

# 16. User Services

## 16.1 Spatial Subscription Server

User Services and Science Data Specialists use the Spatial Subscription Server (SSS) GUI to create subscriptions for inserting data into the Data Pool and to perform other tasks necessary to manage the Data Pool. Table 16.1-1 provides an activity checklist for tasks using the Spatial Subscription Server GUI for Data Pool Management.

**Table 16.1-1. Spatial Subscription Server GUI - Activity Checklist (1 of 2)**

Order	Role	Task	Section	Complete?
1	User Services/ Science Data Specialist	Launch the Spatial Subscription Server GUI	(P) 16.1.1.1	
2	User Services/ Science Data Specialist	Shut Down the Spatial Subscription Server GUI	(P) 16.1.1.2	
3	User Services/ Science Data Specialist	List Subscribable Events	(P) 16.1.2.1	
4	User Services/ Science Data Specialist	View Subscriptions in the NBSRV Database	(P) 16.1.3.1	
5	User Services/ Science Data Specialist	Update a Subscription in the NBSRV Database	(P) 16.1.3.2	
6	User Services/ Science Data Specialist	Delete (Cancel) a Subscription in the NBSRV Database	(P) 16.1.3.3	
7	User Services/ Science Data Specialist	Add a Subscription to the NBSRV Database	(P) 16.1.4.1	
8	User Services/ Science Data Specialist capability]	List Subscriptions Associated with a Theme	(P) 16.1.5.1	
9	User Services/ Science Data Specialist	View Bundling Orders	(P) 16.1.6.1	

**Table 16.1-1. Spatial Subscription Server GUI - Activity Checklist (2 of 2)**

Order	Role	Task	Section	Complete?
10	User Services/ Science Data Specialist	Cancel Bundling Orders and Its Associated Subscriptions	(P) 16.1.6.2	
11	User Services/ Science Data Specialist	Add a Bundling Order	(P) 16.1.6.3	
12	User Services/ Science Data Specialist	Update a Bundling Order	(P) 16.1.6.4	
13	User Services/ Science Data Specialist	Configure Bundling Order Completion Criteria Default Values	(P) 16.1.6.5	
14	User Services/ Science Data Specialist	View the Acquire and Notification Actions Being Processed	(P) 16.1.7.1	
15	User Services/ Science Data Specialist	View and Remove Failed Actions	(P) 16.1.7.2	
16	User Services/ Science Data Specialist	View Statistics on Processing of Events and Actions by the NBSRV	(P) 16.1.7.3	
17	User Services/ Science Data Specialist	Prepare Input Files for Use with the SSS CLI	(P) 16.1.8.1	
18	User Services/ Science Data Specialist	View a Subscription Using the SSS CLI	(P) 16.1.8.2	
19	User Services/ Science Data Specialist	Add a New Subscription Using the SSS CLI	(P) 16.1.8.3	
20	User Services/ Science Data Specialist	Update a Subscription Using the SSS CLI	(P) 16.1.8.4	
21	User Services/ Science Data Specialist	Delete a Subscription Using the SSS CLI	(P) 16.1.8.5	

### 16.1.1 Spatial Subscription Server GUI

The procedure for launching the GUI is provided separately here and is referenced in other procedures. It applies to both full-capability and limited-capability operators.

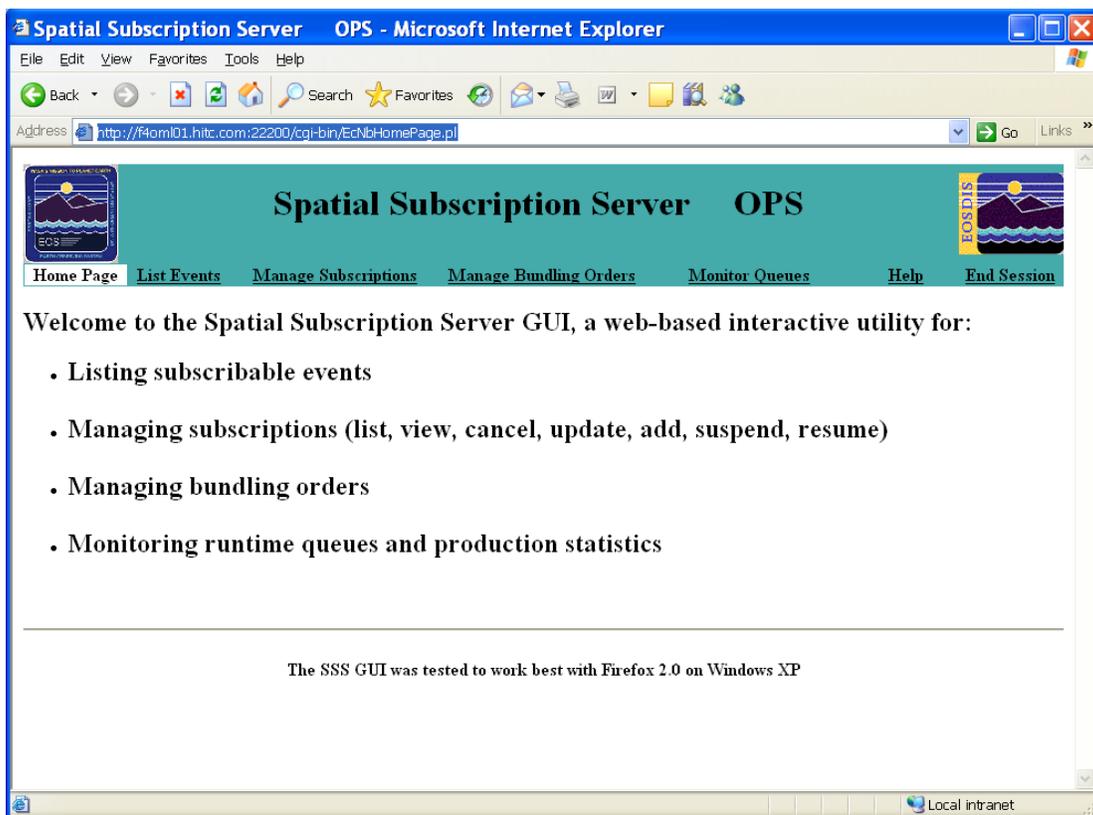
### 16.1.1.1 Launch the Spatial Subscription Server GUI

1. At the UNIX command shell prompt, type **setenv DISPLAY *clientname*:0.0** and then press the **Return/Enter** key.
  - For *clientname*, use either the local terminal/workstation IP address or its machine name.
2. Start the log-in to a Firefox host by typing **/tools/bin/ssh *hostname*** (e.g., x5oml01,) at the UNIX command shell prompt, and press the **Return/Enter** key.
  - If you receive the message, **Host key not found from the list of known hosts. Are you sure you want to continue connecting (yes/no)?** type **yes** ("y" alone does not work).
  - If you have previously set up a secure shell passphrase and executed **sshremote**, a prompt to **Enter passphrase for RSA key '<user@localhost>'** appears; continue with Step3.
  - If you have not previously set up a secure shell passphrase, go to Step 4.
3. If a prompt to **Enter passphrase for RSA key '<user@localhost>'** appears, type your **Passphrase** and then press the **Return/Enter** key. Go to Step 5.
4. At the **<user@remotehost>'s password:** prompt, type your **Password** and then press the **Return/Enter** key.
  - You are logged in and a UNIX command shell prompt is displayed.
5. Type **firefox &** then press **Return/Enter**.
  - It may be necessary to type the path as well as the firefox command (e.g., /tools/bin/firefox &).
  - It may be necessary to respond to dialogue boxes, especially if the browser is already being used by someone else who has logged in with the same user ID.
  - The Firefox web browser is displayed.
6. If a bookmark has been created for the **Spatial Subscription Server GUI**, select the appropriate bookmark from those listed on the browser's **Bookmarks** button (or the **Communicator** → **Bookmarks** pull-down menu).
  - The security login **Prompt** is displayed.
7. If no bookmark has been created for the **Spatial Subscription Server GUI**, type **http://<host>:<port>/<path>/** in the browser's **Location (Go To)** field then press **Return/Enter**.
  - For example:
  - <http://x5oml01.fqdn:22200/cgi-bin/EcNbHomePage.pl>

- The security login Prompt is displayed.
8. Type the appropriate user name in the **User Name** box of the security login **Prompt**.
  9. Type the appropriate password in the **Password** box of the security login **Prompt**.

**NOTE:** If the security login prompt reappears after the first time the user name and password have been entered (and the **OK** button has been clicked), it may not be due to a data entry problem. Try again to log in using the same user name and password. Sometimes it is necessary to enter the user name and password for the GUI more than once.

10. Click on the appropriate button from the following selections:
  - **OK** to complete the log-in and dismiss the dialogue box.
    - The dialogue box is dismissed.
    - The **NBSRV Home Page** is displayed (see Figure 16.1-1).
  - **Cancel** to dismiss the dialogue box without logging in.
    - The dialogue box is dismissed.
    - The Firefox web browser is displayed.



**Figure 16.1-1. Spatial Subscription Server GUI Home Page**

### 16.1.1.2 Shut Down the Spatial Subscription Server GUI

1. Click on the **Home Page** link at the top of the **Spatial Subscription Server GUI**.
  - The **Home Page** is displayed.
2. Click on the **End Session** link at the top of the **Spatial Subscription Server GUI**.
  - A log-out page containing the message "Click on Button Below to End Session: NOTE: THIS WOULD ALSO SHUT DOWN THE BROWSER:" is displayed.

**NOTE:** To abort the log-out and return to the **Home Page**, click on the browser **Back** button.

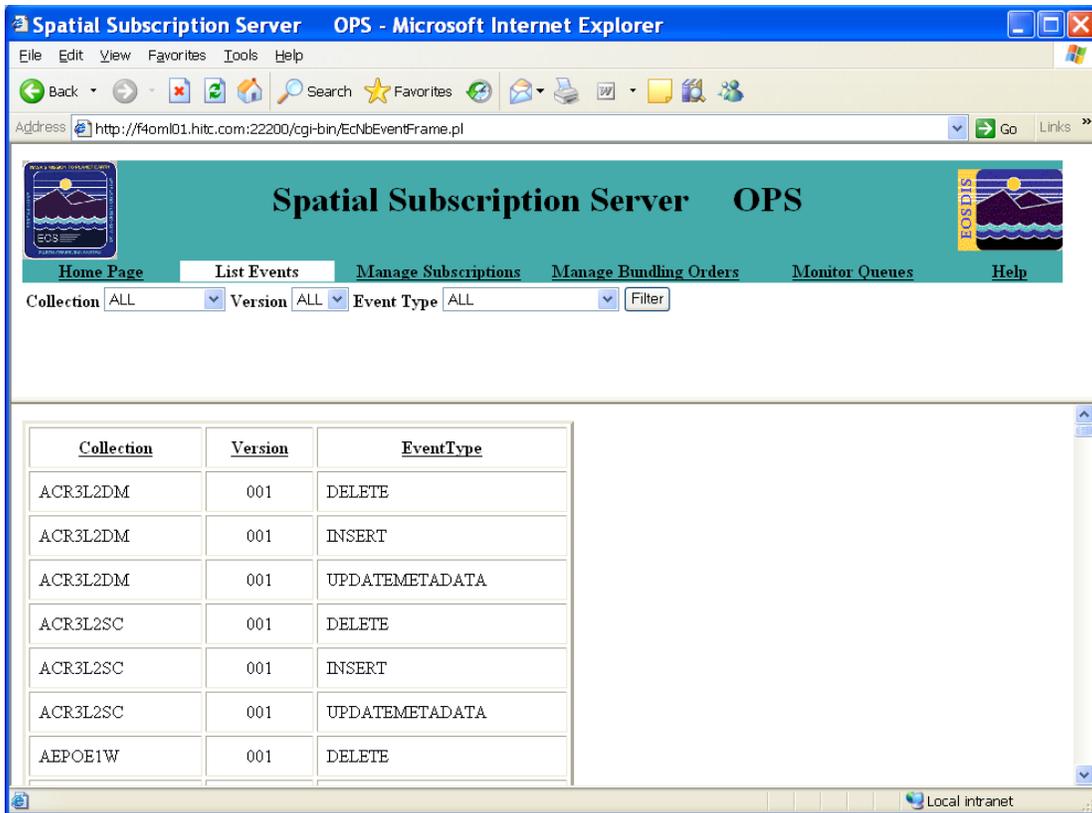
3. Click on the **ShutDown** button.
  - The Firefox browser is dismissed.

### 16.1.2 List Subscribable Events

Suppose you want to obtain and examine a list of events for which subscriptions may be established, and to find insert events for MOD01 data. Use the procedure that follows, which is applicable to both full-capability and limited-capability operators.

#### 16.1.2.1 List Subscribable Events

1. Launch the Spatial Subscription Server GUI.
  - The **Spatial Subscription Server Home Page** is the displayed.
2. Click on the **List Events** link.
  - The **List Events** page is displayed with a table of all events for which a subscription can be created (see Figure 16.1-2).



**Figure 16.1-2. List Events Page**

3. Observe information displayed on the Manage Subscriptions page.
  - The table on the **List Events** page has columns containing the following types of subscription information:
    - **Collection.**
    - **Version.**
    - **Event Type.**
  - The column headers in the table are links for sorting the list. There are also buttons for filtering the list.
    - There are option lists for filtering the table data by **Collection**, **Version**, and/or **Event Type**.
    - Event Type options include **ALL**, **DELETE**, **INSERT**, and **UPDATEMETADATA**.
4. To **sort** the list click on the appropriate column header link (i.e., **Collection**, **Version**, or **Event Type**).

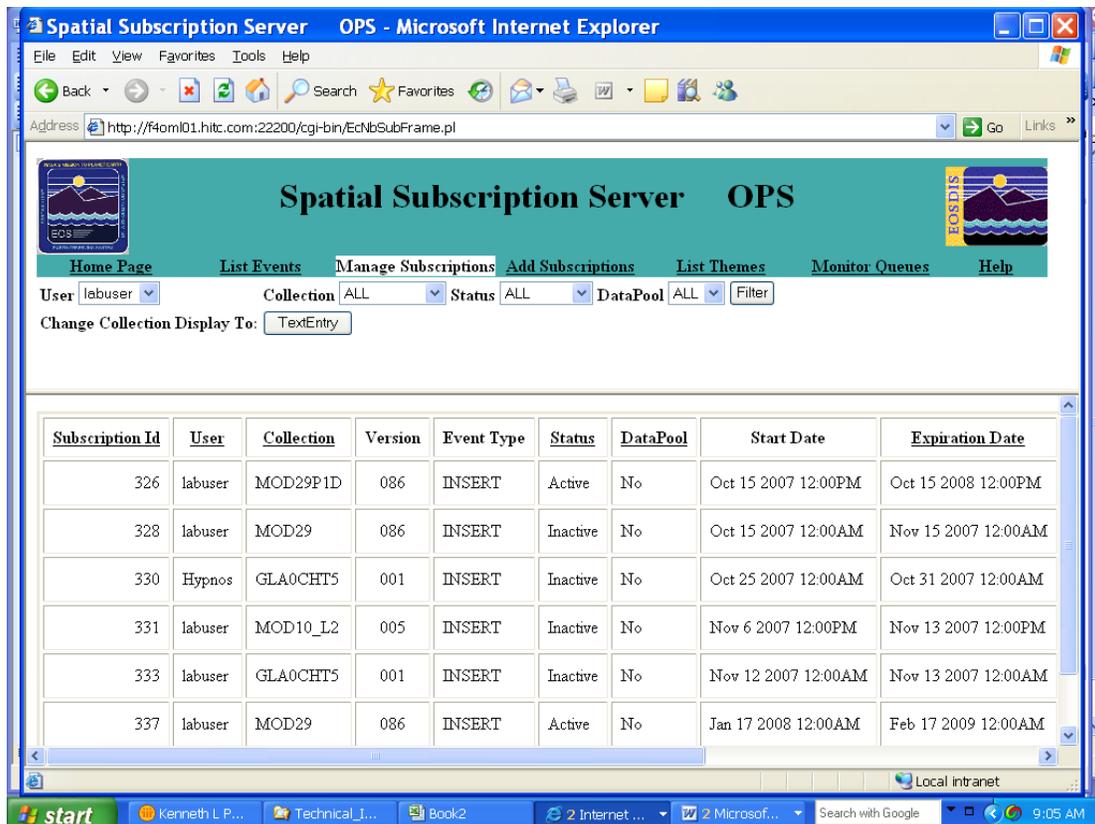
- If the list were sorted by **Event Type**, it would display events grouped by type: **DELETE** events would be listed first, followed by **INSERT** events, etc.
5. To **filter** the list to display certain types of information only, click on the appropriate option button (i.e., **Collection**, **Version**, or **Event Type**) and then click to select the desired option from the option list.
    - The selected choice is displayed in the option field.
  6. Repeat Step 5 to select an additional filter, if applicable.
  7. Click on the **Filter** button to implement the selected filter.
    - A list is displayed showing selected information only.
  8. Return to Step 3.

### 16.1.3 Manage Subscriptions

Suppose that you now want to view subscriptions related to MOD01 data, and then to review detailed information about a particular subscription. To obtain the list you will need to use the **Manage Subscriptions** link, filter on **Collection**, and then select and apply an option to **View** the particular subscription. Use the following procedure, which is applicable to both full-capability and limited-capability operators. On occasion, it may be necessary to modify or delete existing subscriptions in the NBSRV database. The **Spatial Subscription Server GUI** web access supports these requirements. However, only full-capability operators can modify or delete existing subscriptions using the **Spatial Subscription Server GUI**. Limited-capability operators can view subscriptions but may not modify or delete them.

#### 16.1.3.1 View Subscriptions in the NBSRV Database

1. Launch the Spatial Subscription Server GUI
  - The **Spatial Subscription Server Home Page** is the displayed.
2. Click on the **Manage Subscriptions** link.
  - The **Manage Subscriptions** page is displayed (see Figure 16.1-3) with a table listing all subscriptions in the NBSRV database.



**Figure 16.1-3. Manage Subscription**

3. Observe information displayed on the **Manage Subscriptions** page.
  - The table on the **Manage Subscriptions** page has columns containing the following types of subscription information:
    - **Subscription Id.**
    - **User.**
    - **Collection.**
    - **Version.**
    - **Event Type.**
    - **Status.**
    - **Data Pool.**
    - **Start Date.**
    - **Expiration Date.**
    - **Time Last Updated.**
    - **Choose Subscription Action.**

- The column headers in the table, except for **Version**, **Event Type**, **Start Date**, and **Choose Subscription Action** are links for sorting the list.
  - The **Choose Subscription Action** column has radio buttons for taking the following actions with respect to the corresponding subscription:
    - **View.**
    - **Update.**
    - **Cancel.**
  - There are option lists for filtering the table data by **User**, **Collection**, **Status**, and/or **Data Pool**.
  - There is a "**Change Collection Display to**" option button for switching the display between **TextEntry** and **SelectableList**.
4. To filter the list to display certain types of subscriptions only, click on the appropriate option button (i.e., **User**, **Collection**, **Status**, or **Data Pool**) and then click to select the desired option from the option list.
    - The selected choice is displayed in the option field.
  5. Repeat Step 4 to select an additional filter, if applicable.
  6. Click on the **Filter** button to implement the selected filter.
    - A list is displayed showing subscriptions that meet the filter criteria only.
  7. To view a particular subscription first click on the **View** radio button in the **Choose Subscription Action** column for the subscription.
    - The button is filled to indicate selection of the option.
  8. To implement the selected action with respect to the particular subscription click on the **Apply** button in the **Choose Subscription Action** column for the subscription.
    - A **View Subscriptions** page is displayed.
  9. Observe information displayed on the **View Subscriptions** page.
    - The table on the **Manage Subscriptions** page has columns containing the following types of subscription information:
      - **User.**
      - **Status.**
      - **Start Date.**
      - **Expiration Date.**
      - **Short Name.**
      - **Version.**
      - **Event Type.**

- **Science Granules and/or Metadata** (if applicable).
- **Data Pool Action is associated with theme x** (if applicable).

### 16.1.3.2 Update a Subscription in the NBSRV Database

1. Launch the Spatial Subscription Server GUI.

- The **Home Page** is displayed).

**NOTE:** At various points in this procedure, you may encounter a security information warning. Unless you know of a specific potential danger that you must avoid, click on the **Continue submission** button when the warning is displayed.

2. Click on the **Manage Subscriptions** link.

- The **Manage Subscriptions** page is displayed.

3. Find the subscription to be updated in the list of subscriptions on the **Manage Subscriptions** page.

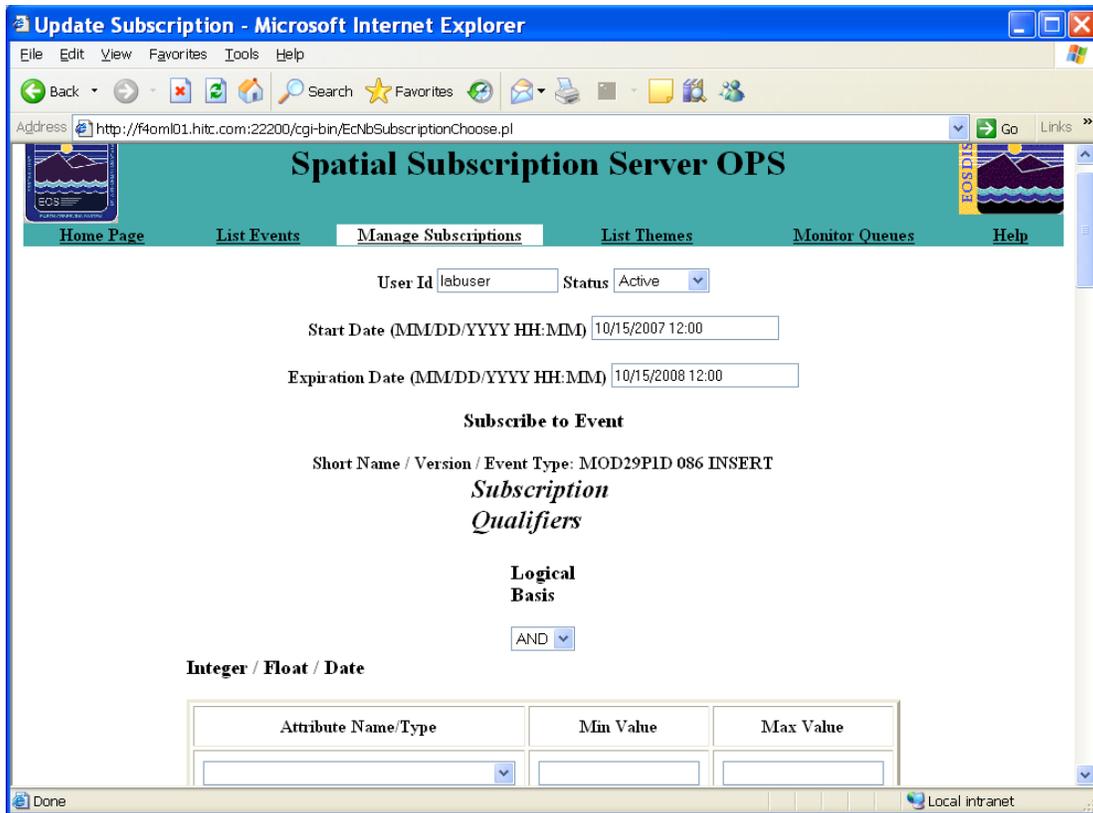
- Scroll, sort, and/or filter the list as necessary.

4. Click on the **Update** radio button in the **Choose Subscription Action** column for the subscription to be updated.

- The button is filled to indicate selection of the option.

5. To implement the "update" action with respect to the subscription click on the **Apply** button in the **Choose Subscription Action** column for the subscription.

- An **Update Subscriptions** page is displayed (see Figure 16.1-4).



**Figure 16.1-4. Update Subscription**

6. To change the User Id (if applicable) type the User Id for the requesting user in the **User Id** text entry field.
  - The entered User Id must be a valid registered user (i.e., must be listed in the User Profile database).
  - The typed entry is displayed in the User Id field.
7. To change the status (if applicable) click on the appropriate choice from the **Status** option list.
  - Active.
  - Inactive.
8. To change the start date for the subscription (if applicable) type the appropriate date and time in the **Start Date (mm/dd/yyyy hh:mm)** text entry box.
  - The date and time should be entered in *mm/dd/yyyy hh:mm* format
9. To change the expiration date for the subscription (if applicable) type the appropriate date and time in the **Expiration Date (mm/dd/yyyy hh:mm)** text entry box.

- The date and time should be entered in *mm/dd/yyyy hh:mm* format.

**NOTE:** It is not possible to update the subscription event [**Short Name/Version/Event Type** (e.g., **MOD04\_L2 003 INSERT**)].

**NOTE:** Option buttons and fields are displayed to permit the entry of data in two general categories; i.e., **Subscription Qualifiers** and **Action Information**. In the **Subscription Qualifiers** section it is possible to select **Attribute Name/Type** and enter **Min Value** and **Max Value** for any valid **Integer/Float/Date** qualifiers, string **Value** qualifiers, and **Latitude** and **Longitude** coordinates to define a bounding rectangle spatial qualifier for the subscription to be created. In the **Action Information** section there is a button to specify that the subscription is to be associated with a bundling order; if that button is not selected, one has the choice of one or more of three actions (i.e., **Acquire**, **E-Mail Notification**, or **Data Pool**). There are blocks with option lists and text entry fields for defining the selected action(s) to be taken upon occurrence of the event for which the subscription was created.

10. To select a different **Logical Basis** option (if applicable) click on the appropriate choice (e.g., **AND**) from the option list.
11. To change, add, or delete an integer, float, or date **Attribute Name/Type** option (if applicable) click on the appropriate choice from the **Integer/Float/Date Attribute Name/Type** option list.
12. To change, add, or delete a minimum value for an integer, float, or date attribute (if applicable) type (or delete, if necessary) the appropriate value in the **Integer/Float/Date Min Value** text entry box.
13. To change, add, or delete a maximum value for an integer, float, or date attribute (if applicable) type (or delete, if necessary) the appropriate value in the **Integer/Float/Date Max Value** text entry box.
14. Repeat Steps 11 through 13 as necessary to change, add, or delete integer, float, or date attributes.
15. To change, add, or delete a string **Attribute Name/Type** option (if applicable) click on the appropriate choice from the **String Attribute Name/Type** option list.
16. To change, add, or delete a value for a string attribute (if applicable) type (or delete, if necessary) the appropriate value in the **String Value** text entry box.
17. Repeat Steps 15 and 16 as necessary to change or specify additional string attributes.
18. To change, add, or delete spatial coordinates of intersecting LLBox (if applicable) type (or delete, if necessary) the appropriate values in the following text entry boxes (as necessary).
  - North Latitude.



23. If **E-Mail Notification** was selected in Step 21, change or add e-mail notification data by either typing the appropriate data or clicking on the appropriate choice from the option list in the relevant fields of the **E-Mail Notification Information** block:
- **Action Address.**
  - **User String** [if applicable (to distinguish the subscription from others)].
  - **Metadata.**
24. If **Data Pool** was selected in Step 21, change or add Data Pool insertion data either by typing the appropriate data or clicking on the appropriate choice from the option list in the relevant fields of the **Data Pool Information** block:
- **Science Granules** and/or Metadata.
  - Click here to add theme: [click in the box if the granules to be added to the Data Pool as a result of the subscription are to be associated with a theme].
  - Enter first few characters of name [optional - if associating the granules from the subscription with a theme].
25. Click on the **Update Subscription** button.
- If the Click here to add theme: box was checked, a Select Theme for Data Pool Action page is displayed.
  - If the Click here to add theme: box was not checked, a message is displayed confirming that "Subscription x was updated" to the database and buttons permit Update another subscription or Return to Home Page.
26. To select a theme for Data Pool action (if applicable) first click on the appropriate choice from the **Select Theme for Data Pool Action** option list.
27. To make the theme association retroactive (if applicable) first click in the **To make theme association retroactive check here:** box.
28. To implement the theme association (if applicable) click on the **Apply** button on the **Select Theme for Data Pool Action** page.
- A message is displayed confirming that "Subscription x was updated/added" to the database and buttons permit **Add another subscription** or **Return to Home Page**.
29. Click on the appropriate link from the following selections:
- Add... another subscription.
  - The Manage Subscriptions page is displayed.
  - Update another subscription.
  - The Manage Subscriptions page is displayed.
  - Return to Home Page.
  - The Home Page is displayed.

### 16.1.3.3 Delete (Cancel) a Subscription in the NBSRV Database

1. Launch the Spatial Subscription Server GUI.
  - The **Home Page** is the displayed
2. Click on the **Manage Subscriptions** link.
  - The **Manage Subscriptions** page is displayed, providing a table of subscription information showing 11 columns: **Subscription Id, User, Collection, Version, Event Type, Status, Data Pool, Start Date, Expiration Date, Time Last Updated,** and **Choose Subscription Action** (containing radio buttons for selecting an action to take and **Apply** buttons for implementing the selected actions).
3. To filter the list to display certain types of subscriptions only, click on the appropriate option button and then click to select the desired option from the option list.
  - The selected choice is displayed in the option field.
4. Repeat Step 4 to select an additional filter, if applicable.
5. Click on the **Filter** button to implement the selected filter.
  - A list is displayed showing subscriptions that meet the filter criteria only.
6. Click on the **Cancel** radio button in the **Choose Subscription Action** column for the subscription to be canceled (deleted).
  - The button is filled to indicate selection of the option.
7. Click on the **Apply** button in the **Choose Subscription Action** column for the subscription to be canceled (deleted).
  - A confirmation page is displayed with the message "Are you sure that you want to cancel subscription *x*?"
8. Click on the appropriate link from the following selections:
  - **Yes** to confirm the deletion.
    - A "Subscription *x* was canceled" message is displayed.
  - **No** to abort the deletion.
9. Click on the appropriate link from the following selections:
  - **Cancel another subscription.**
    - The **Manage Subscriptions** page is displayed.
  - **Return to Home Page.**
    - The **Home Page** is displayed.

#### 16.1.4 Add a Subscription to the NBSRV Database

A user who wants to have data made available for downloading through the Data Pool must contact the DAAC to request that a subscription be placed so that when data of the specified type are inserted in ECS, a copy is inserted in the Data Pool. User Services or Science Data Specialists then create the subscription, adding Data Pool qualification to meet the user's requirement within any constraints imposed for the Data Pool at the DAAC.

Suppose that a registered user requests Data Pool insert for MOD04\_L2 003 data, specifying that the data granules inserted during the next two years be kept in the Data Pool for a period of 30 days. The user requests granules from daytime collection, in a geographic area bounded by 0 degrees North Latitude, -50 degrees East Longitude, -20 degrees South Latitude, and -70 degrees West Longitude. The user also requests notification as well as the Data Pool insert. Full-capability operators (only) can use the procedure that follows to create the necessary subscription.

##### 16.1.4.1 Add a Subscription to the NBSRV Database

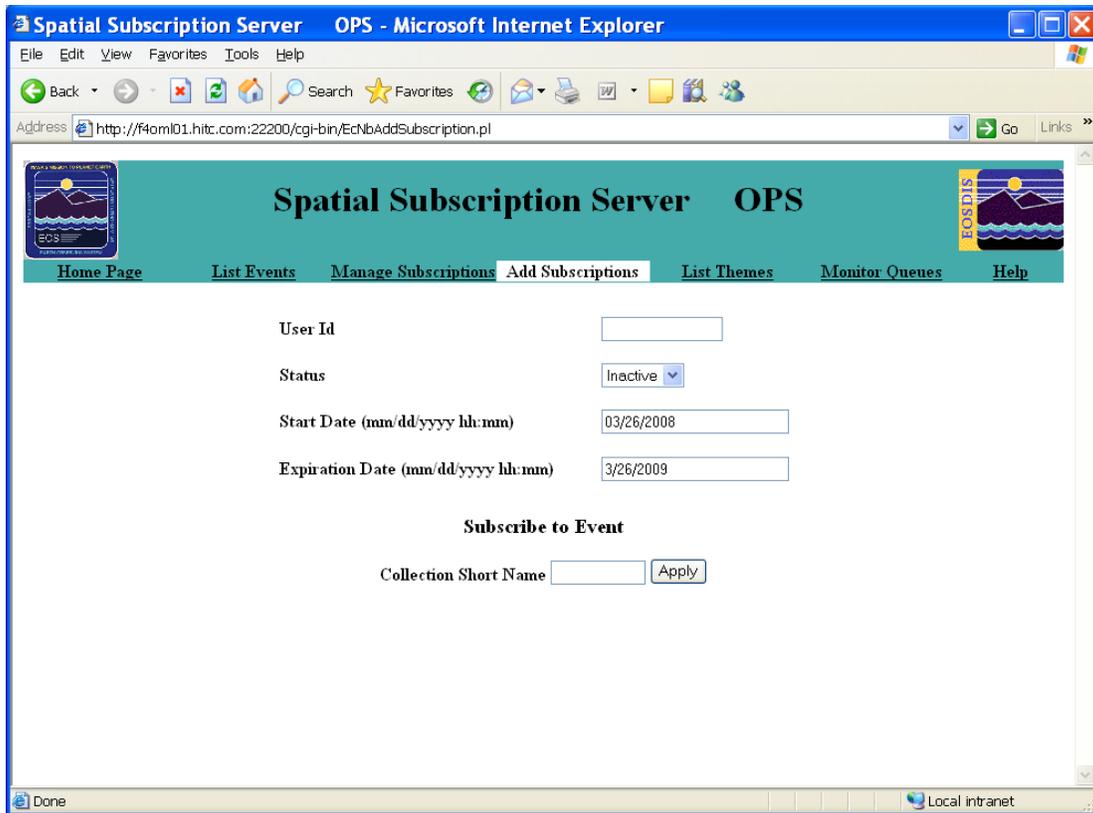
1. Launch the Spatial Subscription Server GUI.

