16. User Services

16.1 Spatial Subscription Server

User Services and Science Data Specialists use the Spatial Subscription Server 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.*, x4oml01,) 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 Step 3.
- 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:// f4oml01.hitc.com: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.

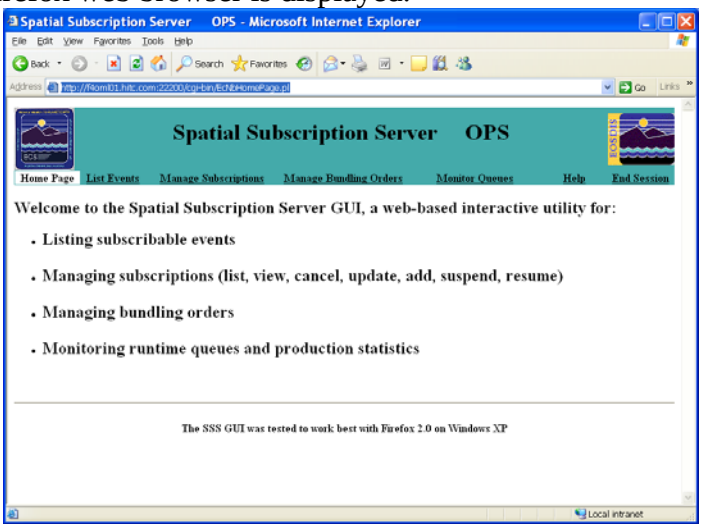


Figure 16.1-1. Spatial Subscription Server GUI Home Page

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).

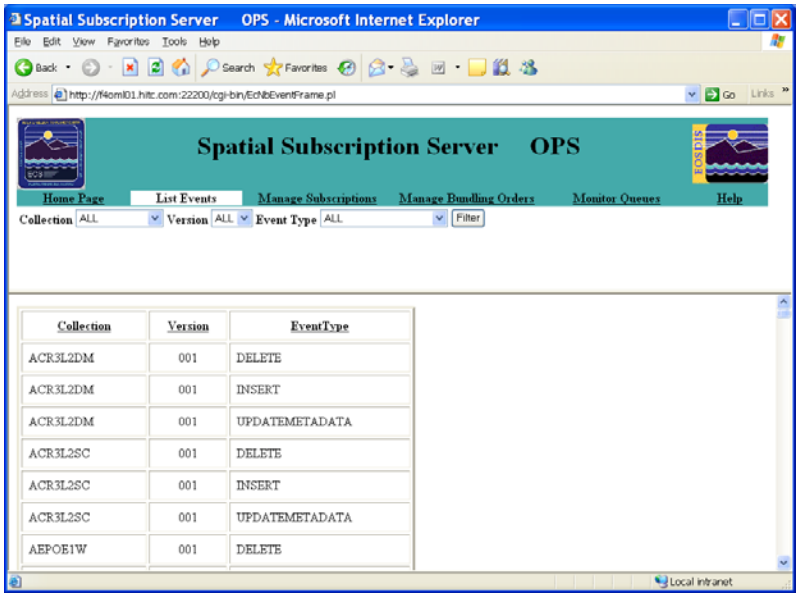


Figure 16.1-2. List Events Page

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, UNDELETE, DELETEPHYSICAL,** 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.

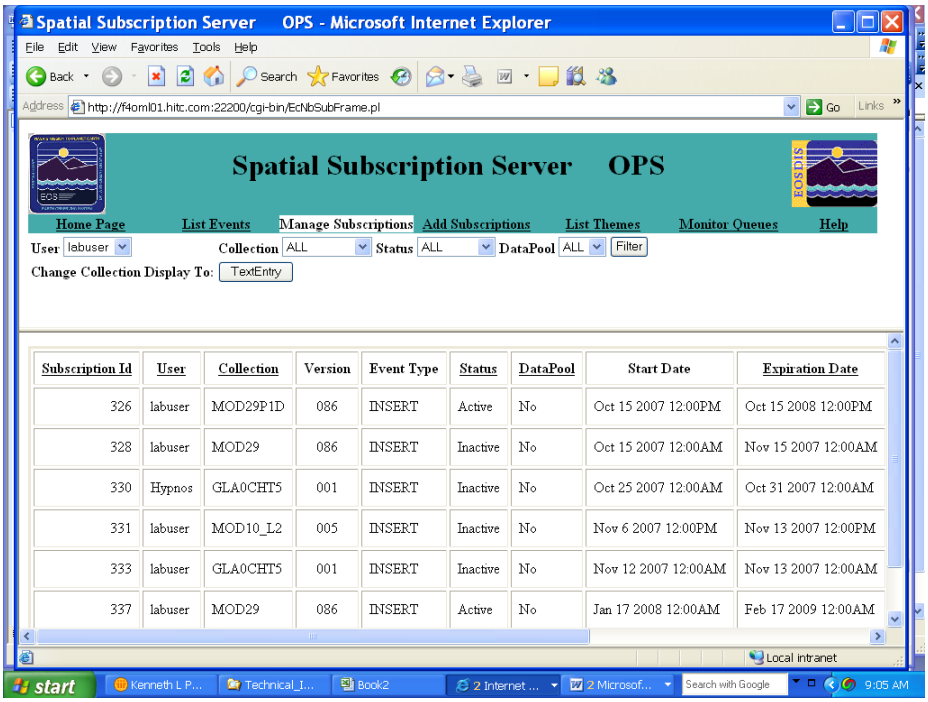
16.1.3.1 View Subscriptions in the NBSRV Database

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.



Subscription Id	User	Collection	Version	Event Type	Status	DataPool	Start Date	Expiration Date
326	labuser	MOD29P1D	086	INSERT	Active	No	Oct 15 2007 12:00PM	Oct 15 2008 12:00PM
328	labuser	MOD29	086	INSERT	Inactive	No	Oct 15 2007 12:00AM	Nov 15 2007 12:00AM
330	Hypnos	GLA0CHT5	001	INSERT	Inactive	No	Oct 25 2007 12:00AM	Oct 31 2007 12:00AM
331	labuser	MOD10_L2	005	INSERT	Inactive	No	Nov 6 2007 12:00PM	Nov 13 2007 12:00PM
333	labuser	GLA0CHT5	001	INSERT	Inactive	No	Nov 12 2007 12:00AM	Nov 13 2007 12:00AM
337	labuser	MOD29	086	INSERT	Active	No	Jan 17 2008 12:00AM	Feb 17 2009 12:00AM

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).

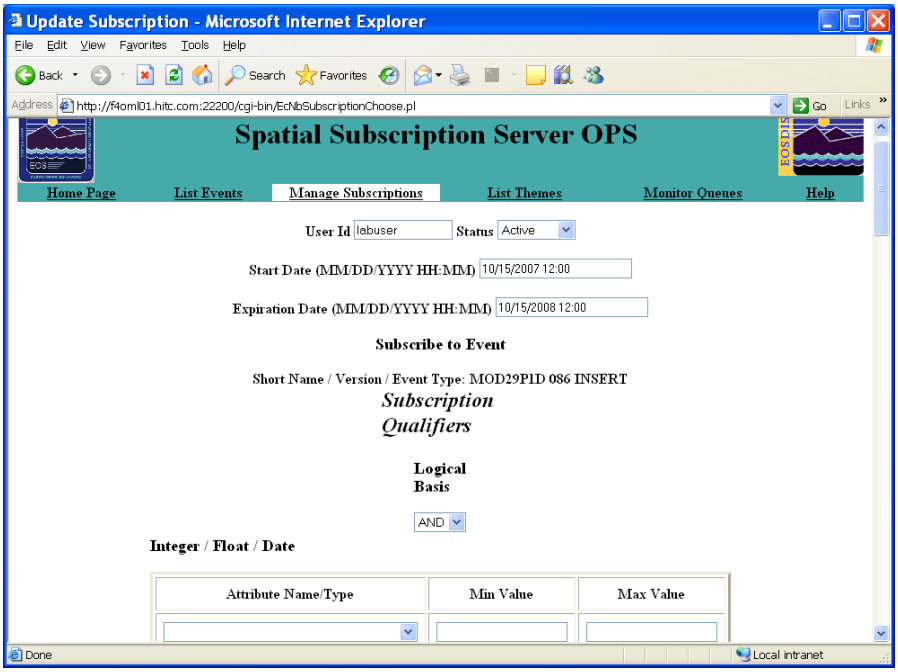


Figure 16.1-4. Update Subscription

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.
- West Longitude.
- East Longitude.
- South Latitude**.**

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

19 To associate the subscription with a bundling order (if applicable) first click in the **Bundling Order** box.

20 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 21 through 24 and go to Step 25.

