processing:

- Generates a new random `orderOnlySNDirName` and `orderOnlyGrpDirName` for each requested Collection and Collection Group in the Data Pool, and saves these names to the Data Pool database.

**Note:** If the `collgroup` parameter is used then the utility generates a new random `orderOnlyGrpDirName` for the collection group supplied and generates a new random

orderOnlySNDirName for each collection in that collection group. If the shortname and versionid parameters are used, then the utility will only generate a new random orderOnlySNDirName for the specified collection, and save that to the database. If neither the collgroup nor shortname/versionid parameters are used, the utility generates a new random orderOnlyGrpDirName for all collection groups in the mode and generates a new random orderOnlySNDirName for all collections in the mode.

- Creates new hidden directories based on the new orderOnlySNDirName and orderOnlyGrpName for each requested collection.
- Copies all files from the old hidden directories to the newly created hidden directories.
- Updates the FTPpull links for existing orders referencing the old hidden directories, to point to the new hidden directories
- Removes the old hidden directories.
- Reports the time it takes to update the FTPpull links.

The Data Pool Hidden Scrambler utility performs the following as part of the "transition" processing:

- Generates a new random orderOnlySNDirName and orderOnlyGrpDirName for each Collection and Collection Group in the Data Pool, and saves these names to the Data Pool database

#### 4.9.14.1.1 Hidden Scrambler Utility Command Line Examples

1. For a "rename" run:

**Note:** For a "rename" run, the Hidden Scrambler utility should only be run during Data Pool downtime. The script must be run with a user account with privileges to rename directories on the Data Pool.

```
EcDlHiddenScramblerDataPool.pl OPS
```

The Hidden Scrambler Utility will perform rename processing for all collection groups and all collections in the Data Pool in OPS mode.

```
EcDlHiddenScramblerDataPool.pl OPS -collgroup MOAT
```

The Hidden Scrambler Utility will perform rename processing for the MOAT collection group and for all collections in the MOAT collection group, in OPS mode.

```
EcDlHiddenScramblerDataPool.pl OPS -shortname AST_L1B -versionid 3
```

The Hidden Scrambler Utility will perform rename processing only for the AST\_L1B.003 collection in OPS mode. (Note that the corresponding collection group (ASTT) hidden directory name will not be re-encrypted).

2. For a "transition" run:

**Note:** Transition may be used while Data Pool is up. It should be used only once, the first time the utility is run in any given mode.

**EcDIHiddenScramblerDataPool.pl TS1 -transition**

The Hidden Scrambler Utility will generate encrypted directory names for all Data Pool collections and collection groups in TS1 mode, and save the names in the Data Pool database.

#### 4.9.14.2 Hidden Scrambler Configuration File

The Data Pool Hidden Scrambler utility uses a configuration file, EcDIHiddenScrambler.CFG, located in /usr/ecs/<mode>/CUSTOM/cfg directory. The configuration parameters are stored in a PARAMETER = VALUE format with each parameter/value pair as a separate line entry in the file. Table 4.9.14-2 describes the configuration parameters.

**Table 4.9.14-2. Configuration Parameters**

Parameter Name	Value Description
SYB_USER	Sybase login name for the user of the Data Pool database.
SYB_SQL_SERVER	Name of Sybase SQL Server hosting Data Pool database.
SYB_DBNAME	Name of Data Pool database.
PGM_ID	Program identifier used as seed to generate database password.
NUM_RETRIES	Number of times database operation will be attempted.
SLEEP_SEC	Number of seconds between retries.
PULL_DIR	Location of the FTP Pull Directory in appropriate mode. NOTE: Be sure to use the full path to the FTP Pull Directory, not a linked path (e.g. /datapool/<mode>/user/<fs>/PullDir).

#### 4.9.14.3 Data Pool Hidden Scrambler Utility Main Screen

The Data Pool Hidden Scrambler Utility does not have a main screen. It has a command line interface only.

#### 4.9.14.4 Required Operating Environment

The Hidden Scrambler Utility will run on a Linux platform.

#### 4.9.14.5 Databases

Table 4.9.14-3 lists the supporting products that this tool depends upon in order to function properly.

**Table 4.9.14-3. Product Dependencies**

Product Dependency	Protocols Used	Comments
Data Pool database	SQL	Via SQL server machines

#### **4.9.14.6 Special Constraints**

The Data Pool Hidden Scrambler utility runs only if the Data Pool database server is running and if the database is available. It also assumes the stored procedures are present.

With the `rename` option, the utility must be run during Data Pool downtime.

The utility should only be run once with the `transition` option, the first time the utility is run in any given mode.

#### **4.9.14.7 Outputs**

Output of update events and errors will be always appended to a single log file.

#### **4.9.14.8 Event and Error Messages**

Usage errors will be displayed to the terminal screen. Processing error messages are written to the log files.

#### **4.9.14.9 Reports**

None.

#### **4.9.14.10 Logs**

The utility produces a log file called `EcDIHiddenScrambler.log` in the `/usr/ecs/<mode>/CUSTOM/logs` directory. If this log file already exists, the new information will automatically be appended. If there is no existing log file by this name, a new log file with this name will automatically be created.

Since the log file may grow to a considerable size after constant use, it is recommended that it be saved off into a separate file from time to time for maintainability.

#### **4.9.14.11 Recovery**

The Data Pool Hidden Scrambler Utility provides a capability to recover from interruptions caused by situations such as the system faults or database errors leaving all or some of the directories unprocessed. The utility will detect such failure upon the next run and continue processing the directories and files that were left unprocessed in the previous run. The operator is given no choice as to recovery. Recovery will proceed so that the Data Pool inventory and disk files will not be left in a corrupted state.

#### **4.9.14.12 Sybase Error Handling**

If a Sybase error occurs, the actual Sybase error string will most likely be displayed on the screen and in the log. Possible errors include that the database server is unavailable, that the connection to the database was dropped, or that there was an error executing a stored procedure. In the event of a Sybase-sourced error, the utility will immediately stop running.

In the event that a connection to the Data Pool database cannot be established, the utility may repeatedly attempt to connect to the database, depending on how the configuration file was set. If, for example, `NUM_RETRIES` was set to 3 and `SLEEP_SEC` was set to 10, the utility will try to connect to the database 3 times, and will wait 10 seconds between each attempt – a total of 30 seconds if all attempts are unsuccessful.

### 4.9.15 Data Pool Remove Collection Utility

The Data Pool Remove Collection utility provides a mechanism by which ECS Operations staff can remove collections from the Data Pool database that are no longer of interest to the end users.

#### 4.9.15.1 Using the Data Pool Remove Collection Utility

The Data Pool Remove Collection utility is started using the following parameters:

```
EcDIRemoveCollection.pl <MODE> -ShortName <SHORTNAME> -VersionId <VERSIONID> [-debug]
```

OR

```
EcDIRemoveCollection.pl <MODE> -inpfile <INPUTFILENAME> [-debug]
```

Table 4.9.15-1 lists the descriptions of the command line parameters.

**Table 4.9.15-1. Command Line Parameters**

Parameter Name	Required	Description
debug	No	Helps developers debug the app by printing copious debug information
ShortName	Yes	ShortName of the collection to be deleted
VersionId	Yes	VersionId of the collection being deleted
inpfile	Yes	The full path to an input file specifying multiple collections. Please note that either an input file or a ShortName/VersionId combination should be used but not both

The input file contains a list of ShortName VersionId pairs, one pair per line, as shown below:

```
ShortName1 VersionId1
```

```
ShortName2 VersionId2
```

...

There should be at least one space or tab between the ShortName and VersionId on each line in the input file. Other white space will not affect the utility.

If there are any active granules associated with the collection, or if there are any other database errors, the utility will print an appropriate error message on the screen and log the message too.

The Remove Collection utility removes collections only from the Data Pool database. The ECS Operations staff is responsible for removing any directories (public and hidden) associated with the collection from the Data Pool file system.

#### 4.9.15.2 Remove Collection Configuration File

The Data Pool Remove Collection utility uses a configuration file, EcDIRemoveCollection.CFG, located in the /usr/ecs/<mode>/CUSTOM/cfg directory. The configuration parameters are stored in a PARAMETER = VALUE format with each parameter/value pair as a separate line entry in the file. Table 4.9.15-2 describes the configuration parameters.

**Table 4.9.15-2. Configuration Parameters**

Parameter Name	Value Description
SYB_USER	Sybase login name for the user of the Data Pool database.
SYB_SQL_SERVER	Name of Sybase SQL Server hosting Data Pool database.
SYB_DBNAME	Name of Data Pool database.
PGM_ID	Program identifier used as seed to generate database password.
NUM_RETRIES	Number of times database operation will be attempted.
SLEEP_SEC	Number of seconds between retries.

#### 4.9.15.3 Data Pool Remove Collection Utility Main Screen

The Data Pool Remove Collection Utility does not have a main screen. It has a command line interface only.

#### 4.9.15.4 Required Operating Environment

The Data Pool Remove Collection Utility will run on a Linux platform. It assumes that perl with the Sybase DBI modules is already installed.

#### 4.9.15.5 Databases

Table 4.9.15-3 lists the supporting products that this tool depends upon in order to function properly.

**Table 4.9.15-3. Product Dependencies**

Product Dependency	Protocols Used	Comments
Data Pool database	SQL	Via SQL server machines

#### 4.9.15.6 Special Constraints

The Data Pool Remove Collection utility runs only if the Data Pool database server is running and if the database is available. It also assumes the stored procedures are present.

#### 4.9.15.7 Outputs

Output of collection removal events and errors will be always appended to a single log file. See Section 4.9.16.10.

#### **4.9.15.8 Event and Error Messages**

Usage errors will be displayed to the screen. Processing error messages are written to the log files.

#### **4.9.15.9 Reports**

None.

#### **4.9.15.10 Logs**

The utility produces a log file called EcDIRemoveCollection.log in the /usr/ecs/<mode>/CUSTOM/logs directory. If this log file already exists, the new information will automatically be appended. If there is no existing log file by this name, a new log file with this name will automatically be created.

Since the log file may grow to a considerable size after constant use, it is recommended that it be saved off into a separate file from time to time for maintainability.

#### **4.9.15.11 Recovery**

Since the removal of a collection is handled in one database transaction, it either works or it does not. Hence there is no need for recovery.

#### **4.9.15.12 Sybase Error Handling**

If a Sybase error occurs, the operator will most likely see the actual Sybase error string displayed on the screen and in the log. Some errors can be that the database server is unavailable, that the connection to the database was dropped, or that there was an error executing the stored procedure. In the event of a Sybase-sourced error, the utility will immediately stop running.

In the event that a connection to the Data Pool database can not be established, the utility may repeatedly attempt to connect to the database, depending on how the configuration file was set. If, for example, NUM\_RETRIES was set to 5 and SLEEP\_SEC was set to 10, this means it will try to connect 5 times, and will wait 10 seconds before each attempt – a total of 50 seconds if all attempts are unsuccessful.

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#### 4.9.16 Data Pool Band Backfill Utility

The DPL Backfill Utility is a command line tool that can correct band extraction problems that occurred during DPL registrations. Granule registrations cannot fail if band extraction problems are encountered but the subsequent publications on convert-enabled data types must fail if the band information is not present in the DPL database at publication time.

The Band Backfill utility was developed to correct the problems above. It will:

- backfill the band information in the DPL database for the registered granules specified in its input file.
- request the publication of the backfilled granules via the new Data Pool Action driver.

The DAAC Operations staff can identify the granules that need band backfill via the Data Pool Maintenance GUI or by inspecting the EcDINewInsertUtilityDPAD.log file. In both cases, the type of error encountered is:

```
ERROR publreg operation encountered a convertEnabled granule with no  
band information, granuleState
```

For each Data Pool granuleId in its input file, the utility will perform the following steps:

1. Validate that the granule is in the hidden Data Pool. The granules can belong to DPL Ingest (isOrderOnly = H) or to OMS (isOrderOnly = Y).
2. Validate that the granule belongs to a convert-enabled ESDT.
3. Validate that the DPL database contains no band information for this granule.
4. Extract the band information from the granule data files and produce a .BandHeader file. This step is performed by invoking an external script (./custom/utilities/EcDIAdHEGStart). The same script is also used by the new Data Pool Action Driver to create the .BandHeader file during granule registrations. Note: for a multi-file granule, the first file that contains band information will be used.
5. Parse the .BandHeader file and insert the necessary information in the Data Pool database. The .BandHeader file will be removed once it has been parsed.
6. Request the publication of the backfilled granule by inserting a record in the DIInsertActionQueue table in the Data Pool database.
7. Process the next granule in the input file. Note: if an error is encountered during the processing of a granule, the error is logged and the utility continues with processing of the subsequent granules.