- The **Home Page** is displayed.

**NOTE:** At various points in this procedure, you may encounter a security information warning. Unless you know of a specific potential danger that you must avoid, click on the **Continue submission** button when the warning is displayed.

2. Click on the Add Subscriptions link.

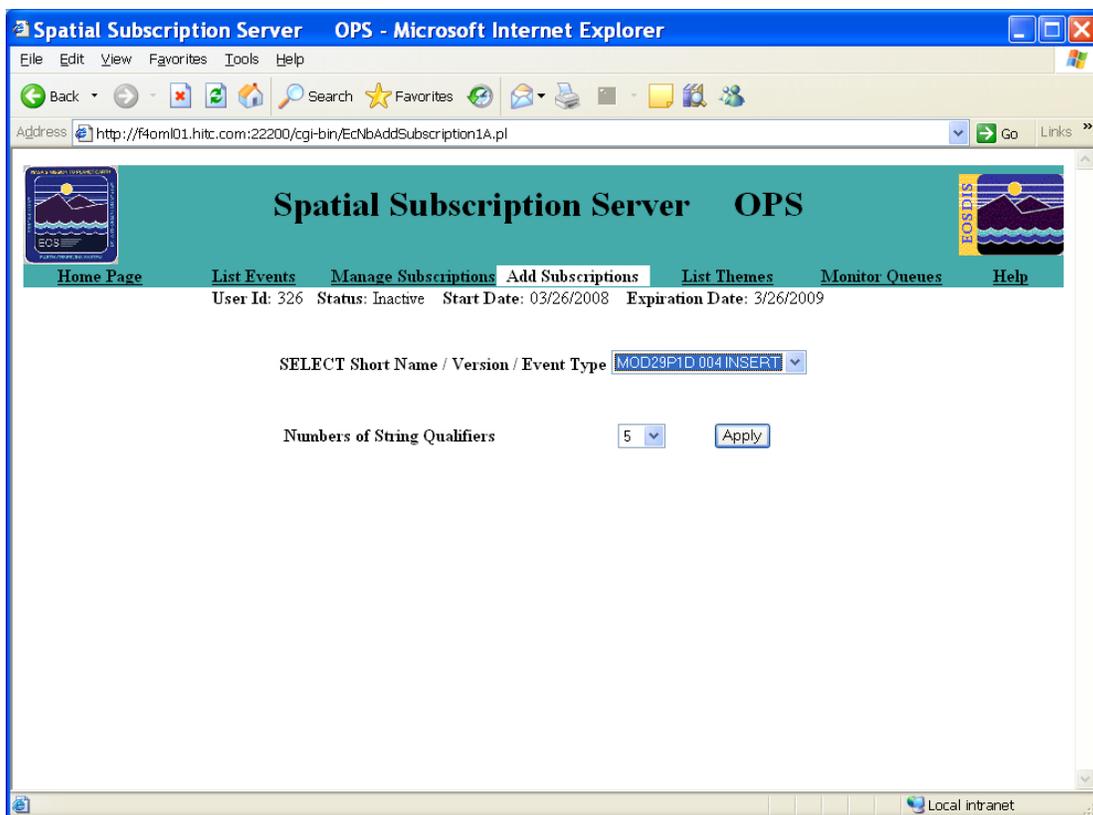
- The **Add Subscriptions** page is displayed (see Figure 16.1-5).



**Figure 16.1-5. Add Subscription**

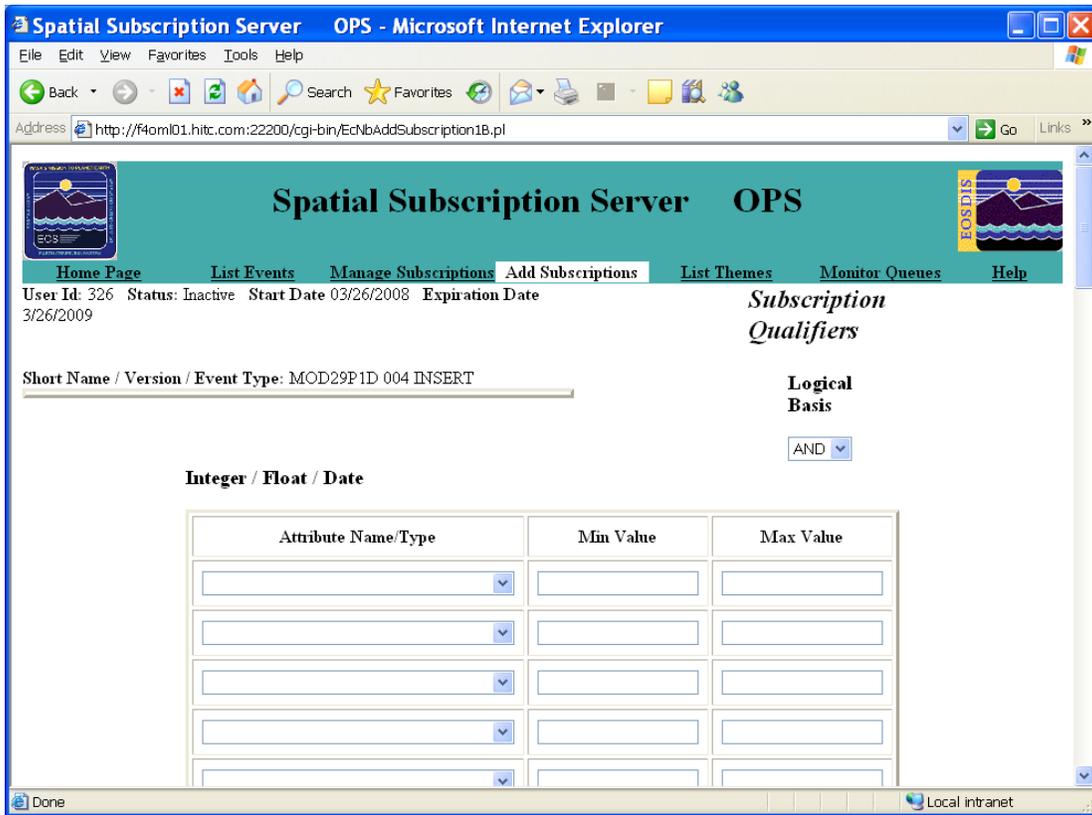
3. Type the User Id for the requesting user in the User Id text entry field.
  - The entered User Id must be a valid registered user (i.e., must be listed in the User Profile database).
  - The typed entry is displayed in the **User Id** field.
4. To select a Status option click on the appropriate choice from the option list.
  - **Active.**
  - **Inactive.**
5. If the start date for the subscription is different from the default (current date and time) type the appropriate date and time in the **Start Date (mm/dd/yyyy hh:mm)** text entry box.
  - The date and time should be entered in *mm/dd/yyyy hh:mm* format.
6. If the expiration date for the subscription is different from the default (one year from the current date and time) type the appropriate date and time in the **Expiration Date (mm/dd/yyyy hh:mm)** text entry box.
  - The date and time should be entered in *mm/dd/yyyy hh:mm* format.

7. Type the first few characters of the name of the collection for which the subscription is to be created (e.g., **MOD04**) in the **Collection Short Name** text entry box
8. Click on the **Apply** button.
  - A **SELECT Short Name/Version/Event Type** option button and a **Numbers of String Qualifiers** button are displayed (see Figure 16.1-6), along with an **Apply** button.
9. To select a **Short Name/Version/Event Type** option click on the appropriate choice (e.g., **MOD04\_L2 003 INSERT**) from the option list.
10. To select a **Numbers of String Qualifiers** option click on the appropriate choice (e.g., **1**) from the option list.



**Figure 16.1-6. String Qualifiers**

11. Click on the **Apply** button.
  - Option buttons and fields are displayed (see Figure 16.1-7) to permit the entry of data in two general categories; i.e., **Subscription Qualifiers** and **Action Information**.



**Figure 16.1-7. Subscription Qualifier**

- In the **Subscription Qualifiers** section it is possible to select **Attribute Name/Type** and enter **Min Value** and **Max Value** for any valid **Integer/Float/Date** qualifiers, string **Value** qualifiers, and **Latitude** and **Longitude** coordinates to define a bounding rectangle spatial qualifier for the subscription to be created.
  - In the **Action Information** section there is a button to specify that the subscription is to be associated with a bundling order; if that button is not selected, one has the choice of one or more of three actions (i.e., **Acquire**, **E-Mail Notification**, or **Data Pool**). There are blocks with option lists and text entry fields for defining the selected action(s) to be taken upon occurrence of the event for which the subscription is to be created.
  - At the bottom of the page is an **Add Subscription** button for submitting the subscription.
12. To select a different **Logical Basis** option (if applicable) click on the appropriate choice (e.g., **AND**) from the option list.

13. To select an integer, float, or date **Attribute Name/Type** option (if applicable) click on the appropriate choice from the **Integer/Float/DateAttribute Name/Type** option list.
14. To specify a minimum value for an integer, float, or date attribute (if applicable) type the appropriate value in the **Integer/Float/DateMin Value** text entry box.
15. To specify a maximum value for an integer, float, or date attribute (if applicable) type the appropriate value in the **Integer/Float/DateMax Value** text entry box.
16. Repeat Steps 14 through 16 as necessary to specify additional integer, float, or date attributes.
17. To select a string **Attribute Name/Type** option (if applicable) click on the appropriate choice from the **StringAttribute Name/Type** option list.
18. To specify a value for a string attribute (if applicable) type the appropriate value in the **String Value** text entry box.
19. Repeat Steps 18 and 19 as necessary to specify additional string attributes.
20. To specify spatial coordinates of intersecting LLBox (if applicable) type the appropriate values in the following text entry boxes.
  - **North Latitude.**
  - **West Longitude.**
  - **East Longitude.**
  - **South Latitude.**
  - For example:

<b>North Latitude</b>	<b>0</b>
<b>West Longitude</b>	<b>-70</b>
<b>East Longitude</b>	<b>-50</b>
<b>South Latitude</b>	<b>-20</b>

**NOTE:** Every subscription must have at least one action specified and may have more than one.

21. To associate the subscription with a bundling order (if applicable) first click in the **Bundling Order** box.
22. To continue the process of associating a subscription with a bundling order (if applicable) click on the appropriate choice from the **Bundling Order Selection** option list.
  - If a subscription is associated with a bundling order, skip Steps 24 through 27 and go to Step 28.

23. To select subscription action(s) click in the following boxes as applicable (a check mark in a box indicates that the action has been selected):
- **Acquire** – to request shipment of the data specified in the subscription.
  - **E-Mail Notification** to request e-mail notification of the event specified in the subscription.
  - **Data Pool** to request insertion of data specified in the subscription into the Data Pool.

**NOTE:** Multiple actions can be selected.

24. If **Acquire** was selected in Step23, either type the appropriate data or click on the appropriate choice from the option list in the relevant fields of the **Acquire Information** block:

- **User Profile.**
- **User String** [if applicable (to distinguish the subscription from others)].
- **First Name**            **M.I.**            **Last Name**
- **Phone Number**
- **Email Address.**
- **Media Type.**
- **Priority.**
- **User** [applicable to ftp push or secure copy distributions only].
- **Password** [applicable to ftp push or secure copy distributions only].
- **Enter password again for verification** [applicable to ftp push or secure copy distributions only].
- **Host** [applicable to ftp push or secure copy distributions only].
- **Directory** [applicable to ftp push or secure copy distributions only].

25. If **E-Mail Notification** was selected in Step24, either type the appropriate data or click on the appropriate choice from the option list in the relevant fields of the **E-Mail Notification Information** block:

- **Action Address.**
- **User String** [if applicable (to distinguish the subscription from others)].
- **Metadata.**

26. If **Data Pool** was selected in Step24, either type the appropriate data or click on the appropriate choice from the option list in the relevant fields of the **Data Pool Information** block:

- **Science Granules and/or Metadata** [e.g., science and metadata].
- **Click here to add theme:** [click in the box if the granules to be added to the Data Pool as a result of the subscription are to be associated with a theme].

- **Enter first few characters of name** [optional - if associating the granules from the subscription with a theme].
27. Click on the **Add Subscription** button.
- If the **Click here to add theme:** box was checked, a **Select Theme for Data Pool Action** page is displayed.
  - If the **Click here to add theme:** box was not checked, a message is displayed confirming that "Subscription *x* was added" to the database and buttons permit **Add another subscription** or **Return to Home Page**.
28. To select a theme for Data Pool action (if applicable) first click on the appropriate choice from the **Select Theme for Data Pool Action** option list.
29. To make the theme association retroactive (if applicable) first click in the **To make theme association retroactive check here:** box.
30. To implement the theme association (if applicable) click on the **Apply** button on the **Select Theme for Data Pool Action** page.
- A message is displayed confirming that "Subscription *x* was updated/added" to the database and buttons permit **Add another subscription** or **Return to Home Page**.
31. Click on the appropriate link from the following selections:
- **Add... another subscription.**
    - The **Manage Subscriptions** page is displayed.
  - **Update another subscription.**
    - The **Manage Subscriptions** page is displayed.
  - **Return to Home Page.**
    - The **Home Page** is displayed.

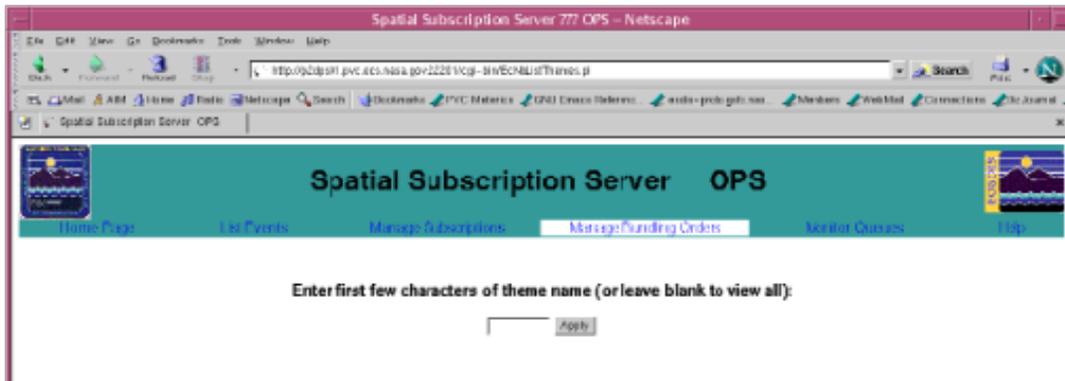
### 16.1.5 Subscriptions Associated with a Theme

If the operator clicks on the **List Themes** link while managing subscriptions, the GUI displays the **List Themes Request** page. By clicking on the **Apply** button the operator obtains a **Theme List** page. The list may be filtered (to select a particular theme) by entering the first few characters of the theme name in the text box on the **List Themes Request** page before clicking on the **Apply** button.

#### 16.1.5.1 List Subscriptions Associated with a Theme

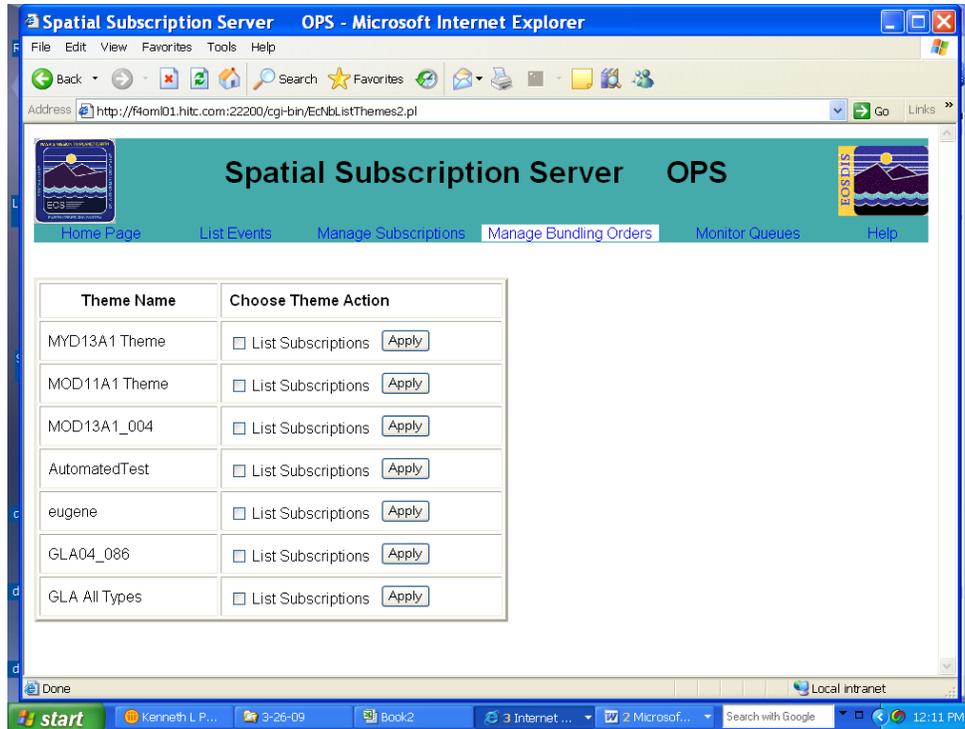
1. Launch the Spatial Subscription Server GUI.
  - The **Home Page** is displayed.
2. Click on the **List Themes** link.

- The **List Themes Request** page is displayed (see Figure 16.1-8).
- An "Enter first few characters of theme name (or leave blank to view all):" message is displayed on the **List Themes Request** page.



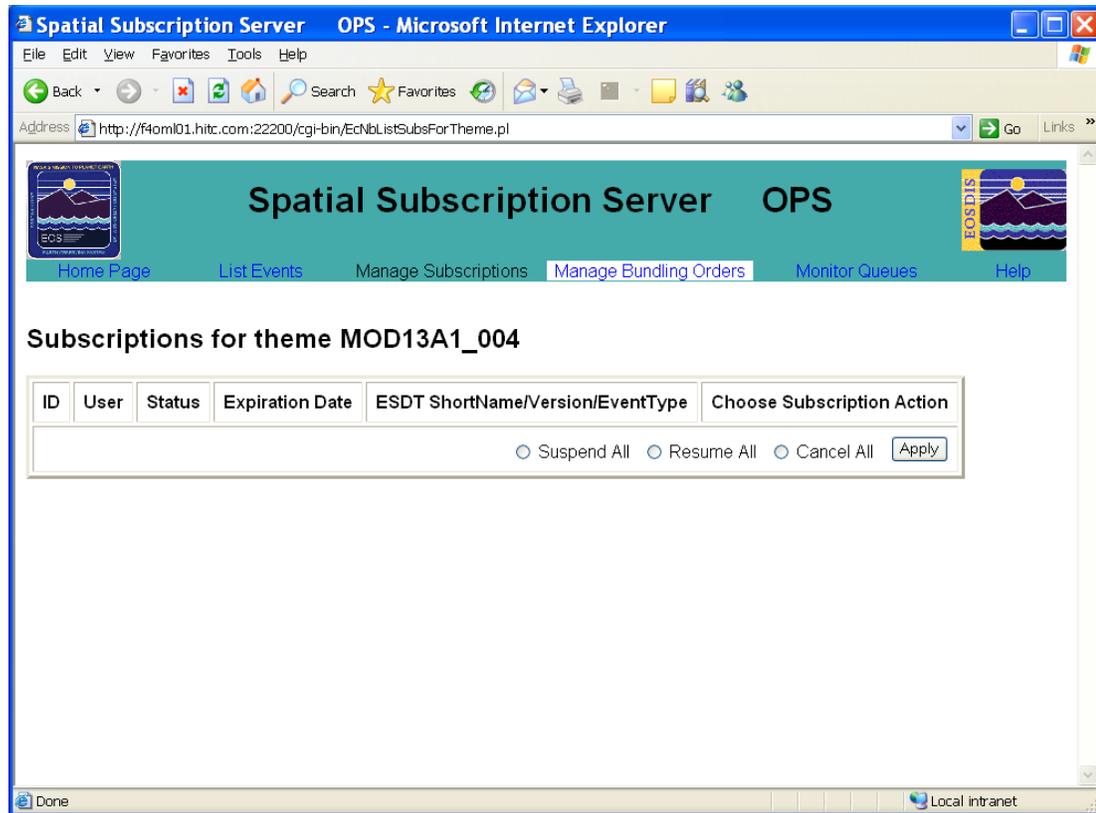
**Figure 16.1-8. List Themes Request Page**

3. To display all themes, click on the **Apply** button (without entering anything in the text box).
  - The **Theme List** page is displayed (see Figure 16.1-9) with columns containing the following types of theme information:
    - **Theme Name.**
    - **Choose Theme Action.**



**Figure 16.1-9. Spatial Subscription Server GUI Theme List Page**

- All themes are displayed on the **Theme List** page.
4. To begin the process of viewing the list of subscriptions associated with a particular theme, click in the corresponding check box (in the **Choose Theme Action** column) on the **Theme List** page.
  5. To view a list of the subscriptions associated with the specified theme, click on the corresponding **Apply** button (in the **Choose Theme Action** column) on the **Theme List** page.
- The **List Subscriptions for Theme** page is displayed (see Figure 16.1-10).



**Figure 16.1-10. List Subscriptions for Theme page**

- The subscription(s) associated with the specified theme is (are) displayed.
  - Buttons are available for viewing, updating, or canceling each subscription being displayed or suspending, resuming, or canceling all subscriptions. (Refer to the applicable procedure for instructions on performing any of those actions.)
6. Observe information displayed on the **List Subscriptions for Theme** page.
- The table on the **List Subscriptions for Theme** page has columns containing the following types of subscription information:
    - **ID.**
    - **User.**
    - **Status.**
    - **Expiration Date.**
    - **ESDT ShortName/Version/EventType.**
    - **Choose Subscription Action.**
  - The **Choose Subscription Action** column has radio buttons for taking the following actions with respect to the corresponding subscription:

- **View.**
  - **Update.**
  - **Cancel.**
  - At the bottom of the table there are radio buttons for selecting the following actions with respect to all listed subscriptions:
    - **Suspend All.**
    - **Resume All.**
    - **Cancel All.**
7. To take action with respect to all subscriptions associated with the theme first click on the appropriate radio button (i.e., **Suspend All**, **Resume All**, or **Cancel All**) at the bottom of the table on the **List Subscriptions for Theme** page.
- The button is filled to indicate selection of the option.
8. To implement a selected action with respect to all subscriptions associated with the theme click on the **Apply** button at the bottom of the table on the **List Subscriptions for Theme** page.
- If **Suspend All** was the selected action, an "All associated subscriptions have been suspended" message is displayed.
  - If **Resume All** was the selected action, an "All associated subscriptions have been resumed" message is displayed.
  - If **Cancel All** was the selected action, a confirmation page is displayed with the message "Are you sure that you want to cancel subscription *x*?"
    - Click on the **Yes** link to confirm the deletion.
    - Click on the **No** link to abort the deletion.
9. Click on the **View refreshed subscription list** link (if applicable).
- The **List Subscriptions for Theme** page is displayed.

### 16.1.6 Manage Bundling Orders

If the operator clicks on the **Manage Bundling Orders** link on the **Home Page** or other page where the link is available, a list of bundling orders. The list includes a **Bundling Order** identifying number for each bundling order, the **User** for whom the bundling order was created, the **Creation Date** and **Expiration Date**, the **Media Type**, and **Status**. There is an **Add Bundling Order** link to a page where the operator can add a bundling order and a **Configure Defaults** link to a page where the operator can set default parameters for configuring bundling orders. There are also three option buttons and a **Filter** button, permitting the operator to filter the list by user, media type, and status. Finally, at the right side of the page, there is a **Choose Bundling Order Action** column permitting operators an option, for each listed bundling order,

to **View**, **Update**, **Cancel**, or **List Subs** (list the subscriptions) associated with the bundling order, with an **Apply** button to implement a selected option.

In addition to the links for listing and adding bundling orders, there is a link on the **Manage Bundling Orders** link to Configure Defaults. These defaults set the values that appear at the bottom of the data page for each media type. It also shows the current value for minimum bundle size (GB) for each media and FTP type. on the **Change Bundling Criteria** button at the bottom. There is also a **Reset** button to clear the data entry fields.

### 16.1.6.1 View Bundling Orders

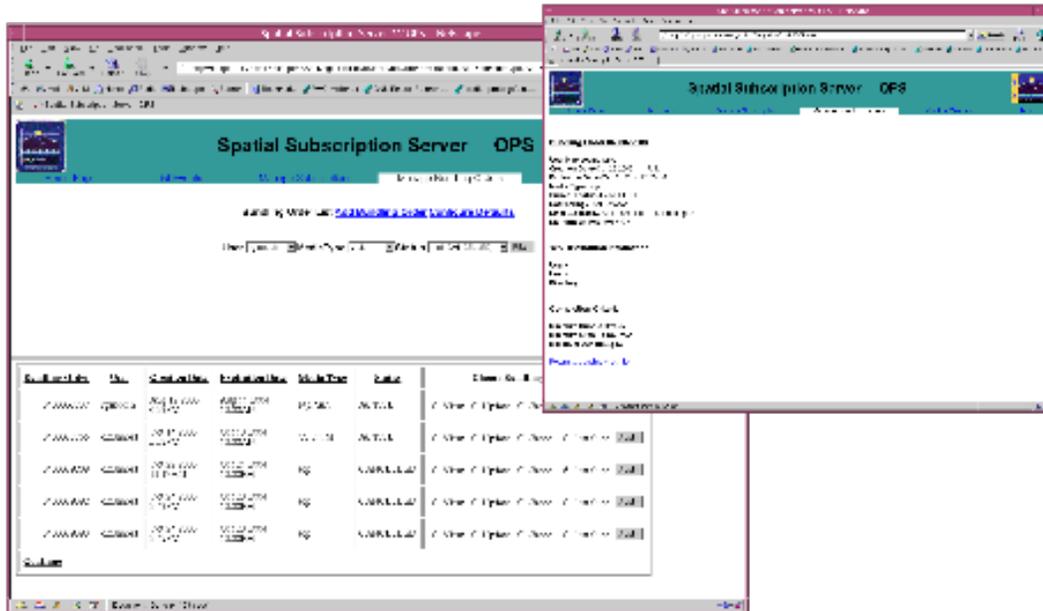
1. Launch the Spatial Subscription Server GUI.

- The **Spatial Subscription Server Home Page** is displayed.

NOTE: At various points in this procedure, you may encounter a security information warning. Unless you know of a specific potential danger that you must avoid, click on the Continue submission button when the warning is displayed.

2. Click on the **Manage Bundling Orders** link.

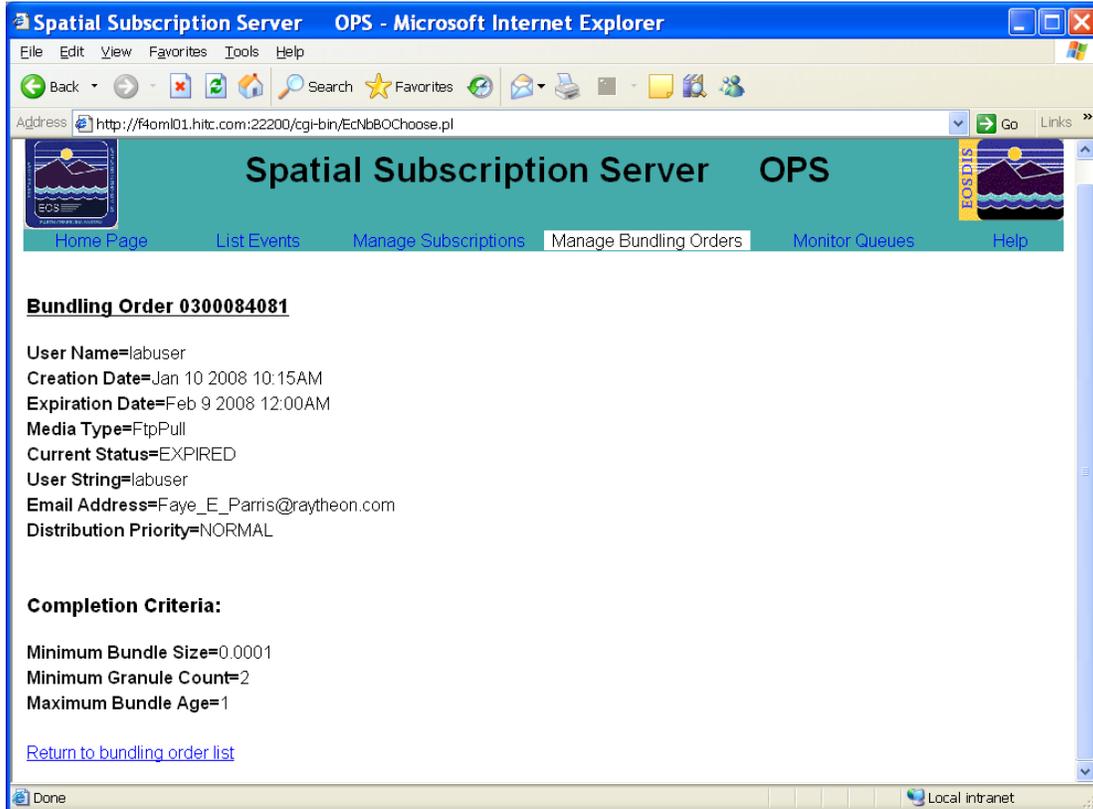
- The **Manage Bundling Orders** page is displayed (see Figure 16.1-11).



**Figure 16.1-11. Manage Bundling Orders Page (Part 1)**

3. Observe information displayed on the **Manage Bundling Orders** page.
  - The table on the **Manage Bundling Orders** page has columns containing the following types of bundling order information:
    - **Bundling Order.**
    - **User.**
    - **Creation Date.**
    - **Expiration Date.**
    - **Media Type.**
    - **Status.**
    - **Choose Bundling Order Action.**
  - The column headers in the table, except for **Choose Bundling Order Action** are links for sorting the list.
  - The **Choose Bundling Order Action** column has radio buttons for taking the following actions with respect to the corresponding bundling order:
    - **View.**
    - **Update.**
    - **Cancel.**
    - **List Subs** [list associated subscriptions].
  - There are option lists for filtering the table data by **User**, **Media Type**, and/or **Status**.
  - There are links on the page to **Add Bundling Order** and **Configure Defaults**.
4. To filter the list to display certain types of bundling orders only, click on the appropriate option button (i.e., **User**, **Media Type**, or **Status**) and then click to select the desired option from the option list.
  - The selected choice is displayed in the option field.
5. Repeat Step 4 to select an additional filter, if applicable.
6. Click on the **Filter** button to implement the selected filter.
  - A list is displayed showing subscriptions that meet the filter criteria only.
7. To view a particular bundling order first click on the **View** radio button in the **Choose Bundling Order Action** column for the bundling order.
  - The button is filled to indicate selection of the option.
8. To implement the selected action click on the **Apply** button in the **Choose Bundling Order Action** column for the bundling order.
  - A **View Bundling Order** page is displayed.

9. Observe information displayed on the **View Bundling Order** page (see Figure 16.1-12).



**Figure 16.1-12. Manage Bundling Orders Page (Part 2)**

- The **View Bundling Order** page displays the following types of bundling order information:
  - **Bundling Order ID.**
  - **User Name.**
  - **Creation Date.**
  - **Expiration Date.**
  - **Media Type.**
  - **Current Status.**
  - **User String.**
  - **Email Address.**
  - **Distribution Priority.**
  - **sep distribution information: User** (if applicable).
  - **sep distribution information: Host** (if applicable).

- **scp distribution information: Directory** (if applicable).
  - **Completion criteria: Minimum Bundle Size.**
  - **Completion criteria: Minimum Granule Count.**
  - **Completion criteria: Maximum Bundle Age.**
  - There is a **Return to bundling order list** link.
10. Click on the **Return to bundling order list** link when finished viewing the bundling order data on the **View Bundling Order** page.
11. To view subscriptions associated with a particular bundling order first click on the **List Subs** radio button in the **Choose Bundling Order Action** column for the bundling order.
- The button is filled to indicate selection of the option.
12. To implement the selected action click on the **Apply** button in the **Choose Bundling Order Action** column for the subscription.
- A **Bundling Order Subscriptions (Subscriptions for bundling order x)** page is displayed.
13. Observe information displayed on the **Bundling Order Subscriptions (Subscriptions for bundling order x)** page.
- The **Bundling Order Subscriptions (Subscriptions for bundling order x)** page displays the following types of subscription information:
    - **ID.**
    - **User.**
    - **Status.**
    - **Expiration Date.**
    - **ESDT ShortName/Version/EventType.**
    - **Choose Subscription Action.**
  - The **Choose Subscription Action** column has radio buttons for taking the following actions with respect to the corresponding subscription:
    - **View.**
    - **Update.**
    - **Cancel.**
14. To take action with respect to a particular subscription first click on the appropriate radio button (i.e., **View**, **Update**, or **Cancel**) in the **Choose Subscription Action** column for the subscription.
- The button is filled to indicate selection of the option.