21 To select or deselect 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.

22 If **Acquire** was selected in Step 21, change or add shipment data (if applicable) by either typing the appropriate data or clicking on the appropriate choice from the option list in the relevant fields of the **Acquire Information** block:

- **First Name M.I. Last Name**
- **Phone Number**
- **User Profile.**
- **User String [if applicable (to distinguish the subscription from others)].**
- **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].

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).

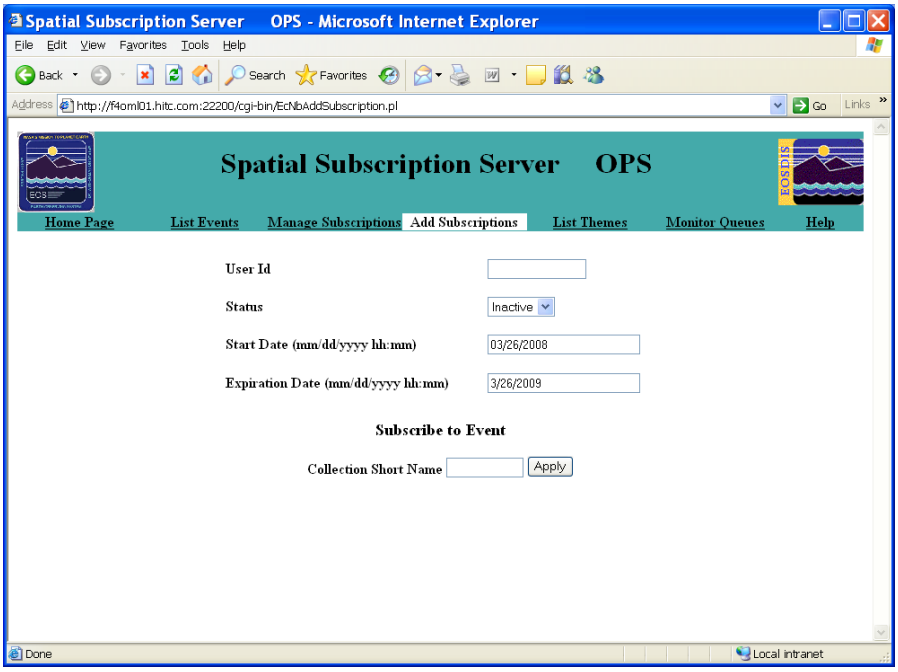


Figure 16.1-5. Add Subscription

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.

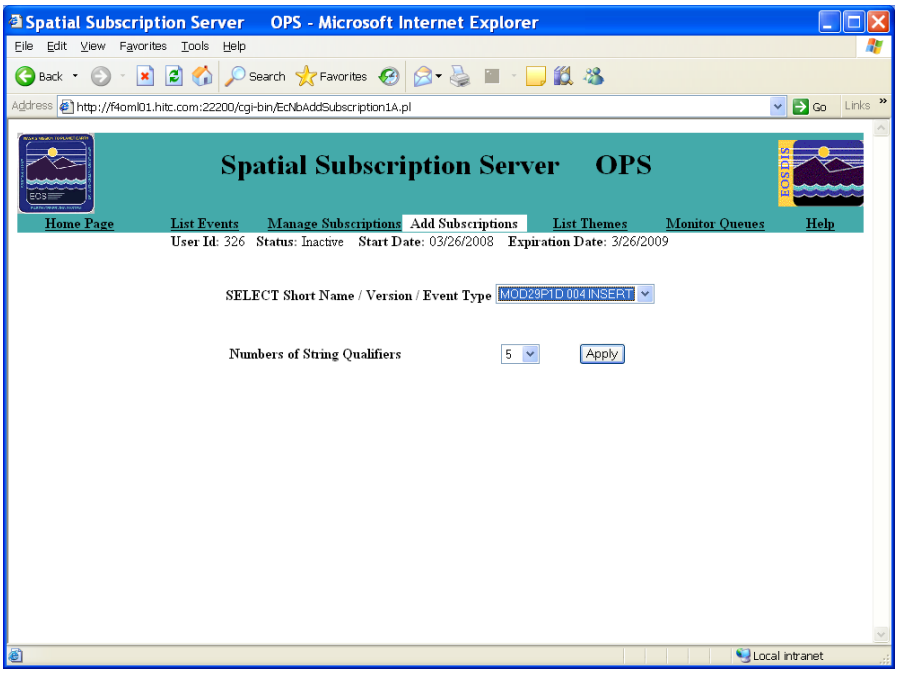


Figure 16.1-6. String Qualifiers

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**.

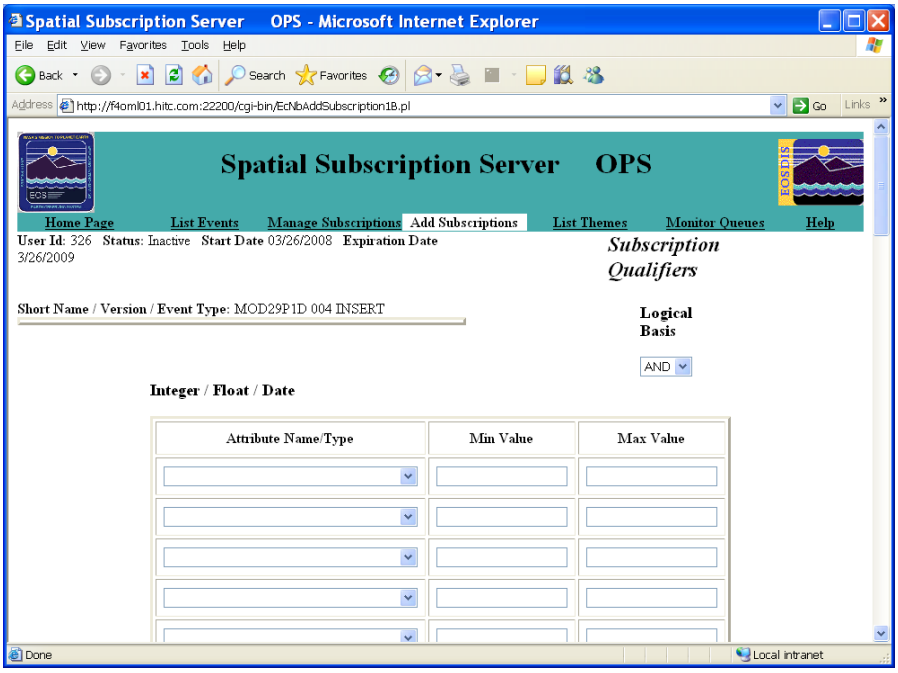


Figure 16.1-7. Subscription Qualifier

- 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/Date Attribute 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/Date Min 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/Date Max 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 **String Attribute 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:

North Latitude	**0**
West Longitude	**-70**
East Longitude	**-50**
South Latitude	**-20**

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 Step 23, 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 Step 24, 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 Step 24, 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.