##### 4.9.16.1 Using the Data Pool Band Backfill Utility

The Data Pool Band Backfill Utility is started via the following script, from the /usr/ecs/<mode>/CUSTOM/utilities directory:

```
EcBandBackfillUtilityStart -mode <mode> -file <input file>
```

There are two command line parameters that are used in combination with each other. Table 4.9.16-1 provides a description of these parameters.

**Table 4.9.16-1. Data Pool Band Backfill Utility Command Line Parameters**

Parameter Name	Description
<mode>	Specifies the mode of operation (OPS, TS1, etc.)
<input file>	Specifies the full path and file name of the file containing the Data Pool granule IDs of the granules that need to be populated with band information. The file is a flat ASCII file and it contains one Data Pool granuleId per line.

An incorrect command line will result in a ‘usage’ syntax display. The log file for the utility is /usr/ecs/<mode>/CUSTOM/logs/EcDIBandBackfillUtility.log.

#### 4.9.16.2 Data Pool Band Backfill Utility usage examples

Below is an invocation example:

1. `EcDlowsUtility -mode OPS -file /home/cmshared/granuleIds.txt`

Backfills the band information and requests the DPL publication for the granuleIds contained in the specified file. The file contains one Data Pool granuleId per line.

#### 4.9.16.3 Required Operating Environment

The Data Pool Band Backfill Utility will run on a LINUX platform. It shall be installed on the DPL platform as part of the New Data Pool Insert Utility installation.

#### 4.9.16.4 Interfaces and Data Types

Table 4.9.16-2 lists the supporting products that this tool depends upon in order to function properly.

**Table 4.9.16-2. Interface Protocols**

Product Dependency	Protocols Used	Comments
Data Pool database	SQL	Java JDBC invocation of Stored Procedures.
StoreNext client	Proprietary	Exposes the DPL file system on the DPL platform.

#### 4.9.16.5 Input File Format

One granuleId per line.

#### 4.9.16.6 Configuration File

No special configuration file is needed to run the utility. It uses the same configuration file as the Data Pool Insert Utility (DPIU) and the New Data Pool Insert Utility (NDPIU), namely EcDInsertUtility.properties.

#### **4.9.16.7 Special Constraints**

The mode specific database needs to be up and running and the installation platform need to have access to the Data Pool Storage Area Network.

#### **4.9.16.8 Outputs**

The output of pertinent events is recorded in the /usr/ecs/<mode>logs/EcDIBandBackfillUtility.log log file.

#### **4.9.16.9 Event and Error Messages**

Usage errors will be displayed to the screen. Processing error messages are written to the log files.

#### **4.9.16.10 Reports**

None.

#### **4.9.16.11 Logs**

The utility produces log files in the standard log file location. The log file name is EcDIBandBackfillUtility.log. The verbosity of the log file is controlled by the DEBUG\_MESSAGES entry in the EcDIInsertUtility configuration file.

#### **4.9.16.12 Recovery**

No recovery mechanism is required for this utility. In the event of an interrupted run, the run may be invoked again with the same command-line parameters. Any granules already processed will be detected and not processed again.

#### **4.9.16.13 Database Error Handling**

If a database error occurs, the specific error details will be logged. Some database errors are retried internally (i.e. deadlocks), others will cause processing of the current granule to fail and the utility to start work on the next granule in the list.

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# Appendix A. User Interface Messages

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## A.1 Overview

In this section, all messages appearing on the Graphical User Interface (GUI) of ECS custom applications are presented in separate tables. The tables are organized according to the ECS subsystem to which the applications belong. Each table has the following columns:

- **Message Text.** Messages can refer to user actions or provide information about what is happening in the application or in the system. There can be error, application state changes, informational and debugging, transactional, and security messages. In the following tables, messages are presented exactly as they appear on the current user interface
- **Impact.** In the following tables, a brief description is presented of what could occur as a consequence of the information provided in the message. Impact can refer to effects on the application, or the system
- **Cause and Corrective Action.** Where it is useful to the user and appropriate to the message, the following tables provide a brief statement of what caused the event that prompted the message to be displayed and what, if anything, the user can or should do about it

## A.2 User Interface Messages

The User Interface Messages are presented by subsystem in the following order:

A.2.1	CLS
A.2.2	DMS
A.2.3	DSS
A.2.4	DPLINGEST
A.2.5	CSS
A.2.6	MSS
A.2.7	OMS
A.2.8	SSS
A.2.9	DPL

### A.2.1 Client Subsystem (CLS)

The following tables (A.2.1-1 through A.2.1-4) present user interface messages generated by tools associated with the CLS subsystem.

**Table A.2.1-1. User Registration Tool User Messages**

<b>Message Text</b>	<b>Impact</b>	<b>Cause and Corrective Action</b>
Error: Please enter a User Verification Key	This is a mandatory field; so the system does not allow users to submit the form without completing the indicated area.	Entry was not completed. For account verification, users must supply a password or "key", for instance, mother's maiden name, a secret code word, or a string of nonsense letters.
Error: Please enter a First Name	This is a mandatory field, so the system does not allow users to submit the form without completing the indicated area.	Entry was not completed. Click OK on the error message popup window. Then, complete the missing information.
Error: Please enter a Last Name	This is a mandatory field, so the system does not allow users to submit the form without completing the indicated area.	Entry was not completed. Click OK on the error message popup window. Then, complete the missing information.
Error: Please enter an Email Address	This is a mandatory field, so the system does not allow users to submit the form without completing the indicated area.	Entry was not completed. Click OK on the error message popup window. Then, complete the missing information.
Error: Please enter a city	This is a mandatory field, so the system does not allow users to submit the form without completing the indicated area.	Entry was not completed. Click OK on the error message popup window. Then, complete the missing information.
Error: Please enter State/Province	This is a mandatory field, so the system does not allow users to submit the form without completing the indicated area.	Entry was not completed. Click OK on the error message popup window. Then, complete the missing information.
Error: Please enter a zip or postal code	This is a mandatory field, so the system does not allow users to submit the form without completing the indicated area.	Entry was not completed. Click OK on the error message popup window. Then, complete the missing information.
Error: Please enter phone number where you can be reached	This is a mandatory field, so the system does not allow users to submit the form without completing the indicated area.	Entry was not completed. Click OK on the error message popup window. Then, complete the missing information.

**Table A.2.1-2. EOSView User Messages (1 of 8)**

Message Text	Impact	Cause and Corrective Action
PROBLEM WITH FILE: Either file is not an HDF file or read permission is not set for this file.	The file selected by the user in the file selection dialog cannot be viewed with EOSView.	Re-select "File-Open" from EOSView Main Window and pick a different file.
Display for this object not implemented.	User selected an HDF object that cannot be displayed.	Select a different HDF object.
Input error - integer input must be in the range of: X = 0 - <number> Y = 0 - <number>	Integer values entered were out of range.	Re-enter values in the range listed.
Error reading from SDS. Unable to get stats.	EOSView could not read the selected SDS to calculate statistics.	None
Error creating stats list.	EOSView had an error while trying to display statistical data.	None
Error attaching to Vdata.	Error occurred while trying to read from selected VData.	None
Error setting field <fieldname>.	Error occurred while trying to read from selected VData.	None
Error in Vseek with field <fieldname>	Error occurred while trying to read from selected VData	None
Error reading from field <fieldname>	Error occurred while trying to read from selected VData	None
Statistics will not be calculated for character data.	User requested to see statistics for tabular data but cannot be done for character arrays.	None
Unable to set help directory.	EOSView is unable to load hypertext help file.	Select hypertext help file (eosview, csc) in the file selection dialog.
File needs to be an HDF file.	Running EOSView with a script and file passed in was not in HDF format.	None
File must contain at least one raster image.	Running EOSView with a script requesting animation but input file has no raster images.	None
File: <filename> Line: <number> Bad memory allocation size: (<number> bytes)	Tried to allocate zero or fewer bytes of memory.	None
File: <filename> Line: <number> Error allocating memory (<number> bytes), Exiting...	Not enough memory for allocation.	EOSView exits.

**Table A.2.1-2. EOSView User Messages (2 of 8)**

<b>Message Text</b>	<b>Impact</b>	<b>Cause and Corrective Action</b>
File: <filename> Line: <number> Error reading file: <filename>	Running EOSView with a script containing an input file that cannot be opened.	None
Line maximum reached. Ignoring rest	Text display has reached maximum number of lines to display.	Not all of the text in the file is available for viewing.
Out of space	Trying to reallocate memory with none available.	Text display operation ceases.
Corrupt Data Encountered. Image Cannot be made!	During pseudo-color image creating bad data was detected.	Image is not displayed.
No items to view	HDF file selected contains no objects.	File contents window is empty.
Unable to create SLIST	Unable to create list of HDF objects contained in selected file.	User is not allowed to view file objects.
Unable to create contents window	Unable to create window to display list of HDF objects contained in selected file.	User is not allowed to view file objects.
Unable to open Field List Window.	Unable to open a window containing list of fields in VData.	User is not allowed to view VData.
Unable to create Fields List.	Unable to create list of VData field names for display.	User is not allowed to view VData.
At least one Field must be selected.	To display a table or plot at least one VData field name must be selected.	Select a field.
Can't open text window.	Unable to open window containing HDF attributes.	Text data cannot be viewed.
No attributes to display.	Selected object contains no attributes.	None
File: <filename> Line: <number> Error with file id.	Bad file id returned in file open.	Data can not be viewed.
File: <filename> Line: <number> Error with Sdrefindex.	Error converting reference id to index.	SDS data is not displayed.
File: <filename> Line: <number> Error with Sdselect.	Error selecting SDS data in file.	SDS data is not displayed.
Unable to attach to <grid name> to view Grid Information.	Grid attach failed.	Grid information cannot be viewed.
Unable to open grid to view Grid Information	Grid open failed.	Grid information can not be viewed

**Table A.2.1-2. EOSView User Messages (3 of 8)**

<b>Message Text</b>	<b>Impact</b>	<b>Cause and Corrective Action</b>
Unable to attach to <grid name> to view Projection Information.	Grid attach failed.	Projection information cannot be viewed.
Unable to open grid to view Projection Information	Grid open failed.	Projection information can not be viewed
Unable to retrieve projection information	Grid projection information retrieval failed.	Projection information can not be viewed
Unable to retrieve grid information	Grid information retrieval failed.	Grid information can not be viewed
ERROR: Quantization of 24-bit image failed!	Converting 24-bit image to 8-bit image failed.	Image is not available for viewing.
ERROR: Could not write 8 bit image	8-bit image data copy error occurred.	Image is not available for viewing
ERROR: Unable to set HDF Palette!	Image palette data could not be set.	Image is not available for viewing
ERROR: Unable to create 8 bit image.	Could not write 8 bit image to temporary file.	Image is not available for viewing
Can Plot on 1 or 2 Fields - please re-select	User selected three or more fields for plotting.	De-select fields until less than three are selected.
Field <fieldname> is character data. Only numeric data may be selected for plotting.	User selected character data for plotting.	De-select character data field.
Field <fieldname> has an order of <number> and must be plotted alone.	Field has multiple numbers per record and can not be plotted against another field.	None
Error in Vssetfields	VData operation failed	VData cannot be viewed.
Error at Vsseek	VData operation failed	VData cannot be viewed.
Error at Vsread	VData operation failed	VData cannot be viewed.
No groups to display	HDF file has no data	File is closed.
Error reading SDS data. No data displayed.	Error in SDS operation.	SDS data is not available for viewing.
File: <filename> Line: <number> Error in reading group items.	Error trying to get group items.	HDF file can not be viewed.
File: <filename> Line: <number> Bad data pointer for ReadHDFImage	Image data is null.	Image cannot be displayed.
File: <filename> Line: <number> Error reading Raster image	Error reading raster image data from file	Image cannot be displayed
File: <filename> Line: <number> Error reading file <filename>	Error during file read operation.	Selected data cannot be viewed.

**Table A.2.1-2. EOSView User Messages (4 of 8)**

<b>Message Text</b>	<b>Impact</b>	<b>Cause and Corrective Action</b>
File: <filename> Line: <number> Error closing file	Error during file close operation	None
File: <filename> Line: <number> Error in allocation node memory	Not enough memory for new data node.	This object is not available for selection
File: <filename> Line: <number> Unknown SDS data type	Data stored in this SDS is not HDF standard	Data is not displayed.
File: <filename> Line: <number> Error in DFR8nimages	Error while trying to determine the number of 8-bit images in the file.	8-bit image data is not checked in this file.
File: <filename> Line: <number> Error in DFR24nimages	Error while trying to determine the number of 24-bit images in the file.	24-bit image data is not checked in this file.
Error initializing IDL - EOSView must exit!	EOSView found a problem in IDL commands file (eosview.dat)	EOSView exits.
Unable to set IDL Directory.	EOSView could not find IDL commands file.	Select the file eosview.dat in file selection dialog.
Unable to create list box lists!	Lat/Lon cursor position window lists can not be created	User is not allowed to position cursor on selected lat/lon.
Data invalid - input must be <INTEGER/FLOAT>! Maximum value: <number>	User entered data out of type or range for the field.	Re-enter data that meets warning window requests.
Coordinates entered are outside the boundaries of this GRID.	User entered valid coordinates but area is not covered by selected grid.	Re-enter coordinates or look at grid information to determine grid coverage.
Failure in Gdgetpixels	Error in getting pixel location	Cursor positioning does not function for this request.
Error receiving Grid projection/pixel information.	Error in location proper pixel.	Cursor positioning does not function for this request.
Error getting Lat/Lon from x-y position	Error in locating proper pixel	Cursor positioning does not function for this request.
File: <filename> Line: <number> NULL ximage	Error occurred while converting image data to ximage.	Requested image is not displayed.
Unable to attach to <Point name> to view Point Level Info	Error attaching to selected point.	Point Level data is not displayed.
Unable to open point to view Point Level Info.	Error opening to selected point.	Point Level data is not displayed.
No levels exist for point.	Selected point contains no level data.	Level information cannot be viewed.