15. To implement a selected action with respect to a particular subscription click on the **Apply** button in the **Choose Subscription Action** column for the subscription.
  - If **View** was the selected action, a **View Subscriptions** page is displayed.
    - Click on the **View another subscription** link or the **Return to Home Page** link (as appropriate) when finished viewing the subscription data on the **View Subscriptions** page.
  - If **Update** was the selected action, an **Update Subscriptions** page is displayed.
    - Go to the **Use the Spatial Subscription Server GUI to Update a Subscription in the NBSRV Database** procedure.
  - If **Cancel** was the selected action, a confirmation page is displayed with the message "Are you sure that you want to cancel subscription *x*?"
    - Click on the **Yes** link to confirm the deletion.
    - Click on the **No** link to abort the deletion.
16. To return to the **View Bundling Order** page from the **Bundling Order Subscriptions (Subscriptions for bundling order *x*)** page click on the browser **Back** button.
17. Repeat Steps 3 through 16 as necessary to view additional bundling orders.

#### 16.1.6.2 Cancel Bundling Orders and Its Associated Subscriptions

1. Launch the Spatial Subscription Server GUI.
  - The **Spatial Subscription Server Home Page** is the displayed.

**NOTE:** At various points in this procedure, you may encounter a security information warning. Unless you know of a specific potential danger that you must avoid, click on the **Continue submission** button when the warning is displayed.

2. Click on the **Manage Bundling Orders** link.
  - The **Manage Bundling Orders** page is displayed.
3. To cancel a particular bundling order first click on the **Cancel** radio button in the **Choose Bundling Order Action** column at the end of the row for the bundling order.
  - The button is filled to indicate selection of the option.
4. To implement the selected action click on the **Apply** button in the **Choose Bundling Order Action** column for the bundling order.
  - A confirmation message displays: *Note: Any associated subscriptions will also be cancelled. Are you sure you wish to cancel bundling order <nnnnnn>?*
5. Click on the appropriate button from the following selections:

- **Yes** to confirm cancellation of the bundling order and associated subscriptions.
    - A confirmation message displays: **Bundling order *x* has been cancelled.**
  - **No** to abort cancellation of the bundling order.
    - The **Manage Bundling Orders** page is displayed.
6. Click on the **Return to bundling order list** link (if applicable).
    - The **Manage Bundling Orders** page is displayed.
  7. Repeat Steps 3 through 10 as necessary to cancel additional bundling orders.

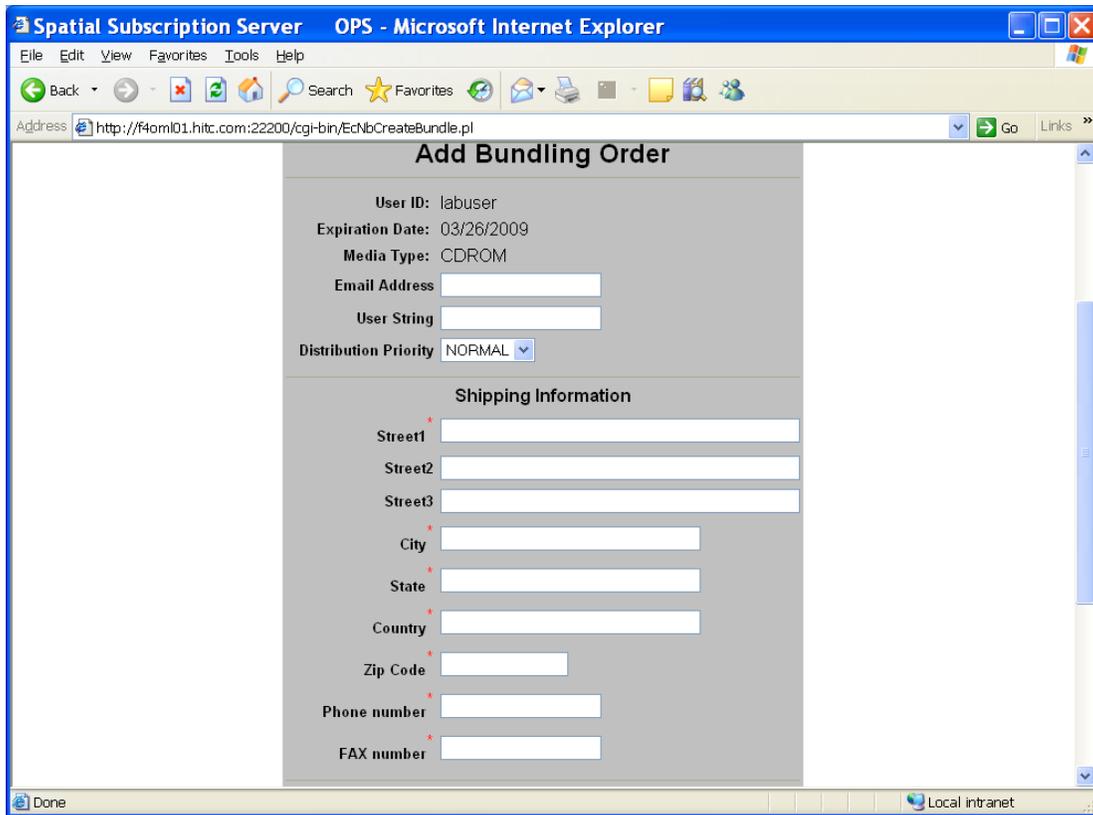
### 16.1.6.3 Add a Bundling Order

1. Launch the Spatial Subscription Server GUI.
  - The **Spatial Subscription Server Home Page** is the displayed.

**NOTE:** At various points in this procedure, you may encounter a security information warning. Unless you know of a specific potential danger that you must avoid, click on the **Continue submission** button when the warning is displayed.

2. Click on the **Manage Bundling Orders** link.
  - The **Manage Bundling Orders** page is displayed.
3. Click on the **Add Bundling Order** link.
  - The **Add Bundling Order** page is displayed.
4. Type the appropriate user ID in the **User ID** text entry box.
  - The typed entry is displayed in the **User ID** field.
5. If the expiration date for the bundling order is different from the default (one year from the current date) type the appropriate date in the **Expiration Date** text entry box.
  - The date should be entered in *mm/dd/yyyy* format.
6. To select a **Media Type** option click on the appropriate choice (e.g., **scp**) from the option list.
7. Click on the **continue** button.
  - A confirmation dialog box asks **Your present values have been entered. Continue?**
8. Click on the appropriate button from the following selections:
  - **OK** to confirm that the bundling order is to be added.

- The GUI displays an **Add Bundling Order Detail** page (see Figure 16.1-13) that is appropriate for the selected **Media Type**.



**Figure 16.1-13. Add Bundling Order Detail Page**

9. Type the appropriate data or click on the appropriate choice from the option list in the relevant fields (depending on the distribution medium selected) of the **Add Bundling Order Detail** page:

**NOTE:** Required fields are identified by an asterisk on the **Add Bundling Order Detail** page.

10. Click on the **Add Bundling Order** button.
  - A "Remember Values" Confirmation dialogue box is displayed.
11. If a "**Remember Values**" Confirmation dialogue box is displayed, click on the appropriate button from the following selections:
  - **Yes.**
  - **Never for this site.**

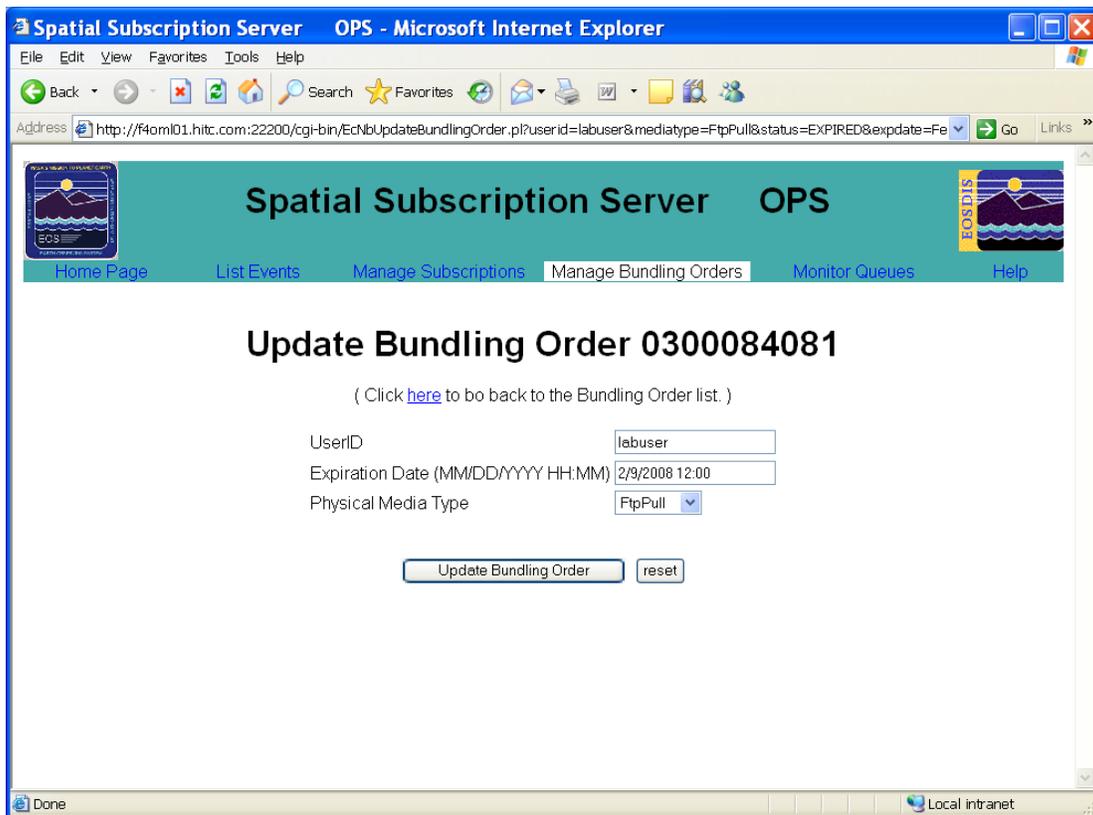
- **No.**
12. On the add bundling order confirmation page click on the appropriate button from the following selections:
    - **OK** to confirm that the bundling order is to be added.
      - A message is displayed confirming that "Bundling Order *x* was created" and there are links to **Create another Bundling Order** or **Return to Home Page**.
    - **Cancel** to abort the process of adding a bundling order.
      - The **Add Bundling Order** page is displayed.
  13. Click on the **Create another Bundling Order** link (if applicable).
    - The **Add Bundling Order** page is displayed.
  14. Repeat Steps 4 through 13 as necessary to add another bundling order.

#### 16.1.6.4 Update a Bundling Order

1. Launch the Spatial Subscription Server GUI.
  - The **Spatial Subscription Server Home Page** is the displayed.

**NOTE:** At various points in this procedure, you may encounter a security information warning. Unless you know of a specific potential danger that you must avoid, click on the **Continue submission** button when the warning is displayed.

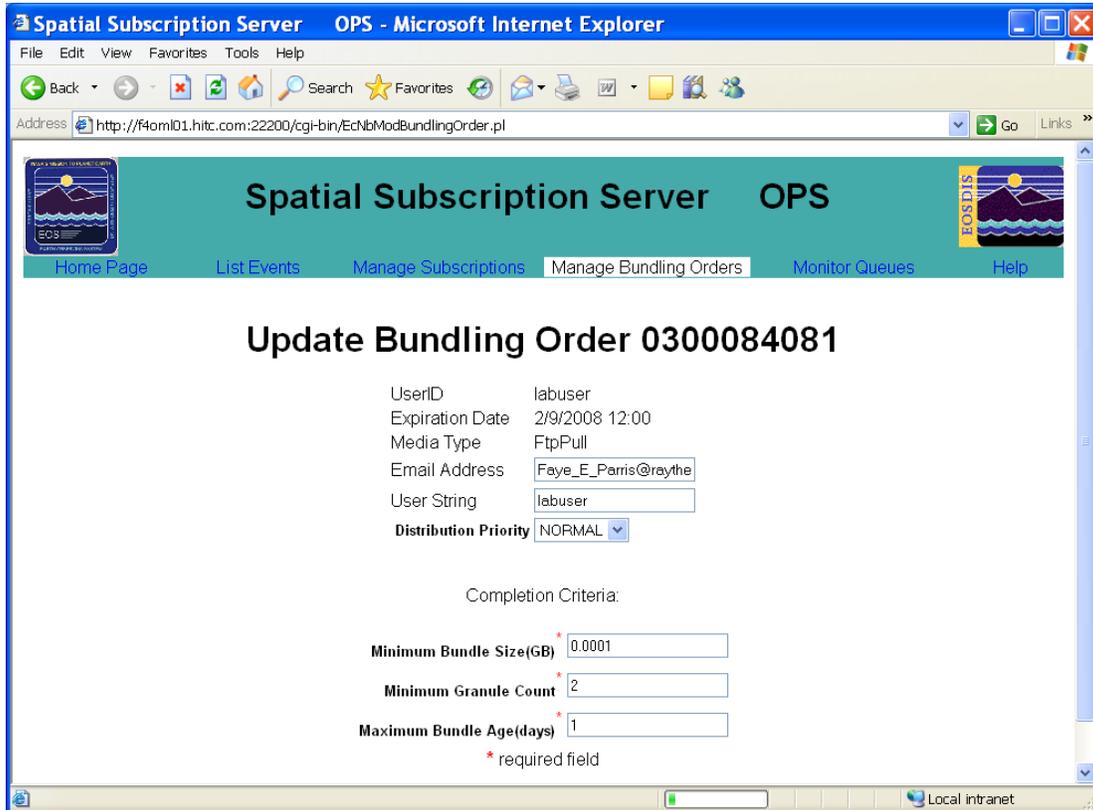
2. Click on the **Manage Bundling Orders** link.
  - The **Manage Bundling Orders** page is displayed.
3. Observe information displayed on the **Manage Bundling Orders** page.
  - The **Manage Bundling Orders** page is displayed.
4. Click on the **Filter** button to implement the selected filter.
  - A list is displayed showing subscriptions that meet the filter criteria only.
5. To update a particular bundling order first click on the **Update** radio button in the **Choose Bundling Order Action** column at the end of the row for the bundling order.
  - The button is filled to indicate selection of the option.
6. To implement the selected action click on the **Apply** button in the **Choose Bundling Order Action** column for the bundling order.
  - An **Update Bundling Order *x*** page (see Figure 16.1-14) is displayed.



**Figure 16.1-14. Update Bundling Order Page 1**

7. To change the User ID (if applicable) type the User ID for the requesting user in the **User ID** text entry field.
  - The typed entry is displayed in the **User Id** field.
8. To change the expiration date for the bundling order (if applicable) type the appropriate date in the **Expiration Date** text entry box.
  - The date should be entered in *mm/dd/yyyy* format.
9. To select a different **Media Type** option click on the appropriate choice (e.g., **CDROM**) from the option list.
10. Click on the **Update Bundling Order** button.
  - A confirmation dialog box asks **Your present values have been entered. Continue?**
11. Click on the appropriate button from the following selections:

- **OK** to confirm that the bundling order is to be updated.
  - The GUI displays an **Update Bundling Order x Detail** page (see Figure 16.1-15) that is appropriate for the selected **Media Type**.



**Figure 16.1-15. Update Bundling Order Page 2**

12. To change, add or delete bundling order data either type the appropriate data or click on the appropriate choice from the option list in the relevant fields (depending on the distribution medium selected) of the **Update Bundling Order x Detail** page:

- **Email Address.**
- **User String.**
- **Distribution Priority.**
- **Completion Criteria: Minimum Bundle Size.**
- **Completion Criteria: Minimum Granule Count.**
- **Completion Criteria: Maximum Bundle Age.**

**NOTE:** Required fields are identified by an asterisk on the **Update Bundling Order *x* Detail** page.

13. Click on the **Update Bundling Order** button.

- A confirmation page is displayed.

14. On the update bundling order confirmation page click on the appropriate button from the following selections:

- **OK** to confirm that the bundling order is to be updated.
  - A message is displayed confirming that "Bundling Order *x* was updated" and there are links to **Update another Bundling Order** or **Return to Home Page**.
- **Cancel** to abort the process of adding a bundling order.
  - The **Manage Bundling Orders** page is displayed.

15. Click on the **Update another Bundling Order** link (if applicable).

- The **Manage Bundling Orders** page is displayed.

#### **16.1.6.5 Configure Bundling Order Completion Criteria Default Values**

1. Launch the Spatial Subscription Server GUI.

- The **Spatial Subscription Server Home Page** is displayed.

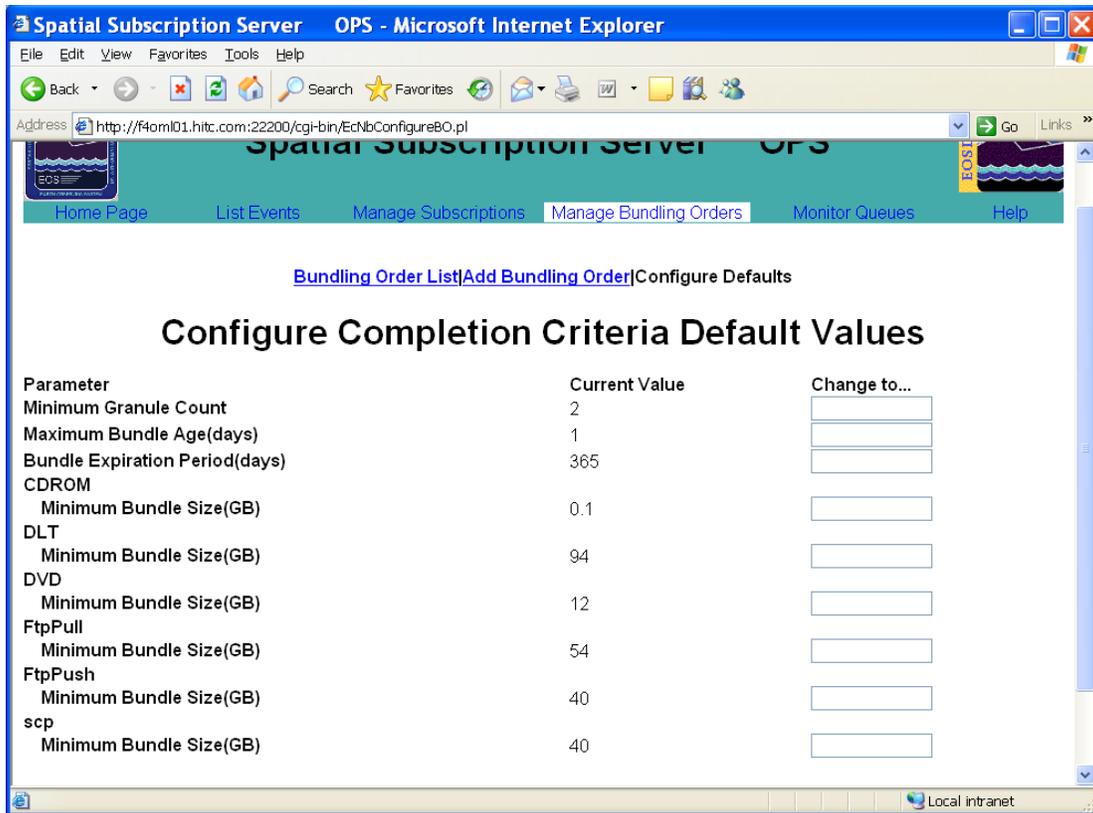
**NOTE:** At various points in this procedure, you may encounter a security information warning. Unless you know of a specific potential danger that you must avoid, click on the **Continue submission** button when the warning is displayed.

2. Click on the **Manage Bundling Orders** link.

- The **Manage Bundling Orders** page is displayed.

3. Click on the **Configure Defaults** link.

- The **Configure Completion Criteria Default Values** page is displayed (see Figure 16.1-16).



**Figure 16.1-16. Configure Completion Criteria Default Values Page (Part 1)**

4. Observe information displayed on the **Configure Completion Criteria Default Values** page.
  - The **Configure Completion Criteria Default Values** page has columns containing the following types of information:
    - **Parameter.**
    - **Current Value.**
    - **Change to...** (containing text entry boxes for entering new values).
  - The rows on the page indicate the current values of the following types of parameters:
    - **Minimum Granule Count.**
    - **Maximum Bundle Age (days).**
    - **Bundle Expiration Period (days).**
    - **CDROM Minimum Bundle Size (GB).**
    - **DLT Minimum Bundle Size (GB).**
    - **DVD Minimum Bundle Size (GB).**
    - **FtpPull Minimum Bundle Size (GB).**

- **FtpPush Minimum Bundle Size (GB).**
  - **scp Minimum Bundle Size (GB).**
5. To change the value assigned to a parameter first type the new value in the **Change to...** text entry box at the end of the line for the appropriate parameter.
    - The typed entry is displayed in the field.
  6. Repeat Step 5 as necessary to change any additional parameters.
  7. Click on the **Change Bundling Criteria** button.
    - A confirmation page is displayed with the message "Please Confirm The Following Bundling Criteria Change" and the parameter(s) for which changes were entered with the entered value(s).
  8. On the change bundling criteria confirmation page click on the appropriate button from the following selections:
    - **OK** to confirm that the bundling criteria are to be changed.
      - The confirmation page is closed and the **Current Value** column on the **Configure Completion Criteria Default Values** page reflects the change(s).
    - **Cancel** to abort the process of changing bundling criteria.
      - The confirmation page is closed and the entries in the **Current Value** column on the **Configure Completion Criteria Default Values** page are restored to their original values.

### 16.1.7 Monitor Queues

There are two other major pages of the **Spatial Subscription Server GUI** accessible from the **Monitor Queues** link on the **Home Page**. The **List Action Queue** page provides a table listing acquire and notification actions that are being processed. On this page, the **Action Type** and **Subscription Id** column headers are links for sorting the list, and there are also **Action Type**, **Subscription**, and **Status** option buttons and a filter button for filtering the list.

The **List Statistics** page provides summary information concerning the processing of events and actions related to subscriptions. Using this page, the operator can monitor subscription processing activity, such as numbers of notifications and actions, total and average times for notifications and acquires, and other information.

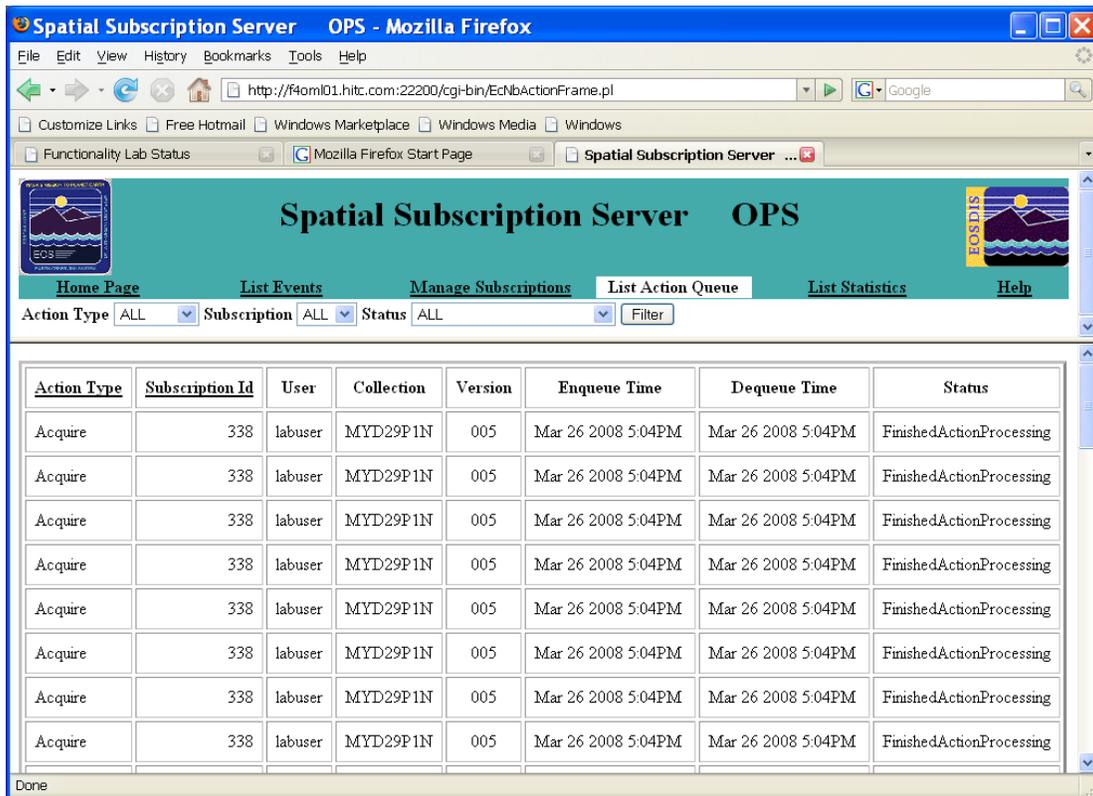
The **List Failed Action** page provides information concerning failed actions. The page has buttons that the operator can use to remove failed actions.

#### 16.1.7.1 View the Acquire and Notification Actions Being Processed

1. Launch the Spatial Subscription Server GUI.
  - The **Spatial Subscription Server Home Page** is the displayed.
2. Click on the **Monitor Queues** link.

3. Click on the **List Action Queue** link.

- The **List Action Queue** page is displayed (see Figure 16.1-17) with a table listing acquire and notification actions that are being processed.



**Figure 16.1-17. Configure Completion Criteria Default Values Page (Part 2)**

4. Observe information displayed on the **List Action Queue** page.

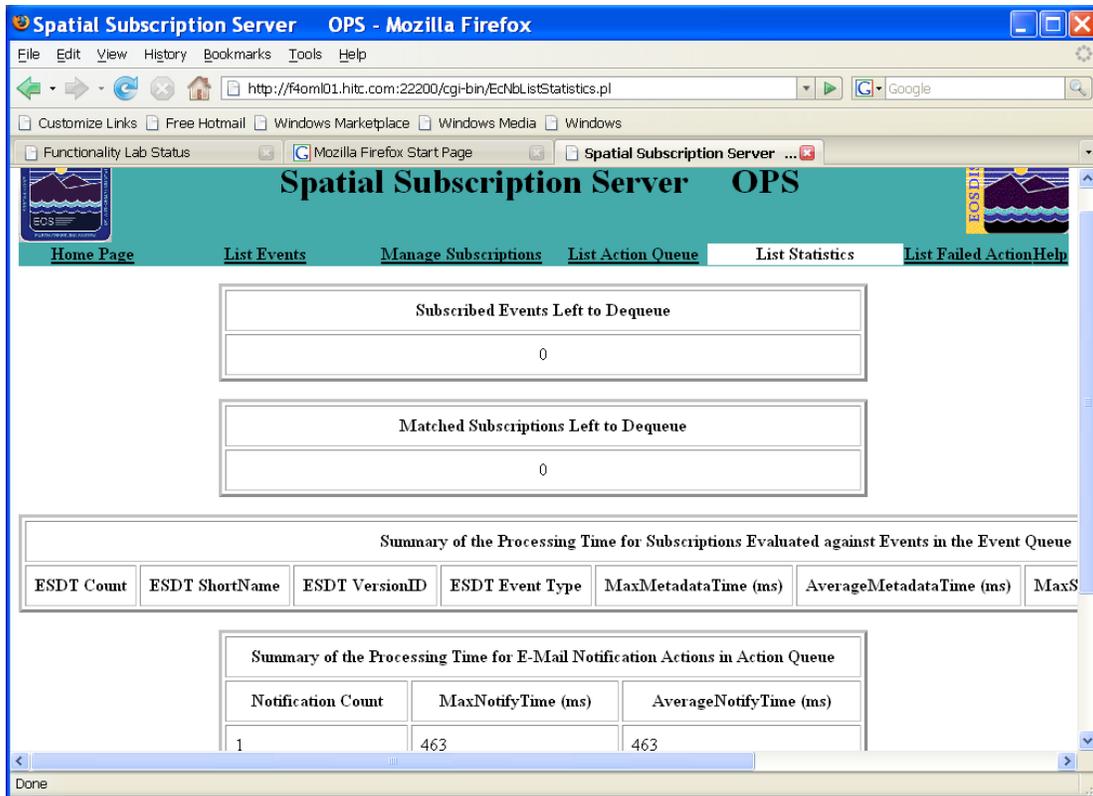
- The table on the **List Action Queue** page has columns containing the following types of information:
  - **Action Type.**
  - **Subscription Id.**
  - **User.**
  - **Collection.**
  - **Version.**
  - **Enqueue Time.**
  - **Dequeue Time.**



4. Observe information displayed on the **List Failed Action** page.
  - The table on the **List Failed Action** page has columns containing the following types of information:
    - **UserId.**
    - **Priority.**
    - **ActionId.**
    - **ActionQueueId.**
    - **EventId**
    - **SubscriptionId.**
    - **granUR.**
    - **Enqueue Time.**
    - **Remove Action.**
  - The **Remove Action** column contains **Remove Action** buttons for removing failed actions.
5. To remove a failed action click on the **Remove Action** button at the end of the row for the action.
  - A confirmation page is displayed.
6. Click on the appropriate link from the following choices:
  - **Remove Action for another Action ID** – to return to the **List Failed Action** page.
  - **Return to Home Page** – to return to the Home page without taking action on any other failed actions.

### 16.1.7.3 View Statistics on Processing of Events and Actions by the NBSRV

1. Launch the Spatial Subscription Server GUI.
  - The **Spatial Subscription Server Home Page** is the displayed.
2. Click on the **Monitor Queues** link.
3. Click on the **List Statistics** link.
  - The **List Statistics** page (see Figure 16.1-19) is displayed.



**Figure 16.1-19. List Statistic Page**

4. Observe information displayed on the **List Statistics** page.
  - The **List Statistics** page has a summary showing the number of **Subscribed Events Left to Dequeue**.
  - The **List Statistics** page has a summary showing the number of **Matched Subscriptions Left to Dequeue**.
  - The **List Statistics** page has a **Summary of the Processing Time for Subscriptions Evaluated against**
  - **Events in the Event Queue** table that has columns containing the following types of information:
    - **ESDT Count**.
    - **ESDT Short Name**.
    - **ESDT VersionID**.
    - **ESDT Event Type**.
    - **MaxMetadataTime (ms)**.
    - **AverageMetadataTime (ms)**.
    - **MaxSubEvalTime (ms)**.

- **AverageSubEvalTime (ms).**
- The **List Statistics** page has a **Summary of the Processing Time for E-Mail Notification Actions in Action Queue** table that has columns containing the following types of information:
  - **Notification Count.**
  - **MaxNotifyTime (ms).**
  - **AverageNotifyTime (ms).**
- The **List Statistics** page has a **Summary of the Processing Time for Distribution Actions in Action Queue** table that has columns containing the following types of information:
  - **Acquire Count.**
  - **MaxAcquireTime (ms).**
  - **AverageAcquireTime (ms).**

### 16.1.8 Using the SSS Command Line Interface (CLI)

The Spatial Subscription Server (SSS) Command Line Interface (CLI) utility is intended for full-capability operators only. Because it is a UNIX utility, the SSS CLI depends on standard UNIX permissions to restrict execution of the script to authorized users.

The full-capability operator can perform the following tasks using the Spatial Subscription Server (SSS) Command Line Interface (CLI):

- View subscription.
- Add a new subscription.
- Update a subscription.
- Delete a subscription.

However, before updating a subscription or adding a new subscription, it is necessary to prepare an input file that is specified as an argument when using the SSS CLI.

When the operator uses the SSS CLI to view a subscription, the CLI creates a text file that the operator subsequently opens to view the subscription information. It is recommended that before updating a subscription using the SSS CLI the operator view the subscription first, which results in the creation of a text file that can be edited for use as input to the command for updating the subscription using the SSS CLI. In the same vein, before adding a new subscription, it would be useful to view a subscription that is similar to the one to be added, edit the resulting text file, and specify the edited file as an input to the command for adding the subscription.

As previously mentioned, before updating a subscription or adding a new subscription, it is necessary to prepare an input file that is specified as an argument when using the SSS CLI. Although it is possible to create the needed file from scratch, it is generally much easier to use the SSS CLI to view a similar subscription, edit the resulting text file, and specify the edited file as an input to either the Add or Update command (as applicable).

Physical media distributions for subscriptions are supported through the use of bundling orders. The simplest way to do this is to create a bundling order via the GUI and then "bundle" the subscription by specifying the bundling order ID. Alternatively, if a bundling order ID is not specified for a physical media distribution, a bundling order will automatically be created for the subscription; however, in this case, all of the required information for the bundling order (such as shipping information) must be specified in the input file for the subscription.

If an operator updates a bundled subscription without altering the bundling order ID, the bundling order will be updated along with the subscription.

### 16.1.8.1 Prepare Input Files for Use with the SSS CLI

1. Access a terminal window logged in to the SSS host.
  - Example of SSS host names include **x40ml01**.
2. Type **cd *path*** then press **Return/Enter**.
  - ***path*** is the directory path for the file to be created or edited (e.g., /home/cmops/subscriptions).
  - The **MODE** will most likely be one of the following operating modes:
    - OPS (for normal operation).
    - TS1 (for SSI&T).
    - TS2 (new version checkout).
  - Note that the separate subdirectories under /usr/ecs apply to different operating modes.
3. Type **vi *filename*** then press **Return/Enter**.
  - ***filename*** is the name of a file to be opened.
    - It may be either the name of an existing file (e.g., a subscription file ordered using the SSS CLI View command) or the name of a new file.
  - For example:

```
x40ml01{cmops}[10]->vi sub.109.txt
```

```
SUBSCRIPTION=109  
USERNAME=mauser  
STATUS=Active
```

```
[...]
```

```
"sub.109.txt" [New file]
```

- Many lines have been deleted from the example.
- The file will specify the subscription information to be sent to the NBSRV database.