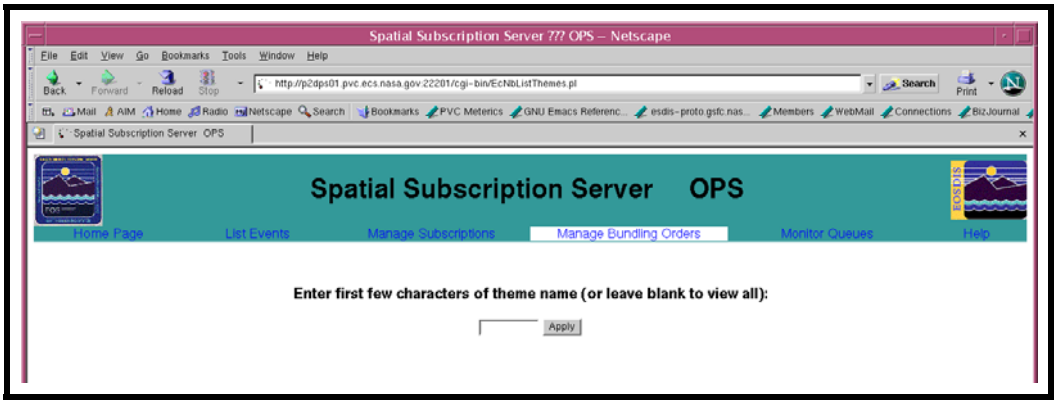


Figure 16.1-8. List Themes Request Page

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.**

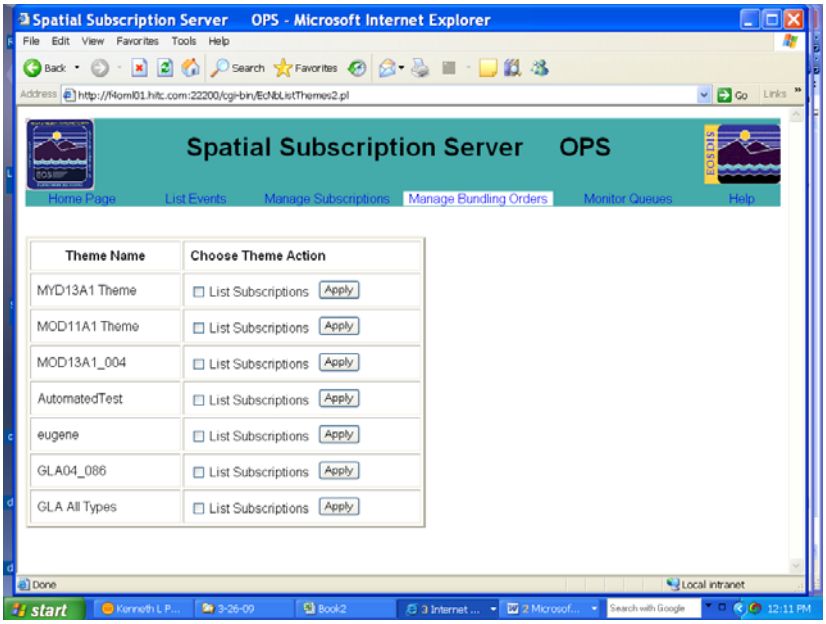


Figure 16.1-9. Spatial Subscription Server GUI Theme List Page

- 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).

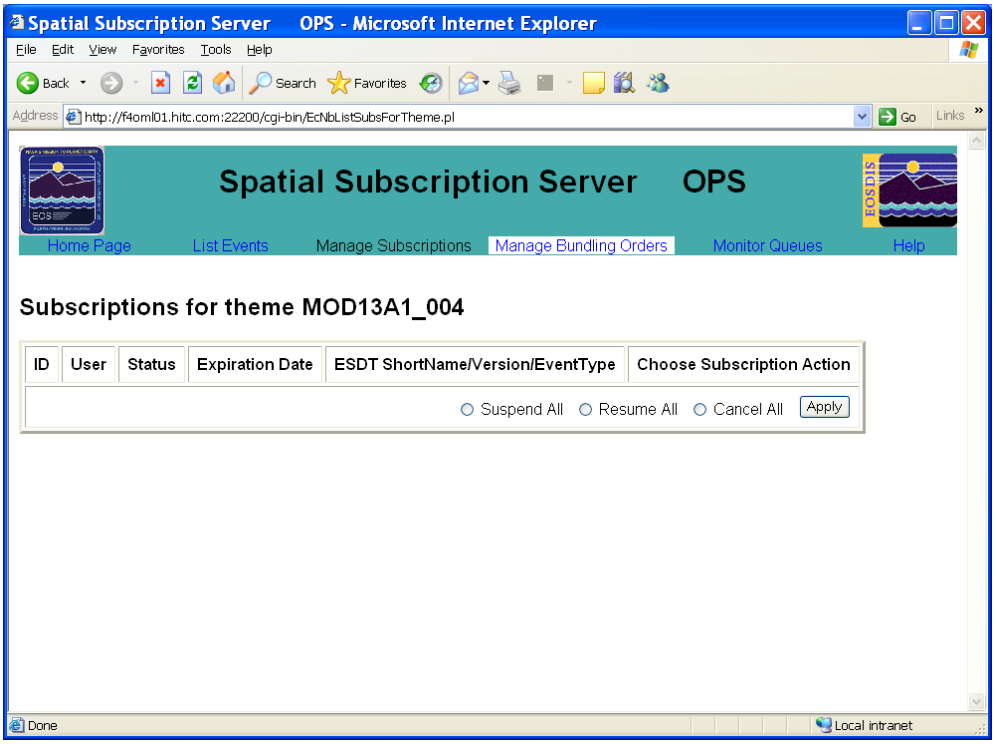


Figure 16.1-10. List Subscriptions for Theme page

  - 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 displays.

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).

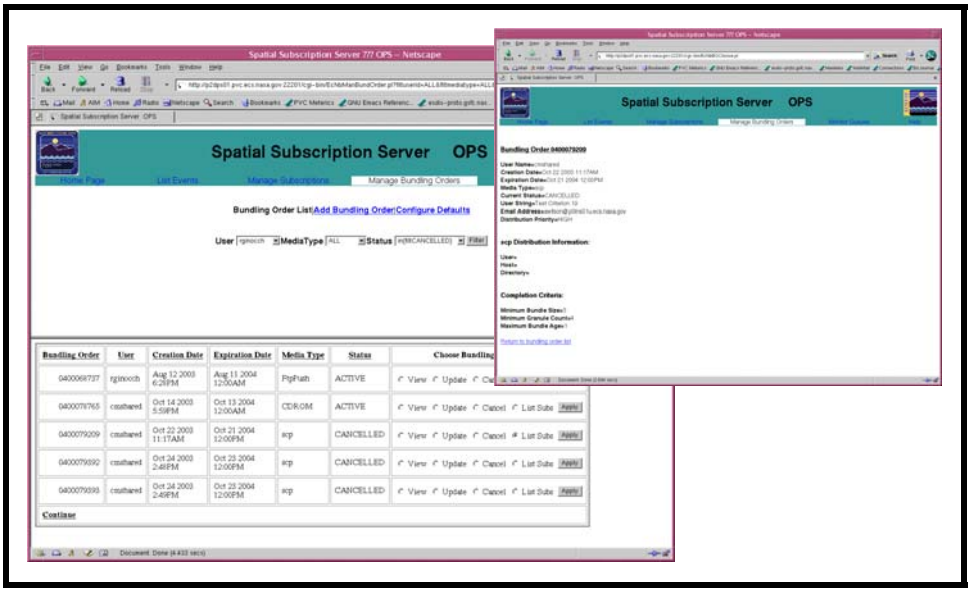


Figure 16.1-11. Manage Bundling Orders Page (Part 1)

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).

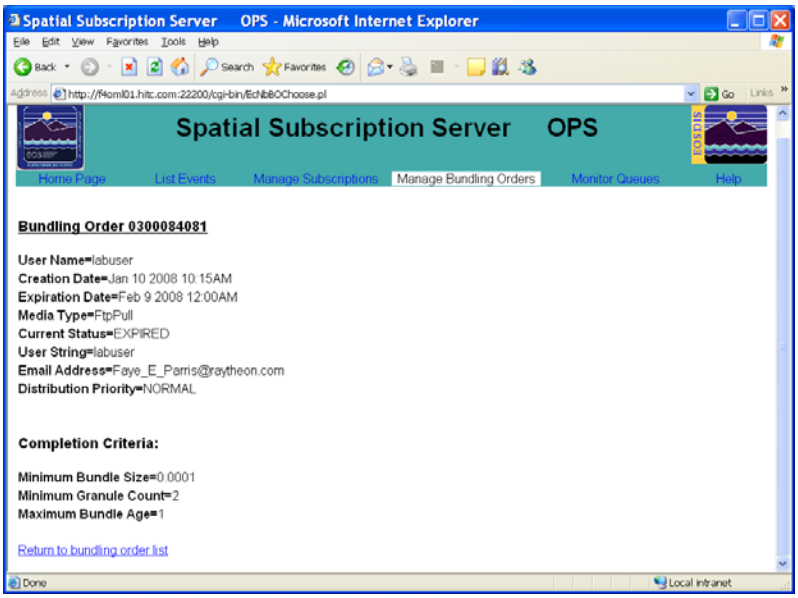


Figure 16.1-12. Manage Bundling Orders Page (Part 2)

- 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.**
- **scp distribution information: User** (if applicable).
- **scp 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**.