**Table A.2.1-2. EOSView User Messages (5 of 8)**

<b>Message Text</b>	<b>Impact</b>	<b>Cause and Corrective Action</b>
Unable to create levels list.	List to display level information had an error.	Point Level information is not available for viewing.
Error getting fields	Error while getting Point Level Field names.	Point Level information is not available for viewing.
Unable to attach to <swath/grid name> to view attributes.	Error attaching to selected swath/grid.	Swath/Grid attribute data cannot be displayed.
Unable to open swath to view attributes.	Error opening selected swath.	Swath attribute data cannot be displayed.
Unable to open grid to view attributes.	Error opening selected grid.	Grid attribute data cannot be displayed.
Unable to attach to <swath/grid name> to view dimensions.	Error attaching to selected swath/grid.	Swath/Grid dimensions data cannot be displayed.
Unable to open swath to view dimensions.	Error opening selected swath.	Swath dimensions data cannot be displayed.
Unable to open grid to view dimensions.	Error opening selected grid.	Grid dimensions data cannot be displayed.
Unable to open grid to view Data Fields	Error opening selected grid.	Grid data fields cannot be displayed.
Unable to attach to <grid name> to view Data Fields.	Error attaching to selected grid.	Grid data fields cannot be displayed.
Unable to open swath to view Geolocation/Data Fields	Error opening selected swath.	Swath Geolocation/Data fields cannot be displayed.
Unable to attach to <swath name> to view Geolocation/Data Fields.	Error attaching to selected swath.	Swath Geolocation/Data fields cannot be displayed.
Unable to attach to <swath name> to view Indexed Mapping.	Error attaching to selected swath.	Swath Indexed Mapping cannot be displayed.
Unable to open swath to view Indexed Mapping	Error opening selected swath.	Swath Indexed Mapping cannot be displayed.
Unable to open swath to view Indexed Mapped Sizes	Error opening selected swath.	Swath Indexed Mapped Sizes cannot be displayed.
Unable to attach to swath to view Indexed Mapped Sizes	Error attaching to selected swath.	Swath Indexed Mapped Sizes cannot be displayed.
Error reading from Swath/Grid Fields. Unable to get stats.	Error reading swath/grid data fields.	Requested stats are not displayed.
This swath contains no attributes.	Data request cannot be filled since data is not present.	None
This grid contains no attributes.	Data request cannot be filled since data is not present.	None
This point contains no attributes.	Data request cannot be filled since data is not present.	None
This swath contains no Dimensions.	Data request cannot be filled since data is not present.	None

**Table A.2.1-2. EOSView User Messages (6 of 8)**

<b>Message Text</b>	<b>Impact</b>	<b>Cause and Corrective Action</b>
This grid contains no Dimensions.	Data request cannot be filled since data is not present.	None
Unable to create Dimensions list.	Error occurred while creating list of dimensions.	Swath/Grid dimension data cannot be viewed.
This Grid contains no Data Fields.	Data request cannot be filled since data is not present.	None
This Swath contains no Geolocation/Data Fields.	Data request cannot be filled since data is not present.	None
Unable to create Geolocation/Data Fields list.	Error occurred while creating list of geolocation/data fields.	Geolocation/Data Fields data cannot be viewed.
2 items already selected!	User tried to selection more than two dimensions for viewing.	Maximum number of dimensions to view is 2. Either de-select a dimension or hit the OK button.
Must select at least one dimension!	User must select at least one dimension for viewing.	Select a dimension checkbox and hit the OK button.
Input problem! Dimension: <dimension name> Size: <number> Must follow: Start + Stride * (Edge - 1) + 1 <= Size	User altered start/stride/edge values for subsetting but entered values out of range.	Re-enter start/stride/edge values following formula provided in dialog.
This Swath contains no Geolocation Mappings.	Data request cannot be filled since data is not present.	None
Unable to create Geolocation Mappings list.	Error occurred while creating list of geolocation mappings.	Geolocation mappings data cannot be viewed.
This Swath contains no Indexed Mapping.	Data request cannot be filled since data is not present.	None
Unable to create Indexed Mapping list.	Error occurred while creating list of indexed mapping.	Indexed mapping data cannot be viewed.
Unable to create Indexed Mapping Sizes list.	Error occurred while creating list of indexed mapping sizes.	Indexed mapping size data cannot be viewed.
This Indexed Mapping contains no data.	Data request cannot be filled since data is not present.	None
No global attributes in file.	Data request cannot be filled since data is not present.	None
Can't open main EOSView window	Unable to open main window.	EOSView terminates.
Help file is unreadable please choose another.	Selected help file is not readable.	Select eosview.csc from the file selection dialog.
Invalid help file, please choose another.	Selected file is not the EOSView help file.	Select eosview.csc from the file selection dialog.
No dimension attributes.	Data request can not be filled since data is not present.	None

**Table A.2.1-2. EOSView User Messages (7 of 8)**

<b>Message Text</b>	<b>Impact</b>	<b>Cause and Corrective Action</b>
File: <filename> Line: <number> Error getting file.	Selected file had a problem.	Select another file in the file selection dialog.
File <filename> contains no Raster Images to display.	File name passed into EOSView script file for image display contains no images.	EOSView starts but image display does not occur.
File <filename> does not contain <number> Raster Images.	File name passed into EOSView script file to display image <number> does not contain <number> images.	EOSView starts but image display does not occur.
Input file <filename> is not an EOSView Script File.	File name passed into EOSView as a script file is not in script file format.	EOSView starts and main window displays.
Unable to create table save element	Not enough memory for table save element exists.	Table save operation cannot be performed.
This file exists - must create new file.	User tried to save table to a file that already exists.	Enter file name that does not exist. Table must be saved to a new file.
Must enter a file name!	User tried to write table to file with no name.	Enter valid file name in file open dialog.
Unable to open file <filename>	Tried to save table to a file that could not be opened.	May want to check to see if user has write permission in this directory.
Error attaching to Vdata. Save aborted.	Error occurred while attaching to Vdata.	Table save operation is canceled.
Error setting Vdata fields. Save aborted.	Error occurred while setting Vdata fields.	Table save operation is canceled.
Unable to allocate buffer to read data.	Not enough memory to read table for table save operation.	Table save operation is canceled.
Vdata seek failed.	Error occurred in Vsseek operation.	Table save operation is canceled.
Vdata read failed.	Error occurred in Vsread operation.	Table save operation is canceled.
Error writing to file <filename>.	Error occurred while writing table data to file.	Table save operation is canceled.
Error reading data. Save option aborted.	Error occurred reading table data.	Table save operation is canceled.
Data written to file <filename>	Table save operation worked correctly.	None
Error Reading Animation Images.	Error reading animation images from script file.	Animation operation does not occur.
Error Reading Animation Images: no image.	No image data detected in file sent in from EOSView script file for animation.	Animation operation does not occur.

**Table A.2.1-2. EOSView User Messages (8 of 8)**

Message Text	Impact	Cause and Corrective Action
Animate allocation error: Animation will be truncated.	Not enough memory to animate all images in file.	Animation occurs but not all images in file are used.
File: <filename> Line: <number> Not enough images for animation.	File sent into EOSView script file for animation contains less than 2 images.	EOSView starts but animation does not occur.

## A.2.2 Data Management Subsystem (DMS)

Table A.2.2-1 presents user interface messages for the Data Dictionary Maintenance Tool.

**Table A.2.2-1. Data Dictionary Maintenance Tool User Messages (1 of 3)**

Message Text	Impact	Cause and Corrective Action
Failed	Cannot proceed with the subsequent and corresponding actions.	The user action did not result in the desired program function. Check prior entries before action entries.
Can't undo	Cannot cancel previous action.	Cancellation is not possible.
The Query failed for all the collections.	Query cannot be performed.	Could not perform the query for all the collections.
The Query failed for some of the collections	Query cannot be completely performed.	Could not perform the query for some of the collections
The query succeeded for all the collections	N/A	Informational message.
The Query succeeded for some collections	N/A	Informational message.
Error connecting to Data Dictionary server	Data dictionary server not connected.	Could not connect to the server. Check the connection to the server from outside the program.
Querying database	N/A	Informational message.
Updating database	N/A	Informational message.
The update was successful	N/A	Informational message.
The update failed.	Database cannot be updated.	Updating the database did not work. Check the action and try again
A valid value has not been specified	No further action occurs.	A value was not specified. Specify a value.
Unable to connect to Data Dictionary server. Please try later.	Data dictionary server not connected.	Could not connect to the server. Check the connection to the server from outside the program.
No attribute has been specified	No further action on attributes occurs.	Attributes are not specified. Specify the attributes.

**Table A.2.2-1. Data Dictionary Maintenance Tool User Messages (2 of 3)**

<b>Message Text</b>	<b>Impact</b>	<b>Cause and Corrective Action</b>
The query matched no items in database	N/A	Informational message.
The query failed	N/A	Check the action and try again.
Unknown internal error. Please try again.	The connection to the server is not available.	Check the server connection.
Cannot open valids file <valids filename>	Valid file is not available.	The valids file specified does not exist. Specify the correct valids file.
Saved file <filename>	N/A	Informational message.
Data Dictionary updated	N/A	Informational message.
You have pending actions, which will be lost if you exit. Do you really want to exit?	Loss of pending actions.	User trying to exit before confirming the database changes. Confirm before exiting.
Do you really want to exit?	Seeks user confirmation.	User confirmation required before exiting Confirm before exiting
Unable to open specified file. Try another filename.	File specified is not available.	The file specified by the user cannot be opened. Specify correct filename.
You have made changes to <item name>, which will be lost if you proceed. Do you want to continue?	Loss of current changes.	Seeking user confirmation before exiting the current action Confirm before proceeding.
Query failed	N/A	Database search resulted in no selections.
Unable to connect to Data Dictionary server. Please try again later.	Connection to DDICT server not available.	Problem connecting to DDICT server. Exit and try later.
The query failed, possibly due to a server problem	Connection to DDICT server not available.	Problem connecting to DDICT server. Exit and try later.
The query matched no items in database	N/A	No items were selected from the database.
Unable to open output file <filename>	Output file not available.	<filename> does not exist. Check its presence.
Not available < List of items not available>	File is not available.	Configuration File Error. Use the correct Configuration File with all the entries required
No file specified. Please select or type a file name	File not available.	A filename has not been specified. Select the proper filename.
<filename> does not exist. Please try again	File not available.	File selected does not exist. Select a file that is present.
Unable to access <filename>. Please try again.	File not accessible.	Cannot access the file specified. Check the presence of the file specified.

**Table A.2.2-1. Data Dictionary Maintenance Tool User Messages (3 of 3)**

Message Text	Impact	Cause and Corrective Action
<filename> is a directory. Please also specify a file.	File not available.	File selected does not exist. Specify a filename instead of the directory.
<filename> is not a proper file. Please try again.	File not available.	File selected is not proper. Specify a proper filename.
<filename> already exists and will be overwritten. Do you want to continue?	A file is overwritten.	Use of an existing file name. Use a different filename to avoid overwriting an existing file.
Value missing for required field. Please specify a value.	Cannot proceed with the action.	Improper entry in the desired field. Make a proper entry.
Elements in valids section of data file not understood	The data file is not usable.	The valids file is not correct. Use the proper valids file.
Elements in valids section of data file not understood	The data file is not usable.	The valids file is not correct. Use the proper valids file.

### A.2.3 Data Server Subsystem (DSS)

Tables A.2.3-1 through A.2.3-2 present user interface messages for the Science Data Server Operator GUI, the Data Distribution Operator GUI.