- Although this procedure has been written for the **vi** editor, any UNIX editor can be used to create the file.
4. Using **vi** editor commands create a file that specifies the relevant values to be sent to the NBSRV database.
    - The text file consists of several lines of attribute-value pairs, with one attribute-value pair per line.
    - Comments can be included in the file as long as each comment line starts with the **#** character.
    - When preparing a file for updating a subscription, the number of the subscription to be updated must appear in the file [e.g., on the SUBSCRIPTION line of the file, as shown in the previous example].
      - The number of the subscription is irrelevant when adding a subscription. (The CLI ignores any subscription number in the file and assigns a new subscription number.)
    - The following **vi** editor commands are useful:
      - **h** (move cursor left).
      - **j** (move cursor down).
      - **k** (move cursor up).
      - **l** (move cursor right).
      - **a** (append text).
      - **i** (insert text).
      - **r** (replace single character).
      - **x** (delete a character).
      - **dw** (delete a word).
      - **dd** (delete a line).
      - **ndd** (delete *n* lines).
      - **u** (undo previous change).
      - **Esc** (switch to command mode).
  5. Press the **Esc** key.
  6. Type **ZZ**.
    - **vi** exits and the new or edited file is saved.
      - To exit **vi** without saving the new entries in the file type **:q!** then press **Return/Enter**.
    - UNIX prompt is displayed.

### 16.1.8.2 View a Subscription Using the SSS CLI

1. Access a terminal window logged in to the SSS host.
  - Example of SSS host names include **x40ml01**.
2. Type **cd /usr/ecs/MODE/CUSTOM/utilities** then press **Return/Enter**.
  - Change directory to the directory containing the **SSS CLI** start-up script (i.e., **EcNbSubscriptionCLIStart**).
  - The **MODE** will most likely be one of the following operating modes:
    - OPS (for normal operation).
    - TS1 (for SSI&T).
    - TS2 (new version checkout).
  - Note that the separate subdirectories under **/usr/ecs** apply to different operating modes.
3. Type **EcNbSubscriptionCLIStart MODE View number** then press **Return/Enter**.
  - **number** is the subscription number to be viewed.
    - For example:  
  
**EcNbSubscriptionCLIStart OPS View 115**
  - The CLI creates an output file named **sub.number.txt** (where **number** is the subscription number) in the current directory.
    - For example:  
  
**sub.115.txt4**
  - If the command did not appear to succeed (e.g., a message is displayed indicating that there is no subscription with the specified number), check the log file (i.e., **EcNbSubscriptionCLI.log** in the logs directory for the mode) to determine what went wrong.
4. Type **vi filename** then press **Return/Enter**.
  - **filename** is the name of a file to be viewed.
  - For example:

```
X40ml01{cmops}[10]->vi sub.115.txt
```

```
SUBSCRIPTION=115  
USERNAME=resuam  
STATUS=Active
```

```
[...]
```

**"sub.115.txt"**

- Many lines have been deleted from the example.
  - Although this procedure has been written for the **vi** editor, any UNIX editor can be used to create the file.
5. Using **vi** editor commands observe the contents of the file.
    - The file consists of several lines of attribute-value pairs, with one attribute-value pair per line.
    - Comments in the file are identified by the **#** character at the beginning of each comment line.
  6. Press the **Esc** key.
  7. Type **:q!** then press **Return/Enter**
    - **vi** exits without saving any changes to the file.
    - UNIX prompt is displayed.

### **16.1.8.3 Add a New Subscription Using the SSS CLI**

1. Access a terminal window logged in to the SSS host.
  - Example of SSS host names include **x4oml01**.
2. Type **cd /usr/ecs/MODE/CUSTOM/utilities** then press **Return/Enter**.
  - Change directory to the directory containing the SSS CLI start-up script (i.e., **EcNbSubscriptionCLISStart**).
  - The **MODE** will most likely be one of the following operating modes:
    - OPS (for normal operation).
    - TS1 (for SSI&T).
    - TS2 (new version checkout).
  - Note that the separate subdirectories under **/usr/ecs** apply to different operating modes.
3. Type **EcNbSubscriptionCLISStart MODE Add path/filename** then press **Return/Enter**.
  - **path/filename** is the name of a file containing data describing the new subscription.
  - For example:

**EcNbSubscriptionCLISStart OPS Add /home/cmops/subscriptions/sub.109.txt**

- The subscription number for the new subscription is displayed.

- If the command did not appear to succeed, check the log file (i.e., EcNbSubscriptionCLI.log in the logs directory for the mode) to determine what went wrong.

#### 16.1.8.4 Update a Subscription Using the SSS CLI

1. Access a terminal window logged in to the SSS host.
  - Example of SSS host names include **x4oml01**.
2. Type **cd /usr/ecs/MODE/CUSTOM/utilities** then press **Return/Enter**.
  - Change directory to the directory containing the SSS CLI start-up script (i.e., EcNbSubscriptionCLIStart).
  - The **MODE** will most likely be one of the following operating modes:
    - OPS (for normal operation).
    - TS1 (for SSI&T).
    - TS2 (new version checkout).
  - Note that the separate subdirectories under /usr/ecs apply to different operating modes.
3. Type **EcNbSubscriptionCLIStart MODE Update path/filename** then press **Return/Enter**.
  - **path/filename** is the name of a file containing data describing the updated subscription.
  - For example:  
  
**EcNbSubscriptionCLIStart OPS Update /home/cmops/subscriptions/sub.109.txt**
    - The subscription is updated.
      - If the command did not appear to succeed, check the log file (i.e., EcNbSubscriptionCLI.log in the logs directory for the mode) to determine what went wrong.

#### 16.1.8.5 Delete a Subscription Using the SSS CLI

1. Access a terminal window logged in to the SSS host.
  - Example of SSS host names include **x4oml01**.
2. Type **cd /usr/ecs/MODE/CUSTOM/utilities** then press **Return/Enter**.
  - Change directory to the directory containing the SSS CLI start-up script (i.e., EcNbSubscriptionCLIStart).
  - The **MODE** will most likely be one of the following operating modes:
    - OPS (for normal operation).
    - TS1 (for SSI&T).

- TS2 (new version checkout).
  - Note that the separate subdirectories under /usr/ecs apply to different operating modes.
3. Type **EcNbSubscriptionCLIStart *MODE* Delete *number*** then press **Return/Enter**.
- *number* is the subscription number to be deleted.
  - For example:

**EcNbSubscriptionCLIStart OPS Delete 325**

- The CLI requests confirmation of the deletion.
    - If the command did not appear to succeed (e.g., no confirmation is requested), check the log file (i.e., EcNbSubscriptionCLI.log in the logs directory for the mode) to determine what went wrong.
4. Respond to the deletion confirmation message.

# 17. Library Administration

## 17.1 EED Library Administration Overview

EED Library Administration is provided through the combined resources of Data Management (DM) and Configuration Management (CM). Library Administration includes (1) production, maintenance, and distribution of baselined EED documents, (2) delivery of approved commercial off-the-shelf (COTS) software and documentation and non-contractual documentation to the DAACs and other Government facilities; and (3) DAAC-specific production, maintenance, and distribution of documents which, due to a more timely need for document updates, are produced locally and are tailored to reflect individual DAAC needs and configurations. The DAAC specific updates are eventually incorporated into EED approved documents. There are two web sites that function as electronic distribution points for the approved data and documents. These web sites are maintained by DM and CM, respectively: The ECS Data Handling System (EDHS) and the ECS Baseline Information System (EBIS). All of these processes are discussed in more detail in this Library Administration section.



Figure 17-1. EDHS and ECS Baseline Information System (EBIS) Home Pages

### **17.1.1 Data Management (DM)**

DM is the focal point for establishing and advancing all project document/data management activities. In this regard, DM works closely with all EED offices to provide efficient and cost-effective distribution, storage, maintenance, and retrieval of these data. DM is responsible for maintaining EED data/documentation which includes documents under control of the EED Change Control Boards (CCB). DM's responsibilities encompass three functional areas: (1) Data Requirements refers to the deliverable documentation specified in the Contract Data Requirements List (CDRL) as well as other data items that document the EED Project; (2) Data Control activities focus on the efficient archive, storage and maintenance of materials that support such things as milestone reviews, technical papers and white papers; and other pertinent data such as contract correspondence, progress reports, and background information; and (3) Data Support includes the preparation of documentation for publication. This includes format editing, document coordination, graphics, layout, and reproduction. The Document Coordination staff is responsible for all activities required to prepare CDRLs and other documentation required by the contract. To make documentation readily available, DM has established an electronic distribution via the World Wide Web through the EDHS, (<http://edhs1.gsfc.nasa.gov/>).

#### **17.1.1.1 Authoring Documents**

EED CDRLs and other documents are authored by project personnel using existing tools and templates to ensure consistency and completeness with customer requirements. A standard set of software applications are used across the EED Project. The use of this common set of production tools by both the development personnel and the documentation staff reduces redundant activities such as keystrokes and art preparation.

#### **17.1.1.2 Formatting Documents**

To ensure compliance with customer standards and to promote consistency and ease of use, a standard tool kit of document formats or templates was developed by DM. These templates are located on the Templates page of the EED Process Assets Library web site ([http://dmserver.gsfc.nasa.gov/EMD\\_PAL/Indices/templates.html](http://dmserver.gsfc.nasa.gov/EMD_PAL/Indices/templates.html)) and are used by authors to develop CDRLs and other types of documents. After a document is written or updated by an author, it is then forwarded to DM for further processing. DM assigns the document a unique document number and reviews the document for completeness and format accuracy.

#### **17.1.1.3 Posting and Retrieval of Documents**

After documents are formatted and reviewed by DM, they are reviewed and approved by the appropriate Configuration Change Board (CCB) and other reviewers as required. Approved documents, which are not otherwise restricted, are posted to the EDHS. The EDHS web site provides on-line search and retrieval of EED documentation and is the primary repository of information maintained by the EED Project. DM maintains the EDHS web pages and is responsible for the integrity of all posted documentation.

#### **17.1.1.4 Distribution and Maintenance of Documents**

EED CDRLS and Required Documents are maintained by DM, for the life of the project. A Baseline change to an Earth Observing System Data and Information System (EOSDIS) approved document is accomplished through a document change notice (DCN) or revision.

Documentation produced by the project is distributed internally and/or to the customer. Dissemination includes printed hardcopy and/or electronic posting as indicated in the preceding section.

## 17.2 Configuration Management (CM) Overview

The EED CM Office requirements and objectives in support of EED Library Administration are to maintain and publish EED Technical Baseline Documentation on the EED Baseline Information System (EBIS), located at:

- Riverdale: <http://pete.edn.ecs.nasa.gov/baseline/>
- LP DAAC: <http://e5iil01v.cr.usgs.gov:10160/baseline/>
- LaRC: <http://l5ii101v.larc.nasa.gov:10160/baseline/>
- NSIDC: <http://n5iil01u.ecs.nsidc.org:10160/baseline/>
- ESDIS: <http://ebis.gsfc.nasa.gov:10160/baseline/>

### 17.2.1 Configuration Management (CM)

The EED Technical Baseline documents are updated when the EED CCB approves CCRs that pertain to the DAACs. The EED Technical Baseline documents are defined in 905-TDA-001, EED System Baseline Specification, illustrated as the following:

All **Official** documents have the **9xx-TDX-xxx-Revxx** document numbers.

- 9xx: Document series number:
  - 905: ECS System
  - 910: General Baseline
  - 911: Operating System (O/S) Patch Lists
  - 914: Release Notes
  - 916: Interfaces
  - 920: Site Specific General
  - 921: Network Infrastructure
  - 922: Disk Partitioning
- TDX: TD=Technical Document, X=site identifier (A=Applicable to all sites, E=LPDAAC(EDC), G=GES, C=ECHO, L=ASDC(LaRC), N=NSIDC, , V=VATC, P=PVC, F=EDF2)
- xxx: Document ID within a document series.
- Revxx: Revision number xx

(example: 920-TDN-001-Rev01 is document 920 series for NSIDC DAAC, document ID 001, revision 01)

The EBIS contains several different types of documents within the EED Project, such as:

- Technical documents, posted as CCRs are approved by CCB

- Custom software tracking information (e.g., custom code release CCRs, deliveries, and installation status)
- Engineering software (HOTSHELF) release information
- COTS software tracking information (e.g., COTS software CCRs, deliveries, and installation status)
- Technical directives
- Release notes
- Pre-ship reviews (PSR) documents
- CCRs and eCCRs (electronic CCRs)
- COTS release notes
- COTS inventory
- EED "as built" configurations

#### **17.2.1.1 Posting/Retrieval of Documents/Software from Configuration Management Server**

Information being disseminated on the ECS Baseline Information System (EBIS) must have been approved by the CCB.

Documents are posted in PDF format, and are posted in accordance with 905-TDA-001, EED System Baseline Specification. Documents are posted on the EBIS with the current revision level for that document. If there is any question relating to any document on the EBIS page, contact the CM representative listed on the web site page.

#### **17.2.1.2 EED Software Library Maintenance**

The EED Software Library is responsible for controlling and tracking all approved COTS software for the project. CDs, tar files, and other media is disseminated to the DAACs, depending on the type of COTS software. The Software Library maintains previous versions of COTS products and has the responsibility to ensure that only COTS products have an approved CCR before release of the product.

### **17.3 On-Site Documentation Overview**

On-site documentation requirements and objectives in support of EED Library Administration are to generate site-specific documentation in accordance with program standards and conventions for format storage and control. EED resources will be kept informed and utilized as appropriate.

#### **17.3.1 On-Site COTS Document and Software Maintenance**

EED products deployed to the operational sites that have been released for operational use are maintained in the EED Documentation and Software COTS Library maintained at each site (On-Site SW Library). Site personnel maintain partitioned libraries to facilitate access control of science software and other software not developed by EED. Site personnel are responsible for any CM activities concerned with this library.

# 18. COTS Hardware Maintenance

---

## 18.1 Overview

In this section, discussion of commercial-off-the-shelf (COTS) hardware maintenance support includes COTS hardware procured for the EED Project and some Government furnished property (GFP) and Installation-Accountable Government Property (IAGP) and Contractor-acquired Property (CAP) commercial off-the-shelf (COTS) hardware, software and material.

The following document is referenced in this section:

- Property Management Plan for the EED Project, 105-EED-001

## 18.2 COTS Hardware Maintenance - General

The Maintenance Engineer at the ECS Development Facility (EDF) is responsible for COTS hardware maintenance. Site Property Custodian is responsible for implementation of EED maintenance policy at the DAACs. Questions about COTS hardware maintenance policy are to be addressed through the Maintenance Engineer, using the contact procedures found in the last sentence of this section.

COTS hardware maintenance consists of preventive and corrective maintenance. COTS hardware preventive maintenance is the responsibility of the contracted COTS hardware maintenance providers. COTS hardware corrective maintenance is the responsibility of the contracted COTS hardware maintenance providers, and/or the Local Maintenance Engineer using local DAAC resources. The Site Property Custodian is the DAAC's local point of contact for directing and coordinating corrective maintenance of EED COTS hardware. COTS hardware maintenance support is available from contract COTS hardware maintenance providers according to the terms specified in each maintenance contract. Since all EED hardware is either covered by an onsite, return to manufacturer, or time-and-material maintenance contract there is no need for robust site spares provided by the EED program. Depending on the task, additional site spares may be purchased for future tasks, but that decision will be made on a task-by-task basis. Any spares that remain from the ECS contract were transferred to the EED contract and will continue to be used until exhausted. Site spares that may remain from ECS mainly consist of monitors, keyboards, mice, and a variety of circuit boards. The Site Property Custodian ensures that all COTS hardware maintenance providers comply with requirements of this The Site Property Custodian will send the required information for maintenance repair to the Maintenance Engineer. The Maintenance Engineer is available either by email or telephone during normal work hours or by cell phone for after-hour emergencies. The Maintenance Engineer's name, email address, cell phone will be forwarded to the DAAC Site Property Custodian under separate cover.

### **18.2.1 Corrective Maintenance**

Corrective maintenance is the unscheduled repair of equipment, to include fault detection, diagnosis, isolation, repair and recovery of software and databases if appropriate. The maintenance of hardware items may be performed on site by the Site Property Custodian or the contracted maintenance provider, or by returning the failed component to the maintenance depot for repair or replacement.

### **18.2.2 Configuration Management**

Configuration Management (CM) requirements are addressed in this document. The Site Property Custodian ensures compliance with the CM requirements resulting from a hardware maintenance action.

### **18.2.3 COTS Hardware Maintenance Safety**

Hardware maintenance will be accomplished in a manner that ensures personnel and equipment are protected from harm. The Site Property Custodian will ensure that local safety requirements are known and observed by local site support personnel and COTS hardware maintenance providers during COTS hardware maintenance.

COTS hardware safety practices include electrostatic discharge (ESD) protection. The ESD program will be locally developed by the Site Property Custodian using applicable DAAC procedures for guidance. When not being worked on or when outside protected areas, electronic parts and assemblies are to be covered by ESD protective covering or packaging. During installation or removal of electronic parts or LRUs (Line Replaceable Unit), a common ground will be established between the technician, work area, the part, and the equipment it is to be installed in/removed from. It is the responsibility of the Site Property Custodian to ensure compliance with these safety procedures by the hardware maintenance provider and site personnel.

## **18.3 COTS Hardware Maintenance - Contract Information**

The EED COTS procurement organization is located at the ECS Development Facility (EDF) and is responsible for contracting for COTS hardware maintenance. Cost and support considerations may result in COTS hardware maintenance being provided by a third-party provider. Questions or comments concerning COTS hardware maintenance are to be directed to the Maintenance Engineer.

### **18.3.1 COTS Hardware Maintenance Contract**

Information relating to COTS hardware maintenance contracts is maintained by the Maintenance Engineers at the EDF. The Site Property Custodian can obtain specific information on all hardware maintenance contracts from the Maintenance Engineers at EDF, as needed.

### 18.3.2 Information Required to Obtain COTS Hardware Maintenance

Generally, COTS hardware maintenance providers require an access or site code and/or the serial number of the host equipment to verify that the failed item is covered under a maintenance contract. For example, if maintenance were requested for a terminal/monitor or disk drive, the serial number of the parent workstation or server would need to be provided to the maintenance provider. The serial number may also be the access code for that provider. The information needed by the various COTS hardware maintenance providers to verify that maintenance is authorized is obtainable from the Maintenance Engineers at the EDF. DAAC site-specific site access numbers/site codes/contract numbers, if required, can also be obtained from the Maintenance Engineers, accordingly.

## 18.4 Hardware Repairs - Standard

- (1) Users/operators of EED hardware should report hardware/system problems to the site's Site Property Custodian for resolution. Users, operators, and support personnel who encounter a hardware problem will report the problem
- (2) The Site Property Custodian documents maintenance actions via an email, CCR, NCR or the ECS Defect Tracking System based on the severity of the problem. The communication is routed to the appropriate managers, engineers, maintenance engineer and Property Administrator. The maintenance engineer will take action, if required, to initiate a ticket with the vendor and provide escalation support. When the maintenance action is completed, any associated property changes are communicated via email and documented in the database by the EED Property Administrator

### 18.4.1 Hardware Problem Reporting

Once a failure occurs, the operator, SA and/or NA will isolate the problem to its source (i.e., Operating System, COTS application software, EED custom software, science software, network, or COTS hardware), using the action shown in Table 18.4-1, DAAC Hardware Problem Reporting Procedure.

**Table 18.4-1. DAAC Hardware Problem Reporting Procedure**

Step	Occurrence	Action
1	System problem discovered by an SA, NA, or operator,	a. If local troubleshooting does not fix the problem and it is determined to be hardware related, notify the Maintenance Engineer who will contact the appropriate maintenance vendor. The Maintenance Engineer will start an MWO when the COTS maintenance vendor is notified.

## 18.4.2 Hardware Corrective Maintenance Actions

Hardware problems are forwarded to the Site Property Custodian. The Site Property Custodian will attempt to identify the cause of the problem and employ DAAC resources to resolve the problem. If unable to correct the problem using DAAC resources, the Site Property Custodian arranges for on-site maintenance by the appropriate maintenance provider. Hardware corrective maintenance actions are described in Table 18.4-2.

**Table 18.4-2. Hardware Corrective Maintenance Actions (1 of 2)**

Step	Occurrence	Action
1	COTS HW problem not resolved by initial troubleshooting by operator, SA or NA.	<ul style="list-style-type: none"> <li>a. Site Property Custodian notified of HW failure by operator, SA or NA.</li> <li>b. Site Property Custodian cross-reference information documenting the problem to send to the Maintenance Engineer and Property Administrator.</li> </ul>
2	Site Property Custodian attempts to identify cause of problem.	<ul style="list-style-type: none"> <li>a. Verifies actions and results to date by contacting SA and/or NA.</li> <li>b. Starts corrective maintenance process.</li> </ul>
3	Problem resolved by Site Property Custodian or local staff.	<ul style="list-style-type: none"> <li>a. If problem can be resolved without hardware replacement (e.g. re-seat component, cable, etc):               <ul style="list-style-type: none"> <li>1) Correct problem, and verify resolution.</li> <li>2) Prepare an email or open a ticket with ECS Defect Tracking System or NCR describing the maintenance action and forward to the EDF.</li> </ul> </li> <li>b. If problem can be resolved by replacement of failed LRU with maintenance spare (if available):               <ul style="list-style-type: none"> <li>1) Replace failed LRU and record following in email or ticket to the EDF:                   <ul style="list-style-type: none"> <li>a) Part number, serial number, and model/version number of replaced LRU</li> <li>b) Part number, serial number, and model/version number of new LRU</li> </ul> </li> <li>3) Order replacement of failed LRU in accordance with Section 18.4.1.</li> <li>4) Replace the failed LRU in accordance with Section 18.4.2.</li> <li>5) Prepare an email, describing the maintenance action and forward to the EDF Maintenance Engineer and Property Administrator.</li> </ul> </li> </ul>

**Table 18.4-2. Hardware Corrective Maintenance Actions (2 of 2)**

Step	Occurrence	Action
4	Problem not resolved by Site Property Custodian or local staff.	<ul style="list-style-type: none"> <li>a. Site Property Custodian notifies the maintenance contractor by obtaining contractor information from the Maintenance Engineers at the EDF.</li> <li>b. Site Property Custodian invokes return-to-depot support where appropriate,</li> <li>c. Prepare an email, describing the maintenance action and forward to the EDF Maintenance Engineer and Property Administrator.</li> </ul>

### 18.4.3 Contract On-Site Hardware Maintenance

When on-site hardware maintenance support is necessary, the Site Property Custodian will notify the applicable maintenance contractor and request assistance. The call for support will be documented by the Site Property Custodian, noting the date and time the contractor was called. Refer to Table 18.4-3 for more information about obtaining on-site COTS hardware maintenance support.

**Table 18.4-3. Obtaining On-Site Hardware Maintenance Support (1 of 3)**

Step	Occurrence	Action
1	Local support effort did not resolve the problem.	<p>Site Property Custodian gathers information needed to obtain contract maintenance support and contacts the COTS maintenance vendor. Common information that is needed when contacting maintenance vendors is described below.</p> <ul style="list-style-type: none"> <li>1) Make, model, serial number, and location of failed systems.</li> <li>2) Description of problem and symptoms.</li> <li>3) Criticality of the COTS hardware experiencing the problem.</li> </ul>
2	Site Property Custodian actions	Jointly determine between maintenance contractor and site operations staff an acceptable time to bring the equipment down for maintenance [only applicable when entire device is down. Coordination to schedule down time is only required for a functional, but impaired, device]
3	Maintenance technician arrives at the site.	<ul style="list-style-type: none"> <li>a. Site Property Custodian arranges for site access using local established procedures.</li> <li>b. If required, Site Property Custodian requests System Administrator site Help Desk, or other appropriate and authorized personnel to shut down the machine at the predetermined time so that corrective action(s) can begin. Note that any user affected by this action must be notified prior to the machine/system shutting down.</li> <li>c. Site Property Custodian escorts maintenance technician to the hardware</li> <li>d. Site Property Custodian ensures maintenance provider's technician follows all ESD precautions. Site Property Custodian assists the maintenance technician in resolving the problem. This includes: <ul style="list-style-type: none"> <li>1) Arranging for a demonstration of the problem (if possible)</li> <li>2) Arranging for the equipment to be shut down.</li> <li>3) Obtaining site available technical references, when needed</li> </ul> </li> </ul>

**Table 18.4-3. Obtaining On-Site Hardware Maintenance Support (2 of 3)**

Step	Occurrence	Action
3a	Maintenance technician corrects the problem by replacement of parts.	If a part is replaced, the Site Property Custodian accomplishes the following: <ol style="list-style-type: none"> <li>1) Obtains from the failed part or the maintenance technician:                             <ol style="list-style-type: none"> <li>a) Serial number, equipment identification number (the EIN number on the silver label), and model/version</li> </ol> </li> <li>2) Obtains from the new part:                             <ol style="list-style-type: none"> <li>a) Part number, serial number, and manufacturer's model number</li> </ol> </li> <li>3) Updates the email to the Maintenance Engineer and Property Administrator with the following information:                             <ol style="list-style-type: none"> <li>a) Actions taken to correct the problem.</li> <li>b) Part number, serial number, and model/version, and EIN (if applicable) of the old and new item</li> <li>c) Name of the item replaced</li> <li>d) Arrival date and time</li> <li>e) Any delay time experienced in completing the corrective action and reason for delay time to repair</li> </ol> </li> </ol>
3b	Maintenance technician corrects the problem without replacement of parts	If no parts were replaced, the Site Property Custodian updates the email to the Maintenance Engineer and Property Administrator with : <ol style="list-style-type: none"> <li>1) Actions taken to correct the problem.</li> <li>2) Time and date technician arrived</li> <li>3) Time and date repair was started and completed</li> </ol>
3c	Site Property Custodian requests the SA to make the system functional	<ol style="list-style-type: none"> <li>a. SA restores data, operating system, patches or other SW items to bring the system on line.</li> <li>b. Notes the amount of restore time for the Site Property Custodian.</li> </ol>
3d	Maintenance technician does not resolve the problem	<ol style="list-style-type: none"> <li>a. Site Property Custodian request the Maintenance vendor provide additional technical and or managerial resource to resolve the problem.</li> <li>b. Site Property Custodian notifies Maintenance Engineer that problem repair effort as been delayed, and escalated.</li> <li>c. Site Property Custodian documents all escalation activity until further action is taken.</li> <li>d. Receipt of a completed copy of the dispatch trouble ticket from the vendor</li> <li>e. The information from the vendor's ticket is consistent with the information documented for Maintenance Engineer and Property Administrator.</li> <li>f. Record all actions for future reference in the email to the appropriate EDF personnel.</li> </ol>
4	Site Property Custodian reports actions taken	<ol style="list-style-type: none"> <li>a. After the failure is repaired complete email and send it to the EDF.</li> <li>b. If appropriate ensures the local and or EED Configuration Control Board is properly notified of the configuration alterations and requests a formal change using procedures in Chapter 8.</li> </ol>

**Table 18.4-3. Obtaining On-Site Hardware Maintenance Support (3 of 3)**

Step	Occurrence	Action
5	Site Property Custodian files	A copy of vendors dispatch sheet, and related documents in a permanent file and references email notes sent to the Maintenance Engineer and Property Administrator.

#### 18.4.4 Return-to-Depot Support

If the OEM (Original Equipment Manufacturer) vendor does not provide on-site support, a return to vendor maintenance concept is used. There are two types of return to vendor maintenance. The Maintenance Engineers at the EDF will specify which concept is to be used. One is advance replacement where the new LRU is requested prior to sending the old LRU to the vendor. If advance replacement is not provided, the Site Property Custodian must return the failed item to the appropriate repair center using procedures contained in Section 18.4-2.

Table 18.4-4 provides the Return to Depot procedures.

**Table 18.4-4. Procedure for Return to Depot (Advance Replacement and Return before Replacement)**

Step	Occurrence	Action
1a	Advance Replacement authorized	a. Contact vendor and request replacement. b. Return broken part to vendor when new part is installed and working.
1b	Advance Replacement not Authorized	Contact the maintenance provider using the information obtained from the Maintenance Engineers at the EDF.
2	Ship Failed unit to vendor	a. Obtain an RMA number and shipping instructions from the repair vendor. b. Ship the failed unit to the vendor using local shipping procedures.
3	Replacement Part is received from the COTS maintenance vendor.	a. Place a new EIN sticker on replacement LRU. b. Install the new LRU. c. Complete the documented changed and send it to the EDF Maintenance Engineer and Property Administrator

#### 18.4.5 Return of Failed LRUs

The Site Property Custodian is responsible for the return of failed LRUs to maintenance contractors providing replacement parts and not on site support. In such agreements the maintenance provider sends to the site a replacement for a failed component under the condition that the site will return the failed component within a reasonable time, usually not greater than 10 days. If the failed component is not returned the contract is charged the full purchase price for the item not returned.

## 18.5 Non-Standard Hardware Support

Non-standard COTS hardware support consists of:

- a) Maintenance support outside the Principal Period of Maintenance (PPM),
- b) Support covered under a Time and Materials contract, or
- c) Escalated support actions by the maintenance support provider.

Table 18.5-1 shows the procedure for Time and Material Support

**Table 18.5-1. Procedure for Time and Material Support**

Step	Occurrence	Action
1	Site Property Custodian contacts	The Time and Material Support Contractor and requests Maintenance Coordinator to obtain approval for the repair.
2	Repair is completed	If repair is approved the Site Property Custodian will send the signed receipt of report to the Maintenance Engineer to process.

### 18.5.1 Escalation of COTS Hardware Support Problem

In some cases OEM hardware maintenance contractors do not respond to maintenance requirements in a requisite manner that ensures prompt hardware repairs. In these cases, the Site Property Custodian should request escalation from the onsite maintenance technician. If further escalation is necessary the Site Property Custodian will request the office to escalate the issue with the vendor. When requesting escalation the original vendor trouble ticket number will be used as the reference document.

### 18.5.2 Low Cost Equipment – Not Repaired

Server and PC terminals, keyboards, and mice are low cost items that are not repaired, because the repair costs would exceed the cost of a new item, but are replaced on a one-to-one basis by either the OEM maintenance contractor or the time and material contractor. Site Property Custodian will follow the same procedures for replacing these items as for other LRUs. If the appropriate maintenance contractor does not remove the failed items, they may be disposed of using local procedures after the email is completed and sent to the EDF. Property tags should be removed from the keyboards and mice before disposal.

# 19. COTS Software Maintenance

---

## 19.1 Introduction

EED staff at the EDF provides maintenance for ECS software and firmware delivered to NASA under the EED contract.

In general, EED organizations procure, produce, deliver, and document modifications and enhancements made to ECS software and firmware. No custom firmware has been identified as part of the EED program. Commercial off-the-shelf software and firmware (COTS SW) is maintained in accordance with the EED maintenance philosophy for software which is to provide centralized support for developed items and vendor support for COTS SW.

Commercial off-the-shelf (COTS) software maintenance is a continuous activity that provides:

- Sufficient rights to use COTS software products
- Access to software vendor telephone support
- Access to vendors on line and email support
- Rights to product patches and upgrades and instructions for installing them

The COTS team at the EDF manages the EED COTS product maintenance program and other logistics operations. This includes the budget and expenditures associated with COTS software maintenance. The team establishes maintenance contracts that ensure vendor support and maintains information and procedures needed for contacting COTS product vendors. The team also manages software licenses and ushers product changes through EED's COTS software upgrade process to deploy and use them system-wide.

Daily management and execution of software maintenance activities at the DAACs is under the operational control of the DAAC managers. Operations staff is present at each site to install COTS software changes, diagnose problems, identify root causes, coordinate resolutions, and document COTS software maintenance actions performed at the site. EED COTS SW engineers provide assistance when COTS software issues exceed the capabilities of site System Administrators to resolve.

The DAAC maintenance activity includes: software configuration management (CM) including support for change control, configuration status accounting, audit activities, and software quality assurance (QA). Each site has CM authority over its own resources subject to EOSDIS delegation of roles for EED management.

COTS software vendors provide advice, troubleshooting, and product updates for COTS products procured under the EED contract. (The term "software vendor" refers to the company having the legal right to authorize use of the software and to modify the software code.) COTS software vendor support consists of telephone support, access to an on-line solution database,

providing upgrades and patches, and resolving COTS software problems. Occasionally, vendors are called upon to install software products and updates on-site.

COTS software maintenance tasks are discussed further in the sections that follow.

## 19.2 COTS Software Maintenance Tasks

The Activity Outline in Table 19.2-1 is an index to the section below where COTS SW maintenance procedures can be found.

**Table 19.2-1. COTS Maintenance - Activity Outline**

Task	Section
Management of COTS Software Maintenance Contracts	19.2.1
Management of COTS Software Licenses	19.2.2
COTS Software Installation and Upgrades	19.2.3
Obtaining COTS Software Support	19.2.4
COTS SW Problem Reporting	19.2.5

### 19.2.1 Management of COTS Software Maintenance Contracts

The Supply Chain Management staff at the EDF procures COTS software vendor support. Support is typically contracted for a period of one or more years and extended or modified as operationally required. Information related to COTS software support contracts is maintained on an ILS web page.