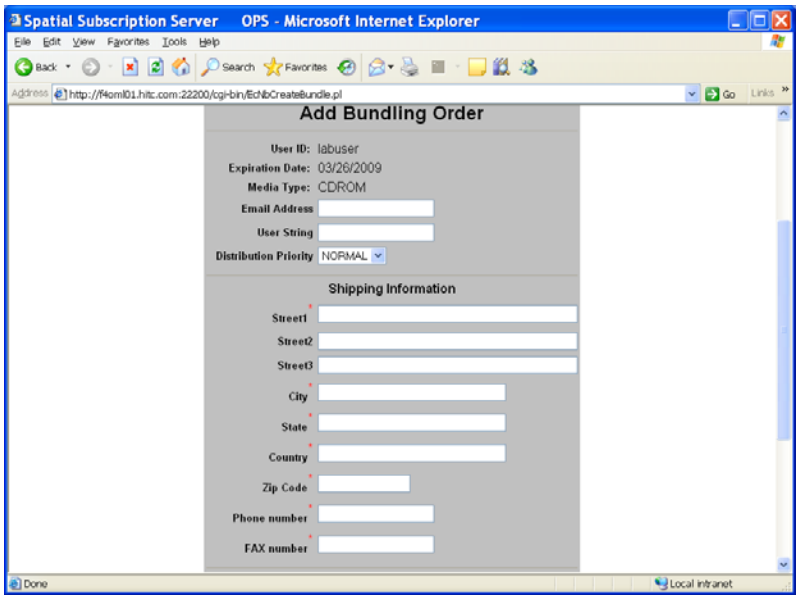


Figure 16.1-13. Add Bundling Order Detail Page

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.

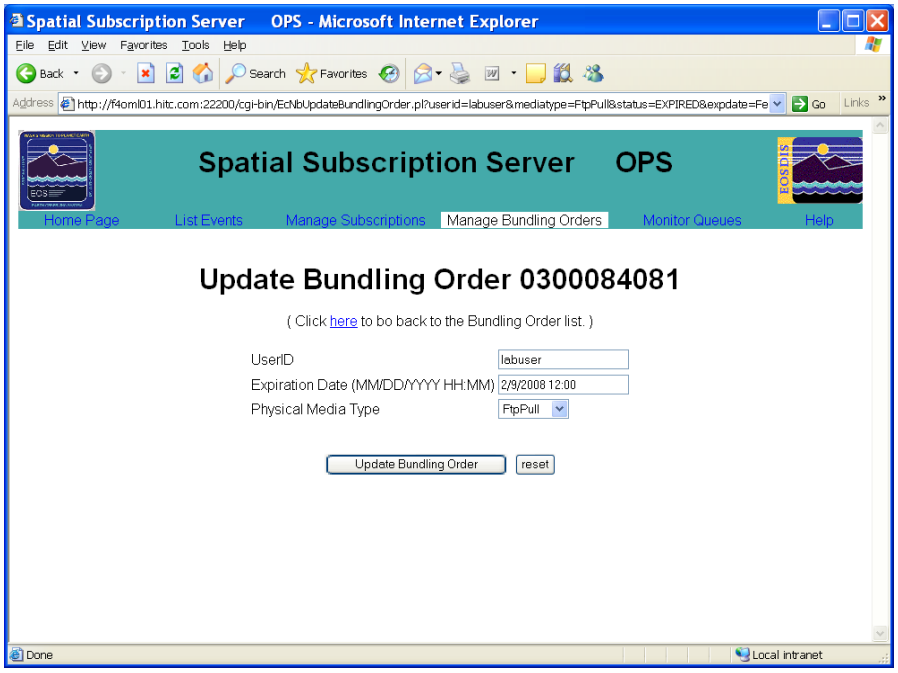


Figure 16.1-14. Update Bundling Order Page 1

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**.

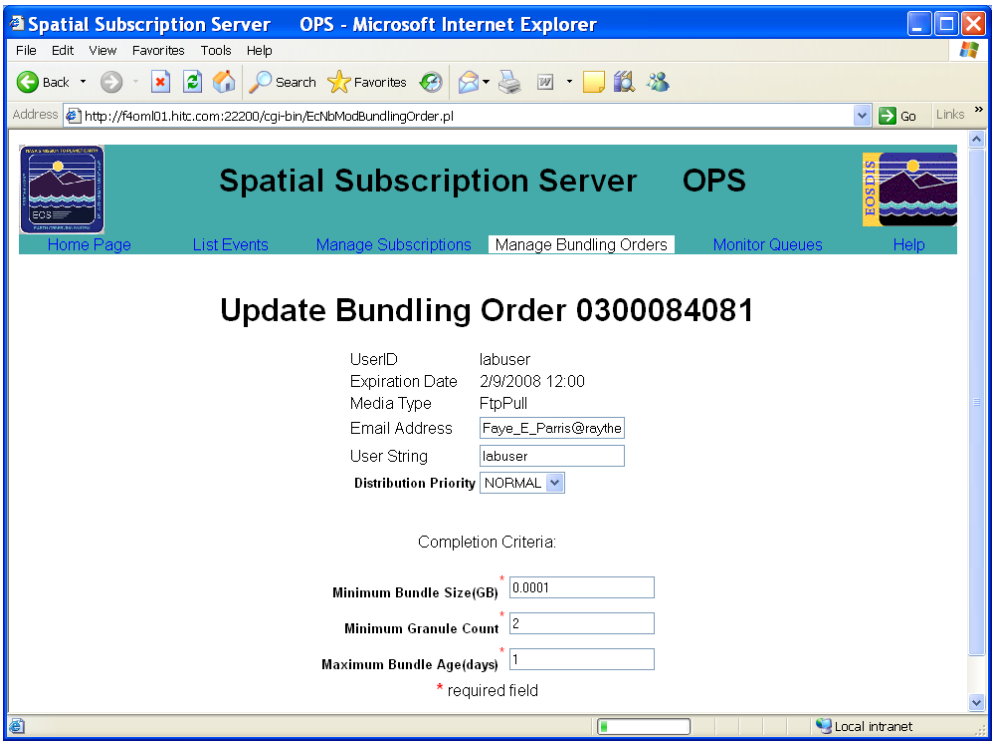


Figure 16.1-15. Update Bundling Order Page 2

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 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 **Configure Defaults** link.

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

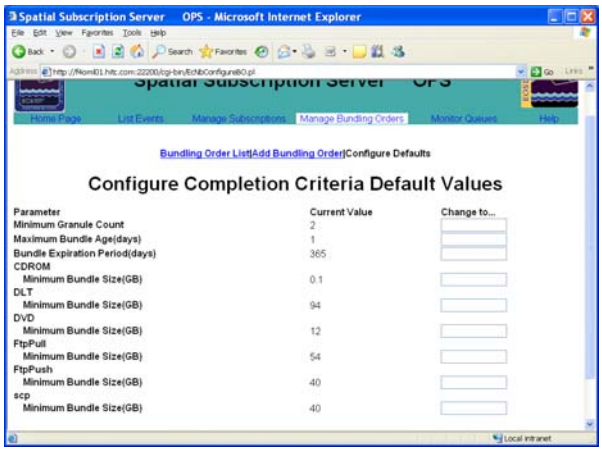


Figure 16.1-16. Configure Completion Criteria Default Values Page (Part 1)

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.