**Table A.2.3-1. Science Data Server Operator GUI User Messages (1 of 2)**

Message Text	Impact	Cause and Corrective Action
No Selected Request – Please select one.	No operations on request are performed.	Select a current request.
Descriptor Information not Available.	Information on a particular descriptor file is not available.	Could generally happen because ESDT was installed from a different directory. Copy descriptor to original place.
Science Data Server Not Found.	No operations are possible.	Bring Science Data Server up.
Possible Server Connection Error – Try Reconnecting.	A connection to the Science Data Server is not possible. No operations possible.	Try clicking on the Refresh/Reconnect button under the Data Type tab.
Datatype Successfully Added.	Datatype is ready to be used.	None.
Failure to Add Datatype.	Datatype is not available for use.	Check Science Data Server error logs, fix the error, and try again.

**Table A.2.3-1. Science Data Server Operator GUI User Messages (2 of 2)**

<b>Message Text</b>	<b>Impact</b>	<b>Cause and Corrective Action</b>
Failure to Load Descriptor File.	Information on Descriptor File is not available.	Look for file in original installation directory.
Changing Request Priority – Please wait...	Request priority is being changed.	Informational message only. No corrective action is needed.

**Table A.2.3-2. Data Distribution Operator GUI User Messages (1 of 2)**

<b>Message Text</b>	<b>Impact</b>	<b>Cause and Corrective Action</b>
DDist Refresh Failure.	DDist Refresh Error. Dialog Message GUI was not able to get new request list from server.	Check the database with Mode. Check the DBOVERRIDE in the Configuration File.
DDist Mark Shipped Failure.	GUI received failure from server. Request was not marked shipped.	Check request state. This may not be a valid operation. Check for DDist Server running.
DDist Set Priority Failure.	GUI received failure from server. Request set priority failed.	Check request state. This may not be a valid operation. Check for DDist Server running.
DDist Cancel Failure.	GUI received failure from server. Request was not canceled.	Check request state. This may not be a valid operation. Check for DDist Server running.
DDist Resume Failure.	GUI received failure from server. Request was not resumed.	Check request state. This may not be a valid operation. Check for DDist Server running.
DDist Resume All Failure.	GUI received failure from server. Requests were not resumed.	Check request state. This may not be a valid operation. Check for DDist Server running.
DDist Suspend Failure.	GUI received failure from server. Request was not suspended.	Check request state. This may not be a valid operation. Check for DDist Server running.
DDist Suspend All Failure.	GUI received failure from server. Requests are not submitted in a SuspendAll state.	Check for DDist Server running.
No DDist request selected. Please select one.	An operation was performed without selecting a request from the Scrolled list.	Select a request from the list, then retry the operation.

**Table A.2.3-2. Data Distribution Operator GUI User Messages (2 of 2)**

<b>Message Text</b>	<b>Impact</b>	<b>Cause and Corrective Action</b>
Invalid text field entry	Invalid data was entered.	Reenter valid data and retry operation.
Cannot create the DsDdDistRequestList	The Request List was not created.	Select Refresh to try again. Check the database with Mode.
DsDdRequestMgrC create handle error.	Error cannot create request Manager Handle to the Data Distribution Server.	Select Refresh to try again. Check the database with Mode.
Cannot create connection pool.	Attempt to create connection pool to database failed.	Select Refresh to try again. Check the database with Mode.
Cannot get a dbInterface connection pool.	Attempt to get a dbInterface from connection pool to database failed.	Select Refresh to try again. Check the database with Mode.
DsDdRequestMgrC Mark Shipped Failure.	GUI received failure from server. Request was not Mark Shipped.	Check request state. This may not be a valid operation. Check for DDist Server running.
DsDdRequestMgrC Set Priority Failure.	GUI received failure from server. Request priority was not changed.	Check request state. This may not be a valid operation. Check for DDist Server running.
DsDdRequestMgrC Cancel Failure.	GUI received failure from server. Request was not canceled.	Check request state. This may not be a valid operation. Check for DDist Server running.
DsDdRequestMgrC Resume Failure.	GUI received failure from server. Request was not resumed.	Check request state. This may not be a valid operation. Check for DDist Server running.

#### **A.2.4 Data Pool Ingest Subsystem**

Table A.2.4-1 describes the user interface messages for the Ingest Operator GUI.

**Table A.2.4-1. Ingest Operator GUI User Messages (1 of 4)**

Message Text	Impact	Cause and Corrective Action
<p>There are &lt;n&gt; system alerts. You can view all system alerts at any time by displaying the System Alerts page.</p>	<p>There are various impacts, depending on the type of alert</p>	<p>The operator should follow the link to the System Alerts page to view the detail for each alert; In most cases, there are specific instructions for correcting the error that accompany each alert.</p>
<p>Are you sure you want to display the entire list? If the list contains many thousands of rows, the web server may time out or your browser could run out of memory and crash. Are you sure you want to continue?</p>	<p>As the text implies, continuing could cause significant waiting time or could cause browser instability due to the large amount of data being displayed.</p>	<p>This message is displayed when the operator wishes to view the printable output of the entire list of Historical Ingest Requests. Pressing “cancel” on the page will close the window and cancel the action.</p>
<p>Tomcat encountered an error while processing your request.</p>	<p>The page you are trying to view will not be displayed. This could also mean an action such as cancelling a request could not be carried out.</p>	<p>Several reasons may exist for Tomcat errors. In some cases, the web server (Tomcat) has memory leaks or the framework used to display the page has a problem (you may see messages like “duplicate component ID”). Sometimes there may be instructions on the page for correcting the problem. In other cases, the web server may need to be bounced.</p>
<p>HTTP Request Error: Version ID was supplied as a parameter but short name was not</p>	<p>The Data Type you are trying to change will not be modified.</p>	<p>This is error is displayed when the operator attempts to make changes to one or more Data Types on the Data Type configuration page and a short name was not entered.</p>
<p>HTTP Request Error: Short name was supplied as a parameter but version ID was not</p>	<p>The Data Type you are trying to change will not be modified.</p>	<p>This is error is displayed when the operator attempts to make changes to one or more Data Types on the Data Type configuration page and a version ID was not entered.</p>

**Table A.2.4-1. Ingest Operator GUI User Messages (2 of 4)**

Message Text	Impact	Cause and Corrective Action
<p>Please select one or more requests to which the action will be applied. <i>JavaScript alert box.</i></p>	<p>Actions can not be performed for any requests unless they are selected.</p>	<p>This message is displayed on the Ingest Request page when clicking an action button such as "Cancel Requests" and no requests are selected. This can be resolved by selecting one or more requests and repeating the action.</p>
<p>There were no elements selected.</p>	<p>Various impacts. Intended actions (such as resuming requests) will not be carried out.</p>	<p>This message will appear on all pages where lists of items are required to be checked/selected in order to apply an action. The solution is to select the items and try the action again.</p>
<p>Please enter a provider name. <i>JavaScript alert box.</i></p>	<p>New Data Provider cannot be added or existing Data Provider can not be updated.</p>	<p>This message is displayed when the operator edits an existing Data Provider or adds a new Data Provider and does not enter a name for the Provider.</p>
<p>Please enter a value email address for notification. <i>JavaScript alert box.</i></p>	<p>New Data Provider cannot be added or existing Data Provider can not be updated.</p>	<p>This message is displayed when the operator edits an existing Data Provider or adds a new Data Provider and does not enter a notification email address for the Provider.</p>
<p>Please enter a login ID for remote transfers. Please enter a password for remote transfers. Please confirm the password for remote transfers. <i>JavaScript alert boxes.</i></p>	<p>New Data Provider cannot be added or existing Data Provider can not be updated.</p>	<p>These messages are displayed when the operator edits an existing Data Provider or adds a new Data Provider and chooses a transfer type of FTP or SCP and does not enter a login ID or password. FTP transfer types need a login ID and a read login password.</p>
<p>Please enter a login ID for remote notification. Please enter a password for remote notification. Please confirm the password for remote notification. Please enter a directory path for remote notification. <i>JavaScript alert boxes.</i></p>	<p>New Data Provider cannot be added or existing Data Provider can not be updated.</p>	<p>These messages are displayed when the operator edits an existing Data Provider or adds a new Data Provider, chooses a notification type of FTP and does not enter a login ID or password. FTP notification requires a login ID and a write login password.</p>

**Table A.2.4-1. Ingest Operator GUI User Messages (3 of 4)**

Message Text	Impact	Cause and Corrective Action
One or more errors have been encountered. <value> is not a valid Integer for DEFAULT_DPL_RETENTION.	Data Pool Ingest will not have a default retention time.	This is displayed if no value is entered for the DEFAULT_DPL_RETENTION configuration parameter on the Data Type configuration page. This parameter must have a valid integer value.
One or more errors have been encountered. <value> is not a valid Integer for DEFAULT_HIDDEN_DPL_RETENTION.	Data Pool Ingest will not have a default hidden retention time.	This is displayed if no value is entered for the DEFAULT_HIDDEN_DPL_RETENTION configuration parameter on the Data Type configuration page. This parameter must have a valid integer value.
Invalid Host Address	Data Pool Ingest will not be able to use a host without an address; there are various and possibly severe impacts.	This is displayed when the operator edits any kind of transfer host and an address is not entered.
Host label is required	Data Pool Ingest will not be able to use a host without a label; there are various and possibly severe impacts.	This is displayed when the operator edits any kind of transfer host and a label is not entered.
One or more errors have been encountered. All Fields Are Required!	File Systems may become unusable.	This is displayed when a value is not entered for one of the File System configuration parameters. All file systems must have values for all fields.
One or more errors have been encountered. You cannot have a blank checksum Type.	Checksum will no longer be usable; Requests will not be able to be checksummed using that checksum type.	Operator did not enter a label for the checksum type. All checksum types must have labels. This could also be displayed when adding a new checksum type.
One or more errors have been encountered. You cannot have a blank checksum Algorithm.	Checksum will no longer be usable; Requests will not be able to be checksummed using that checksum type.	Operator did not enter a path and executable name for the checksum type. All checksum types must have an executable algorithm. This could also be displayed when adding a new checksum type.

**Table A.2.4-1. Ingest Operator GUI User Messages (4 of 4)**

Message Text	Impact	Cause and Corrective Action
<p>There were one or more errors:            You must Specify a Host Label.            You must Specify a Host Address.            You must Specify a Valid Port Number above 0.</p>	<p>The ECS Service cannot be added or edited.</p>	<p>Operator did not enter the specified information into the fields when adding a new ECS Service.</p>
<p>One or more errors have been encountered.            &lt;value &gt;is not a valid Integer for &lt;PARAMETER&gt;.</p>	<p>The global configuration parameter will not be changed.</p>	<p>Operator entered an invalid value for the parameter on the Global Tuning Configuration Page (e.g., a float value was entered where an integer is required or no value was entered at all).</p>
<p>ERROR: Null or empty volume group path</p>	<p>Volume Group path will not be modified.</p>	<p>Operator attempted to modify one or more volume groups and did not enter a new path.</p>
<p>Please enter a name.            Please enter a password for this operator.            Please verify the password for this operator.            The passwords you entered are not the same.            Please select at least one permission level for this operator.  <i>JavaScript alert boxes.</i></p>	<p>The new operator will not be added.</p>	<p>These various messages are displayed if the indicated fields are not entered. All fields are required when adding a new operator.</p>
<p>No report generated yet.</p>	<p>No report output is displayed.</p>	<p>This message is displayed when first displaying the Detailed, Request Summary, and Granule Summary pages. This indicates that no criteria have been entered from which to generate a report. This is not an error message.</p>
<p>No results could be found for the criteria you entered.</p>	<p>No report output is displayed.</p>	<p>The date range or Data Criteria was not sufficient to generate a report (i.e., no results could be returned from the database).</p>

## A.2.5 Communications Subsystem (CSS)

Table A.2.5-1 describes the user interface messages for the ECS Subscription Service User Messages.

**Table A.2.5-1. ECS Subscription Service User Messages (1 of 3)**

<b>Message Text</b>	<b>Impact</b>	<b>Cause and Corrective Action</b>
Failed to create subscription.	Edit subscription window is not populated, therefore; user can not edit the subscription	If a subscription was not selected on the main screen and the user goes to edit window. Select a subscription and then go to edit window.
Refresh Subscription Failed.	Subscriptions are not refreshed or fetched from the database	Subscription server may be down. Check to see if the Server is running and try again.
MSS server is not running, enter email address.	Cannot get the user profile.	The MSS user profile server that was suppose to provide the user's email address is not running. Enter the e-mail address manually.
Enter the Email Address (Message).	Cannot talk to the MSS server.	The MSS server is running but you cannot get the information. Enter the email address manually.
Modification of qualifiers is not supported (Message).	Cannot update the qualifiers of an existing subscription.	Update of qualifier is not implemented.
Couldn't connect to the server.	Event Browser does not come up.	Event server is down. Need to get the server running.
Error refreshing events.	Event Browser does not come up.	Event server could be down. Need to get the server running.
Invalid Start Date.	Subscription is not submitted.	User has entered an invalid start date for subscription. Re-enter and re-submit the subscription.
Fill all the fields on the form.	Subscription is not submitted.	User did not fill out all the required fields in the add subscription form. Fill in all the fields and re-submit the subscription.
Error in creating subscription.	Subscription is not submitted.	Could not create the subscription with the user input. Try submitting it again and make sure the fields are filled in correctly
Error in submitting subscription.	Subscription is not submitted.	Could not submit the subscription, server could be down. Check to see if the server is running properly.