In general, COTS software maintenance is renewed annually during the fall of the year. EED's Property Custodian works in conjunction with procurement and COTS SW engineers to determine the products, level of maintenance and quantity of licenses to be renewed. All COTS SW maintenance recommendations are approved by the EED SCDV CCB Chairperson. The EED Property Custodian ensures that all products are reviewed during the maintenance renewal period.

### 19.2.2 Management of COTS Software Licenses

Software licenses embody an organization's right to use COTS software products. COTS software license types include: floating, nodelock, site, and program licenses. Floating licenses allow users to run a product from any machine concurrently. Nodelock licenses let users run the product on a designated machine. Site licenses allow unlimited use of the software product at a particular site, and program licenses are licenses that can be used anywhere on the EED project.

EED's Supply Chain Management purchases software licenses as determined by EED engineers.

COTS software licenses are received and managed by the EED Property Custodian, who may also serve as COTS SW License Administrator.

The COTS SW License Administrator, who manages licenses and license keys used on the EED contract:

- a. Maintains a database that contains license keys for EED-purchased COTS SW. The COTS SW installation team (or site) provides host identifiers to the License Administrator who then obtains the necessary license keys from vendors for installation and populates the license database.
- b. Maintains accountability for all COTS SW licenses procured for the EED contract. Accountability includes tracking and reporting the as-installed location of all licenses (other than PC based products) procured for the EED program.
- c. Obtains new licenses and license keys from software vendors per approved CCRs.
- d. Assists with determining the effect of proposed COTS SW upgrades and patches on ECS product licenses.
- e. Assists COTS SW engineers and DAAC System Administrators resolve COTS SW license problems, as required.

### **19.2.3 COTS Software Installation and Upgrades**

COTS software upgrades are subject to appropriate CCB approval before they may be loaded on any platform. EED's COTS SW Librarian maintains CM-controlled repositories and distributes COTS software upgrades as directed by the CCB using procedures contained in Chapter 9, "Configuration Management". Site System Administrators are responsible for upgrading the software on host machines and reporting status to the Configuration Management Administrator (CMA), COTS Software Librarian and EED Property Custodian.

COTS software vendors may provide COTS software patches in response to a DAAC's call for assistance in resolving a COTS software problem. When a COTS software patch is received directly from a COTS software vendor -- which includes downloading the patch from an on-line source -- appropriate site personnel inform the DAAC CCB via CCR. It is these individuals' responsibility to notify the CCB of the patch's receipt, purpose, and installation status, using procedures contained in Chapter 9, "Configuration Management," and to comply with the CCB decisions. The appropriate site personnel install the COTS SW patches as directed by the CCB.

In addition to providing patches to resolve problems at a particular site, the software vendor will periodically provide upgrades of COTS software in order to improve the product. These upgrades are issued for all licenses covered by a software maintenance contract. COTS software upgrades obtained on physical media will be shipped to the EED Property Custodian who receives and enters them into inventory. The EED Property Custodian forwards the media to the COTS Software Librarian and notifies appropriate engineers and System Administrators that new licenses/keys have arrived. The COTS team then directs COTS SW deployment activities. COTS software upgrades obtained electronically are placed in an on-line repository maintained under CM control by the COTS Software Librarian at the EDF.

#### **19.2.4 Obtaining COTS Software Support**

COTS SW vendors provide contracted support. When a problem attributed to COTS software occurs at a site, authorized personnel contact the vendor's technical support staff.

The software vendor's technical support center verifies contract support authorization, assists in pinpointing the problem's cause, and provides a recommended solution. The solution may involve a patch or work-around, or the fix may be included in a future release. If a patch exists to correct the problem, the patch is identified and provided by the software vendor over the Internet or mailed to the requester. If a patch is required but unavailable, the site and vendor together determine the severity of the problem. In cases where the problem is critical, a temporary patch or work-around may be provided. If non-critical, the solution may be incorporated in a future update or release. The DAAC and EED CCBs must authorize the patch to be installed. When necessary, this authorization may be made after-the-fact. If the patch is needed to proceed with operations, DAAC personnel are notified of the requirement. Configuration Management (Chapter 9) applicable requirements should be followed for baselining the change.

Generally, COTS SW vendors require a customer number, site id, and/or the serial number of the host equipment to verify that the software is covered under a maintenance contract. The information needed by the various COTS SW vendors to verify that maintenance is authorized is specified on the ILS web page. Some COTS SW vendors require that EED designate individuals authorized to contact them; the number of individuals varies among the vendors. The EED Property Custodian, in coordination with DAACs, arranges with the COTS SW vendors for specified personnel to become authorized contact persons. Vendor support contact information can be found using the ILS web page located at <http://dmserver.gsfc.nasa.gov/ils/intro.html>.

#### **19.2.5 COTS Software Problem Reporting**

The first person experiencing or observing a potential COTS SW problem opens a trouble ticket in EED's Defect Tracking System, TestTrack Pro (TTPro), according to procedures in Chapter 8, "Problem Management." This person attempts to identify the source of the problem and ascribe it to system configuration, hardware, network, COTS SW, custom SW, science SW, documentation, or procedures.

One method of troubleshooting COTS SW problems is to scan the software vendor's web site for solutions for similar problems. The software vendor's web site address can be obtained from the ILS web page.

Another method of troubleshooting the problem is to exercise available software diagnostic routines to determine the status of the COTS SW on the equipment by reviewing the troubleshooting-diagnostics and corrective actions taken to date. Troubleshooting instructions may be contained in the vendor's operations manuals or in site troubleshooting procedures.

If beyond the capabilities of the site to troubleshoot, site staff escalates the trouble ticket to the system level, notifying the EED Problem Resolution Board.

If a COTS SW problem is confirmed, an authorized individual contacts the vendor's technical support center for assistance. Information on contacting the software vendor's technical support center is in Section 19.2.4, "Obtaining COTS Software Support."

Appropriate site personnel must annotate all actions inclusive of dates, time, resolutions, and comments in the TTPro trouble ticket as the repair progresses. COTS software corrective action reporting follows the procedures contained in Chapter 8, "Problem Management" and the configuration control requirements contained in Chapter 9, "Configuration Management," when a configuration item is removed and/or replaced with a different version or release.

COTS software problems that cannot be corrected using site and contracted software support or that may affect other DAAC sites should be escalated to the EDF using problem management procedures in Chapter 8, "Problem Management." The EDF is staffed with engineers having specific knowledge of each ECS COTS product who can assist in diagnosing and resolving the problem.

If a software vendor's efforts have not produced satisfactory results within a reasonable period of time, sites' staffs notify EED's COTS team to request an escalation of software vendor support. Escalation may result in increased review or participation by vendor managers in resolving a problem, the assignment of additional resources to resolve the problem, and/or a more highly qualified technician assigned to resolve the software problem.

This page intentionally left blank.

## 20. Property Management

---

This section describes procedures for the receipt, control, and accountability of EED property at EED sites. The Property Management Plan (PMP) for the EED Project, 105-EED-001, is the DCMA Property Administrator approved document that addresses the process and policies regarding how EED property is to be managed. Property Custodian and the Site property engineer should be thoroughly familiar with and comply with the policies and procedures contained in the Property Management Plan.

The Property Custodian supports the activities of receiving, inspection, storage, issue, inventory recording, accounting, and reporting of EED property at EED sites. As stated above Site Property Engineer should follow the particular procedures of the PMP; local procedures may be used as long as they do not deviate from the specific direction in the PMP. Locally developed procedures should be forwarded to and reviewed by the EED Property Administrator for consistency with this plan.

### 20.1 Receipt of Equipment and Software from Vendor

Most EED property will be shipped to DAACs from the EDF at Riverdale. However there may be occasions when property will be shipped directly to the DAACs from OEM vendors. In such cases, the Property Custodian will provide a copy of the Purchase Order to the Site Property Engineer to serve as a due-in notice. Upon receipt of the equipment, the Site Property Engineer will perform a receiving inspection to verify correctness of delivery, quantity received and to determine if items were damaged during shipment. The Site Property Engineer will utilize the following tables as guidance for Receipt of Incoming Items.

- Table 20.1-1, Procedure for the Receipt of Equipment
- Table 20.1-2, Procedure for Completion of the Inventory Worksheet
- Table 20.1-3, Procedure for Completion of the Non Conforming Product Report
- Table 20.1-4, Receiving Process Checklist

The worksheet for documenting inventory and the relevant checklists will be provided by the Property Custodian. When all checklists are signed and verified, the Site Property Engineer faxes or e-mails all forms to the Property Custodian updates the Inventory Database. When a product is received that does not conform to the purchase order, the COTS Non-Conforming Product Report (NCR) form (form number ILFM001-1) is used. It is located at the same URL as the Inventory Worksheet under the **COTS Non-Conforming Product Report** link.

**Table 20.1-1. Procedure for the Receipt of Property**

<b>Step</b>	<b>Action</b>
1	The Site Property Engineer completes the Loading Dock checklist document with the following information: Printed name of receiving individual Signature of receiving individual Date of receipt Name of the carrier Shipper's bill of lading or tracking number Customer reference number (when appropriate) Number of boxes received Condition of boxes with a notation of Satisfactory or Damaged
2	The Site Property Engineer verifies damage, shortage, overage or other discrepancies and annotates these findings on both the carrier's and site's copy. An NCR will be completed per the instructions in Table 20.1-4.
2a	If there is obvious damage to exterior packaging at the time of delivery, obtain a signature of the carrier's representative on the shipping carrier's document and notify the Property Custodian for further direction and information.
3	Begin the process of moving equipment into a controlled storage area and completing the inventory worksheet as described Table 20.1-2.

**Table 20.1-2. Procedure for Completion of the Inventory Worksheet**

<b>Step</b>	<b>Action</b>
1	The Site Property Engineer removes the equipment from the loading dock to controlled storage area.
2	Verifies the items received against purchase orders and vendor's packing list. Inspects visual condition of material and documents information on Inventory Worksheet.
3	Documents the serial, model numbers and other appropriate markings on the Inventory Worksheet. Performs final visual inspection of product to ensure no damage or non-conforming items have been received.
4	Places silver EIN tags on equipment or receive a virtual tag number from the Property Custodian per the instructions listed in Section 20.2.
5	Assembles equipment for burn-in and documents the burn-in process on the System Verification Checklist.
6	If required, complete an NCR per Table 20.1-3.

**Table 20.1-3. Procedure for Completion of the Non Conforming Product Report**

<b>Step</b>	<b>Action</b>
1	The Site Property Engineer verifies shipment discrepancies (include shortages, overages, and incorrect items/quantities/models).
2	Completes COTS NCR per instructions on the back of the form.
3	Sends the completed COTS NCR to the Property Custodian via fax or EMAIL.
4	The Property Custodian will process the NCR at the EDF and notify the DAAC of resolution.

**Table 20.1-4. Receiving Process Checklist**

<b>Step</b>	<b>Action</b>
1.	Verify that Loading Dock Checklist has been completed with all the appropriate information.
2.	Annotate Purchase Order number or Returned Material Authorization (RMA) on the Inventory Worksheet.
3.	If required, verify that COTS NCR has been completed and processed per Table 20.1-3.
4.	If the material is partial receipt, verify that it is segregated, labeled, marked and in a controlled storage area.
5.	If the order has discrepancies and an NCR has been forwarded to the EDF, verify that the property is segregated, labeled and documented in a controlled storage area.
6.	Verify the Inventory Worksheet, System Verification, and Receiving Process Checklist have been completed and documented. Fax or Email to the Maintenance Engineers

## **20.2 Receipt of Equipment and Software from the Property Custodian**

The Site Property Engineer will also receive equipment from the Property Custodian. Table 20.2-1 defines the process of receiving EDF shipped equipment at the DAACs.

**Table 20.2-1. The Site Property Engineer Actions for Property Received from the Property Custodian**

<b>Step</b>	<b>Action</b>
1	The Site Property Engineer receives shipment with Installation Receipt (IR) report from the EED PC
2	The Site Property Engineer inspects and verifies for shipping damage, completeness using the IR report.
3	Notifies the Property Custodian immediately of any discrepancies. If discrepancies exist, annotate the IR report accordingly.
4	Sign for the property where indicated and redline location and site-specific changes on the top right header information.
5	The Site Property Engineer retains a copy for files and mails the original back to the Property Custodian.
6	The Property Custodian inputs all changes into the property Database.
7	The original signed redlined IR report and a copy of the Installation Report will be filed in the Purchase Order folder.
8	The site copies of the IR report and installation report will be filed in the site equipment folders.
9	The Site Property Engineer will coordinate installation of the equipment in accordance with approved CCR and DAAC procedures.

## **20.3 Equipment Tagging**

EED equipment (e.g., contractor-acquired and GFP) that is separately identifiable and meets the criteria for controlled equipment as described in the Property Management Plan, will be tagged with EED property tags. NASA EED Program property located at the GSFC and ASDC sites will be classified as Installation-Accountable Government Property (IAGP) under the authority of the NASA GSFC Industrial Property Office (Code 235.1) and be tagged with Government ECN

tags. However, IAGP equipment will continue to be maintained in the property database along with the equipment tagging information for both the EED project and NASA Property Office.

In a Figure 20.3-1 illustrates EED property tags. ECS property tags are shown in Figure 20.3-1. EED property tags are similar except the contract number is: NNG10HP02C. All property shipped from the EDF will be tagged prior to shipment. If the Property Custodian have to tag or retag EED property tags will be placed on the equipment so that they are visible and easily accessible by bar-code scanners. Vendor-loaned and RSC capital equipment will not be tagged with EED property tags.



**Figure 20.3-1. EED Property Tags (Actual Size)**

Components of major equipment that are not separately identifiable or stocked for use, such as spares/repair parts will be assigned a C-Number EIN. The C-Number EIN will be controlled as inventory items and recorded by manufacturer, description, model/version, serial number (if applicable), location, and quantity and with the parent EIN.

Property tags of GFP equipment containing a NASA equipment control number (ECN) will not be removed. At the time of receipt of such property, an EED property tag with EIN next to the government tag will be affixed.

Equipment loaned via vendor or manufacturer for evaluation will be labeled with a tag. The tag will contain information of the EED person responsible for obtaining the loan equipment, the organization that loaned the equipment, date for return, and process to follow.

If EED property is returned to a vendor for repair or replacement the Site Property Engineer will remove the EED property tag prior to shipment. When the item is returned the Property Custodian will place a new property tag on the property and update the new tag, serial number and other indicative data and send an email to the Property Custodian for property database updates.

## **20.4 Property Records and Reporting**

The EED Project will use the Asset Smart Property Management System to support the property management, control and reporting functions for contractor-acquired and GFP equipment. NASA EED Program property located at the GSFC and ASDC sites will be classified as Installation-Accountable Government Property (IAGP). All records both GFP, and IAGP will be maintained in the Asset Smart system by the Property Custodian or Property Designee.

Property records will contain a line for each item having an EIN (e.g., workstation monitor) and each of its major components (e.g., network interface cards, RAM chips and graphics card). Refer to the IR Report provided at the time of site installation. The Inventory reports are available by request from the Property Custodian via email or telephone to the Maintenance Engineer. See Section 20.5 for specific instructions.

### **20.4.1 Maintaining Property Records**

Property Custodians will document inventory and configuration changes in local property records within one business day of the change.

Support documentation for posting changes to property records includes the following:

- Installation Receipt Report -- This report is provided by Property Custodian at the time equipment is installed and is used to record receipts and changes of equipment at the site. It can be used to update site property records with installed location, date, and name of the person accepting receipts. This report is signed by the Site Property Engineer to acknowledge receipt of equipment at the site.
- Maintenance information prepared by the Site Property Engineer to report equipment changes resulting from maintenance or relocation actions (e.g., serial/model changes, component replacements, and relocation/reconfiguration at the site). The Site Property Engineer is required to send an email to the Maintenance Engineer once the maintenance action has been finalized.

### **20.4.2 Reporting Loss, Theft, Damage or Destruction**

If EED or GFP property at the site is lost or stolen, the Site Property Engineer will notify the site security manager as soon as the loss is discovered and the Property Custodian within one business day. The initial written report will contain all information related to what was lost/stolen, when, where, how, and the circumstances regarding the loss/theft. The final report, due 30 days later, will contain all information required by the EED Property Management Plan and will be sent to the Property Custodian and if a report was prepared by local security personnel/police, a copy of the report should be attached. Equipment damaged or destroyed through circumstances that indicate inappropriate use, negligence, or improper care, the Site Property Engineer will likewise notify the Property Custodian of the specifics of the damage/destruction and its circumstances via email.

The Property Custodian will review such incidents and report, as required, and input them into the External Web Access Manager (EWAM) per instructions by DCMA.

## **20.5 Equipment Relocation**

This section provides instructions for equipment relocation within a DAAC (intra-site relocation); between EED sites or between EED sites and non-EED sites (inter-site relocation); to a vendor (off-site relocation); and transfer to outside the contract (external transfer).

### **20.5.1 Intra-Site Relocation**

Requirements for equipment reallocations within the facility or between facilities at the same site will be processed through the Site Property Engineer to maintain control and accountability of equipment inventories. Local procedures will be developed to ensure that the Site Property Engineer is aware of all property moves within a DAAC. When completed, the Site Property Engineer will report the location change in an email to the Property Custodian

### **20.5.2 Inter-Site Relocation**

Inter-site relocation requests require a CCR approved by the EED CCB. Such requests will identify by EIN and equipment description what is to be moved, where and when it is to be moved, and the reason for the relocation. The Property Custodian will work with the losing and gaining DAAC to ensure that all property information affected by the transfer is update in Asset Smart. The losing site will coordinate the relocation resources and schedule with the gaining site and the Property Custodian. Once completed, the gaining site will report completion of the relocation to the Property Custodian by email. Any loss or damage to the equipment will be reported when it is first discovered.

### **20.5.3 External Transfers**

Generally EED property will not be transferred outside the EED contract. If the Site Property Engineer needs to transfer EED property to organizations not supported by the EED, contact the Property Custodian for guidance. No property will be transferred without the express approval of the NASA Hardware Manager. Once approved, the Property custodian will create two 20-4 transfer documents. One document will contain the transfer of the equipment to the NASA code 423A IAGP. The second document will contain the transfer of the equipment from NASA code 423A to the requesting agency. Both transfer documents must be approved by all NASA Authoritative members before final approval of transfer. After the transfer has been completed EED will no longer be financially accountable to maintain the transferred equipment therefore placing all responsibilities solely on the requesting agency.

## **20.6 Inventories and Audits**

Annually Property Custodian will complete a 100 percent physical inventory of controlled EED property and GFP at the site. This inventory may be conducted in conjunction with the Task 201 annual inventory conducted by the office. EED personnel responsible for maintaining property records will provide technical assistance but will not be part of any inventory count teams. Inventories will be designed to achieve the following objectives:

- Verify that accountable equipment is still on hand.
- Confirm or determine current locations and custodial responsibility for equipment and material.
- Identify unrecorded equipment that qualifies for control.
- Locate or identify missing equipment.
- Identify unused or under utilized equipment and equipment or material in need of repair or rehabilitation.

If the annual inventory is done independently of the annual inventory the Property Custodian will, at the time of completion of the site directed inventory, forward a signed copy of the Inventory Reconciliation Report to the Property Administrator. The Inventory Reconciliation Report will be signed by the site's Property Custodian attesting that a 100 percent inventory was conducted and that all equipment is accounted for except for those indicated as not on hand. All discrepancies will be explained.

## **20.7 Storage**

Access to equipment and software in storage will be limited to authorized personnel and controlled by the Property Custodian. The Property Custodian will ensure that storage areas are kept in a clean, orderly manner. Material will be stored on shelves, in bins or drawers as appropriate, and its storage location entered into the site property record. Special storage areas or controls will be provided for items subject to corrosion, humidity, and temperature. Property Custodian should ensure that Electrostatic Discharge (ESD) procedures are used for all items requiring ESD protection. See Section 20.9 for specific ESD instructions. Such items will be inspected semi-annually by the Property Custodian. Serviceable property does not require any special color tag.

### **20.7.1 Segregation Requirements**

Contractor-owned and vendor-loaned property will be segregated from EED Government-owned property during storage. Unserviceable equipment will also be segregated from serviceable equipment and will be tagged. Unserviceable/reparable equipment will have a yellow tag affixed to it; unserviceable/non-reparable equipment will have a red tag affixed. Unserviceable equipment tags will indicate reason item is unserviceable, date it became unserviceable, parent EIN it came from, and signature of person declaring the item unserviceable.

### **20.7.2 Stock Rotation**

EED is a task order contract and Task 201 does not provide for the EED to provide DAAC distribution and other consumables; however, DAAC purchased consumables such as computer tapes, cleaning tapes, CDs, DVD, labels, etc., should be used on a first-in, first-out basis.

### **20.7.3 Physical Security**

EED property will be stored in secured areas where access will be limited to authorized personnel and controlled by the Property Custodian

## **20.8 Packing and Shipping**

Prior to shipping EED equipment to the EDF or other EED sites, the shipping the site will notify Property Custodian by email. The Property Custodian coordinates with the both sites to verify the shipment requirements expected shipment date, carrier, shipping document number, estimated weight and cube, number of pieces, shipper and ship-to-address. Prior to shipment, a pre-shipment inspection will be performed to verify the following:

- Correct identification of equipment on packing lists and shipping documents including configurations, serial numbers, number of containers, and ship-to address.
- Adherence to packing, packaging and marking standards.
- Inclusion of appropriately prepared documents within shipping containers.

EED property being shipped from vendors and the EDF will be shipped to the DAAC facility. . Local policy at some sites may require delivery to a site central receiving point. In such cases, written procedures will be developed between the Property Custodian and the site's central receiving office regarding notification of receipts, documentation required, and provisions for local delivery to the DAAC facility. The delivery of EED equipment to site central receiving points versus direct delivery to the DAAC facility will be determined based on agreements and procedures established between the host facility and the DAAC.

## **20.9 Electrostatic Discharge (ESD) Program**

An Awareness program on Electrostatic Discharge (ESD) and operations and maintenance practices will be followed to eliminate ESD hazards to HW, SW, or people. Procedures for the program will be developed using DOD-HDBK-263 and DOD-STD-1686 as guides. Included in the program will be policies and procedures for prevention and safe dissipation of static electricity: Workplace common grounding requirements; and parts handling and protection when in storage, outside the manufacturer's protective packaging, and being readied for installation or removal and packaging for delivery. ESD hazard awareness and prevention will be an appropriate part of the training and certification process of EED operations and maintenance personnel. All ESD hazard awareness and prevention requirements will be passed through as requirements to all operations or maintenance subcontractors.

# 21. Installation Planning

---

## 21.1 Overview

Installation Planning is an integral part of the EED Task Order Delivery Process. When an EED Task Order is received from NASA the installation planning cycle begins. The Installation Coordinator in conjunction with hardware engineering will review current, hardware diagram. The Installation CCRs provide the detailed planning required by installation teams and the sites to make final preparation for installing Release equipment. Close coordination with the DAAC is required to ensure that the projected plans meet DAAC requirements. While site surveys are not required, one may be performed based on the complexity of the task described by the Task Order.

## 21.2 Responsibilities

Installation planning and coordination is the responsibility of the Installation Coordinator and changes and updates from the installations will be provided to ILS Property Administrator for the ILM database. The Installation Coordinator uses information obtained from the LMC and site surveys. The IS prepares the Installation CCRs and coordinates actions needed to conduct the installations. DAAC personnel support the Installation Coordinator by working to prepare DAAC specific plan for each Task Order. They also ensure that site preparations/coordination are completed on schedule and work with EDF installation technicians to complete the installation of hardware.

## 21.3 Process Description

DAAC information, plus design and equipment specifications, is used to provide a preliminary plan for the placement of systems at the DAACs. DAAC engineering staffs review this information and provide requested changes, which are incorporated into the Installation CCRs.

Prior to the installation of hardware, a PSR or an Installation CCR is produced to identify the planned placement of hardware in the facility and how the hardware will be configured and networked, and to identify site preparations necessary to support the installation. Installation teams use the Installation CCR to install the systems and networks. Within three weeks following the installation, the Installation Coordinator will update the hardware diagram to reflect the as-installed configuration at the site. These diagrams are submitted to the EED CCB and, when approved, become part of the operations baseline for the site and are available for viewing on the web. It is the responsibility of the LMC to notify the Installation Coordinator as changes to the baseline documentation occur. Table 21.3-1 shows the Installation Planning Activity Outline.

**Table 21.3-1. Installation Planning Activity Outline**

<b>Step</b>	<b>Responsible Person</b>	<b>ACTION</b>
1	Installation Coordinator	In conjunction with the DAAC staff prepares an installation CCR.
2	Installation Coordinator	Briefing with DAAC SE and coordinate schedule.
3	Installation Team	Install hardware based on Installation schedule.
4	Installation Team	Burn in and test new hardware.
5	Installation Coordinator	Update information to the CCR and create an As-Built document of the Hardware Diagram.
6	Installation Coordinator	Send the As-Built document to DAAC Liaison while creating a CCR for the CCB.
7	Installation Coordinator	Prepare CCR and board the new hardware diagram.

## **21.4 Maintenance of Hardware Diagrams**

Hardware diagrams reflect the as-installed configuration. The hardware diagrams are maintained by the hardware engineering staff. As changes to these diagrams occur (e.g., relocation of equipment within the site), the LMC will inform the Installation Coordinator or responsible hardware engineer of changes. The Installation Coordinator or responsible hardware engineer will update the appropriate documents and create a CCR to present the changed documents to the EED CCB to update the documents.

## 22. COTS Training

---

This chapter outlines the procedures for DAACs to request COTS HW and SW training from the EDF. The EED program training funds allocated to train DAAC and EDF personnel, are limited. Operations Contractors at DAACs are generally ineligible to qualify for EED program's training funds. These funds are explicitly reserved for Raytheon (and Raytheon subcontractors) personnel.

The Activity Checklist in Table 22.1-1 outlines the role of the COTS Training POC (Point-of-Contact) and the section number where details for performing the tasks can be found.

**Table 22.1-1. COTS Training - Activity Checklist**

Task	Section
Requesting COTS Training	22.1
Coordinating COTS Training	22.2
Canceling/Rescheduling COTS Training	22.3
Contractor COTS Training Funds Accounting	22.4

### 22.1 Requesting COTS Training

DAAC Leads will submit training requests to the Senior DAAC lead and the COTS Training POC, simultaneously.

The following steps outline the process:

- a. The training request will contain the following information:
  1. Student name(s) and DAAC representation.
  2. Justification for training need.
  3. COTS course (i.e. name, course code, description, type (instructor-led, web-based) requested.
  4. Dates preferred (i.e. 1<sup>st</sup> choice, 2<sup>nd</sup> choice..).
  5. Price of COTS course (i.e. unit price per student, per session).
  6. Manager approving purchase of training.
  7. Course location.
  8. Duration of course.
- b. The COTS Training POC verifies the training request meets the following criteria:
  1. Meets the appropriate company/location criteria.
  2. Relates to COTS hardware or software in the EED system design.
  3. Is cost effective and within budget constraints.

- c. COTS Training POC determines the proposed training details, including the following:
  1. Training vendor.
  2. Individual or group training, based on cost effectiveness.
  3. On-site or off-site class location.
  4. Available vendor training dates.
- d. The COTS HW/SW Maintenance IPT (Integrated Patch Team) Lead (prior to procurement) receives the training request (forwarded by the COTS Training POC) for approval. The COTS HW/SW Maintenance IPT (Integrated Patch Team) Lead will either approve or deny the training request.
- e. COTS Training POC maintains record of approval of training purchase.

## **22.2 Coordinating COTS Training**

After the COTS HW/SW Maintenance IPT (Integrated Patch Team) Lead approves the request for COTS training, the COTS Training POC will work with the COTS procurement office to schedule and procure the training. The procedures to purchase training are accomplished in the following order:

- a. When approved, the COTS Training POC submits all training details to the COTS Purchasing Manager.
- b. The COTS Training POC orders training from the vendor.
- c. Purchasing Manager processes the purchase order and provides a copy to the COTS Training POC.
- d. The COTS Training POC forwards the purchase order to the vendor to reserve training.
- e. The COTS Training POC generates a notice to students that includes training vendor, course, date(s), and other relevant information.
- f. For on-site training, at the EDF, the COTS Training POC makes necessary arrangements for classroom space and equipment configurations; coordinates use of any operational equipment as required for course affecting on-going operations; forwards site location details to vendor instructor.
- g. Prior to Group COTS training, the COTS Training POC provides students with a COTS Training Evaluation Form to evaluate the effectiveness of the course. In cases when COTS training is found to be substandard or ineffective, the COTS Training POC contacts COTS HW/SW Maintenance IPT (Integrated Patch Team) Lead and DAAC Senior Lead so they come to a consensus as to whether or not to pursue compensation for the training.
- h. Training course(s) rendered to be substandard or ineffective, the COTS Training POC pursues refund, replacement training seat(s), or training credit from the vendor (as defined by the training procurement agreement).

## **22.3 Canceling/Rescheduling COTS Training**

COTS training vendors generally withhold all or part of registration fees for course seat(s) canceled just prior to the start date of training. The deadline for cancellation, without penalty, varies between vendors. Generally, the maximum cancellation deadline is three weeks prior to course start date. In order to preserve EED COTS training funds, any cancellations of COTS training, by EED personnel, must be made prior to any outlined/specified cancellation deadline date(s) to avoid financial penalties.

- If student(s) need to cancel within the specified cancellation deadline, the DAAC Lead will be responsible for substituting an equally qualified individual to attend the course, and for notifying the COTS Training POC to ensure proper record keeping and registration changes with the vendor.

## **22.4 Contractor COTS Training Funds Accounting**

While the coordination and purchasing responsibilities for COTS training fall primarily with the COTS Training POC, the training funds allocation will be approved by the COTS HW/SW Maintenance IPT Lead. Training funds should and will be spent in the most efficient and effective manner for the improvement and success of the EED program.

This page intentionally left blank.

## **23. Asset Smart Property Equipment Management System (SMART|PEMS)**

---

### **23.1 Asset Smart Property Equipment Management System**

Asset Smart Property Equipment Management System provides a FAR compliant, single integrated foundation, and a web- based interface for EED’s asset management needs. This software integrates mission critical real time data with process improvements to provide seamless asset investment planning, asset record management, acquisition, maintenance, EIN Structures, location and asset change tracking, property moves, shipments and installations, utilization status, consumable tracking, disposal and real time asset reporting—empowering the EED property team and equipment end users to make more timely and cost effective decisions, leading to better infrastructure management and customer support.

The Asset Smart system provides a mobile interface which syncs directly to the property database. The mobile scanner promotes the use of barcode readers which will scan the EIN barcode and query the corresponding number against the database to provide information associated with a particular asset. This capability will enhance the mandatory physical inventory process conducted annually by the EED team through drastically reducing time and increasing accuracy.

With the Asset Smart tool, EED will be able to manage and organize all CAP, GFE and IAGP property assets and financial information in a single unified repository that maintains full interactive updates, field validation, and online history of all property transactions. With Asset Smarts Customizable security-protected menus, customizable navigation links and shortcuts, and direct screen to screen navigation, Asset Smart will fit the needs of all end users from Property Administrators to System Hardware and Software engineers.

This document will discuss Asset Smarts primary functionality and operational uses. For more information regarding the more advanced or more specific modules and functions please refer to the Asset Smart PEMS help manual.

## 23.2 Asset Smart User Tool Overview

### 23.2.1 Navigating Asset Smart User Tool

Asset Smart is located at the following URL

<http://155.157.31.126/smart36/>

To Log on, you must enter your User ID and Password on the Logon page to access the Main Page.



**Figure 23-1. Login Screen**

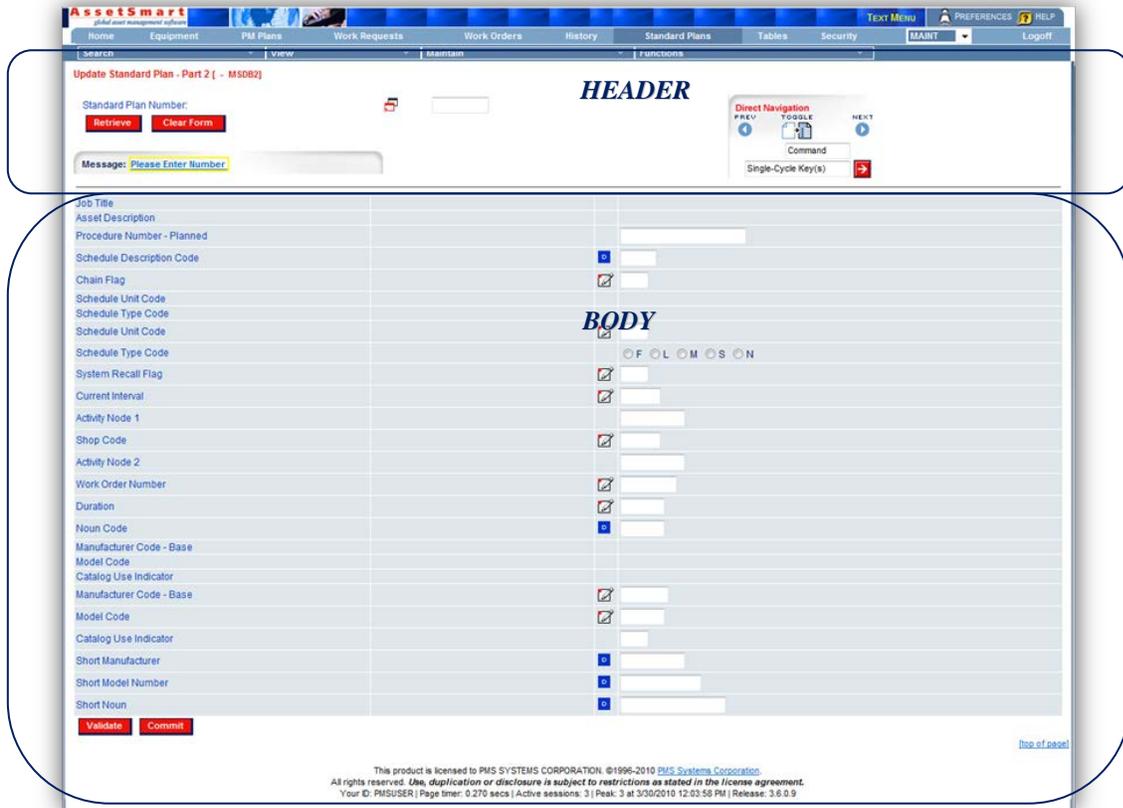
### Main page appears after log-on

The main Navigation feature is the top menu bar, used for accessing screens with drop-down menus.