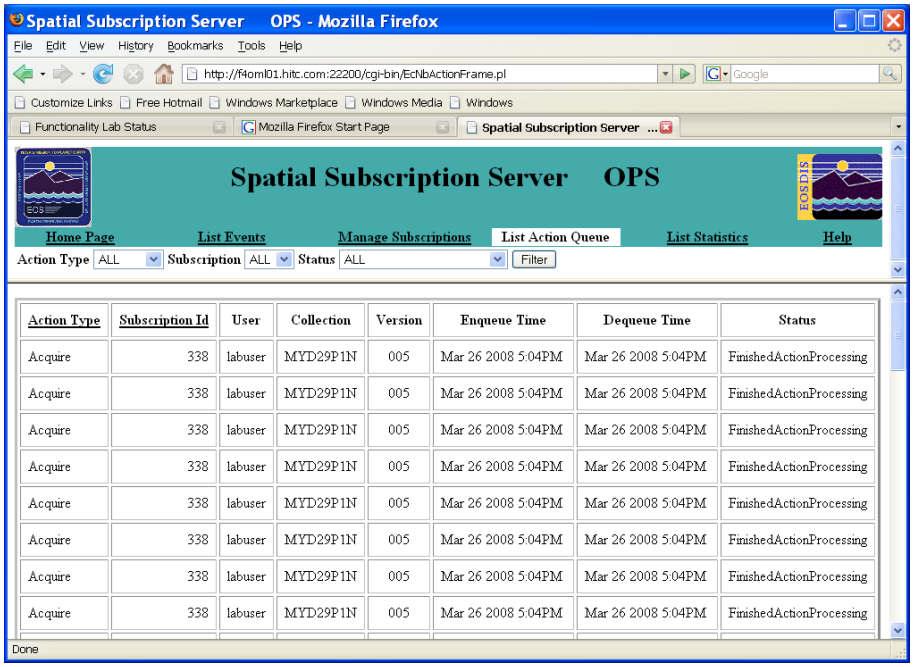


Figure 16.1-17. Configure Completion Criteria Default Values Page (Part 2)

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.**
  - **Status.**
- The **Action Type** and **Subscription Id** column headers are links for sorting the list.

- There are option lists for filtering the table data by **Action Type**, **Subscription**, and/or **Status**.

5 To filter the list to display certain types of actions 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.

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 items that meet the filter criteria only.

16.1.7.2 View and Remove Failed Actions

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 Failed Action** link.

- The **List Failed Action** page is displayed (see Figure 16.1-18) with a table listing acquire and notification actions that are being processed.

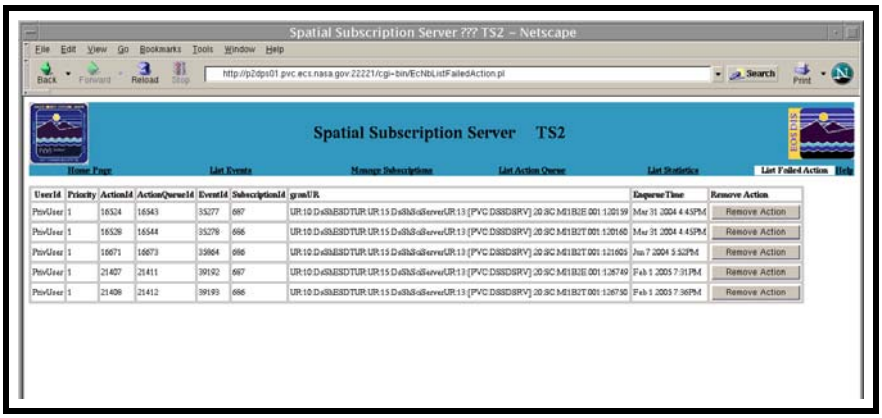


Figure 16.1-18. List Failed Action Page

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.

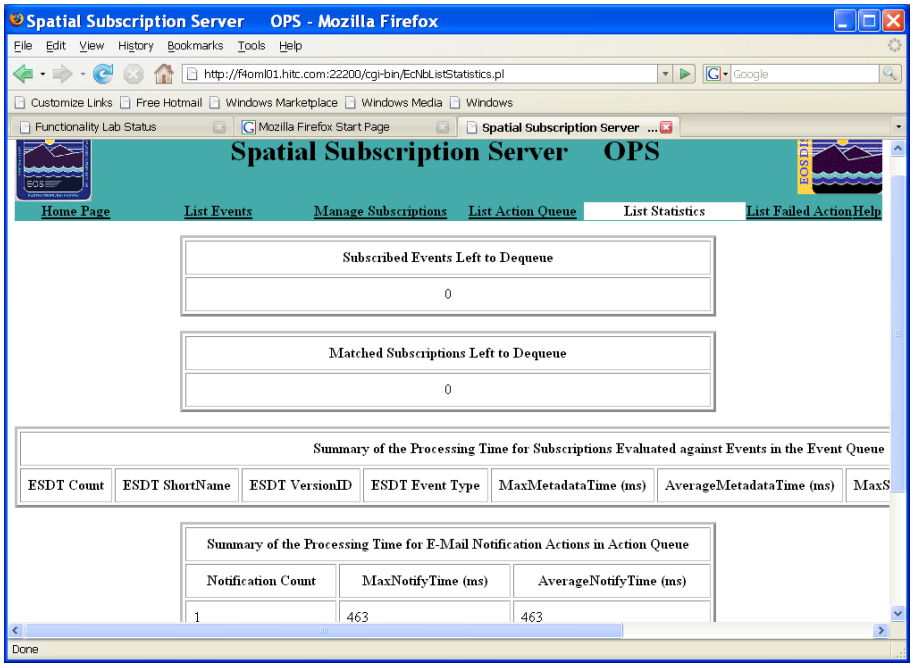


Figure 16.1-19. List Statistic Page

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 **x4oml01**.

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).
  - ***n*dd** (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 **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* 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.txt

  - 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:

  X4oml01{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., 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* Add *path/filename*** then press **Return/Enter**.

- ***path/filename*** is the name of a file containing data describing the new subscription.
- For example:

  EcNbSubscriptionCLIStart 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.

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17. Library Administration

17.1 EEB Library Administration Overview

EEB Library Administration is provided by several departments within the EEB project through the combined resources of Data Management (DM) and Configuration Management (CM). Library Administration includes (1) production, maintenance, and distribution of baselined EEB 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 EEB 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 EEB Baseline Information System (EBIS). All of these processes are discussed in more detail in this Library Administration section.

Figure 17-1. EDHS and EEB 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 EEB offices to provide efficient and cost-effective distribution, storage, maintenance, and retrieval of these data. DM is responsible for maintaining EEB data/documentation which includes documents under control of the EEB Change Control Boards (CCB) and subordinate CCBs. 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 EEB 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

EEB 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 EEB 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 EEB Process Assets Library web site (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 EEB documentation and is the primary repository of information maintained by the EEB 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

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

- Riverdale: http://pete.hitc.com/baseline/
- LPDAAC: http://e4iil01u.ecs.nasa.gov:10160/baseline/
- LaRC: http://l4ii101.larc.nasa.gov:10160/baseline/
- NSIDC: http://n4iil01u.ecs.nasa.gov:10160/baseline/
- ESDIS: http://ebis.gsfc.nasa.gov:10160/baseline/

17.2.1 Configuration Management (CM)

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

All **Official** documents have the new **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, S=SMC, 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 EEB 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
- EEB "as built" configurations

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

Information being disseminated on the EEB 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, EEB 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 EEB Software Library Maintenance

The EEB Software Library is responsible for controlling and tracking all approved COTS software for the project. CD's, 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 EEB Library Administration are to generate site-specific documentation in accordance with program standards and

conventions for format storage and control. EEB resources will be kept informed and utilized as appropriate

17.3.1 On-Site COTS Document and Software Maintenance

EEB products deployed to the operational sites that have been released for operational use are maintained in the EEB 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 EEB. Site personnel are responsible for any CM activities concerned with this library.