**Table A.2.5-1. ECS Subscription Service User Messages (2 of 3)**

<b>Message Text</b>	<b>Impact</b>	<b>Cause and Corrective Action</b>
There is no subscription to submit.	Subscription is not submitted.	User tried submitting without creating a subscription.
Failed to create subscription.	Subscription is not updated.	User did not provide the right data to update a subscription.
Invalid expiration date.	Subscription is not updated.	User entered an invalid expiration date for updating a subscription. Reenter the information
Couldn't update the selected subscription.	Subscription is not updated.	Subscription server could be down.
Error Selecting Subscription.	Subscription is not selected.	User cannot select a subscription on the main screen. System may be down or slow.
Can't filter, collector is empty.	Filter subscription does not display requested information.	User tried filtering the subscription and it did not happen. There might be some problem with the database or the server could be down.
Must fill in valid Event ID.	Subscription is not deleted.	User tried to cancel a subscription for a particular event and did not enter anything in Event ID field. Enter a valid event ID and try again.
Must fill in User ID field.	Subscriptions are not deleted.	User tried to cancel a subscription for a particular user and did not enter anything in the User ID field. Enter a valid user ID and try again.
Must fill in proper date.	Subscriptions are not deleted.	User tried to cancel a subscription expiring on a particular date and did not enter anything in date field.
Must select a category to delete events from.	Subscription is not deleted.	User tried to delete a subscription and did not select event, user or expiration date.
Error in canceling the subscriptions.	Subscription is not deleted.	There was some error in canceling the requested subscription. Server could be down.
Enter the passwords again.	Action for the subscription is not created.	User did not enter the same password twice for verification. Enter the information again.
Must fill in user profile.	Action for the subscription is not created	User did not enter the user profile information in the Action window.
Must fill in all the required fields.	Action for the subscription is not created.	User did not fill out all the required fields in the Action window. Re-enter the information.
Must choose a distribution method.	Action for the subscription is not created	User did not choose a distribution method for Action

**Table A.2.5-1. ECS Subscription Service User Messages (3 of 3)**

Message Text	Impact	Cause and Corrective Action
Couldn't get the Event ID.	Selection of an event from the browser failed.	User did not select an event from the event browser. Go to the browser and select an event for creating a subscription.
Must fill in operator and value fields to add.	Subscription does not have qualifiers.	User did not fill in operator and value to add to the qualifier list.
Couldn't select qualifiers.	Cannot build a qualifier list for the subscription.	User did not select a qualifier from the list. Select a qualifier from the provided list before adding operators to it.
Could not create a known subscription to delete.	Subscription is not deleted.	Selected subscription for deletion could not be created again. Server could be down or there could be a database problem.
Unable to get the event server ur.	Could not connect to the event server.	Event server could be down.
Unable to get the Subscription server ur.	Could not connect to the subscription server	Subscription server could be down.
Unable to connect to Subscription Server.	Cannot Initialize the GUI for start up.	Server is down.
Make sure you have logged into dce and the subscription server is running.	GUI cannot come up.	User either did not do a dce_login or the server is not up yet.

### A.2.6 System Management Subsystem (MSS)

Tables A.2.6-1 through A.2.6.3 describe the user interface messages for ECS User Account Management, ECS Order Tracking, Trouble Ticket and ECS Assist.

**Table A.2.6-1. ECS User Account Management User Messages (1 of 2)**

Message Text	Impact	Cause and Corrective Action
Can Not Connect To The Server. Try again later.	None.	When: Retrieving request user. Action: Start up the User Profile Server
No data found in the database.	None.	When: Retrieving No register users for this particular HOME DAAC. Action: None.
The V0GW password, and Gate Way User Type can not be Empty.	None.	When: Creating a user profile Action: Add all fields required.
Create Register User Failed Please check log file for error.	None.	When creating user profile. Action: Check log file. Possible problems may come from Sybase or DCE failed.

**Table A.2.6-1. ECS User Account Management User Messages (2 of 2)**

<b>Message Text</b>	<b>Impact</b>	<b>Cause and Corrective Action</b>
Delete request user failed.	None.	When: Deleting request user. Action: check log file. Possible problems may come from Sybase.
Update Failed for Register User Please try again.	None.	When: Updating the request user. Action: Check log file. Possible problems may come from Sybase.
The First Name, Last Name, Telephone number and Email Address can not be Empty.	None.	When: Creating user profile. Action: Enter information in all fields required.
Insert has failed for Regist User, Please try again.	None.	When: Creating user profile. Action: Check log file. Possible problems may come from Sybase.
Delete failed for Register User Please try again.	None.	When: Deleting a request user. Action: Action: Check log file. Possible problems may come from Sybase.
Can Not Connect To The Server. Try again later.	None.	When: Retrieving user profile Action: Start up the User Profile Server.
No data found in the database.	None.	When: Retrieving user profile and no users for this particular HOME DAAC. Action: None.
Update Failed for profile database Please try again.	None.	When: Updating the user profile. Action: Check log file. Possible problems may come from Sybase.
V0 GateWay password is empty. The password is not updated.	None.	When: Updating V0 gateway password Action: Add V0 gateway password.
Change V0 GateWay password Failed. Please try again.	None.	When: Changing V0 Gateway password. Action: Check log file. Possible problems may come from Sybase.
Delete failed for profile database Please try again.	None.	When: Deleting a user profile. Action: Check log file. Possible problems may come from Sybase.
Update Failed for profile database. Please try again.	None.	When: Updating a user profile. Action: Check log file. Possible problems may come from Sybase.
No e-mail address.	None.	When: Changing Aster category or deleting DAR privilege. Action: Add e-mail address in the configuration file.

**Table A.2.6-2. ECS Data Order Tracking User Messages**

<b>Message Text</b>	<b>Impact</b>	<b>Cause and Corrective Action</b>
No requests found for the order.	None.	When: User retrieves the request with a specific order.
Unable to read from the Request Database. Try again later.	None.	When: Retrieving request. Cause: network, or Order server failed.
Unable to read from the Order Database. Try again later.	None.	When: Retrieving Orders. Cause: network, or Order server failed Action: Check log file to determine the reasons.
No orders were found.	None.	When: retrieving order with specific order ID
Please select a request first.	None.	When: Updating or deleting a request Action: Click on a request.
No orders match the request ID.	None.	When: Retrieving an order with a request ID.
The order is no longer in the database.	None.	When: Retrieving an order with an order ID.
Please select an order first.	None.	When: Deleting, updating, or viewing shipping information. Action: Click on an order.
Unable to read from the Request Database.	None.	When: Retrieving orders. Cause: network, or order server failed. Action: check log file to determine the reasons.
Please delete the corresponding requests first!	None.	When: Deleting an order. Cause: The order to be deleted has some requests associated with it. Action: Delete the requests first, and then delete the order.
Unable to delete order in the Order Database. Try again later.	None.	When: Deleting an order. Cause: network, or order server failed. Action: Check log file to determine the reasons.
Unable to delete request in the Order Database. Try again later.	None.	When: Deleting a request. Cause: network, or Order server failed. Action: Check log file to determine the reasons.
Server error, can not update order.	None.	When: Update an order. Cause: network, or order server failed. Action: Check log file to determine the reasons.

**Table A.2.6-3. ECS Assist Messages**

Message Text	Impact	Cause and Corrective Action
No Clearcase component available for: Mode: XXXX Subsystem: YYYY	Preparation for installation does not proceed.	Caused by incorrect input provided during the preparation for installation of Subsystem YYYY in Mode XXXX

**A.2.7 Order Manager Subsystem (OMS)**

The following table (Table A.2.7-1) presents user interface messages generated by the Order Manager GUI associated with the OMS.

**Table A.2.7-1. Order Manager GUI User Messages (1 of 7)**

Message Text	Impact	Cause and Corrective Action
Please hit your browser's Back button and select a disposition.	Intervention cannot be resolved.	The operator did not select a disposition from the previous page (Intervention Detail page – the operator must select one of “submit”, “fail”, “Keep on hold”, or “partition”). Go to the previous page and select a disposition.
All of the granules for this request have been failed. You can not submit or partition the request because the submission will fail and another operator intervention will be created for it. This request should be failed. Return to the previous page and select "Fail Request" under the Request Disposition section.	Intervention cannot be resolved.	The operator failed <i>all</i> the granules for a particular request and tried to submit or partition it. Since there are no granules, there is nothing to submit or partition.  The operator should go back to the detail page and fail the entire request.
Please hit your browser's Back button and enter a valid name into the "worked by" field and click on "Override Current Worker	Intervention cannot be resolved.	The operator did not enter a name into the “worked by” field on the Intervention Detail page. If the operator wishes to take <i>any</i> action on the intervention, a name <i>must</i> be entered.

**Table A.2.7-1. Order Manager GUI User Messages (2 of 7)**

Message Text	Impact	Cause and Corrective Action
<p>You have selected a new media type, but did not indicate you actually wanted the media changed. Hit your browser's Back button to correct this.</p>	<p>Intervention cannot be resolved.</p>	<p>The operator changed the media type for the request on the Intervention Detail page but forgot to check the box labeled "Change media to...". This redundancy is necessary to make absolutely sure the operator wants to indeed change the media type.</p> <p>The operator should go back to the previous page and check the "Change media to..." box or reset the media type in the drop-down list to "—" (indicating no change).</p>
<p>You have indicated you want to change the media, but did not select the media type. Hit your browser's Back button to correct this.</p>	<p>Intervention cannot be resolved.</p>	<p>Similar to the error above, the operator checked the box labeled "Change media to..." but did not select a different media type from the drop-down list. The operator should go back to the previous page and select the new media type or uncheck the "Change media to..." box (the drop-down list must also be set to "—").</p>
<p>You have entered partitioning days/hours, but have not indicated that you want to spread the request over this time period! (you probably forgot to check the AND box). Hit your browser's Back button to correct this.</p>	<p>Intervention cannot be resolved.</p>	<p>This error message is pretty self-explanatory. The operator probably intended to partition the request but forgot to check the "and" box. Again, this redundancy ensures the correct action is taken.</p>
<p>The e-mail text box is empty - it should contain a message to the user if you want e-mail sent out. <b><i>(Appears as JavaScript dialog box)</i></b></p>	<p>Intervention resolution cannot be submitted.</p>	<p>This message appears if there is an e-mail text box in the Close Confirmation page and the operator did not enter any message text. The operator should enter some text and resubmit the form.</p>
<p>You can not update the FTP Push parameters for this request because the media type is &lt;old media&gt;. Please hit your browser's Back button and correct this.</p>	<p>Intervention cannot be resolved.</p>	<p>This message appears if the operator inadvertently checked the "Update FTP Push parameters" box, even though the media type for that request is not FTP Push. The operator should go back and uncheck this box.</p> <p><i>This error message should be quite rare, as the "Update FTP Push parameters" box normally does not appear if the media type is not FTP Push.</i></p>

**Table A.2.7-1. Order Manager GUI User Messages (3 of 7)**

Message Text	Impact	Cause and Corrective Action
<p>You can not change the FTP Push parameters and change the media type at the same time. Please hit your browser's Back button and correct this.</p>	<p>Intervention cannot be resolved.</p>	<p>This message appears if the media type for the request is FTP Push. The operator probably elected to change the media type and checked the "Update FTP Push parameters" box at the same time. The operator should go back to the previous page and uncheck this box.</p>
<p>An undefined error occurred executing the stored procedure.</p>	<p>Various.</p>	<p>This error message does not appear because of an operator error. This is an internal error due to a bad database connection, incorrect stored procedure arguments, or a system fault. The operator can chose to resubmit the changes for the Intervention (essentially retrying the database connection). If it still does not work, this error should be reported to a system administrator or other authority. <i>Again, this message should be quite rare, as there are no normal conditions that would lead to this error.</i></p>
<p>Error: Not that many rows or invalid row number. <b>(Appears as JavaScript dialog box)</b></p>	<p>The Operator is unable to navigate through rows (on various pages).</p>	<p>The operator entered an invalid row number in the navigation box at the top of a listing. This error can appear on any page with this feature. The operator should enter a row number within the range of rows displayed in the GUI screen.</p>
<p>Error: &lt;VALUE&gt; is an invalid number for this parameter." <b>(Appears as JavaScript dialog box)</b></p>	<p>A parameter value does not get modified.</p>	<p>This can appear on the Media or Server Configuration page. The operator probably tried to change a parameter value (which requires a number) to a value containing non-numeric characters. This error can also appear if the number is outside a valid range for that field or the value contains a decimal point when the value should be an integer.</p>
<p>INPUT ERROR: There was a problem with the input parameter for ECS Order. Please contact your system's administrator to fix this problem.</p>	<p>Information about an ECS Order does not get displayed.</p>	<p>This rare error message only appears if the ecs_order parameter (usually embedded in the URL) were empty. This would probably occur if the page were accessed directly (i.e., the operator did not arrive at that page via a link). If the operator <i>did</i> arrive at that page by a link, this could indicate a serious database error or a problem with the Perl code, since the ECS Order ID was not passed to that page.</p>