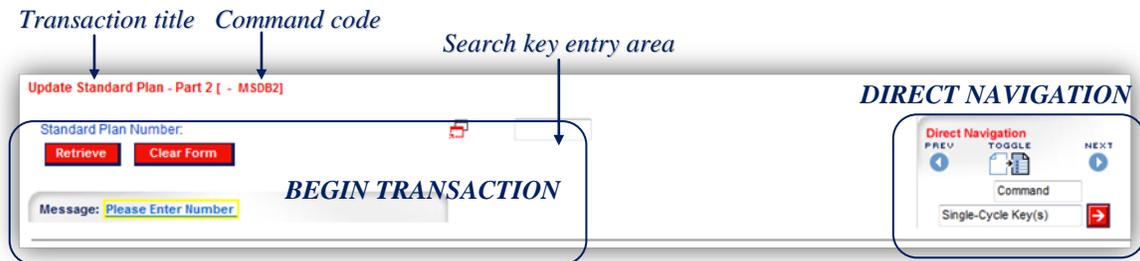
**Figure 23-2. Menu Bar**

**Two major regions are featured in a transaction screen: Header and Body**



**Figure 23-3. Screen Regions**

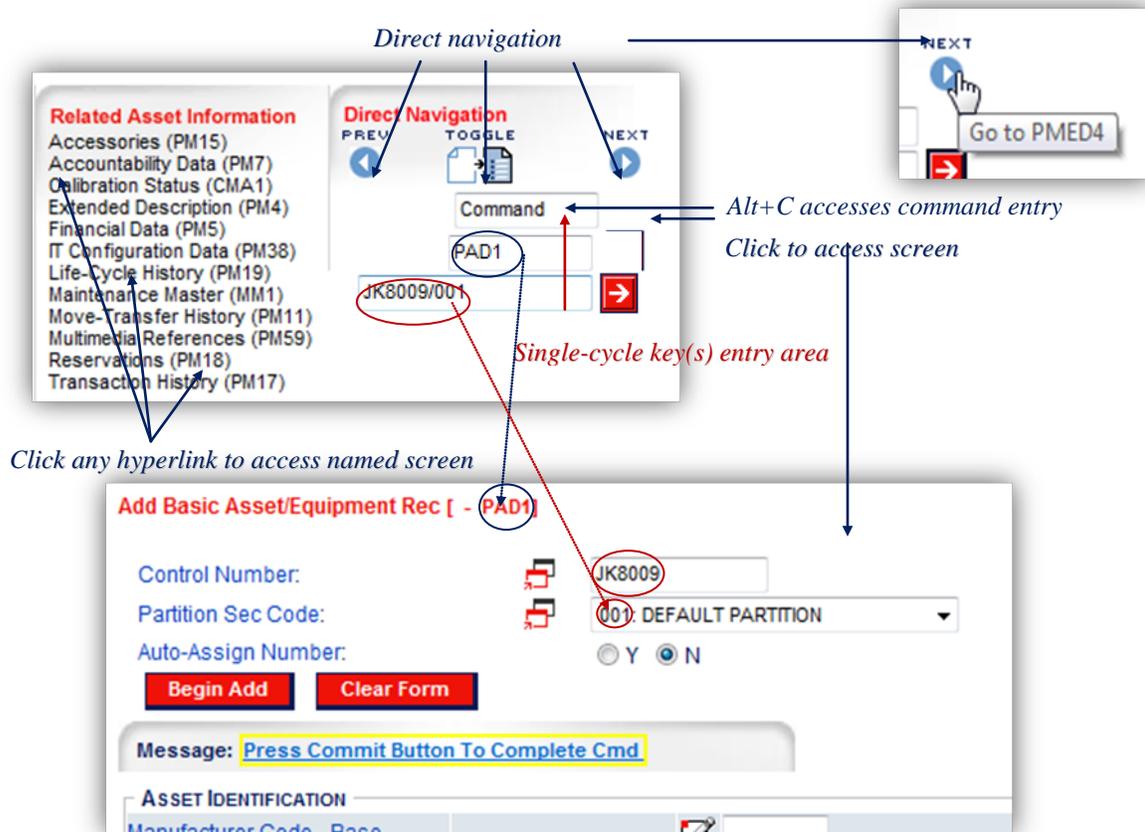
A transaction screen’s header may also be divided as **Begin Transaction** and **Direct Navigation**. Transactions are identified by title and command code. Transaction execution begins by entering a value in the search key entry area.



**Figure 23-4. Transaction Headers**

## Navigate from screen to screen with Direct Navigation

The direct navigation area's top line usually features icons hyperlinked to screens related sequentially within the workflow; you can optionally enter a valid command code in the command entry area and click the red arrow button to directly access any screen; key values from the current item are carried over. You can alternatively enter values in the single-cycle key(s) entry area and access different items; multiple keys must be separated by a forward slash '/'; in the illustration below, see key values 'JK8009' and '001' carried over to the search key entry areas of invoked screen **PAD1: Control Number** and **Partition Sec Code**, respectively. The Related Asset Information hyperlinks dynamically appear when additional records exist for the item currently viewed.



Click this button when entering a command and optional single-cycle key(s) in the Direct Navigation area to access invoked screen

**Figure 23-5. Direct Navigation**

## **Navigate to Transactions**

The transactions screens are invoked by clicking on the property link located on the top menu bar. From there it allows you to perform one of the three main features, Search, View and Maintain.

### **23.2.2 Asset Smart System Transactions**

#### **Inquiry Transactions**

There are two types of inquiry transactions: basic displays that involve just one record, and searches which usually involve sets of records or sub-records. Often, searches result in displays that are several pages long. Some searches allow the possibility of partial string searching, which enables the user to make inquiries based on fragments of search keys. Finally, search transactions exist with multiple search keys to help locate specific records.

#### **Update Transactions**

Update transactions are further subdivided into data entry and delete. Data entry transactions either add data and/or records to the database (add transactions) or modify a pre-existing record (modify transactions), whereas delete transactions remove records from the database.

#### **Add Transactions**

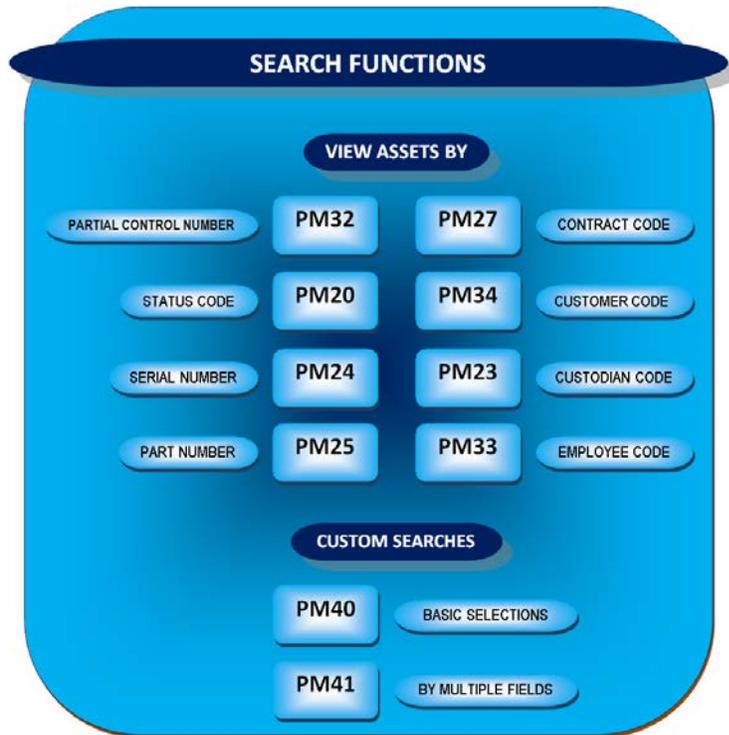
Add transactions add records to the database by entering record key(s) such as an EIN Number along with a variety of data. Although the user has the option to enter them manually, new record keys, are often automatically created if not selected by the user.

The record key will later be used as a search key to access that record, whether for display, modification or other purposes. The majority of the data entered is subject to editing or validation before the transaction can be committed and the database updated. Some of the data must be entered (mandatory entry). Some of the data defaults automatically.

#### **Modify Transactions**

Modify transactions modify records that have been added through add transactions. Typically, whereas an add transaction may only be executed once for a particular record, modify transactions may be executed any number of times using the EIN entered during the add transaction. However, not all data entry fields can be modified once values have been added to them; furthermore, entry fields that carry actual values can only be blanked or zeroed by entering a not-code [^] in the first input position.

### 23.2.2.1 Search Transaction



**Figure 23-6. Search Functions**

- **Search By Multiple Fields**

PM41 lets you search Master Property Records by means of a selection of entry keys. Use the drop-down lists and pop-ups provided, when available, to enter your search values. Any combination of searches is supported as long as you enter at least one search key. Your records will be displayed sequentially by number. You have the option to sort and/or print and/or export as .csv (data repository) files these one-line summaries, by clicking on the related links.

click **Property** on the top menu bar  
 select **Search** on the drop-down menu bar  
 click **By Multiple Fields B** on the drop-down menu  
 enter one or more search keys  
 click **Search**  
 click on [hyperlinks](#) to sort/export/print your results

PSC	Control Number	Site	Short Mfg	Short Modl	Short Moon	Status	Start Date
001	10036	22222	TEKTRONIX	C3DA	SCOPE CAMER	REID	06/10/09
001	10038K	22222	TEKTRONIX	C3DA	HOLDING FIX	ACTIVE	06/10/09
001	SHEN3			PEM		ACTIVE	10/31/08
002	SHEN002	2800	PEP BOYS	TUNING UP	8 CYLINDERS	INPOOL	11/10/08
201	1026		HP	6544A-100	POWER SUPPL	FOR-SALE	12/07/98

PM2, PM5, PMD4, PSD4, PMDR1, PLD4, PRD4

**Figure 23-7. Expanding Search Results**

### Partial String Search

Partial string searches are available on all transaction screens where they may be of use. They are an easier and speedier way to make inquiries because they allow you to only enter part of a search key. A variety of options is available: the simplest is to enter a *percentage sign* [%] or a *forward slash* [/] in the search key field and retrieve all records. In the example below, 878 pages of items are returned.

Browse Assets By Control No [ - PM32]

Control Number: %

Partition Sec Code: ALL PARTITIONS (GLOBAL)

Search Clear Form

Direct Navigation  
Command  
Single-Cycle Key(s)

Message: Page Overflow-Total Items = 14919

Page 1 of 878

PSC	Control Number	Ownership	Building	Short Mfr	Short Modl	Short Noun	Asst Stat
001	0000001			1	1	1	DOWN
001	0000002			1	1	1	OPEN
001	00001028		101	TEKTRONIX	AVG1-88	GENERATOR.VI	REQUEST
001	001B			ACS COMPT	486-33	COMPUTER.PC.	INTRANS
001	01111	CAD		TOSHIBA	TXM3401A4	DRIVE.CD-ROM	DOWN
001	012345	CO	S25	TEKTRONIX	2465	SCOPE.GENERA	VENDOR
001	01262010			1	1	1	ACTIVE
001	02222010			1	1	1	ACTIVE
001	02222010A			10026	1	1	ACTIVE
001	0308						ACTIVE
001	0309						ACTIVE
001	0310						ACTIVE
001	032660				ESH	STATIC METER	SCHED
001	04082010					1	DISPOSAL
001	04082010A						ACTIVE
001	04092010		502	HP	478A	DETECTOR.MIC	OPEN
001	067284		1000	ROCKWELL/C	VIR30A	RECEIVER	REQUEST

Page 1 of 878

**Figure 23-8. Partial Search Results**

**Enter a leading string to narrow your search**

A partial string can originate from the beginning, anywhere in the middle, or the end of the search key.

To narrow down your search, the easiest option is to simply enter the first few characters of the search key, i.e., a *leading string*.

Browse Assets By Control No [ - PM32]

Control Number: 999

Partition Sec Code: ALL PARTITIONS (GLOBAL)

Search Clear Form

Direct Navigation  
Command  
Single-Cycle Key(s)

Message: Page Overflow-Total Items = 19

Page 1 of 2

PSC	Control Number	Ownership	Building	Short Mfr	Short Modl	Short Noun	Asst Stat
001	999	CO	100	HP	180A	SCOPE.GENERA	OPEN
001	999 999						ACTIVE
001	99999			DELL			INLAB
001	999999			PMSC	ACF	SOFTWARE.DAT	OPEN
001	9999999			PM			OPEN
001	99999999			PMSC	ACF	SOFTWARE.DAT	OPEN
001	999999999			PMSC	ACF	SOFTWARE.DAT	OPEN
001	999999999999						OPEN
001	9999T001A			PMSC	ACF	SOFTWARE.DAT	SCHED
311	9990			TEKTRONIX	R520A	SCOPE.VECTOR	FOR-SALE
311	9991			TEKTRONIX	R5440	SCOPE.GENERA	FOR-SALE
311	9992			TEKTRONIX	R7103	SCOPE.GENERA	FOR-SALE
311	9993			TEKTRONIX	R7603	SCOPE.GENERA	FOR-SALE
311	9994			TEKTRONIX	R7603-20	SCOPE.GENERA	FOR-SALE
311	9995			TEKTRONIX	R7613	SCOPE.STORAG	FOR-SALE
311	9996			TEKTRONIX	R7623	SCOPE.STORAG	FOR-SALE
311	9997			TEKTRONIX	R7633	SCOPE.STORAG	FOR-SALE

Page 1 of 2

*Enter '999' to display all control numbers starting with this leading string*

## Follow a leading string that has trailing spaces with a [%] or [/]

PSC	Control Number	Ownership	Building	Short Mfr	Short Modi	Short Noun	Asst Stat
001	999 999						ACTIVE

Enter '999 /' or '999 %' to display all control numbers starting with '999' followed by a space

## Place a [%] before and after a string

In order to search via a string originating from anywhere (including the beginning and the end) within the search key, the string must be led by a percentage sign or surrounded with percentage signs.

PSC	Control Number	Ownership	Building	Short Mfr	Short Modi	Short Noun	Asst Stat
001	012345	CO	S25	TEKTRONIX	2465	SCOPE GENERA	VENDOR
001	10234	020	538	HP	1609	GENERATOR,PU	INPOOL
001	11234	017	466	SIMPSON EL	269	MULTIMETER (	OPEN
001	12234	001	562	TEKTRONIX	53/54C	SCOPE P-I,DU	INPOOL
001	12340	005	562	TEKTRONIX	G	SCOPE P-I,DI	INPOOL
001	12341	000	466	TRIPLETT	630NA	MULTIMETER (	OPEN
001	123413241						OPEN
001	12342	005	562	TEKTRONIX	E	SCOPE P-I,DI	INPOOL
001	12343	015	455	HP	412A	MULTIMETER	OPEN
001	1234321						RECEIVED
001	12344	000	562	TEKTRONIX	53/54K	SCOPE P-I,1	INPOOL
001	12345	060	200	WESTON XT	931	METER MILLIA	OPEN
001	123451						OPEN
001	123454321						RECEIVED
001	123456		1000	HP	33440A	PRINTER	OPEN
001	12345678					HOLDING FIXT	ACTIVE
001	1234567890		100	HP	8007A	GENERATOR,PU	ACTIVE

Enter '%234%' or '%234' to display all control numbers containing that string

**Figure 23-9. Leading String Search**

## Search screen types display one-line summaries of the resulted records

You may avail yourself of capabilities such as scrolling through pages, sorting your results, exporting them to an Excel file and printing them. Each resulted record may also be accessed with related screens.

**Search Assets By Status (PM20)**

Report Created 6/20/10 4:45:49 PM by ADMINISTRATOR\ASSETSMART  
License: PMS SYSTEMS CORPORATION, License Number: C86F

**Search Assets By Status (PM20)**

Asset Status: ACTIVE  
Total hits: 126

PSC	Control Number	Short Mfr	Short Modl	Short Noun	Stat Date	Expire Dt
001	01262010				1/26/2010	3/1/2010
001	02222010				2/22/2010	2/25/2010
001	02222010A	10026			2/22/2010	2/25/2010
001	0308				1/7/2010	1/11/2010
001	0309				1/7/2010	1/11/2010
001	0310				1/7/2010	1/11/2010
001	0402010A				4/8/2010	4/12/2010
001	1	TEKTRONIX	7611	CHANGED	2/22/2010	
001	10003	TEKTRONIX	585A	SCOPE, GENERAL PURP	2/15/2010	10/20/2008
001	100111	PMSIC	ASSET SMART	SOFTWARE	2/22/2010	
001	10024TAL			DATABASE	2/22/2010	
001	10025	HARRT SCI	5504(450)	THERMOMETER	3/22/2010	
001	10025	HP	3458A	DIGITAL	3/4/2010	
001	10029	FLUKE	5700A	MULTIMETER	3/8/2010	
001	100456			CALIBRATOR	3/12/2010	3/22/2010
001	10075	HP	721A	POWER SUPPLY	2/15/2010	

**Search Assets By Status [ - PM20]**

Asset Status: ACTIVE

Status Date - From: [ ] To: [ ]

Expire Date - From: [ ] To: [ ]

**Search** **Clear Form**

Message: Page Overflow-Total Items = 3524

Page 1 of 208

PSC	Control Number	Short Mfr	Short Modl	Short Noun	Stat Date	Expire Dt
001	10	TEKTRONIX	310A	SCOPE, GENERAL PURP	7/1/2008	
001	100			DRILL JIG	5/5/2009	5/11/2009
001	1000	TELENETICS	ED208	MODEM, DATA	10/16/2008	10/20/2008
001	1000000				12/23/2008	12/25/2008
001	1000000000000000				2/2/2009	2/6/2009
001	10000009			W	5/8/2008	5/12/2008
001	100003	HP	1609	GENERATOR, PULSE	2/11/2008	
001	10001	TEKTRONIX	585A	SCOPE, GENERAL PURP	11/5/2008	4/21/2008
001	10002	TEKTRONIX	585A	SCOPE, GENERAL PURP	10/6/2008	
001	100020	HP	180A	SCOPE, GENERAL PURP	5/15/2009	5/19/2009
001	10003	TEKTRONIX	585A	SCOPE, GENERAL PURP	11/30/2008	10/20/2008
001	10004	TEKTRONIX	10A2	SCOPE P-I, DUAL TRAC	8/6/2008	12/17/2007
001	10008	TEKTRONIX	2465	SCOPE, GENERAL PURP	12/8/2008	
001	10009	HP	5245L	COUNTER, MULTI-FUNCT	9/16/2004	
001	1000A	TELENET	670AAAB2702	BOARD, TP	11/21/1987	
001	10012	HP	150-400	POWER SUPPLY, SPECIA	6/25/2008	
001	10014	HP	5245L	COUNTER, MULTI-FUNCT	4/1/2009	4/6/2009

Click header hyperlink to sort results

Direct Navigation  
Command  
Single-Cycle Key(s)

Click icon to access related screen links

- Display Asset Tracking Data
- Display Cal Lab Tracking Data
- Modify Cal Item/Plan
- Move Equipment Item
- Change Asset Status
- Equipment Pool Loan/Issue
- Return Equipment Item To Pool

Click any hyperlink to access screen

Go to first page

Go to previous page

Click to access desired page

Page count

Go to next page

Go to last page

**Figure 23-10. Related Screens Searches**

### 23.2.2.2 View Transaction

PM1 lets you view data from a Master Property Record by means of its EIN Number. The fields displayed by PM1 have previously been entered/updated with PAD1/2, PBD2, PCDA2 and PCDB2.

click **Property** on the top menu bar  
select **View** on the drop-down menu bar  
click **Acquisition Data** on the drop-down menu  
enter an EIN number  
click **View**

**Figure 23-11. Viewing an Asset record**

### 23.2.2.3 Maintain Transaction

#### Add and modify records in your database

The body of basic update (add/modify) type screens features data entry fields and flag field radio buttons where values may be entered or set interactively. These values are often edited, validated, and/or defaulted according to individual conditions specified in the transaction

descriptions of each module. The field status buttons to the left of entry fields specify what type of operation is required or will occur and can often be clicked to access nested search screens. Many mandatory and defaulted fields are subject to validation and/or editing as well. To ensure valid values are entered, combo boxes and calendar pop-ups are extensively employed.



*A value must be entered or set, field is mandatory*



*A value will default if specified conditions are met, but a different value may be entered*



*Entered value will be validated and/or edited*

**Figure 23-12. Add and Maintain – Icon Legend**

### Adding a Record

PAD1 sets up a Master Property Record by means of a new EIN number which you can either enter yourself or have assigned automatically. You can only use this function once per record; if you need to modify the data entered after you have committed PAD1, use PAD2 (select Modify instead of Add on the drop-down menu). On PAD2, you'll need to enter EIN number of the record you want to update. You can view the fields updated by PAD1 and similar functions with PM1, PM2, and PM3.

click **Property** on the top menu bar  
select **Maintain** on the drop-down menu bar  
select **Add** on the drop-down menu  
click **Master Acq./Data** on the sub-menu  
enter a EIN number or select **Auto-Assign Number**  
click **Begin Add**  
enter your data  
click **Validate** and **Commit**

Add Basic Asset/Equipment Rec [ - PAD1]

Control Number: 23456810  
 Partition Sec Code: 001: DEFAULT PARTITION  
 Auto-Assign Number: Y N

Begin Add Clear Form

Message: Add Transaction Completed

Manufacturer/Source: HEWLETT PACKARD CO  
 Model Number: 4000-4150  
 Noun Description: CAPACITOR, FIXED,CERAMIC (08724)  
 Catalog Code: 01604T 0A20A

ASSET IDENTIFICATION		ACQUISITION	
Manufacturer Code - Base	01604T	Purchase Order - Acquisition	PODOC
Model Code	0A20A	Po Line Number	5
Manufacturer Name	HEWLETT PACKARD CO	Po Date	8/12/2009
Model Series		Acquisition Vendor Code - Base	FB4800
Model Number	4000-4150	Acquisition Date	8/10/2009
Alternate Model Type		Acquisition Cost	999.00
Noun Major	CAPACITOR	Estimated Cost Flag	Yes No
Noun Minor	FIXED,CERAMIC	Install Date	8/12/2009
Serial Number		Record Access Code	FMA
Asset Status	ACTIVE	OWNERSHIP	
		Division	DR4
		Owning Department	400
		Cost Center	AERO
		Ownership Code	CEX

Validate Commit

PM1 PBD2

Related Asset Information  
 Life-Cycle History (PM19)  
 Transaction History (PM17)

Direct Navigation  
 Fossil  
 Command  
 Single-Cycle Key(s)

**Figure 23-13. Adding a record**

## Modifying a record

PBD2 adds tracking data to a pre-existing Master Property Record by means of its EIN number. The Partition Security Code will default according to the Control Number. You can use this function as many times as you need to. You can make this record part of a System by entering a EIN number in the System field. Enter the same EIN number of the record you're updating to make it the top component (level '0') of its System; enter a different Control Number to make it a child record (System Level is assigned automatically). Provided that this record has no lower components or children, you can remove it from a System -- by entering the 'not' code (^) in the System field -- or change the System number. You can view the whole hierarchy with PM21 and build a System with PBSD4 Click the Create button to access RMMD1 and add a multimedia object such as a PDF file or other resource, view it with. View references to multimedia with PM59 and on PM2. View other fields updated by PBD2 on PM1 and PM2.

click **Property** on the top menu bar  
 select **Maintain** on the drop-down menu bar  
 select **Add** or **Modify** on the drop-down menu  
 click **Tracking Data** on the sub-menu  
 enter a EIN number

The screenshot shows the 'Mod Asset Tracking Data' form with the following sections:

- Control Number:** 252
- Partition Sec Code:** 001: DEFAULT PARTITION
- Message:** Completed-Sys Loc Discrepancies Exist
- Manufacturer/Source:** HEWLETT PACKARD CO
- Model Number:** 4000-4150
- Noun Description:** CAPACITOR, FIXED,CERAMIC (08724)
- Catalog Code:** 01604T 0A20A
- STATUS:** Asset Status: ACTIVE, Status Date: 5/11/2009, Status Expire Date: 5/15/2009
- OWNER / CUSTODIAN:** Company: A&D CO., Group: B&C G., Custodian Code: SHEN
- USER / EMPLOYEE:** Using Department: C-DEPT, Employee Code: PADOLF
- LOCATION:** Location Code: 0030, Plant/Site: 28, Area: 51, Building: 07QLAA, Floor: 1, Room: 2, Column: 3, Bin: 45, System Level: 2, Internal Location: CORP
- LEASE:** Lease Vendor Code - Base: FB5606, Lease Contract Code - Base: LM1001
- SERVICE:** Warranty Date - From: 5/11/2009, Warranty Date - To: 5/11/2010, Warranty Flag: W, Service Vendor Code - Base: FB5000, Service Contract Code - Base: BRUCE001
- OTHER DETAILS:** Media Reference, Customer Code - Base: C1000, Customer Code - Suffix: 00000, Work Order Reference: 111

Figure 23-14. Modifying a Record

## 23.3 Basic Validation

### 23.3.1 Error Messages and Field Status Buttons

As part of the validation process, the interactive message area will display instructions when an error occurs. In the example below, a mandatory entry field has been left empty. Notice how a validation error button appears next to the entry field being validated.

Follow error message instructions

The screenshot shows the 'Mod Asset Tracking Data' form with the following sections:

- Message:** Mandatory Field-An Entry Is Required
- Manufacturer/Source:** VENTURIO, FLOWMETER, VENTURIO, F.
- Model Number:** VENTURIO, 75IN
- Noun Description:** FLOWMETER, VENTURIO, F.
- DATE / TIME:** Transaction Date: 3/8/2010, Transaction Time: 3:29:00 PM
- OTHER REFERENCES:** Document Reference

A red circle icon with a slash through it is visible next to the 'Document Reference' field, indicating a validation error.

This button appears next to an entry field when a validation error occurs

Figure 23-15. Error messages

### 23.3.2 Blank Out Values with the Not-Code

The option exists to blank out a value from a data entry field using the not-code [^] by entering SHIFT+6 and clicking the Validate button. Due to data entry logic, some fields will feature a button signaling that a field cannot be blanked out.



*When this button appears, a valid value must be entered*



*Enter these two keys together in a data entry field and press ENTER to blank out its value*



*When this button appears, an entered value may not be blanked out*

**Figure 23-16. Error messages – Icon Legend**

### 23.3.3 All Entered Values Must be Valid Before Committing Your Transaction to the Database

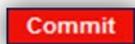
Click the Validate button at any time to ensure your values have been accepted. When green checkbox buttons appear signaling it's safe to update your database, click the Commit button and you're done.



*Click this button or enter Alt+V to have the system validate your entries*



*When these buttons appear, it is safe to click the commit button and update the database*



*Click this button or enter Alt+S to update a record in the database*

**Figure 23-17. Field Validation**

## 23.4 Handling Errors

The diagram below outlines common errors and how to go about correcting them.

Some errors, however, are beyond the user's immediate ability to respond. Error messages such as 'I/O ERROR...' signify that the data entered is incompatible with the database itself. Contact AssetSmart for technical assistance if this occurs. A 'NOT AUTHORIZED FOR COMMAND' message occurs when the user attempts to access unauthorized records.

Asset Smart prompts you for self-correction. When illegal operations occur: (a) a validation error button appears next to the entry field(s) in question; (b) the interactive message area displays pertinent instructions; (c) the cursor is automatically positioned inside the first erroneously handled entry field.

<b>COMMON ERRORS</b>	<b>TRANSACTION TYPE</b>	<b>REMEDY</b>
Incorrect Search Key	<b>INQUIRY</b>	Use pop-up buttons
	<b>MODIFY</b>	Use search screens to find a valid key
	<b>DELETE</b>	
Record Already Exists	<b>ADD</b>	Add a different record or use a modify transaction
Higher Level Record Does Not Exist	<b>ADD</b>	To add a work order to an item, you must have added the item first
Lower Level Data Exist	<b>DELETE</b>	A work order with task sub-records may not be deleted, or those records must be deleted first
Record Is Open	<b>DELETE</b>	Close the record before deleting
Record Is Closed	<b>MODIFY</b>	Re-open the record
Invalid Data	<b>ADD</b>	Use pop-up buttons, combo boxes
	<b>MODIFY</b>	Check notes section for editing rules and or related RTF screens
Illogical Data	<b>ADD</b>	Check chronology (dates and times), quantities and other identifying values of entries such as status for consistency
	<b>MODIFY</b>	
Blank Mandatory Fields	<b>ADD</b>	Must enter some value
	<b>MODIFY</b>	

**Figure 23-18. Correcting Errors**

## 23.5 Field Definitions

EIN

1

Attribute	Description	Data Type	Data Display Length	Field Input Length	Entry Mode for State	AssetSmart Mapping Field	Table	Screen
EIN	Identifier for an EIN inventory item	Char	20	20		Control-Num-Sec(30)	EQ09	PCDA2
Parent EIN	EIN of the item where this item is a component of	Char	20	20		Control-Num-Sec(30)	EQ09	PCDA2
Rack EIN	EIN of the rack where this item is a component of	Char	20	20		Control-Num-Sec(30)	EQ09	PCDA2
Serial No	Serial number of the item	Char	30	30		Serial-Number(25)	EQ09	PAD1
Cost	Purchase cost of the item	Decimal	10.2	10.2		Cost-Acquisition(10.2)	EQ09	PAD1
Acquisition Cost	Cost to the government	Decimal	10.2	10.2		Cost-Acquisition(10.2)	QT06	PAD1
Description	Manufacture's or vendor's description of the item	Char	60	60		Noun-Major(24)/Noun Minor(24)	EQ09	PAD1
Part No	Manufacture's or vendor's part number	Char	34	34		Part-Number-Curr(40)	QT06	PGDB2
HW/SW Code	Code for classifying items according to source of inventory	Char	2	2		Category-Code(6)	EQ09	PCDA2
Host Name	Name of the machine with which the item is associated	Char	30	30		Name-Host(25)	QN01	PAND1
ECN Num	Government tag number	Char	20	20		Commodity-Code(20)	EQ09	PCDA2
Receive Date	Date item was received from vendor	Date				Date-Acquisition(8)	EQ09	PAD1
Quantity	Amount of items received	Char	5	5		Qty-Total(11)	EQ09	PCDB2
NASA Contract	Identifier designating the government contract used for this item	Char	15	15		Cont-Code-Cur-Base(8)	EQ09	PGD1
Status	Status of the item	Char				Status-Asset(8)	EQ09	PAD1
CCR	Purchase request order	Char	6	6		Requisition-Number(20)	EQ09	PCDB2
PO Number	Identifier of the purchase order against the item was received	Char	10	10		Purchase-Order-Acq(20)	EQ09	PAD1
Comment	Miscellaneous information specific to the item	Char	60	60		Text-Desc-1(40) -Text-Desc-10(40)	QD02	PED2
IAGP	Government transfer document number from GAP to IAGP	Char	10	10		Document-Ref(16)/Document-Ref-Type(3)	EQ09	PCDA2
GFP		Char	10	10		Owner-Code(3)	EQ09	PAD1
EEB EIN	Pervious year's tag number	Char	20	20				
Audit Date	Date the item was physically inventoried last	Date				Date-Inventory(8)	EQ09	PCDA2
Installation Date	Date the item was installed	Date				Date-Installed(8)	EQ09	PAD1
20-4 Control #		Char	6	6		Control-No-Cust(20)	QT06	PGD1
Employee ID	The ID of the employee	Char	6	6		Employee-Code(10)	EQ09	PBD2

User

2

Attribute	Description	Data Type	Data Display Length	Field Input Length	Entry Mode for State	AssetSmart Mapping Field	Table	Screen
Employee Name	Name of the employee whom received the item	Char	30	30		Empl-Name-Last(25)/Empl-Name-First(25)	REM6	REDA1
Employee ID	The ID of the employee	Char	6	6		Employee-Code(10)	REM6	REDA1
Employee Program	The project name the employee is assigned	Char	30	30		Shop-Code(6)/Description(30)	REM6	REDB2
Employee Building	The building where the employee works	Char	15	15		Loc-Mail-Stop(10)	REM6	REDA1
Employee Room	The room where the employee works	Char	15	15		Loc-Mail-Stop(10)	REM6	REDA1

Location

3

Attribute	Description	Data Type	Data Display Length	Field Input Length	Entry Mode for State	AssetSmart Mapping Field	Table	Screen
Building	Building where the item is located	Char	15	15		Location-Building(6)/Description(30)	EQ09/RBL3	PBD2/RBLD1
City	City where the item is located	Char	15	15		City(30)	RBL3	RBLD1
State	State where the item is located	Char	2	2		State-Code(2)	RBL3	RBLD1
Room	Room where the item is located	Char	15	15		Location-Room(6)	EQ09	PBD2
Program	Project the item is assigned to	Char	30	30		Org-Dept-Use(6)/Org-Dept-Name(30)	EQ09	PBD2

Vendor

4

Attribute	Description	Data Type	Data Display Length	Field Input Length	Entry Mode for State	AssetSmart Mapping Field	Table	Screen
Vendor ID	Code for a vendor from whom items are purchased	Char	6	6		Vend-Code-Base(10)	EQ09/RVN3	PAD1/RVND1
Vendor Name	Full name of a vendor from whom items are purchased	Char	30	30		Vendor-Name(30)	RVN3	RVND1
Vendor City	City where the vendor is located	Char	15	15		City(30)	RVN3	RVND1
Vendor State	State where the vendor is located	Char	2	2		State-Code(2)	RVN3	RVND1

Manufacturer

5

Attribute	Description	Data Type	Data Display Length	Field Input Length	Entry Mode for State	AssetSmart Mapping Field	Table	Screen
Manufacturer Name	Name of the manufacturer	Char	30	30		Mfgr-Name(20)	EQ09	PAD1
Manufacturer ID	Code for the manufacturer whom built the item	Char	6	6		Mfgr-Code-Cat-Base(6)	EQ09	PAD1

Maintenance

6

Attribute	Description	Data Type	Data Display Length	Field Input Length	Entry Mode for State	AssetSmart Mapping Field	Table	Screen
Maintenance Vendor	Vendor whom will provide the services	Char	30	30		Vendor-Name(30)	RVN3	RVND1

This page intentionally left blank.