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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 EEB 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 EEB Project, 105-EEB-001

18.2 COTS Hardware Maintenance - General

The Integrated Logistics Support (ILS) Office at the EDF is responsible for COTS hardware maintenance. Local Maintenance Coordinators (LMC) are responsible for implementation of EEB maintenance policy at the DAACs. Questions about COTS hardware maintenance policy are to be addressed through the ILS Maintenance Coordinator, 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 ILS Maintenance Coordinator (LMC) using local DAAC resources. The LMC is the DAAC's local point of contact for directing and coordinating corrective maintenance of EEB 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 EEB 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 EEB 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 EEB 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 LMC ensures that all COTS hardware maintenance providers comply with requirements of this The LMC will send the required information for maintenance repair to the ILS Maintenance Coordinator at the EDF. The ILS Maintenance Coordinator is available either by email or telephone during normal work hours or by cell phone for after-hour emergencies. The ILS Maintenance Coordinator's name, email address, cell phone will be forwarded to the DAAC LMCs 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 LMC 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 Chapter 9 of this document. The LMC 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 LMC will ensue 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 LMC 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, 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 LMC to ensure compliance with these safety procedures by the hardware maintenance provider and site personnel.

18.3 COTS Hardware Maintenance - Contract Information

The EEB COTS procurement organization is located at the ECS/EEB 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 ILS Maintenance Coordinator.

18.3.1 COTS Hardware Maintenance Contract

Information relating to COTS hardware maintenance contracts is contained in the ILS web page. The LMC can obtain specific information on all hardware maintenance contracts at the ILS web page (http://dmserver.gsfc.nasa.gov/ils/intro.html). The ILS web page is kept current by the ILS Maintenance staff.

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 specified on the ILS web page. DAAC site-specific site access numbers/site codes/contract numbers, if required, are also listed on the ILS web page.

18.4 Hardware Repairs - Standard

(1) Users/operators of EEB hardware should report hardware/system problems to the site's LMC for resolution. Users, operators, and support personnel who encounter a hardware problem will report the problem

(2) The LMC 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, ILS maintenance lead and Property Administrator. The ILS maintenance lead 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 ILM database by the EEB 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, EEB 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 LMC who will contact the appropriate maintenance vendor. The LMC will start an MWO when the COTS maintenance vendor is notified.

18.4.2 Hardware Corrective Maintenance Actions

Hardware problems are forwarded to the LMC. The LMC 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 LMC arranges for on-site maintenance by the appropriate maintenance provider. Contract On-Site Hardware Maintenance.

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.	a. LMC notified or HW failure by operator, SA or NA. b. LMC cross-reference information documenting the problem to send to the ILS Maintenance Coordinator and Property Administrator.
2	LMC attempts to identify cause of problem.	a. Verifies actions and results to date by contacting SA and/or NA. b. Starts corrective maintenance process.
3	Problem resolved by LMC or local staff.	a. If problem can be resolved without hardware replacement (e.g. re-seat component, cable, etc): 1) Correct problem, and verify resolution. 2) Prepare an email or open a ticket with ECS Defect Tracking System or NCR describing the maintenance action and forward to the EDF. b. If problem can be resolved by replacement of failed LRU with maintenance spare (if available): 1) Replace failed LRU and record following in email or ticket to the EDF: a) Part number, serial number, and model/version number of replaced LRU b) Part number, serial number, and model/version number of new LRU 3) Order replacement of failed LRU in accordance with Section 18.4.1. 4) Replace the failed LRU in accordance with Section 18.4.2. 5) Prepare an email, describing the maintenance action and forward to the EDF ILS Maintenance Coordinator and Property Administrator.

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

Step	Occurrence	Action
4	Problem not resolved by LMC or local staff.	a. LMC notifies the maintenance contractor by obtaining contractor information from the ILS web page. b. LMC invokes return-to-depot support where appropriate, c. Prepare an email, describing the maintenance action and forward to the EDF ILS Maintenance Coordinator and Property Administrator.

18.4.3 Contract On-Site Hardware Maintenance

When on-site hardware maintenance support is necessary, the LMC will notify the applicable maintenance contractor and request assistance. The call for support will be documented by the LMC, 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 2)

Step	Occurrence	Action
1	Local support effort did not resolve the problem.	LMC 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. 1) Make, model, serial number, and location of failed systems. 2) Description of problem and symptoms. 3) Criticality of the COTS hardware experiencing the problem.
2	LMC 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.	a. LMC arranges for site access using local established procedures. b. If required, LMC 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. c. LMC escorts maintenance technician to the hardware d. LMC ensures maintenance provider's technician follows all ESD precautions. LMC assists the maintenance technician in resolving the problem. This includes: 1) Arranging for a demonstration of the problem (if possible) 2) Arranging for the equipment to be shut down. 3) Obtaining site available technical references, when needed

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

Step	Occurrence	Action
3a	Maintenance technician corrects the problem by replacement of parts.	If a part is replaced, the LMC accomplishes the following: 1) Obtains from the failed part or the maintenance technician: a) Serial number, equipment identification number (the EIN number on the silver label), and model/version 2) Obtains from the new part: a) Part number, serial number, and manufacturer's model number 3) Updates the email to the ILS Maintenance Coordinator and Property Administrator with the following information: a) Actions taken to correct the problem. b) Part number, serial number, and model/version, and EIN (if applicable) of the old and new item c) Name of the item replaced d) Arrival date and time e) Any delay time experienced in completing the corrective action and reason for delay time to repair
3b	Maintenance technician corrects the problem without replacement of parts	If no parts were replaced, the LMC updates the email to the ILS Maintenance Coordinator and Property Administrator with : 1) Actions taken to correct the problem. 2) Time and date technician arrived 3) Time and date repair was started and completed
3c	LMC requests the SA to make the system functional	a. SA restores data, operating system, patches or other SW items to bring the system on line. b. Notes the amount of restore time for the LMC.
3d	Maintenance technician does not resolve the problem	a. LMC request the Maintenance vendor provide additional technical and or managerial resource to resolve the problem. b. LMC notifies ILS Maintenance Coordinator that problem repair effort as been delayed, and escalated. c. LMC documents all escalation activity until further action is taken. d. Receipt of a completed copy of the dispatch trouble ticket from the vendor e. The information from the vendor's ticket is consistent with the information documented for ILS Maintenance Coordinator and Property Administrator. f. Record all actions for future reference in the email to the appropriate EDF personnel.
4	LMC reports actions taken	a. After the failure is repaired complete email and send it to the EDF. b. If appropriate ensures the local and or EEB Configuration Control Board is properly notified of the configuration alterations and requests a formal change using procedures in Chapter 8.
5	LMC files	A copy of vendors dispatch sheet, and related documents in a permanent file and references email notes sent to the ILS Maintenance Coordinator and Property Administrator.

18.4.4 Return-to-Depot Support

If the OEM 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 ILS web page 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 LMC 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 ILS web page.
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 ILS Maintenance Coordinator and Property Administrator

18.4.5 Return of Failed LRUs

The LMC 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.

18.6 Non-Standard Hardware Support

Non-standard COTS hardware support consists of:

a) Maintenance support outside the PPM (Principal Period of Maintenance),

b) Support covered under a Time and Materials contract, or

c) Escalated support actions by the maintenance support provider.

Table 18.6-1 shows the procedure for Time and Material Support

Table 18.6-1. Procedure for Time and Material Support

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

18.6.1 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 LMC should request escalation from the onsite maintenance technician. If further escalation is necessary the LMC will request the ILS office to escalate the issue with the vendor. When requesting escalation the original vendor trouble ticket number will be used as the reference document.

18.6.2 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. LMCs 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

The EEB organization provides maintenance for EEB software and firmware systems delivered under the EEB contract to the EEB sites.

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

COTS software maintenance includes:

- Right to use COTS software products
- Access to software vendor telephone support
- Access to vendors on line and email support
- Receiving patches and upgrades

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 is the CM authority over its own resources subject to EOSDIS delegation of roles for EEB management.

The Integrated Logistics Support (ILS) COTS Software License Manager will notify DAAC LMC, System Administrator (SA) and Network Administrator (NA) on the procedures for handling vendor liaison.

The EEB COTS SW Team provides assistance when COTS software issues exceed the capabilities of the site System Administrator or the Network Administrator to resolve problems.