**Table A.2.7-1. Order Manager GUI User Messages (4 of 7)**

Message Text	Impact	Cause and Corrective Action
An error message was not available. Please contact the system administrator for further assistance.	Various.	This message only appears on the Error Page (EcOmGuiError.pl). It only appears if there were a problem with the Perl code or a stored procedure did not give a specific reason as to why it failed. There is no corrective action the operator can take in this case.
An error has occurred with the page you are requesting ( <b><i>followed by a specific error message</i></b> ).	Various.	This message only appears on the Error Page (EcOmGuiError.pl). The operator is redirected to this page in the case of stored procedure or system faults. The operator can retry whichever action was previously attempted, but in most cases, the error is a fatal one (e.g., a binary was installed incorrectly or is missing).
ERROR: You must assign a worker to this intervention before proceeding. <b><i>(Appears as JavaScript dialog box)</i></b>	Actions cannot be taken on an intervention.	This message appears on the Open Intervention Detail Page (EcOmGuiOpenIntervDetail.pl). It is displayed if the operator attempted to take an action on an open intervention before assigning a name in the “Worked By” text box (a worker name is not required to only <i>view</i> the intervention). The operator should enter his/her name into the “Worked By” text box and hit the “Assign New Worker” button.
ERROR: You can not modify request-level attributes and place the intervention on hold. <b><i>(Appears as JavaScript dialog box)</i></b>	Intervention cannot be resolved.	This message appears on the Open Intervention Detail Page (EcOmGuiOpenIntervDetail.pl). It is displayed if the operator attempted to modify request-level attributes (change the media type, update FTP Push parameters, disable limit checking) and then tried to place the intervention on hold. The operator should either submit or partition the request in this case. If this is not a desirable action, the operator should hit the “reset” button and then place the Intervention on hold.

**Table A.2.7-1. Order Manager GUI User Messages (5 of 7)**

Message Text	Impact	Cause and Corrective Action
<p>ERROR: You can not modify request-level attributes if you are failing the request. <b>(Appears as JavaScript dialog box)</b></p>	<p>Intervention cannot be resolved.</p>	<p>This message appears on the Open Intervention Detail Page (EcOmGuiOpenIntervDetail.pl). It is displayed if the operator attempted to modify request-level attributes (change the media type, update FTP Push parameters, disable limit checking) and then tried to fail the entire request. If the operator wishes to fail a request, he/she should deselect any request-level attribute changes. The request can then be failed, if so desired.</p>
<p>ERROR: You can not change the media type from &lt;MEDIA&gt; to &lt;MEDIA&gt; - the media types are the same. <b>(Appears as JavaScript dialog box)</b></p>	<p>Intervention cannot be resolved.</p>	<p>This message appears on the Open Intervention Detail Page (EcOmGuiOpenIntervDetail.pl). This message appears if the operator tried to change the media type to whatever it already is. If the operator does not wish the media type to be changed, the drop-down list should be set to "--".</p>
<p>ERROR: You can not change the media type and update the FTP Push parameters. <b>(Appears as JavaScript dialog box)</b></p>	<p>Intervention cannot be resolved.</p>	<p>This message appears on the Open Intervention Detail Page (EcOmGuiOpenIntervDetail.pl). This message appears probably due to the operator inadvertently checking the "Update FTP Push parameters" box. The box should be un-checked or the media type should be changed the proper way.</p>
<p>ERROR: Partition days must be an integer. <b>(Appears as JavaScript dialog box)</b></p>	<p>Intervention cannot be resolved.</p>	<p>This message appears on the Open Intervention Detail Page (EcOmGuiOpenIntervDetail.pl). This message appears if the operator was partitioning the request and enters a fractional number (or some garbage characters) in the "days" field. The operator should enter the number of days as a whole number only.</p>
<p>ERROR: Partition hours must be an integer. <b>(Appears as JavaScript dialog box)</b></p>	<p>Intervention cannot be resolved.</p>	<p>This message appears on the Open Intervention Detail Page (EcOmGuiOpenIntervDetail.pl). This message appears if the operator was partitioning the request and enters a fractional number (or some garbage characters) in the "hours" field. The operator should enter the number of hours as a whole number only.</p>

**Table A.2.7-1. Order Manager GUI User Messages (6 of 7)**

Message Text	Impact	Cause and Corrective Action
<p>!!! ERROR: It appears that all granules have been failed. You can not submit or partition a request with all FAILED granules. This request should be failed. To do this, Select "Fail Request" from the Request Disposition section and try again.</p> <p><b>(Appears as JavaScript dialog box)</b></p>	<p>Intervention cannot be resolved.</p>	<p>This message appears on the Open Intervention Detail Page (EcOmGuiOpenIntervDetail.pl). This error message is pretty self-explanatory. If <i>all</i> the granules in a request have been failed, the request can no longer be submitted or partitioned. The only corrective action is to fail the entire request or place it on hold.</p>
<p>ERROR: Invalid name entered into Worked by field. You must enter a name into this field before proceeding.</p> <p><b>(Appears as JavaScript dialog box)</b></p>	<p>Actions cannot be taken on an intervention.</p>	<p>This message appears on the Open Intervention Detail Page (EcOmGuiOpenIntervDetail.pl). This message appears if the operator attempted to enter non-alphanumeric characters, nothing, or just white space into the "Worked By" field. The operator should enter a real name or a user ID into the field. Numbers and spaces are allowed.</p>
<p>ERROR: You must enter a name into the Worked by field before proceeding.</p> <p><b>(Appears as JavaScript dialog box)</b></p>	<p>Actions cannot be taken on an intervention.</p>	<p>This message appears on the Open Intervention Detail Page (EcOmGuiOpenIntervDetail.pl). It is displayed if the operator attempted to take an action on an open intervention before assigning a name in the "Worked By" text box (a worker name is not required to only <i>view</i> the intervention). The operator should enter his/her name into the "Worked By" text box and hit the "Assign New Worker" button.</p>
<p>INPUT ERROR: There was a problem with the input parameter for a User Profile. Please contact your system's administrator to fix this problem.</p>	<p>Information about a User profile is not displayed.</p>	<p>This rare error message only appears if the UserId parameter (usually embedded in the URL) was empty. This probably occurs if the page were accessed directly (i.e., the operator did not arrive at that page via a link). If the operator <i>did</i> arrive at that page by a link, this could indicate a serious database error or a problem with the Perl code, since the User ID associated with that order was not passed to the page.</p>

**Table A.2.7-1. Order Manager GUI User Messages (7 of 7)**

Message Text	Impact	Cause and Corrective Action
<p>Error executing SweeperStart: &lt;message&gt;</p> <p><b>or</b></p> <p>Sweeper error: &lt;message&gt;</p>	<p>Server Statistics or Queue Status page does not display correct information, or the affected pages do not display at all.</p>	<p>This message appears on the Error Page (it could also appear on the Queue Status or OM Server Statistics page). <i>SweeperStart</i> is a shell script that runs the Sweeper binary, which tells the system if certain servers are up and running. If either the shell script <b>or</b> the binary <i>Sweeper</i> was corrupt, missing, not executable, or had the wrong permissions, this message is displayed. From an operator standpoint, there is no corrective action to take. The system administrator must re-install the Order Manager GUI or manually copy the binary or the shell script to its proper location and give it the proper permissions.</p>
<p>ERROR: Can't open session file: &lt;message&gt;</p>	<p>Requested page does not display.</p>	<p>This error message can occur on any page. The session file is like a cookie – it can expire or become corrupt. The operator has to reload the GUI by starting it from a bookmark or manually typing the base URL (<i>without</i> a session ID). For this reason, bookmarks should not be saved for specific Order Manager GUI pages. If a session is more than 5 days old, and the GUI has not been restarted in that amount of time, this error <b>does</b> occur.</p>
<p>ERROR: A database error was encountered: deadlock could not be resolved after &lt;NUMBER&gt; tries</p>	<p>An action requiring a call to a stored procedure or access to a database table is not taken.</p>	<p>Although rare, this message appears on the Error Page after a stored procedure could not be executed due to a database (or table) deadlock. The command is retried a number of times (depending on the DEADLOCK_RETRIES parameter in the configuration file) before this message is displayed. The operator can chose to wait a while and retry the previous operation, or he/she can contact the system administrator to determine if the OMS or MSS database has a heavy load or is otherwise corrupt in some way. If the problem cannot be quickly resolved, there might be a performance issue, or the stored procedure can contain an error.</p>

### A.2.8 Spatial Subscription Server Subsystem (SSS)

The following table (A.2.8-1) presents user interface messages generated by the Spatial Subscription Server (SSS) GUI associated with the SSS subsystem.

**Table A.2.8-1. Spatial Subscription Server GUI User Messages (1 of 2)**

<b>Message Text</b>	<b>Impact</b>	<b>Cause and Corrective Action</b>
No subscription choice was selected, click on View, Update, or Delete.	No action taken on the subscription.	The user clicked 'Apply' for a subscription without specifying an action (view, update or delete). Return to previous page and select an action.
User Profile Validation Failure. User "" is unknown.	Subscription not added/updated.	The user attempted to add/update a subscription without specifying a userId. Return to previous page and enter a valid userId.
Datetime String Validation Failure	Subscription not added/updated.	The user entered an invalid datetime string. Return to previous page and enter a valid datetime string.
ESDT Pattern Error	Subscription not added.	The user entered an invalid pattern for an ESDT short name. Return to previous page and enter a valid pattern (or leave blank to see all possible ESDTs).
Subscription NOT added. The following input errors were detected:  <description of the error>	Subscription not added/updated.	Invalid data was entered for a subscription and detected by Sybase when an insert into the database was attempted. (For example, alpha data entered for a numeric field). Return to previous page and correct the data entry described in the detailed error message.
No actions were entered for the subscription.	Subscription not added/updated.	A subscription must have at least one associated action. Return to previous page and select at least one action by checking the checkbox for that action and entering the required data.
Cannot mix bundling with other types of actions	Subscription not added/updated.	If a subscription is bundled, it cannot have any other associated actions. Return to previous page and either unbundle the subscription or uncheck any other checked actions.
All the mandatory acquire data for FtpPush (Pull) was not entered	Subscription not added/updated.	Required information was not entered for an acquire action (e.g., FTP password for a push operation). Return to previous page and enter all requested information.
All the mandatory E-Mail Notification data was not entered	Subscription not added/updated.	Required information was not entered for an email notification action. Return to previous page and enter all requested information.
All the mandatory Data Pool data was not entered	Subscription not added/updated.	Required information was not entered for a data pool action. Return to previous page and enter all requested information.

**Table A.2.8-1. Spatial Subscription Server GUI User Messages (2 of 2)**

<b>Message Text</b>	<b>Impact</b>	<b>Cause and Corrective Action</b>
No option was selected, click on Suspend All, Resume All or Cancel All	No action taken on subscriptions.	No action was specified to apply to the subscriptions associated with a theme. Return to the previous page and select an option.
“userId” must have a value	Bundling order not added/updated.	UserId was not specified for a bundling order. Return to the previous page and enter a valid userId.
User Profile Validation Failure: User <> is Unknown.	Bundling order not added/updated.	An invalid userId has been specified for a bundling order. Return to the previous page and enter a valid userId.
Date format invalid. Please enter MM/DD/YYYY.	Bundling order not added/updated.	An invalid datetime has been entered for the bundling order expiration date. Return to the previous page and enter a valid datetime string.
<> must have a value	Bundling order not added/updated.	A required field has not been entered for a bundling order. (For example, street address for a physical media distribution.) Return to the previous page and enter the required information.
<> must be an integer	Bundling order not added/updated or completion criteria defaults not configured.	A non-numeric value was entered for one or more completion criteria. Return to the previous page and enter only numeric values for completion criteria.

### **A.2.9 Data Pool Subsystem (DPL)**

The following table (Table A.2.9-1) presents user interface messages generated by the Data Pool Maintenance GUI associated with the DPL subsystem.

**Table A.2.9-1. Data Pool Maintenance GUI User Messages (1 of 2)**

<b>Message Text</b>	<b>Impact</b>	<b>Cause and Corrective Action</b>
DB Error: You entered a duplicate collection group name that exists in the database. Please try again	Unable to add a new group id	Duplicate group name is entered.  Check the list of group ids and enter a group name consisting of four letters, which is not on the list.
INPUT Error: You entered an invalid group name. Please see help page for more information. Please see section Add Collection Group	Unable to add a new group	Lower case letter is entered.  Group id should be all Upper case letters.