## 24. Maintenance of Configuration Parameters

---

This chapter concerns the maintenance of configuration parameters that system servers access when they are started. The configuration parameters are manageable through a *Configuration Registry*. The Configuration Registry Server provides a single interface to retrieve configuration attribute-value pairs for system servers from the Configuration Registry Database, via a Sybase Server. The Configuration Registry Server maintains an internal representation of the tree in which configuration attribute-value pairs are stored. General configuration parameters used by many servers are stored in higher nodes in the tree. Parameters specific to a single system server are contained in the leaf nodes of the tree.

The EED project provides a script tool to load the Configuration Registry database from data in configuration files. This loading is a one-time event to populate the Registry database with the information contained in .CFG files. Once the Configuration Registry is loaded, if the configuration files are moved, renamed, or otherwise made inaccessible to the software, the software goes to the Configuration Registry to obtain needed configuration parameters. There is also a Configuration Registry GUI to view and edit configuration data in the database. Changes to the Configuration Registry are typically under the control of Configuration Management and the Database Administrator.

### 24.1 Parameter Change Control Procedure

Configuration parameters are 'controlled' by either DAAC or the EDF. Proposed changes to these configuration parameters originate from the controller of these parameters, in most cases. The one exception is when new software/hardware patches or versions warrant new configuration parameters, or changes to the existing parameters. In cases where one of the entities, i.e., DAAC or EDF, proposes a change to an existing configuration parameter which it does not control, then the requesting entity follows the appropriate EED change request, resolution and CCB approval process of the entity that controls that parameter.

Configuration parameter baseline documents define information on various areas of the system. These areas include, but are not limited to the following:

- Custom code configuration, program and application configuration files and parameters.
- PostgreSQL databases.
- Operating System - build, options of auto mount, and kernel configuration files and parameters
- COTS configuration files and parameters.

The information captured is site- and host-specific, wherever applicable. Whenever possible the following 'types' of information are captured:

- Configuration parameters and files.
- Definitions and descriptions of parameters.
- Recommended value.

- Value or value ranges; i.e., common range across multiple DAACs or DAAC-specific range.
- Impacts associated with changing a parameter.
- Controlling entity of the parameter (e.g., DAAC or EDF).

The baseline documents are maintained by EED CM, and are posted on the EED Baseline Information System (EBIS) Site (<http://pete.edn.nasa.gov/baseline/>).

All changes to system software/hardware patches and versions are controlled by the relevant CCBs. (Refer to Section 9.2 of this document).

A prototype (non-baseline) version of the configuration information may be posted on the EBIS and mirror site for EED and DAAC review prior to the CCB approval process, as long as the posted information is clearly identified as 'prototype' to distinguish it from the EED baseline information.

## 24.2 Overview of Configuration Parameter Files

Various types of source files are used to modify the configuration parameters at the Riverdale functionality labs and at the DAACs. These are as follows:

- The 'mkcfg' scripts contain persistent values of configuration parameters, and only EED developers are allowed to modify them.
- The '.cfgparms' and '.dbparms' files, which are resident in ClearCase and contain persistent values of configuration parameters for the EDF. The versions of these files delivered to the DAACs contain DAAC-specific and mode-specific values. The .cfgparms files hold parameters used to generate the standard .CFG files. The .dbparms files hold parameters used in database operations.
- The .cfgparms file patches the .cfgparms, and .dbparms. Changes are from one version to another, (e.g., 7.21, 7.22, 7.23...).
- The '.rgypatch' file patches the registry database.

## 24.3 Deployment and Baseline Maintenance

Registry changes can be made by anyone having the DBO privileges. Any changes to the configuration parameter baseline, such as addition, deletion or modifications of parameters, should follow the respective CCB process.

System servers use the .CFG files, if present in /usr/ecs/<mode>/CUSTOM/cfg directory when the server is started. Otherwise the servers use the registry database for configuration parameters. Therefore, moving or renaming the .CFG files causes servers to use the registry the next time they restart. This allows the registry to be brought online, and taken offline on a server-by-server basis.

Maintenance of parameters in the registry must be via the registry GUI or via database patches. Changes to the .CFG files or the .cfgparms files will not result in changes to the registry unless the files are re-imported into the registry. The ability to create .CFG files during the "make config" phase of ECS Assist processing can be switched off (via a configuration parameter). The

addition, deletion and modification of values in the registry are achieved either by the GUI or by a database patch script.

The EDF maintains the "baseline" registry database that is used to generate the database patches. The baseline registry database has the structure of a generic DAAC, using functional host names rather than actual host names. It contains the master values of parameters owned by the EDF, and contains null values for parameters owned by the configuration management process. EED developers make changes to the baseline database via the software configuration management process. The database contains an attribute tree for each release, and release patch supported by the EDF. Prior to a release or a release patch, a configuration patch script is created by comparing the tree for the new release with the tree for the release being replaced. The patch script contains a series of add, update and delete statements, tagged to indicate the sites they pertain to. The primary purpose of the patch is to enhance the process of parameter additions, modifications or deletions to the DAAC configuration. The patch is also used to propagate value changes for parameters owned by the EDF.

### **24.3.1 How to Run a Mkcfig**

There are two ways to run a Mkcfig. The first way is to manually execute the Mkcfigs from the command line and the second is to use EcsAssist. Refer to Section 4.1.5, ECS Assistant, of the 609-EED-001 document for information on how to use EcsAssist to run a Mkcfig. To run a Mkcfig manually do the following:

1. `cd /usr/ecs/<MODE>/CUSTOM/utilities`
2. Locate the Mkcfig you wish to run by using the `ls` command (`ls -l *Mkcfig`).
3. Run the Mkcfig by running the appropriate script followed by the MODE. For example:  
`EcPIPRGeneratorMkcfig TS1`

This page intentionally left blank.

# 25. EOSDIS Service Interface (DataAccess)

## 25.1 EOSDIS Service Interface (DataAccess)

The EOSDIS Service Interface (ESI) is an interface that permits access to data and services residing within an ECS archive. Recent enhancements to the ECS system have resulted in virtually all archived data being available online for immediate access. ESI takes advantage of this by providing access not only to the data, but also to services on that data.

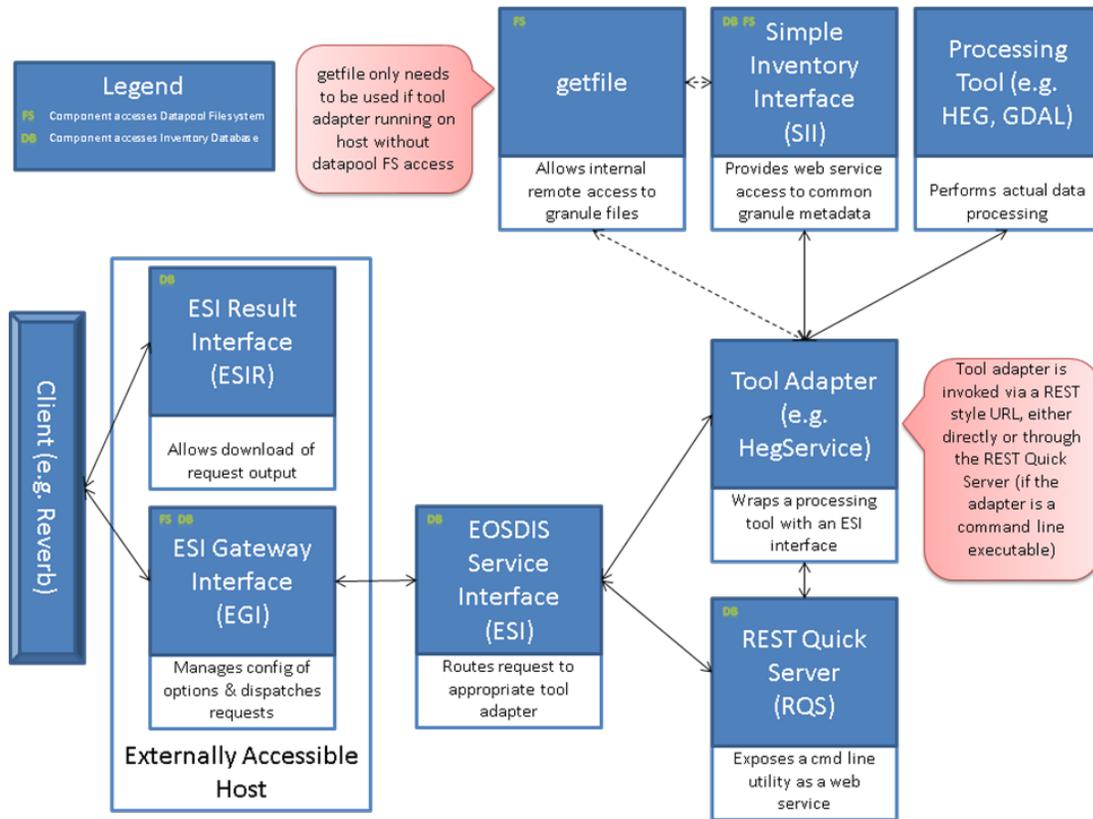


Figure 25.1-1. Architectural Overview of the DataAccess System

## 25.2 Configuring the DataAccess System

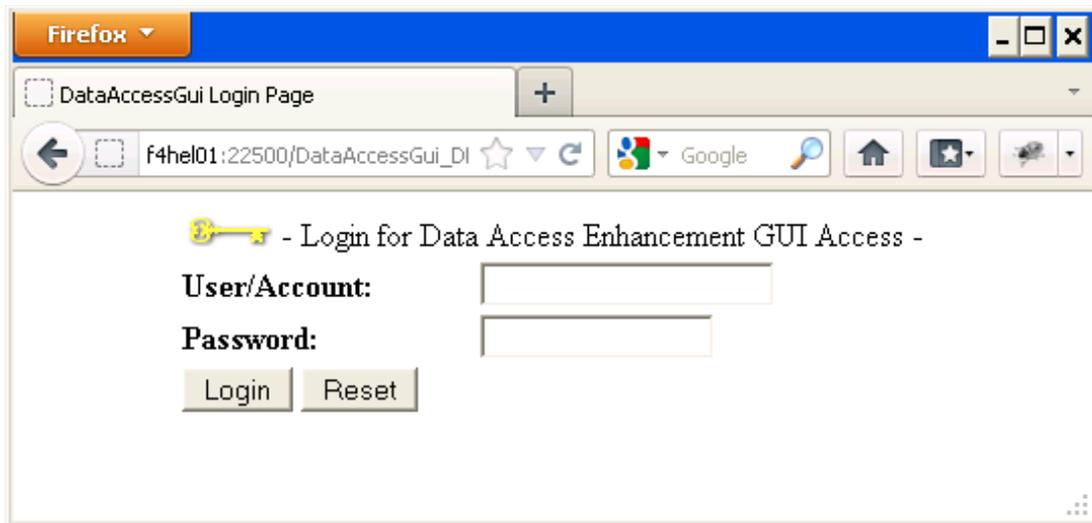
The ECS DataAccess system is designed to be easily configurable and extendable. The primary mechanism for configuring the system is the Data Access GUI. The GUI is a modern, dynamic interface which allows intuitive access to common configuration tasks.

**Table 25.2-1. Configuring the Data Access System - Activity Checklist**

Order	Role	Task	Section	Complete?
1	DAAC Operator	Launching the Data Access GUI	(P) 25.2.1	
2	DAAC Operator	Adding or Updating a Service	(P) 25.2.2	
3	DAAC Operator	Creating or Updating a Service to Collection Mapping	(P) 25.2.3	

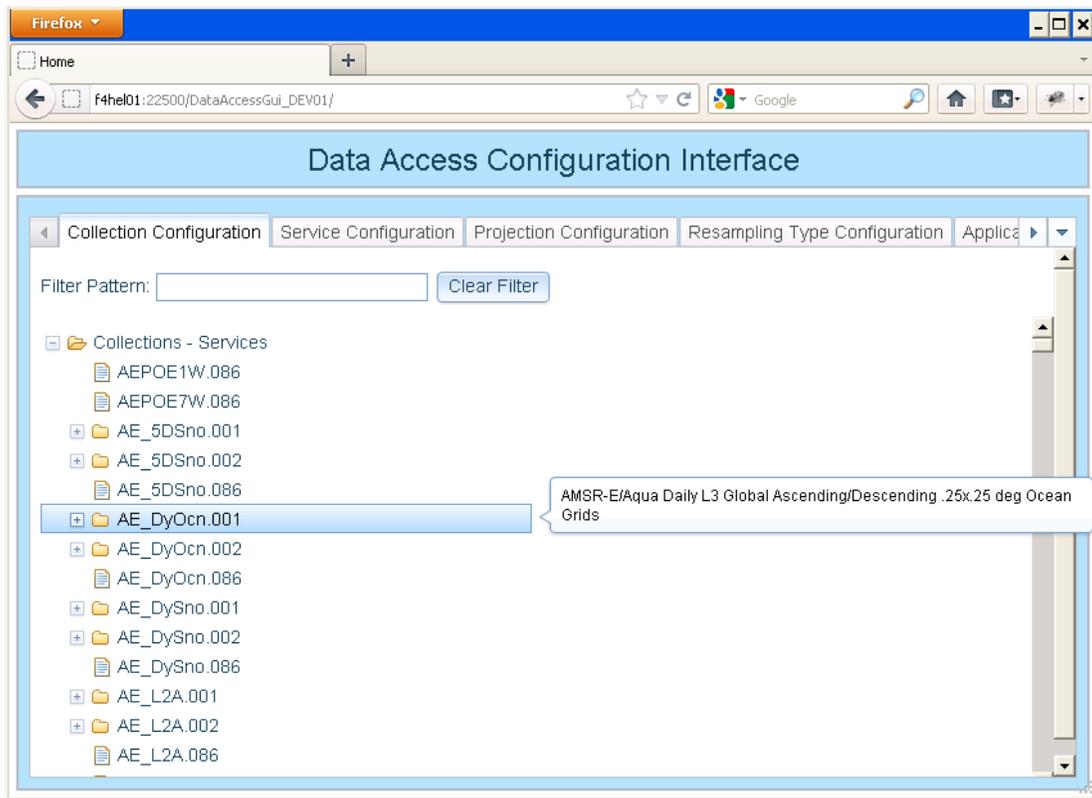
### 25.2.1 Launching the Data Access GUI

1. Access a terminal window logged in to a host (e.g., the Operations Workstation or Sun external server) that has access to the Mozilla Firefox web browser.
  - Examples of Linux external server host names include e4dpl01, l4dpl01 or n4dpl01.
2. Type **firefox &** then press **Return/Enter**.
  - It may be necessary to respond to dialogue boxes, especially if the browser is already being used by someone else who has logged in with the same user ID.
  - The Mozilla Firefox web browser is displayed.
3. If a bookmark has been created for the **Data Access GUI**, select the appropriate bookmark from those listed on the browser's Bookmarks pull-down window.
  - Depending on the current configuration of the Data Access GUI, the GUI may or may not require a user name and password to log in. If SECURED\_URL\_PATTERN in the config parms is set to '/' a username/password will be required, any other value will disable the login requirement.
  - If you see a login page (see Figure 25.2-1), enter a username and password for any user which is configured in the tomcat-user.xml file and granted the user role specified by DATA\_ACCESS\_ROLE in the config parms (the role will generally be "DataAccess").



**Figure 25.2-1. Data Access Login Page**

4. If no bookmark has been created for the **Data Access GUI**, enter the URL in the Address window and click on the **Go** or press the **Return/Enter** button.
  - For example: `http://x4hel01:22500/DataAccessGui/`
  - The Login: prompt is displayed (assuming the GUI is configured to require a login, see above).
5. Click the **Login** button, if displayed, to enter the GUI.
6. The Data Access GUI Collection Configuration tab (Figure 25.2-2) is now displayed.



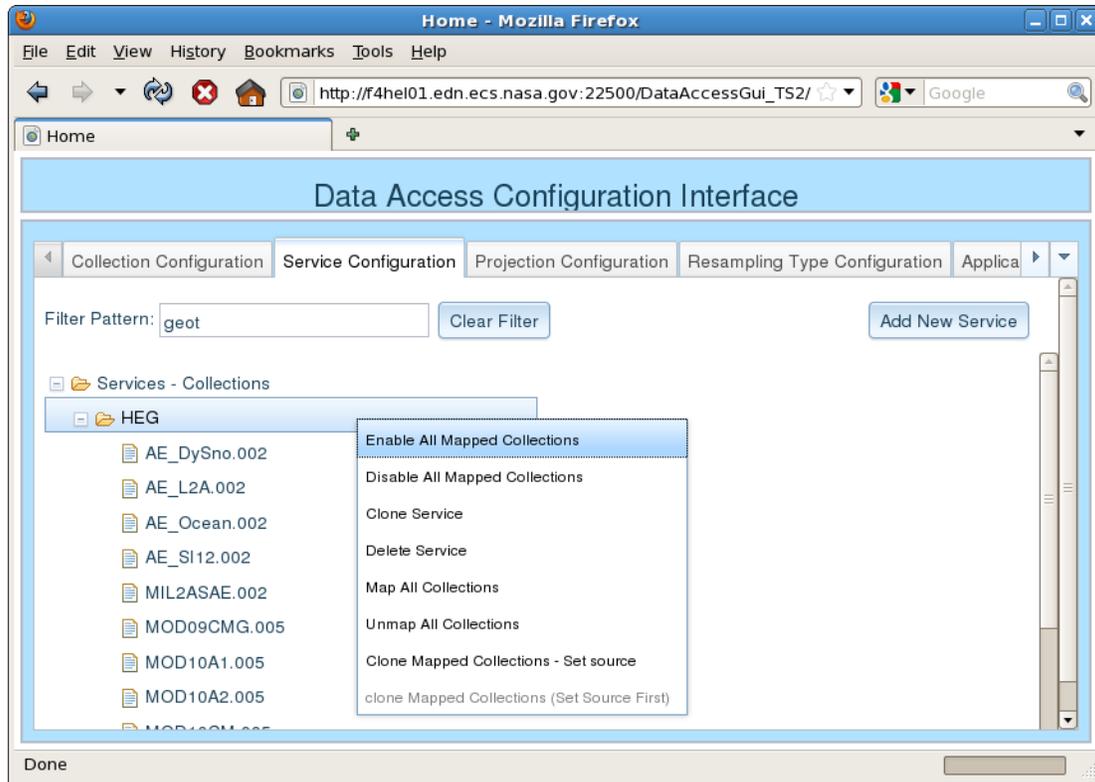
**Figure 25.2-2. Data Access Collection Configuration Tab**

The Collection Configuration Tab provides many options for configuring collections for use within the Data Access system. This tab will be discussed in later sections. It is also the first page you see upon logging in to the GUI.

### 25.2.2 Adding or Updating a Service

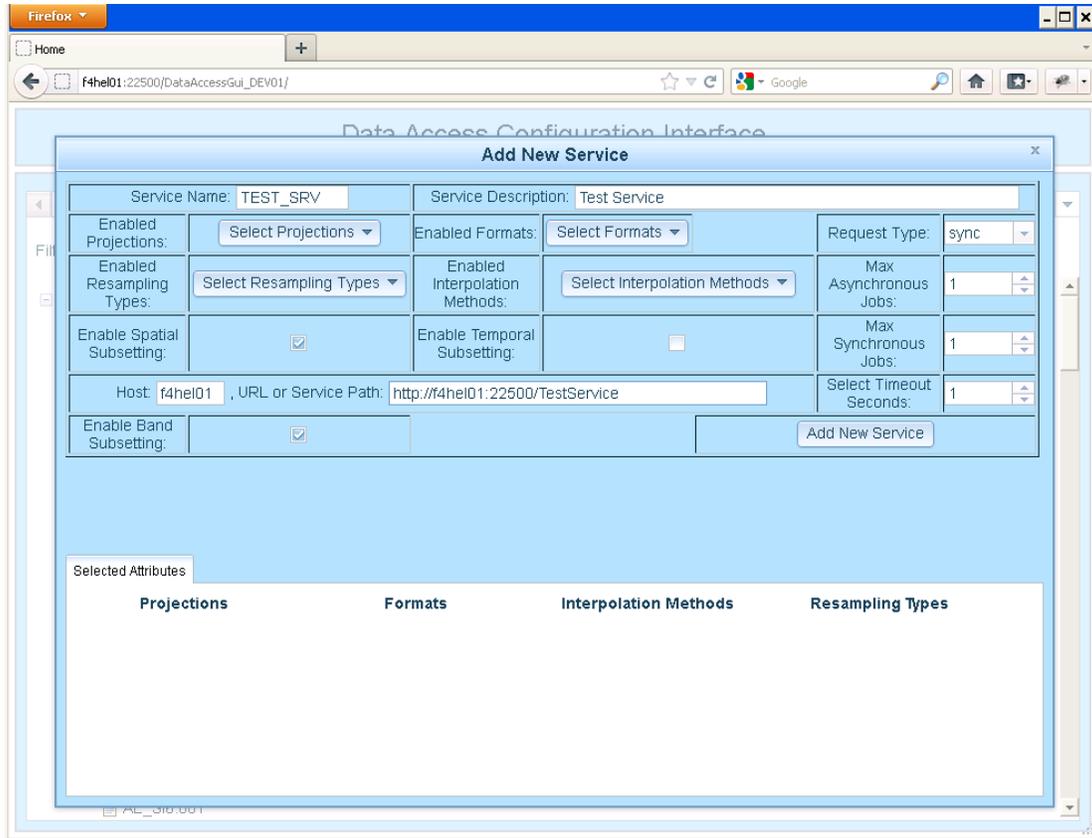
In order to add a new service or update an existing one, the Service Configuration tab is used.

1. Log in to the Data Access GUI.
  - Collection Configuration tab is displayed.
2. Click the **Service Configuration** tab.
  - Service Configuration tab (Figure 25.2-3) is displayed, with all currently configured services listed.



**Figure 25.2-3. Service Configuration Tab (with filter applied and context menu visible)**

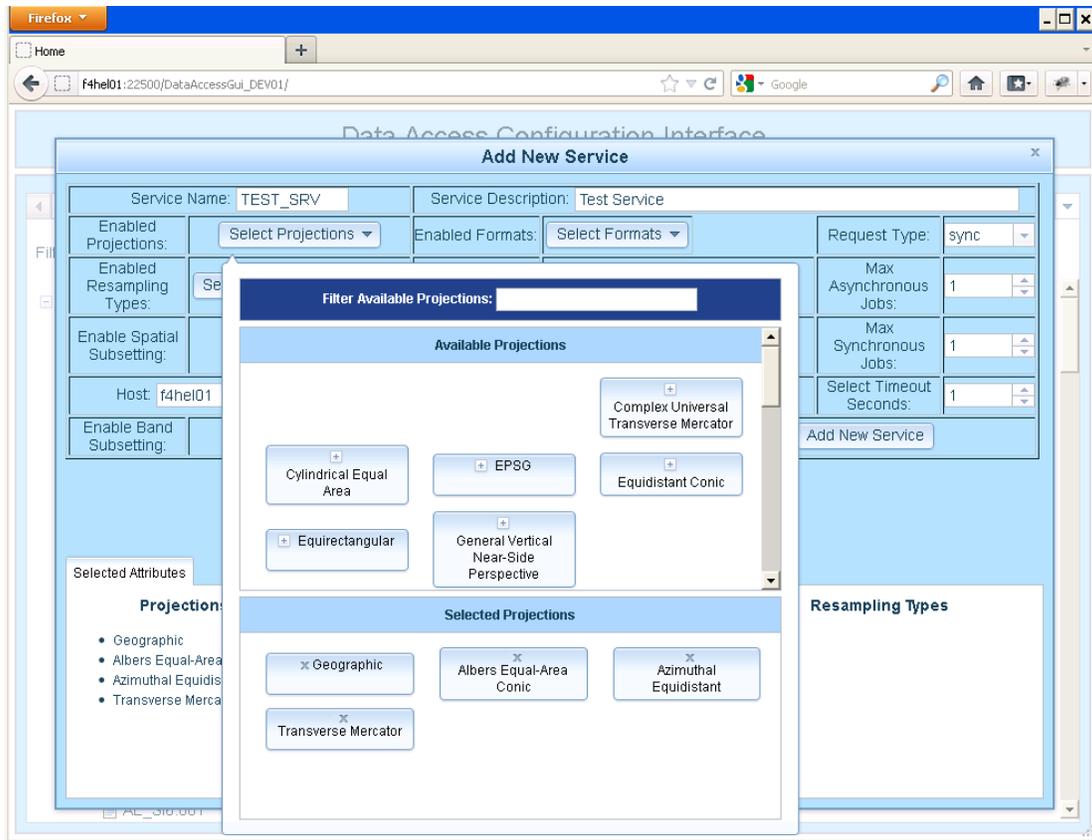
3. To add a new Service, click the **Add New Service** button.
  - The **Add New Service** dialog box (Figure 25.2-4) appears.
4. To update an existing service, find the service in the list and double click it.
  - The **Edit Service** dialog box appears. This box is almost identical to the **Add New Service** box, except some of the fields (**Service Name** and **Service Description**) cannot be modified. Otherwise, the instructions below apply to both creating a new service and modifying an existing one.



**Figure 25.2-4. Add New Service Dialog Box**

5. Enter a service name and description.
  - **Service Name** is the short name used to refer to the service, for instance in ESI requests.
  - **Service Description** is a more verbose description of the service.
  
6. Enter the general service options.
  - **Host** is the host on which the service resides. It is only really used for command line based services, but should always be filled in.
  - **URL or Service Path** is either a URL to a webservice endpoint, or a file system path to a command line executable or script which resides on the specified **Host**. If a command line path is specified, the Rest Quick Server must be running on the specified **Host**. In either case, the service or executable must conform to the ESI API.
  - **Request Type** is the type of requests that the service will be available to process, either **sync** (user waits for request to complete), **async** (user gets request tracking information back immediately and then is informed later when request completes) or **both** (user has the option to submit sync or async requests).

- **Max Asynchronous Jobs** specifies the maximum number of jobs (i.e. granules) for async requests the service can process at a time.
  - **Max Synchronous Jobs** specifies the maximum number of jobs (i.e. granules) for sync requests the service can process at a time.
  - **Select Timeout Seconds** Specifies the number of seconds after which the Data Access system will give up waiting for a job and consider it a failure. Note that the job will not be terminated on the service host, and the service should implement its own timeout mechanism.
7. Enable supported subsetting types. Use the check boxes to enable any of the following which are supported by the service:
- **Spatial Subsetting** – Extracting a subset of data based on geographical location.
  - **Temporal Subsetting** – Extracting a subset of data based on time associated with the data.
  - **Band Subsetting** – Extracting a subset of data based on the data parameters of interest.
8. Select valid values for various processing options such as formats, projections, etc.
- Each dropdown in this screen (e.g. **Select Projections**) will display a list of selected and available valids when clicked. See Figure 25.2-5 for an example.
  - In each drop down, click an item in the **Available** section to add it to the **Selected** section, or an item in the **Selected** section to remove it.
  - Note: the available valids for **Format**, **Projection**, **Interpolation Method**, and **Resampling Types** are defined in the database. Adding new options requires a manual update to the database, however, some properties of the **Projection** and **Resampling** valids can be altered using the **Projection Configuration** and **Resampling Type Configuration** tabs. See the Data Access 609 section for more details.
  - The drop down can be dismissed by clicking outside of its bounds.



**Figure 25.2-5. Projection Validates Selection Dialog Box**

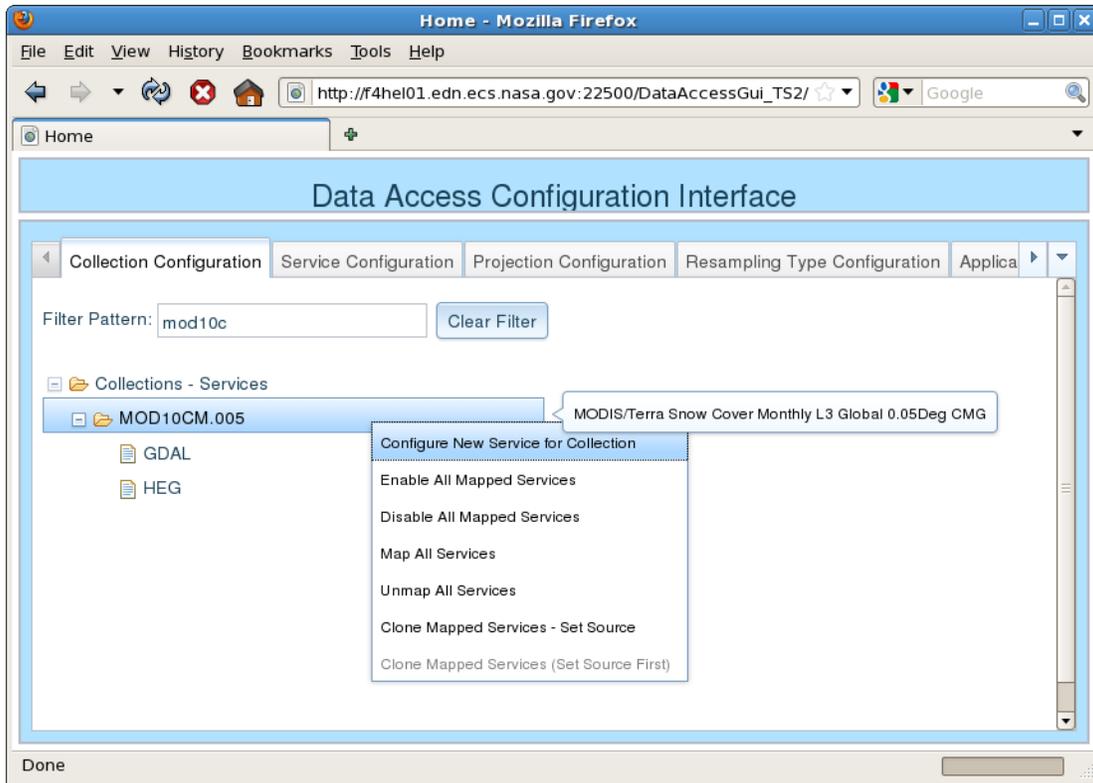
9. Click the **Add New Service** button to save the new service.

### 25.2.3 Creating or Updating a Service to Collection Mapping

In order to map a service to a collection or modify an existing mapping, the Collection Configuration tab is used. A Service to Collection mapping enables processing using the specified service on granules of that collection.