19.2 COTS Software Maintenance

Site engineering personnel accomplish installation of patches and upgrades. The site engineer also is responsible for COTS troubleshooting and problem resolution when problems occur at the site. The COTS software vendors support COTS software procured for the EEB contract. (The term software vendor refers to the company having the legal right to authorize software use 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.

The Activity Outline in Table 19.2-1 is an overview of COTS software support procedures and the section of the document where details for performing the tasks can be found.

Table 19.2-1. COTS Maintenance - Activity Outline

Task	Section
COTS Software Maintenance	19.2
Manage COTS Software Maintenance Contracts	19.2.1
Manage COTS Software Licenses	19.2.2
COTS SW installation and upgrades	19.2.3
Obtain COTS Software Support	19.2.4
COTS SW Problem Reporting	19.2.5

19.2.1 Management of COTS Software Maintenance Contracts

The EEB procurement office at the EDF procures COTS software vendor support. Support contracts are 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 the ILS web page by the ILS staffs.

In general, EEB COTS SW maintenance is purchased annually during the fall of the year. The COTS SW license administrator 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 EEB SCDV CCB Chairperson. The ILS COTS SW License Administrator 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 SW Products. The COTS SW License Administrator is responsible for the following:

a. Maintains accountability for all COTS SW licenses procured for the EEB contract. Accountability includes tracking and reporting the as-installed location of all licenses (other than PC based products) procured for the EEB program.

b. Assists the COTS SW organization by assuming the affect of proposed COTS SW upgrades and patches on product licensing and other COTS SW applications incorporated in the EEB system design.

c. Maintains a database containing license keys of project-purchased COTS SW. The COTS SW installation team (or site) will provide the host identifications to the ILS COTS SW License Administrator who will then obtain the necessary license keys from vendors for SW installation and populating the COTS SW database.

d. Manages licenses and/or license keys in use on the EEB contract.

e. Obtains new licenses and/or license keys from software vendor per approved CCR requests.

f. Assists COTS SW engineers & DAAC SAs resolve COTS SW problems, as required.

g. Manages COTS SW vendor support contracts information.

h. Renews maintenance support for all COTS SW in use.

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 SW product at a particular site, and program licenses are licenses that can be used any where in the EEB project. The EEB procurement office purchases software licenses as determined by the EEB design engineers. COTS software licenses are received and managed by the COTS SW License Administrator.

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. The COTS Software Librarian, using procedures contained in Chapter 9, "Configuration Management," notifies the COTS SW organization of the upgrades that have been received. The COTS SW Librarian distributes the COTS software upgrades as directed by the CCB. The site System Administrators are responsible for upgrading the software on the host machine and providing follow-up information to the Configuration Management Administrator (CMA), COTS Software Librarian and the COTS SW License Administrator.

COTS software patches may be provided by the COTS software vendor in response to a DAAC's call requesting assistance in resolving a COTS software problem. The problem may or may not exist at other locations. When a COTS software patch is received directly from a COTS software vendor (this includes downloading the patch from an on-line source), the DAAC's CCB shall be informed via CCR prepared by the appropriate site personnel. It is the responsibility of the appropriate site personnel 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 will 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 to all licenses covered by a software maintenance contract. Therefore, the COTS software upgrades will be shipped to the ILS Property Administration (PA) who receives and enters them into inventory and then forwards the media to the COTS Software Librarian and the licenses/keys to the COTS Software License Administrator. The COTS SW team will direct COTS SW deployment activities.

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 number.

The software vendor's technical support center verifies contract support authorization and then assists in pinpointing the cause COTS SW problem 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 seriousness of the problem. In cases where the problem is critical, a temporary patch or work-around may be provided. If non-critical, the solution to the software problem may be scheduled by the software vendor to be incorporated in a future update or release. NB: The DAAC and EEB CCBs must authorize the patch to be installed. This authorization may be made after-the-fact. If the patch is needed to proceed with operations, the DAAC personnel are notified of the requirement. Configuration Management (Chapter 9) applicable requirements should be followed for base lining 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. For some COTS SW vendors, names of authorized contact persons are required. The number of authorized contact persons varies with the different vendors. The ILS COTS SW License Administrator, 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 on the ILS web page locates 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 will initiate a trouble ticket according to the procedures found in Test Track Pro, (TTPro) Chapter 8. Problem Management.
- This person will attempt to isolate the source of the problem to system configuration, hardware, network, COTS SW, custom SW, or science SW.
- If beyond the capabilities of the site to troubleshoot, site staff escalates the trouble ticket to the system level and notifies EEB.
- If it is confirmed to be a COTS SW problem, the authorized contact person should contact 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."
- The appropriate site personnel must annotate all actions inclusive of dates, time, resolutions, and comments in the DAAC's Test Track Pro, (TTPro) project 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.

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

Another method of troubleshooting the COTS SW problem is to exercise any software diagnostic routine embedded or downloadable that will 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.

COTS SW problems that cannot be corrected using site and contracted software support may be escalated to the EEB SSO. The SSO is staffed with Senior Systems Engineers knowledgeable on COTS SW that can assist in diagnosing the problem.

The site Local Maintenance Coordinator may go directly to the software vendor or to the ILS COTS SW License Administrator to request an escalation of software vendor support if the software vendor’s efforts have not produced satisfactory results within a reasonable period of time. 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.

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20. Property Management

This section describes procedures for the receipt, control, and accountability of EEB property at EEB sites. The Property Management Plan (PMP) for the EEB Project, 105-EEB-001, is the DCMA Property Administrator approved document that addresses the process and policies regarding how EEB property is to be managed. The site Local Maintenance Coordinator (LMC) at each site is the site's property administrator. LMCs should be thoroughly familiar with and comply with the policies and procedures contained in the Property Management Plan.

The LMCs support the activities of receiving, inspection, storage, issue, inventory recording, accounting, and reporting of EEB property at EEB sites. As stated above LMC 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 EEB Integrated Logistics Support (ILS) Office for consistency with this plan.

20.1 Receipt of Equipment and Software from Vendor

Most EEB 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 ILS Property Administration (PA) will fax a copy of the Purchase Order to the LMC to serve as a due-in notice. Upon receipt of the equipment, the LMC will perform a receiving inspection to verify correctness of delivery, quantity received and to determine if items were damaged during shipment. The LMC 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 are located on the Web at http://dmserver.hitc.com/EEB_PAL/Indices/Forms/il_formindex.html The form number is ILFM001-2 and it includes the Inventory Worksheet, the Loading Dock Checklist, System Verification Checklist and Receiving Process Checklist. When all checklists are signed and verified, the LMC faxes or e-mails all forms to the ILS Property Administration and ILS Property Administration 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

Step	Action
1	LMC 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	LMC 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 ILS PA 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

Step	Action
1	LMC 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 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

Step	Action
1	LMC 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 ILS PA via fax or EMAIL.
4	The ILS PA will process the NCR at the EDF and notify the DAAC of resolution.

Table 20.1-4. Receiving Process Checklist

Step	Action
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 ILS PA.

20.2 Receipt of Equipment and Software from the ILS Property Administrator

The LMC will also receive equipment from the ILS PA. Table 20.2-1 defines the process of receiving EDF shipped equipment at the DAACs.

Table 20.2-1. LMC Actions for Property Received from the ILS Property Administrator (1 of 2)

Step	Action
1	LMC receives shipment with Installation Receipt (IR) report from the ILS PA.
2	LMC inspects and verifies for shipping damage, completeness using the IR report.
3	Notifies the ILS PA 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	LMC retains a copy for files and mails the original back to ILS PA.
6	The ILS PA enters the redline changes into the ILM Property Database.

Table 20.2-1. LMC Actions for Property Received from the ILS Property Administrator (2 of 2)

Step	Action
7	The original signed redlined IR report and a copy of the Installation Report will be filed in the EEB Purchase Order folder.
8	The site copies of the IR report and installation report will be filed in the site equipment folders.
9	The LMC will coordinate installation of the equipment in accordance with approved CCR and DAAC procedures.