**Table A.2.9-1. Data Pool Maintenance GUI User Messages (2 of 2)**

<b>Message Text</b>	<b>Impact</b>	<b>Cause and Corrective Action</b>
INPUT Error: You entered an invalid name. Please see log for more details. Consult help tab and see section for NON-ECS add Collection Screen	Unable to add a new non-ECS collection	Special characters/small letters are entered.  Non-ECS collection name should be in capital letters and without any special characters.
INPUT Error: You entered an invalid theme name. Please see help page for more information. Please see section: Add New Theme	Unable to add a new theme	Special characters/small letters are entered.  Theme names should be in capital letters and without any special characters.
DB Error: Theme can not be null or empty	Unable to add a theme	A null or empty string is entered.  Theme name should contain capital, small letters. Space is also allowed but no special characters.
DB Error: You entered either an existing theme name or a collection or a group name or an ESDT name. Check the log at /usr/ecs/<mode>/CUSTOM/log/EcDIDpmDataPoolGui.log for more details	Unable to add a theme	A name is entered, which is a duplicate name for a group, collection or an ESDT name.
DB Error: This collection is allowed for insertion therefore Spatial Search Type cannot be modified for this collection	Unable to modify Spatial Search type for a collection	Collection is not allowed for insertion.  First make the collection allowed for insertion and then try to modify search type
DB Error: Error adding this collection. Collection entry <collection name> <version> already exist	Unable to add a collection.	Duplicate collection name entered.  Verify the list of collection and then enter a name, which is unique.
DB Error: Internal error occurred	A db transaction interrupted.	Database connection is lost for network error.  No suggestion.
DB Error: delete failed because there are granules associated with this theme	Unable to delete a theme.	There are granules associated with this theme.  Disassociate granules from this theme and then delete it.

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# Glossary

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AutoSys/AutoXpert	COTS software that provides job scheduling and management. Also provides graphics to monitor, analyze, forecast and plan AutoSys implementations.
Baseline Manager	Baseline Manager package used to maintain records of baselined operational system configurations. (see also XRP-II)
Batch Insert Utility	The Batch Insert Utility is a command line interface that allows operators to insert granules residing in or outside of (non-ECS granules) the ECS archive into the Data Pool.
Bulk Metadata Generation Tool	The EcOsBulkURL Utility allows operators to make available the File Transfer Protocol (FTP) Universal Resource Locators (URLs) in the Data Pool to the ECS Clearing House (ECHO).
ClearCase	Software change manager that stores ECS custom software and science software, regulates access to the files, controls and logs file changes, performs software builds, and maintains a record of the build. Maintains a library of software deployed to sites.
CMI	Cryptographic Management Interface. Used to create accounts for given user names and passwords.
Crack	Used to determine if passwords are secure.
DAR	Data Acquisition Request for ASTER instrument data.
Database Installation and Maintenance Scripts	A set of eleven standard database scripts have been created for the DDIST, INGEST, MSS, PDPS, SDSRV, STMGT, 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 Stage Install function of ECSAssist.
Data Dictionary Maintenance Tool	Tool that allows the operator to maintain the ECS Data Dictionary.
Data Distribution Requests GUI	Monitors and controls the request for data distribution (for FTP Pushes and FTP Pulls only).
Data Ingest	Provides a means for external providers to ask for ECS ingest services.

Data Pool Ingest GUI	The Data Pool Ingest Graphical User Interface allows the operators to view past ingest activities, monitor and control ingest requests, modify system and external data provider parameters, and initiate hard media ingest.
Data Pool Access Statistics Utility – Rollup Scripts	The Data Pool Access Statistics Utility (DPASU) provides the ECS Operations Staff with several capabilities related to collecting access statistics for the Data Pool database. The DPASU encompasses two types of scripts: rollup and maintenance. The rollup scripts read and parse access logs to compile statistics and store those records in the Data Pool database, while the maintenance scripts backup, restore, and delete data in the related Data Pool database tables.
Data Pool Access Statistics Utility – Maintenance Scripts	The Data Pool Access Statistics Utility (DPASU) provides the ECS Operations Staff with several capabilities related to collecting access statistics for the Data Pool database. The DPASU encompasses two types of scripts: rollup and maintenance. The maintenance scripts backup, restore, and delete data in the related Data Pool database tables.
Data Pool Cleanup Utility	The Data Pool Cleanup utility provides a mechanism for the ECS Operations Staff to remove expired granules and their associated metadata and browse files from the Data Pool disks and corresponding Data Pool database inventory.
Data Pool Maintenance GUI	The DPM GUI provides an operator interface to monitor the current status of Data Pool Inserts and to maintain specific Data Pool parameters. This GUI manages ECS and Non-ECS data collections.

Data Products	<p>Designated as standard or special data products, generated as a part of research investigation using EOS data. The various levels of data are defined as follows (1995 MTPE/EOS Reference Handbook):</p> <p><i>Level 0</i> - Reconstructed, unprocessed instrument/payload data at full resolution; any and all communications artifacts, e.g., synchronization frames, communications headers, duplicate data removed.</p> <p><i>Level 1A</i> - Reconstructed, unprocessed instrument data at full resolution, time-referenced, and annotated with ancillary information, including radiometric and geometric calibration coefficients and geo-referencing parameters, e.g., platform ephemeris, computed and appended but not applied to the Level 0 data.</p> <p><i>Level 1B</i> - Level 1A data that have been processed to sensor units (not all instruments will have a Level 1B equivalent).</p> <p><i>Level 2</i> - Derived geophysical variables at the same resolution and location as the Level 1 source data.</p> <p><i>Level 3</i> - Variables mapped on uniform space-time grid scales, usually with some completeness and consistency.</p> <p><i>Level 4</i> - Model output or results from analyses of lower level data (e.g., variables derived from multiple measurements).</p>
Data Server	<p>Software associated with storing earth science and related data, searching and retrieving the data, and supporting the administration of the data, hardware devices, and software products.</p>
DDTS	<p>Change request manager used to compose, submit, report and track status of proposals to change ECS resources electronically.</p>
ECS Assistant	<p>The ECS Assistant (ECSAssist) is a custom program that simplifies the process of installation, testing and management of ECS. The tool is for use in installing software and maintaining the information related to that software. Only the Subsystem Manager function of ECSAssist should be used in the ECS operational environment.</p>
ECS Desktop	<p>Simulates Common Desktop Environment (CDE); interface that acts like a file manager, allowing launch of applications, creation of directories and moving/copying/ deleting files.</p>

ECS Registry GUI	The ECS Registry GUI is a management tool for ECS applications allowing users to create and update parameter information. Registry data is stored in a registry database.
Email	Service that manages electronic mail messages for DAAC operators.
EOSView	A custom HDF file verification tool. Displays HDF files and HDF-EOS data.
Event Log	The Event Log Database resides at each ECS site. It records status and error messages generated by the various ECS applications at the site. The Event Log Browser is used to view the status and error messages.
Event Log Directory	This directory resides on every computer platform and contains the log files used by applications to report status and error messages. Log files in the Event Log Directory are loaded into the Event Log Database on a periodic basis.
FLEXIm	COTS for the administration of licenses.
GCMD Data Export	Extracts Data Interchange Format (DIF) from the SDSRV inventory database to the Global Change Master Directory (GCMD).
Granule Deletion Administration Tool	The Granule Deletion Administration Tool provides the ECS Operations Staff with the capability to delete granules using a command line interface. The granules can be deleted from both the inventory and archive or just the archive. Granules are not physically deleted from the archive. The directory entry is deleted so the files cannot be accessed. The physical storage occupied by the deleted granules is not reclaimed through this operation.
IDL	Interactive data language used to interactively visualize and analyze scientific and engineering data products.
Ingest GUIs	Allows monitor and control of Ingest requests, modification of system and external data-provided parameters and initiate hard media ingest. An HTML interface allows for submission of ingest requests for processing.
Inventory, Logistics and Maintenance (ILM) Manager	Supports M&O in maintaining records that describe all inventory components, structures, and interdependencies.
ISQL	SQL command parser utility used to interact with a SQL server and databases on a SQL server.

Java System Web Server	This COTS product is a multi-process, multi-threaded, secure web server built on open standards. It provides high performance, reliability, scalability, and manageability for any size enterprise, and it includes modules for creating and managing Web content, for extending or replacing functions of the server (e.g., through Java servlets and JavaServer pages), and for providing application-specific services such as security and access control. In ECS, the Web Server is used by several subsystems to access HTML files and to service web-based applications.
Main Window Manager	Provides login to UNIX and ECS, authenticates the user and brings up the appropriate ECS Desktop based upon the operator role.
Microsoft Office Professional	A collection of applications working together as if it were a single program. The collection includes Word (for text and graphical processing), Excel (a spreadsheet) and PowerPoint (making graphics/presentations) programs.
Netscape Communicator	World Wide Web (WWW) browser. Used to obtain information from other sources.
Networker	Tool used by system administrators to perform site-wide system backups, except databases.
Order Manager GUI	The Order Manager (OM) Graphical User Interface (GUI) provides the operators with direct access to the OM database. The GUI allows operators to view and modify requests that have been placed on hold by the Order Manager because they require operator intervention and resubmit requests or portions of a request that failed. For Synergy III, the GUI is an addition to the existing System Management Subsystem (MSS) Order Tracking GUI and the Data Distribution (DDIST) GUI rather than a replacement for them.
Order Manager Command Line Utility	The Order Manager Command Line utility provides a mechanism by which the ECS Operations Staff can submit order requests into the Order Manager System (OMS) database directly without knowing whether the Order Manager Server is up or down.
Order Tracking	User services tool that tracks order status and request status.

PIPRGenerator User Interface	The PIPRGenerator is the command line interface for the Production Request Editor. The PIPRGenerator allows the user to create and activate a number of Routine Production Requests using information contained in an input file. The input file contains the PgeIds and GEOIds for the PGEs and primary input granules, respectively, for the Production Requests to be created.
Process Control File	Specifies the names and locations of files used by science software executables, and defines the correspondence between the file specifications and the logical identifiers used by the science software to reference the specified files.
Quality Assurance Monitor	The ECS Quality Assurance (QA) Monitor processing capabilities enable DAAC operators to perform duties associated with DAAC QA activities. The ECS 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 ECS QA Monitor assists in manual quality assurance activities such as querying and retrieving data granules, visualizing data products and updating metadata.
Regenerate Failed PDR Tool	The Regenerate Failed PDR tool provides the ECS Operations Staff with the capability to generate a Product Delivery Record (PDR) for each failed granule in a PDR and copy the generated PDRs to an Ingest polling directory using a command line interface. The purpose of the tool is to provide a means for the ECS Operations Staff to easily resubmit only failed granules to Ingest polling, rather than having to manually edit the original PDR file or resubmit all of the granules, which would create duplicate granules in the archive.
Replication Server	Maintains warm standby copies of application data and replicates changes among databases at different sites.
Resource Planning	Used to plan the allocation of DAAC resources.

Restricting ESDT and Granule Access	The two scripts <i>EcDsSrUpdateESDTAccess</i> and <i>EcDsSrUpdateQATimeRange</i> provide DAAC operations staff the capability to adjust how the Science Data Server restricts <i>Acquire</i> access to granules. When evaluating a user's permission to <i>Acquire</i> a granule, the Science Data Server uses the value of the NASA user attribute stored in the User Profile system. The first script, <i>EcDsSrUpdateESDTAccess</i> , allows the DAAC operator to restrict an entire ESDT/Data Collection to one or more of the specific NASA user types stored in the User Profile system. The second script, <i>EcDsSrUpdateQATimeRange</i> , allows individual granules to be restricted based upon the granule's QA flag values and the type of NASA user making the request.
Science Data Server GUI	The Science Data Server GUI provides the operator two major functions, the management of Earth Science Data Types (ESDTs) and the management of all types of requests that the Science Data Server operator is involved with.
Science Data Server Command Line Interface	The Science Data Server Command Line Interface (SCLI) tool provides the Product Distribution System (PDS) with the capability to acquire Landsat and Non Landsat products via an FtpPush, in fulfillment of orders placed by ECS users for those products via DTF tape, 8mm tape, Digital Linear Tape and CD-ROM/DVD. The SCLI tool accomplishes this by providing a command line interface for the Science Data Server acquire request.
Sniffers	Monitors network traffic for collisions and troubleshooting.
SQL Server	A SQL Server is a set of cooperating processes that manage multiple Sybase databases and multiple users.
SSI&T Manager	Allows check in and verification of science software delivered by the instrument teams at the Science Computing Facilities. Provides access to all COTS tools and custom applications that are part of the SSI&T environment.
StorNext	StorNext Storage Manager (SNSM) is a hierarchical storage management (HSM) system for managing data on multiple storage tiers consisting of disk and tape resources.
Subscription Editor	Allows the operator to manually enter Subscriptions to the Subscription Server.
Subscription Server	Allows users to register their events related to a certain type of data.