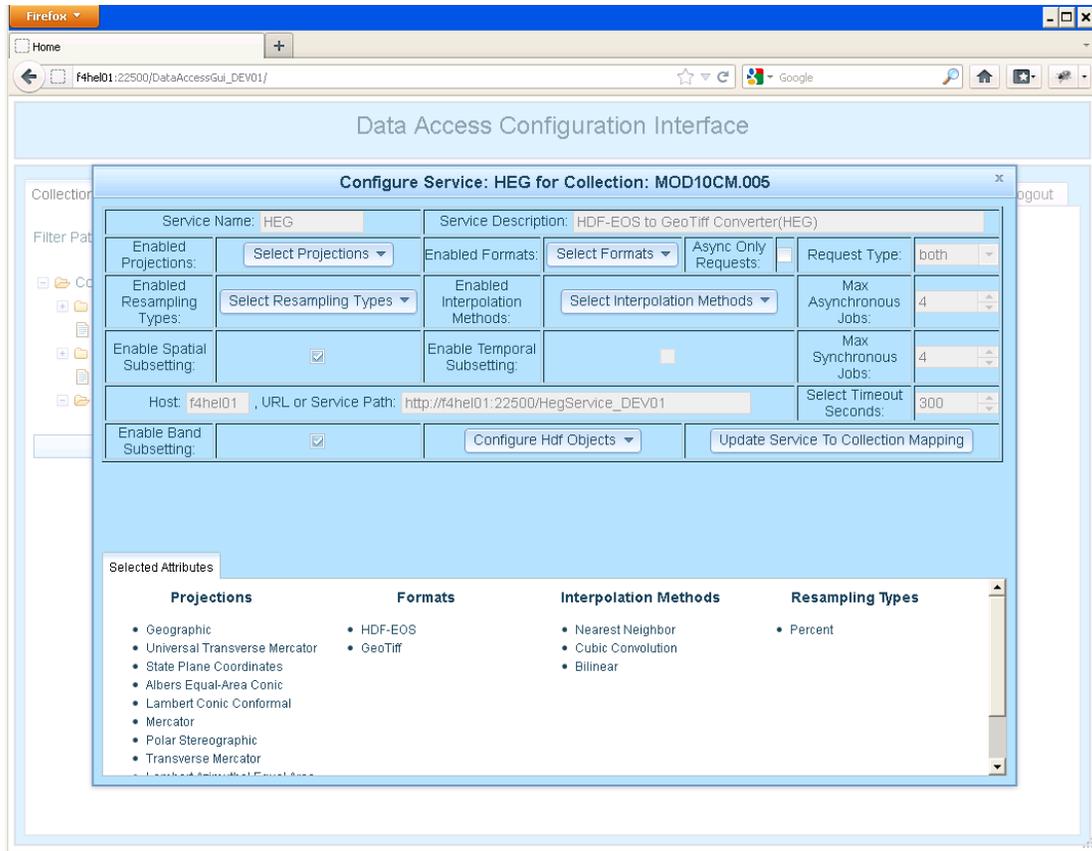
1. Log in to the Data Access GUI.
  - The Data Access GUI Collection Configuration tab (Figure 25.2-2) is now displayed.
2. Find the desired collection in the list.
  - You may want to use the filter text box to search for the collection since the list is quite large. All installed ECS collections in the current mode are listed.
3. To create a new mapping (i.e. enable a service on the collection which has not previously been enabled), right click on the collection name in the list.

- The Collection context menu (Figure 25.2-6) is displayed. Position your mouse over the **Configure New Service for Collection** item.
  - A list of available services is displayed. Select the desired service.



**Figure 25.2-6. Collection Configuration Tab and Context Menu**

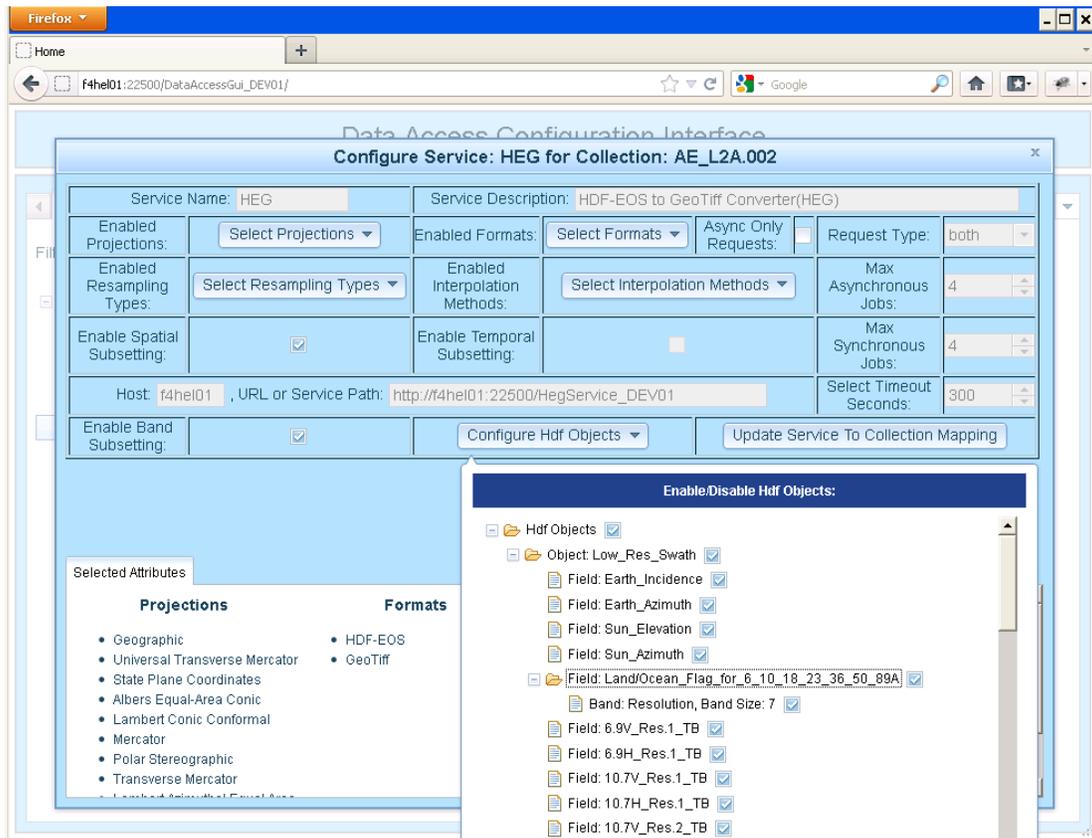
4. To update an existing mapping (i.e. modify the options exposed by a service on a collection it is already enabled for), click the "+" to the left of the collection name.
  - A list of services currently enabled on the collection is displayed. Double click the service to modify options for.
5. The **Configure Service for Collection** dialog box (Figure 25.2-7) is displayed. The **Configure Service for Collection** dialog is very similar to the **Add/Edit Service** dialog described above. However, some of the options, which are the same for all collections mapped to the service (such as service end point, service name, etc) are greyed out and cannot be edited.



**Figure 25.2-7. Configure Service for Collection Dialog Box**

6. Make Collection specific valids selections. The **Projection**, **Format**, **Resample Types**, and **Interpolation Methods** drop downs in this dialog mirror those in the service dialog exactly, except that the items available for selection are only those which were selected in the Service dialog. This way, the operator can select a subset of the service-offered valids which are relevant for each collection.
  - Click the drop downs to make any changes desired. By default, all options provided by the service will be enabled on a newly mapped collection.
7. Choose **Async Only Requests** if you would like to limit requests on this collection to asynchronous requests only, while the service supports synchronous or asynchronous. This is useful for instance when a particular collection processes particularly slowly.
8. Select **Hdf Objects** to expose for **Band Subsetting**. The list of available objects is derived from the execution of the 'bandtool' on each granule upon ingest and should cover all HDF objects, fields, bands, and dimensions for all granules in the collection. Note that some one-dimensional fields may be automatically disabled.
  - Click the **Configure Hdf Objects** drop down menu.

- A tree of HDF objects is displayed (see Figure 25.2-8).
- Select the "+" button to the left of each item to expand the items below it.
- Check or uncheck the checkbox to the right of each item to enable or disable it as an option exposed for band subsetting on this collection.
- Click outside of the drop down to dismiss it.



**Figure 25.2-8. Configure Hdf Objects Drop Down Menu**

9. Click the **Update Service to Collection Mapping** button to save the mapping options.

## 25.3 Monitoring the Data Access System

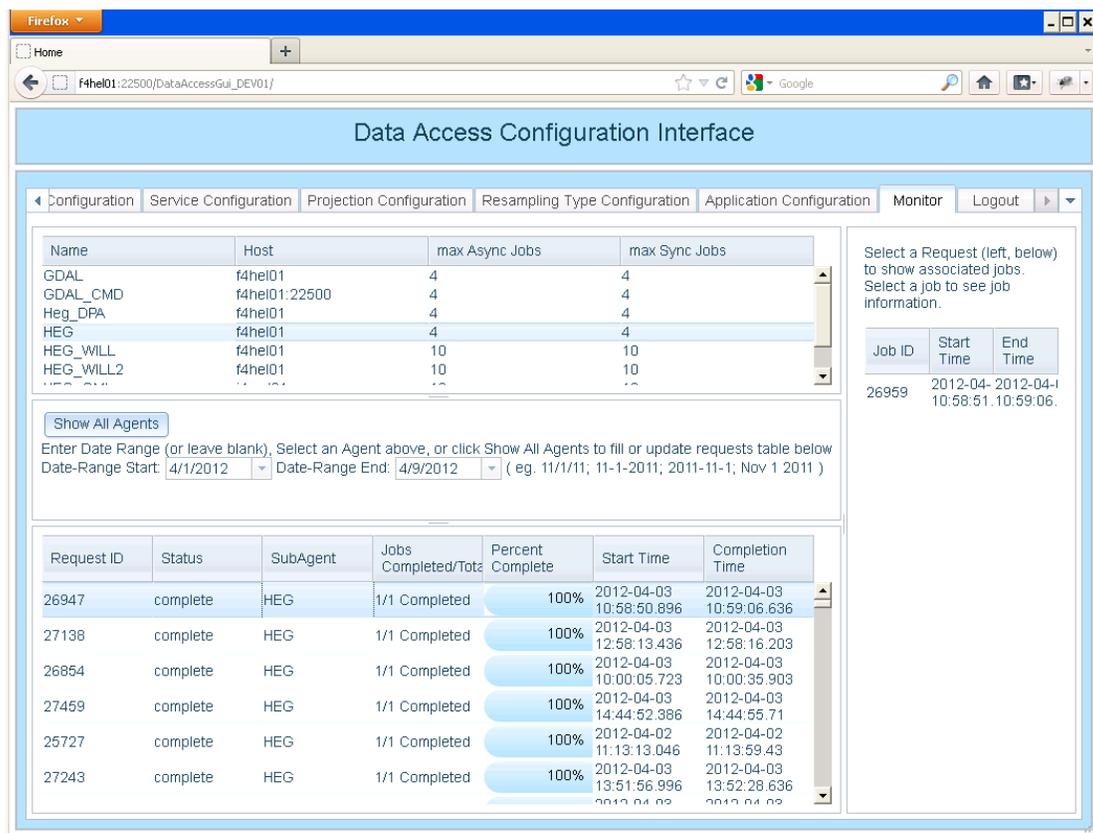
**Table 25.3-1. Configuring the Data Access System - Activity Checklist**

Order	Role	Task	Section	Complete?
1	DAAC Operator	Monitoring Recent Requests	(P) 25.3.1	

### 25.3.1 Monitoring Recent Requests

In order to monitor the Data Access System, the **Monitor** tab is used

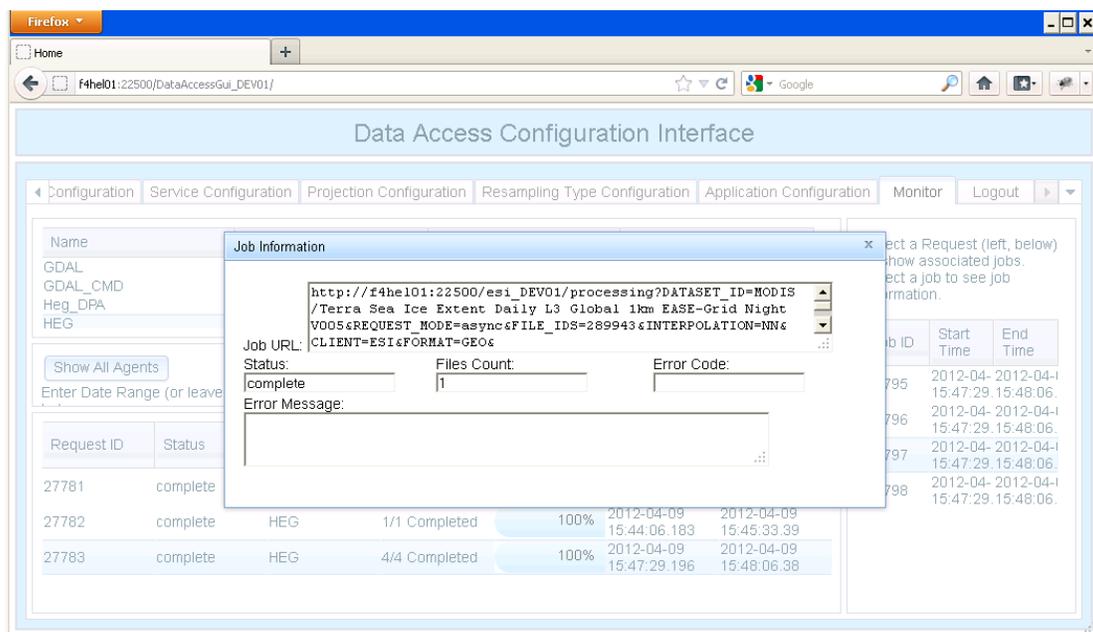
1. Log in to the Data Access GUI.
  - The Data Access GUI Collection Configuration tab (Figure 25.2-2) is now displayed.
2. Click on the **Monitor** tab.
  - The **Monitor** tab (Figure 25.3-1) is now displayed.



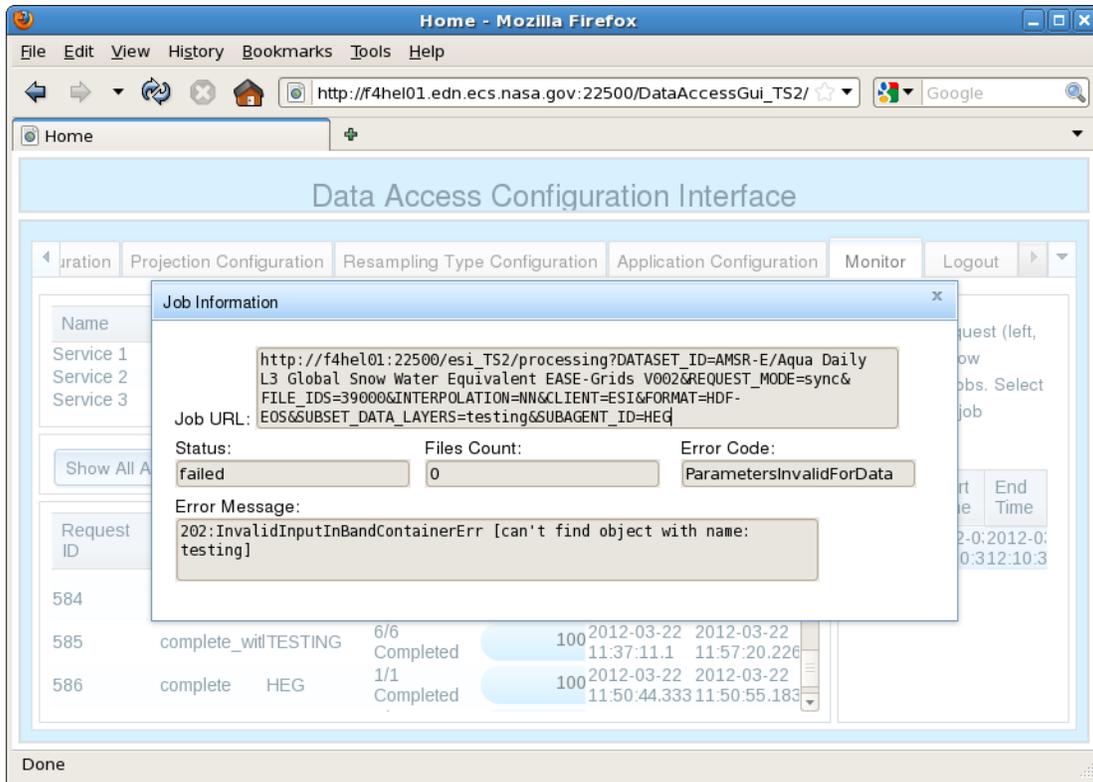
**Figure 25.3-1. Monitor Tab**

3. Select a start and end date to display requests for. The default is to show 3 days worth of requests.
4. Click on a service in the list of services in order to show requests for that service.
  - **OR** click the **Show All Agents** to display requests for all services.

5. Scroll through the list of requests to find the one you are interested in. Each request in the list has a number of pieces of information about it displayed.
  - **Request ID** – The unique ID of the request.
  - **Status** – The current status of the request.
  - **SubAgent** – The Service which is handling the request.
  - **Jobs Completed / Total** – The number of jobs (i.e. granules) in the request which are in a terminal state, over the total number.
  - **Percent Complete** – The percentage of the total number of jobs (i.e. granules) in the requests which are in a terminal state.
  - **Start Time & Completion Time** – The minimum start time and maximum completion time for jobs in the request.
6. Click on a request to see its' component jobs. Each request has one or more jobs within it which represent the actual processing of the request. A job corresponds to the processing of a single input granule.
7. The job(s) within the selected request are displayed on the right hand side of the **Monitor** Tab.
8. Click on a Job in the **Job List**.
  - Information about the selected job is displayed in a **Job Information** pop up. Figures 25.3-2 and 25.3-3 show the **Job Information** pop up for a complete and failed job respectively.



**Figure 25.3-2. Job Information Pop-up for a Complete Job**



**Figure 25.3-3. Job Information Pop-up for a Failed Job**

# Abbreviations and Acronyms

---

A <sub>o</sub>	Operational Availability
ACL	Access Control List
ACS	Automated Cartridge System
ACSLs	Automated Cartridge Storage Library System
ACVU	Archive Checksum Verification Utility
ADC	Affiliated Data Center
ADIC	Advanced Digital Information Corporation
AFM	Affected File Metadata
AFL	Affected File List
AI&T	Algorithm Integration and Test
AIM	Automated Information Management Archive Inventory Management
AIT	Algorithm Integration Team
ALDT	Administrative Logistic Delay Time
ALOG	Application Log
ANL	Argonne National Laboratory
APC	Access/Process Coordinators
API	Application Program Interface
APID	Applications Process Identifier
AR	Action Request
ARS	Remedy Action Request System
ASCII	American Standard Code for Information Interchange
ASE	Adaptive Server Enterprise
ASTER	Advanced Spaceborne Thermal Emission and Reflection Radiometer
ATL	Automated Tape Library
BLM	Baseline Manager
BMGT	Bulk Metadata Generation Tool

BO	Bundling Order, Bundled Order
BRWS	Browse
BTF	Big Brother Better Than Free Edition
CC	Cloud Cover
CCB	Configuration Control Board
CCR	Configuration Change Request
CD	Compact Disk
CDE	Common Desktop Environment
CD-ROM	Compact Disk - Read Only Memory
CDR	Critical Design Review
CDRL	Contract Data Requirements List
CDS	Cell Directory Service
CERT	Computer Emergency Readiness Team
CHCI	Communications Hardware Configuration Item
CHUI	Character User Interface
CI	Configuration Item
CIDM	Client Interoperability and Data Management
CIL	Configuration Items List
CLI	Command Line Interface
CLS	Client Subsystems
CM	Configuration Management
CMA	CM Administrator
CN	Change Notice
CO	Contracting Officer
COTR	Contracting Officer's Technical Representative
COTS	Commercial Off-the-Shelf (hardware or software)
CPU	Central Processing Unit
CR	Change Request
CRM	Change Request Manager
CSA	Configuration Status Accounting

CSC	Computer Software Component
CSCI	Computer Software Configuration Item
CSG	Clearcase Support Group
CSMS	Communications and Systems Management Segment (ECS)
CSR	Consent To Ship Review
CSS	Communications Subsystem
CVS	Checksum Verification Services
DAA	Data Availability Acknowledgment
DAAC	Distributed Active Archive Center
DADS	Data Archive and Distribution System
DAN	Data Availability Notice
DAO	Data Assimilation Office
DAP	Delivered Algorithm Package
DAR	Data Acquisition Request
DAS	Data Availability Schedule
DAT	Digital Audio Tape
DB	Database
DBA	Database Administrator
DBID	Database ID
DBMS	Database Management System
DBO	Database
DCE	Distributed Computing Environment (OSF)
DCF	Data Capture Facility
DCN	Document Change Notice
DCO	Document Change Order
DCR	Data Collection Request
DD	Data Dictionary
DDA	Data Delivery Acknowledgment
DDICT	Data Dictionary
DDIST	Data Distribution

DDL	Data Definition Language
DDN	Data Delivery Notice
DDSRV	Document Data Server
DDTS	Distributed Defect Tracking System
DEM	Digital Elevation Models
DES	Data Encryption Standard
DESKT	Desktop Configuration Item
DFA	Deleted From Archive Deletion From Archive
DHWM	Data High Watermark
DID	Data Item Description
DIF	Data Interchange Formant
DIMGR	Distributed Information Manager
DLL	Dynamic Link Library
DLT	Digital Linear Tapes
DLWM	Data Low Watermark
DM	Data Management
DME	Distributed Management Environment
DMO	Data Management Organization
DN	Distribution Notice
DNS	Domain Name Service
DOF	Distributed Object Framework
DOY	Day of Year
DOWS	Deployment of Open Geospatial Consortium (OGC) Web Services
DP	Data Pool
DPL	Data Pool
DPAD	Data Pool Action Dispatcher
DPASU	Data Pool Access Statistics Utility
DPCV	Data Pool Checksum Verification Utility
DPIU	Data Pool Insert Utility

DPM	Data Pool Maintenance
DPREP	Data Preprocessing
DPR	Data Processing Request
DPS	Data Processing Subsystem
DR	Delivery Record
DS	Data Server
DSS	Data Server Subsystem
DUE	DAAC Unique Extension
EBIS	EMD Baseline Information System
ECHO	EOS Clearing House
ECM	EMD Change Manager
ECN	Equipment Control Number
ECO	Open Action Items (CM CCR Tool)
ECS	EOSDIS Core System
EED	EOSDIS Evaluation and Development Contract
EDF	ECS Development Facility
EDHS	ECS Data Handling System
EDS	Expedited Data Set
EGS	EOS Ground System
EIN	Equipment Identification Number
EMC	Enterprise Monitoring and Coordination
EMD	EOSDIS Maintenance and Development (Project)
EMSn	EOS Mission Support Network (formerly EBnet)
EOC	EOS Operations Center (ECS)
EOS	Earth Observing System
EOSDIS	Earth Observing System Data and Information System
EP	Evaluation Package
EROS	Earth Resources Observation System
ESD	Electrostatic Discharge
ESDIS	Earth Science Data and Information System (GSFC Code 423)

ESDT	Earth Science Data Type
ESI	EOSDIS Service Interface (Data Acces)
ESOD	Earth Science On-line Directory
ET	Eastern (standard or daylight savings) Time
EWAM	External Web Access Manager
F&PRS	Functional and Performance Requirements Specification
FC	Fibre Channel
FCA	Functional Configuration Audit
FDD	Flight Dynamics Division
FDDI	Fiber Distributed Data Interface
FIFO	First in First out
FOS	Flight Operations Segment (ECS)
FOT	Flight Operations Team
FSMS	File and Storage Management System
FTP	File Transfer Protocol
FTPD	File Transfer Protocol Daemon
GB	Gigabyte ( $10^9$ )
Gb	Gigabit ( $10^9$ )
GBps	Gigabytes per Second
Gbps	Gigabits per Second
GBAD	Ground Based Attitude Determination
GCDIS	Global Change Data and Information System
GCMD	Global Change Master Directory
GDS	Ground Data System
GeoTIFF	Georeferenced Tagged Image File Format
GES DAAC	GSFC Earth Sciences Distributed Active Archive Center
GFE	Government Furnished Equipment
GFP	Government Furnished Property
GID	Group IDs
GIGE	Gigabit Ethernet

GSFC	Goddard Space Flight Center
GSO	GSFC Security Office
GUI	Graphical User Interface
H/W	Hardware
HA	High Available
HBA	Host Bus Adapter
HDF	Hierarchical Data Format
HEG	HDF-EOS to GeoTIFF Conversion Tool
HIPPI	High Performance Parallel Interface
HPOV	HP Open View
HQ	Hyperic HQ Enterprise
HSM	Hierarchical Storage Management
HTML	Hypertext Mark-Up Language
HTTP	HyperText Transfer Protocol
HWCI	Hardware Configuration Item
I/E	Import/Export
I&AT	Integration and Acceptance Test
I&T	Integration and Test
I&TT	Integration and Test Team
ICD	Interface Control Document
ICLHW	Ingest Client Hardware [configuration item]
IIU	Inventory Insert Utility
ILM	Inventory, Logistics, and Maintenance
ILP	Integrated Logistics Plan
ILS	Integrated Logistics Support
ILSMT	ILS Management Team
ILSO	ILS Office
INGST	Ingest Services
INS	Ingest System
IONET	Internet Protocol Operational Network

IP	Internet Protocol
IPNOC	Internet Protocol Network Operations Center
IPT	Integrated Product Team
IQ	Intelligent Query and IQ Access
IR	Installation Receipt
ISDN	Integrated Services Digital Network
ISS	Internetworking Subsystem
ISQL	Interactive (Structured Query Language) SQL
IV&V	Independent Verification and Validation
KB	Kilobyte ( $10^3$ )
Kb	Kilobit ( $10^3$ )
KBps	Kilobytes per Second
Kbps	Kilobits per Second
L0	Level 0
L0-L4	Level 0 (zero) through Level 4 (use Level-0 through Level-4 for EDHS search)
LAN	Local Area Network
LaRC	Langley Research Center (DAAC)
LCU	Library Control Unit
LE	License Entitlement
LIM	Local Information Manager
LIMGR	Local Information Manager
LMC	Local Maintenance Coordinator Library Management Console
LMU	Library Management Unit
LOI	Library Operator Interface
LP DAAC	Land Processes Distributed Active Archive Center
LRU	Line Replaceable Unit
LSM	Library Storage Module
LTM	Log Transfer Manager
LTO	Linear Tape Open

LUN	Logical Unit Number
LZPF	Level Zero Processing Facility
M	Million, mega (prefix)
M&O	Maintenance and Operations
MAN	Metropolitan Area Network
MB	Megabyte (10 <sup>6</sup> )
Mb	Megabit (10 <sup>6</sup> )
MBps	Megabytes per Second
Mbps	Megabits per Second
MCF	Metadata Configuration File Metadata Control File
MD	Master Directory
MDA	Management Data Access
MDC	SNSM Metadata Controller Servers
MDT	Mean Downtime
MHWCI	Management Hardware Configuration Item
MHz	Megahertz
MIB	Management Information Base
MIS	Management Information System
MM	Millimeter
MOAT	MODIS Data Type
MOU	Memorandum of Understanding
MR	Malfunction Report
MSEC	Millisecond
MSS	Management Systems Subsystem
MTBCM	Mean Time Between Corrective Maintenance
MTBF	Mean Time Between Failure
MTBM	Mean Time Between Maintenance
MTBPM	Mean Time Between Preventive Maintenance
MTMGW	Machine-to-Machine Gateway

MTTR	Mean Time to Repair
MTTRes	Mean Time to Restore
MTU	Maximum Transfer Unit
MWO	Maintenance Work Order
N/A	Not Applicable
NA	Network Administrator
NAC	National Agency Check
NASA	National Aeronautics and Space Administration
Nascom	NASA Communications
NASIRC	NASA Automated Systems Incident Response Capability
NBSRV	Spatial Subscription Server
NCC	Network Control Center (GSFC) network communication center
NCEP	National Centers for Environmental Prediction
NCR	Nonconformance Report
NCSA	National Center for Supercomputer Applications
NFS	Network File System
NIS	Network Information Service
NISN	NASA Integrated Services Network
NM	Name Server
NMCI	Network Management Configuration Item
NOAA	National Oceanic and Atmospheric Administration
NPG	NASA Procedures and Guidelines
NPR	NASA Procedural Requirements
NRP	NASA Resource Protection
NSI	NASA Science Internet
NSIDC	National Snow and Ice Data Center
NWCI	Networking Configuration Item
ODL	Object Description Language
OEM	Original Equipment Manufacturer

OGC	Open Geospatial Consortium
OI	Operator Interface
OJT	On-the-Job Training
OLA	On-Line Archive
OM	Order Manager
OMB	Office of Budget Management
OMS	Order Manager Subsystem
OMSCLI	Order Manager Service Command Line Interface
OPR	Operator
Ops Super	Operations Supervisor
ORPA	Operations Readiness & Performance Assurance
ORR	Operations Readiness Review
OS	Operating System
OSF	Open Software Foundation
OTS	Off-the-Shelf
OVW	HP OpenView Windows
OWS	Open Geospatial Consortium (OGC) Web Services
PA	Property Administration
PANS	Product Acceptance Notifications
PB	Petabyte (10 <sup>15</sup> )
PC	Process Control
PCA	Physical Configuraton Audits
PCF	Process Control File
PDL	Program Design Language
PDPS	Planning and Data Processing System
PDR	Product Delivery Record
PDRD	Product Delivery Discrepancy Report
PDS	Product Distribution System Production Data Set
PDSOI	Product Distribution System Operator Interface

PDSIS	Product Distribution System Interface Server
PGE	Product Generation Executable
PGS	Product Generation Service
PH	Production History
PI	Principal Investigator
PIN	Password Identification Number
PM	Preventative Maintenance
PMD	Physical Media Distribution
PMP	Property Management Plan
PMPDR	Physical Media Product Delivery Record
POC	Point-of-Contact
PPM	Principal Period of Maintenance
PR	Production Request (s)
PRB	Problem Review Board
PRE	Production Request Editor
PRS	Primary Replication Server
PSA	Product-specific attributes
PSR	Pre-Ship Review
PVC	Performance Verification Center
QA	Quality Assurance Quality Assessment
QC	Quality Control Quality Check
QRU	Query, Retrieve, and Update
QAUU	Quality Assurance Update Utility
R&M	Reliability and Maintainability
RAID	Redundant Array of Inexpensive Disks
RAM	Random Access Memory
RAS	Remote Access Service Remote Access Server
RCL	Replication Command Language

RDMS	Relational Database Management System
RHEL	Red Hat Enterprise Linux
RE	Responsible Engineer
RMA	Return Material Authorization Reliability, Maintainability, and Availability
RMS	Resource Management Subsystem
RPC	Remote Procedure Call
RRS	Replicate Replication Server
RS	Replication Server
RSA	Replication System Administrator
RSM	Replication Server Manager
RSSD	Replication Server System Database
S/C	Spacecraft
S/W	Software
S/WCI	Software Configuration Item
SA	System Administrator
SANS	Storage Area Network
SATAN	Security Administrator Tool for Analyzing Networks
SCDO	Science and Communications Development Office (Now ECS Science Development Organization)
SCF	Science Computing Facility
SCID	Space Craft ID
SCSI	Small Computer System Interface
SCP	Secure Shell Protocol Secure Copy Protocol
SCDV	Science Development
SD	Software Development
SDPS/W	Science Data Production Software
SDPTK	Science Data Processing Toolkit
SE	System Engineering
SEPG	Software Engineering Process Group

SIG	Silicon Graphics Incorporated
SI&T	System Integration and Test
SIPS	Science Investigator-Led Processing Systems
SLA	Site License Agreement Software License Administrator
SMC	System Monitoring Center
SMF	Status Message Facility
SMTP	Simple Mail Transport Protocol
SNAC	StoreNext Archive Cache
SNFS	StoreNext File System
SNMP	Simple Network Management Protocol
SNMS	StorNext Management System
SNSM	StoreNext Storage Manager
SOR	System Operations Review
SORR	Segment Operational Readiness Review
SOW	Statement of Work
SPRHW	Science Processing Hardware [configuration item]
SQL	Structured Query Language
SQR	SQL Report Writer
SQS	Spatial Query Server
SRR	System Requirements Review
SSH	Secure Shell
SSL	Secure Socket Layer
SSS	Spatial Subscription Server Secure Shell Setup
STK	Storage Tek
SubsMgr	Subscription Manager
T&M	Time and Materials
TB	Terabyte (10 <sup>12</sup> )
TBD	To Be Determined

TBS	To Be Supplied
Tbyte	Terabyte
TCP/IP	Transmission Control Protocol/Internet Protocol
TEC	Tivoli Enterprise Console
telecon	Telephone Conference
TELNET	Telecommunication Network
TPS	Transactions Per Second
TRMM	Tropical Rainfall Measurement Mission
TSDIS	TRMM Science Data and Information System
TT	Trouble Ticket
TTPRO	TestTrack Pro
UDP	User Datagram Protocol
UID	User IDs
UR	Universal Reference
URDB	User Recommendations Database
URL	Universal Resource Locator
USO	User Support Office
US Rep	User Services Representative
UWG	User Working Group
VATC	Verification and Acceptance Test Center
VDD	Version Description Document
VLAN	Virtual Local Area Network
VOB	Versioned Object Base (ClearCase)
VTL	Virtual Tape Library
WAIS	Wide Area Information Server
WAN	Wide Area Network
WCS	Web Coverage Service
WIST	Warehouse Inventory Search Tool
WKBCH	Workbench
WKSHCI	Working Storage Hardware Configuration Item

WMS	Web Mapping Service
WSDL	Web Service Distribution Language
WWW	World Wide Web
VOB	Versioned Object Base
XCU	XML Check Utility
XLV	Logical Volume Disk Driver
XML	Extensible Markup Language
XRU	Granule XML Metadata Replacement Utility
XVU	XML Validation Utility