Sybase Replication Server	Maintains warm standby copies of application data and replicates changes among databases at different sites.
TCP Wrappers	Monitors and controls access to network services on a host.
TestTrack Pro	TestTrack Pro (TTPro) provides a trouble ticketing service that furnishes both ECS users and operations personnel at the DAACs a common environment for classifying, tracking, and reporting the occurrence and resolution of system-related problems.
Tripwire	An intrusion detection tool that monitors files for changes.
Tuple	Data reflecting unique strings of information associated with and descriptive of an event (e.g., names, identifier numbers, data types).
Update Granule	The Update Granule Utility provides the ECS Operations Staff with a command line interface to update the expiration date and optionally the retention priority of granules in the Data Pool inventory. The granules in the Data Pool inventory can be ECS or non-ECS granules.
User Account Management GUI	Tool used by DAAC operators to process new accounts and manage existing ones.
V0 Gateway Metadata Import	Extracts ESDT data into an export file, maps the valids to the V0 domain and stores it in the V0 Gateway database.
WhatsUp Professional	WhatsUp Professional is a graphical network mapping, monitoring, and notification COTS application. The DAAC network administrators use it to monitor network devices and the services on those devices and to get feedback on their network's performance.
Whazzup GUI	The Whazzup GUI is a tool that monitors and displays the execution status and related performance statistics associated with ECS programs. It is implemented using the Perl language and uses a CGI-based web interface to display information to the user.

# Abbreviations and Acronyms

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## A

ACS	Automated Cartridge System
ACSLs	Automated Console System for Library Services
ADC	Affiliated Data Center
AI&T	Algorithm Integration and Test
AITTL	Algorithm Integration and Test CSCI
ALOG	Application Log file
AM-1	See Terra
AMASS	Archival Management and Storage System
AML	Automated Media Library
AMU	Automated Management Unit
ANSI	American National Standards Institute
AOI	Area of Interest
AOS	Area of Search
API	Application Program (or programming) Interface
AR	Action Request
AS	ASTER
ASBP	AIRS Summary Browse Products
ASCII	American Standard Code for Information Exchange
ASTER	Advanced Spaceborne Thermal Emission and Reflection Radiometer

## B

BB	Bulletin Boards
BIS	Baseline Information System
BLM	Baseline Manager
BOM	Bill of Material
BMGT	Bulk Metadata Generation Tool

## C

CAP	Cartridge Access Port
CCB	Configuration Control Board
CCR	Configuration Change Request
CCS	Control Center System Middleware, a custom code replacement for DCE
CD	Cartridge Drives
CD-ROM	Compact Disk -- Read Only Memory
CDDTS	Clear Distributed Defect Tracking System
CDE	Common Desktop Environment
CDRL	Contract Data Requirements List
CE	CERES
CFG	Configuration File
CGI	Common Gateway Interface
CHUI	Character-based User Interface
CI	Configuration Item
CID	Control Item Identifier
CIDM	Client, Interoperability and Data Management Subsystem group
CLI	Command Line Interface
CLS	Client Subsystem
CM	Configuration Management
CMI	Cryptographic Management Interface
COTS	Commercial Off-The-Shelf
CPIO	Copy In and Out
CPU	Central Processing Unit
CRM	Change Request Manager
CSCI	Computer Software Configuration Item
CSDT	Computer Science Data Type
CSMS	Communications and Systems Management Segment
CSS	Communications Subsystem (of CSMS)

CSV Comma Separated Variable

## **D**

DAAC Distributed Active Archive Center

DAO Data Assimilation Office (at GSFC)

DAP Delivery Archive Package  
Delivery Algorithm Package

DAR Data Acquisition Request

DAS Data Availability Schedule  
Distributed Archive Server

DB DataBase

DBA Database Administrator

DBMS DataBase Management System

DBO Database Owner

DCCI Distributed Computing Software CSCI (of CSS)

DDICT Data Dictionary CSCI (of DMS)

DDMT Data Dictionary Maintenance Tool

DDTS Distributed Defect Tracking System (COTS)

DEG Degrees

DES Data Encryption Standard

DHWM Data High Water Mark

DID Data Item Description

DIF Data Interchange Format

DLL Dynamically Linked Library  
Data Link Library

DLT Digital Linear Tape

DLWM Data Low Water Mark

DMS	Data Management Subsystem (of SDPS)
	Degrees, Minutes and Seconds
DNS	Domain Name Service
DO	Derived Objects
DPAD	Data Pool Action Driver
DPASU	Data Pool Access Statistics Utility
DPIU	Data Pool Insert Utility
DPL	Data Pool
DPM	Data Pool Maintenance
DPR	Data Processing Request
DSKT	Desktop CSCI (of CLS)
DSS	Data Server Subsystem (of SDPS)
DTS	Distributed Time Service

## **E**

EA	External Ancillary
EASI	ECS Assist System Installation
EBIS	ECS Baseline Information System
ECHO	ECS Clearing House
ECN	Equipment Control Number
ECS	EOSDIS Core System
ED	EDOS
EDC	EROS Data Center (DAAC)
EDF	ECS Development Facility
EDGRS	ESDIS Data Gathering and Reporting System
EDHS	ECS Data Handling System
EIF	Entry Interface Facility
EIN	Equipment Inventory Number
EOC	EOS Operations Center (ECS)
EOS	Earth Observing System

EOS-AM	EOS Morning Crossing (Descending) Mission -- see Terra
EOSDIS	Earth Observing System Data and Information System
ESDIS	Earth Science Data and Information System
ESDT	Earth Science Data Type
ESN	EOSDIS Science Network
ESSM	Enterprise SQL Server Manager
ETAC	EMASS Technical Assistance Center

## **F**

FDDI	Fiber Distributed Data Interface
FIFO	First In-First Out
FQDN	Fully Qualified Domain Name
FSMS	File Storage Management System
FTP	File Transfer Protocol

## **G**

GB	Giga-Byte
GCMD	Global Change Master Directory (not developed by the ECS project)
GFE	Government Furnished Equipment
GMT	Greenwich Mean Time
GSFC	Goddard Space Flight Center (DAAC)
GTWAY	V0 Interoperability Gateway CSCI (of DMS)
GUI	Graphical User Interface
GV	Ground Validation

## **H**

HAIF	HDF ASCII Interchange Format
HDF	Hierarchical Data Format
HDF-EOS	an EOS proposed standard for a specialized HDF data format
HEG	HDF-EOS to GeoTIF Converter

HLE	High Level Event
HMI	Human Machine Interface
HTML	HyperText Markup Language
HTTP	Hypertext Transport Protocol
HWCI	Hardware Configuration Item

## I

I&T	Integration and Test
I/O	Input/Output
ICD	Interface Control Document
ICMP	Internet Control Message Protocol
ID	IDentification
IDG	Infrastructure Development Group
IDL	Interactive Data Language
ILM	Inventory, Logistics and Maintenance Manager
IMSL	International Math and Statistics Library
INCI	Internetworking CSCI (of CSMS)
INGST	Ingest Services CSCI (of INS)
INS	Ingest Subsystem (of SDPS)
IOS	Interoperability Subsystem
IP	Internet Protocol (address)
IR1	Interim Release One
IRD	Interface Requirements Document
ISO	International Standards Organization
ISQL	Interactive Structured Query Language
ISS	Internetworking Subsystem (of CSMS)
IT	Instrument Team

## **J**

JDT	Java Data Acquisition Request (DAR) Tool
JIL	Job Information Language
JM	Job Management
JPL	Jet Propulsion Laboratory

## **L**

L0-L4	Level 0 (zero) through Level 4 data
LAMS	Landsat 7 Archive Management System
LAN	Local Area Network
LaRC	Langley Research Center (DAAC)
LCU	Library Control Unit
LDAP	Lightweight Directory Access Protocol
LMU	Library Management Unit
LS	LandSat
LSM	Library Storage Module
LTM	Log Transfer Manager

## **M**

MB	MegaByte ( $10^6$ bytes)
MCF	Metadata Configuration File
MCI	Management Software CSCI
MDA	Management Data Access
MFR	Manufacturer
MI	MISER
	Machines Impacted
MIN	Minutes
MISR	Multiangle Imaging SpectroRadiometer
MLCI	Management Logistics CSCI

MM	Millimeter
MO	MODIS
MODIS	Moderate-Resolution Imaging Spectrometer
MOPITT	Measurements of Pollution in the Troposphere
MP	MOPITT
MSS	System Management Subsystem (of CSMS)
MTPE	Mission to Planet Earth
MUA	Mail User Agent
MWO	Maintenance Work Order

## **N**

N/A	Not Applicable
NBSRV	Spatial Subscription Server
NCR	Non-Conformance Report
NCS	Network Computing System Netscape Commerce Server
NESDIS	National Environmental Satellite Data and Information Service
NFS	Network File System
NMC	National Meteorological Center (NOAA)
NOAA	National Oceanic and Atmospheric Administration
NSBRV	Spatial Subscription Server CSCI
NSIDC	National Snow and Ice Data Center (DAAC)
NW	NetWorker

## **O**

ODFRM	On-Demand Product Request Form (of CLS)
ODL	Object Description Language
OEM	Original Equipment Manufacturer
OODCE	Object Oriented DCE
OM	Order Manager

OMS	Order Manager Server
OPER	Operator
OPS	Operations
OS	Operating System
OSF	Open Systems Foundation
OSI	Open System Interconnect
OTS	Off-the-Shelf

## **P**

PAN	Production Acceptance Notification
PCF	Process Control File
PCFG	Parameter Configuration File
PDF	Portable Document Format
PDR	Production Data Request
	Product Delivery Record
PFC	Prohibited Function Checker
PGE	Product Generation Executable
PLANG	Production Planning CSCI (of PLS)
PM	Preventative Maintenance
PO	Purchase Order
POSIX	Portable Operating System Interface for Computer Environments
PR	Production Request
PRS	Primary Replication Server
PRONG	Data Processing CSCI (of DPS)
PVC	Performance Verification Center
PWB	Planning Work Bench (of PLS)
	Production Planning Workbench

## **Q**

QA	Quality Assurance
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QC           Quality Control  
QRU          Query/Retrieve/Update

## **R**

RAID         Redundant Array of Inexpensive Disks  
RAM          Random Access Memory  
RMA          Reliability, Maintainability, Availability  
ROC          Read-Only Cache  
RRS          Replicate Replication Server  
RSA          Replication System Administration  
RSI          Replication Server Interfaces  
RSM          Replication Server Manager  
RSSD         Replication Server System Database  
RTF          Rich Text Format  
RTU          Rights To Use

## **S**

SA           System Administrator  
              SAGE III  
SAA          Satellite Active Archive  
SAGE         Stratospheric Aerosol and Gas Experiment  
SCF          Science Computing Facility  
SCLI         Science Data Server Command Line Interface  
SCSI         Small Computer System Interface  
SDP          Science Data Processing  
SDPF         Sensor Data Processing Facility (GSFC)  
SDPS         Science Data Processing Segment (ECS)  
SDPTK        SDP Toolkit CSCI  
SDS          Science Data Standards (Science Data Group data used in EOSView)  
SDSRV        Science Data Server CSCI (of DSS)

SEC	Seconds
SGI	Silicon Graphics, Inc.
SMC	System Management Center (ECS – at GSFC)
SMTP	Simple Mail Transport Protocol
SNMP	Simple Network Management Protocol
SP	Space Pool
SPRHW	Science Processing HWCI
SQL	Structured Query Language
SQR	SQL Report Writer
SSH	Secure Shell
SSI&T	Science Software Integration and Test
SSM/I	Special Sensor for Microwave/Imaging (DMSP)
SSO	System Security Officer
SSS	Spatial Subscription Server
SST	Sea Surface Temperature
SSAP	Science Software Archive Package
STK	Storage Tek
SYS	System

## **T**

TAR	Tape Archive
TCP/IP	Transmission Control Protocol/Internet Protocol
TDP	Tabular Datastream Protocol
Terra	EOS AM Project spacecraft 1, morning spacecraft series -- ASTER, MISR, MODIS and MOPITT instruments (formerly called AM-1 spacecraft)
TOMS	Total Ozone Mapping Spectrometer
TONS	TDRS On-board Navigational System
TT	Trouble Ticket
TTPro	TestTrack Pro

## **U**

UFS	UNIX File System
UR	Universal Reference
URL	Universal Resource Locator
USGS	United States Geological Survey
UT	Universal Time
UTC	Universal Time Code
UUID	Universal Unique Identifier

## **V**

V0	Version 0
VATC	Verification and Test Center
VOB	Version Object Base

## **W**

WAIS	Wide Area Information Server
WAN	Wide Area Network
WKBCH	Workbench CSCI (of CLS)
WWW	World Wide Web

## **X**

xAR	(generic) Acquisition Request
XML	Extensible Markup Language

## **Y**

Y2K	Year 2000
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