20.3 Equipment Tagging

EEB 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 EEB property tags. NASA EEB 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 ILS PA will still maintain reports of the equipment in the database and tagging information for both the EEB project and NASA Property Office.

In a Figure 20.3-1 illustrates EEB property tags. LMCs may use either EEB or ECS property tags. ECS property tags are shown in Figure 20.3-1. EEB property tags are similar except the contract number is NNG09HP00C . All property shipped from the EDF will be tagged prior to shipment. If LMCs have to tag or retag EEB 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 EEB property tags.

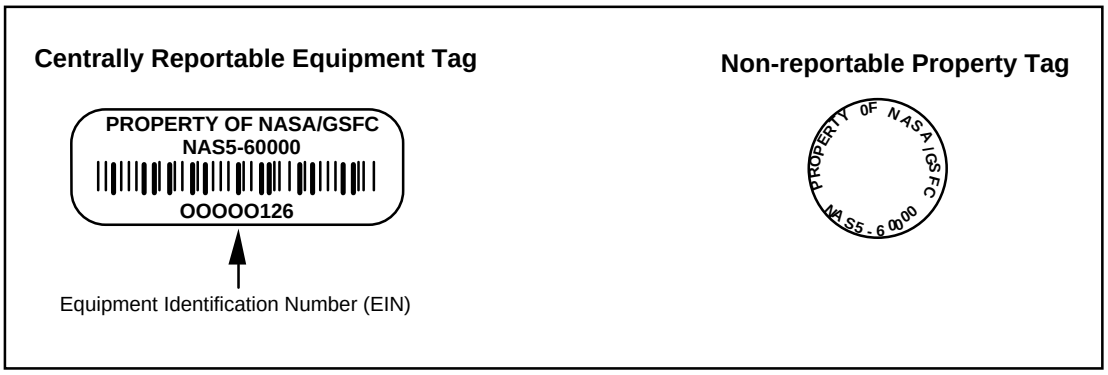

Figure 20.3-1. EEB Property Tags (Actual Size)

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 by the LMC. At the time of receipt of such property, the ILS PA will affix an EEB property tag with EIN next to the government tag.

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

If EEB property is returned to a vendor for repair or replacement the LMC will remove the EEB property tag prior to shipment. When the item is returned the LMC will place a new property tag on the property and report the new tag, serial number and other indicative data to the ILS PA. The LMC will send an email message to report the new data.

20.4 Property Records and Reporting

The EEB Project will use the Inventory Logistics and Maintenance (ILM) system to support the property management, control and reporting functions for contractor-acquired and GFP equipment. NASA EEB 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 ILS system by ILS PA.

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 as requested by the LMC via email or telephone to the PA. See Section 20.5 for specific instructions.

20.4.1 Maintaining Property Records

LMCs will document inventory and configuration changes in local property records within one business day of the change and appropriately notify the ILS PA.

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

- Installation Receipt Report -- This report is provided by ILS PA or the installation team 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 LMC to acknowledge receipt of equipment at the site.
- Maintenance information prepared by the site LMC to report equipment changes resulting from maintenance or relocation actions (e.g., serial/model changes, component replacements, and relocation/reconfiguration at the site). The LMC is required to send and email to the ILS Maintenance Coordinator once the maintenance action has been finalized.

20.4.2 Reporting Loss, Theft, Damage or Destruction

If EEB or GFP property at the site is lost or stolen, the LMC will notify the site security manager as soon as the loss is discovered and the ILS PA 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 EEB Property Management Plan and will be sent to the EEB ILS PA 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 LMC will likewise notify the ILS PA of the specifics of the damage/destruction and its circumstances via email.

The ILS PA 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 EEB sites or between EEB sites and non-EEB 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 LMC to maintain control and accountability of equipment inventories. Local procedures will be developed to ensure that the LMC is aware of all property moves within a DAAC. When completed, the LMC will report the location change in a email to the EEB PA.

20.5.2 Inter-Site Relocation

Inter-site relocation requests require a CCR approved by the EEB 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 EEB PA will work with the loosing and gaining DAAC to ensure that all property information affected by the transfer is update in ILM. The losing site LMC will coordinate the relocation resources and schedule with the gaining site and the ILS PA. Once completed, the gaining site's LMC will report completion of the relocation to the ILS PA by email. Any loss or damage to the equipment will be reported when it is first discovered.

20.5.3 External Transfers

Generally EEB property will not be transferred outside the EEB contract. If LMCs feel they need to transfer EEB property to organizations not supported by EEB, contact the EEB PA for guidance. No property will be transferred without the express approval of the EEB PA.

20.6 Inventories and Audits

Annually LMCs will complete a 100 percent physical inventory of controlled EEB property and GFP at the site. This inventory may be conducted in conjunction with the Task 201 annual inventory conducted by the ILS office. EEB 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 ILS inventory the LMC will, at the time of completion of the site directed inventory, forward a signed copy of the Inventory Reconciliation Report to the ILS PA. The Inventory Reconciliation Report will be signed by the site's EEB Property Manager 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 LMC. LMCs 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. LMC 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 LMC. Serviceable property does not require any special color tag.

20.7.1 Segregation Requirements

Contractor-owned and vendor-loaned property will be segregated from EEB 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

EEB is a task order contract and Task 201 does not provide for the EEB 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

EEB property will be stored in secured areas where access will be limited to authorized personnel and controlled by the LMC.

20.8 Packing and Shipping

Prior to shipping EEB equipment to the EDF or other EEB sites, the shipping LMC will notify ILS PA. by email. The ILS PA will coordinate with the LMC's at 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.

EEB property being shipped from vendors and the EDF will be shipped to the DAAC facility to the attention of the DAAC LMC. Local policy at some sites may require delivery to a site central receiving point. In such cases, written procedures will be developed between the LMC 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 EEB 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 EEB 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 EEB Task Order Delivery Process. When an EEB 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 EEB 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

Step	Responsible Person	ACTION
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 EEB CCB to update the documents.

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22. COTS Training

This chapter outlines the procedures for DAACs to request COTS HW and SW training from the EDF. The EEB program training funds allocated to train DAAC and EDF personnel, are limited. Operations Contractors at DAACs are generally ineligible to qualify for EEB program's training funds. These funds are explicitly reserved for Raytheon (and Raytheon subcontractors) personnel. The COTS training funds are generally not approved for training related travel (with exceptions made on a case-by-case basis).

The Activity Checklist in Table 22.1-1 outlines the role of the COTS ILS 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 ILS Training POC, simultaneously. Training is considered approved, unless otherwise challenged by the Senior DAAC lead (and who must specifically disapprove the training request). The COTS ILS Training POC will wait two business days and then process the training request. The request for training should be sent at least 30 days prior the requested training date.

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. 1st choice, 2nd 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 ILS 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 EEB system design.
   3. Is cost effective and within budget constraints.
c. COTS ILS 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 ILS Training POC) for approval. The COTS HW/SW Maintenance IPT (Integrated Patch Team) Lead will either approve or deny the training request.
e. COTS ILS 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 ILS 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 ILS Training POC submits all training details to the COTS Purchasing Manager.
b. The COTS ILS Training POC orders training from the vendor.
c. Purchasing Manager processes the purchase order and provides a copy to the COTS ILS Training POC.
d. The COTS ILS Training POC forwards the purchase order to the vendor to reserve training.
e. The COTS ILS 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 ILS 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 ILS Training POC provides students with a COTS Training Evaluation Form to evaluates 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 ILS 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 EEB COTS training funds, any cancellations of COTS training, by EEB 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 ILS 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 ILS 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 EEB program.

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23. Inventory Logistical Management (ILM)

23.1 ILM [Inventory, Logistics and Maintenance (ILM) Manager]

ILM helps the maintenance and operations staffs at the EDF and DAACs maintain records that describe all inventory items, as well as their EIN structures, repair histories, and locations. The system keeps chronological histories (a record of the transactions) of installation, relocation, movement, shipment and archiving of inventory items. ILM is used by the Property Management, Maintenance, and Logistics teams in managing the tangible property of NASA's EOSDIS project. In addition, this system also manages COTS software license information, such as the Rights-to-use purchased, allocated, and remaining.

ILM is a customized application of the Remedy Action Request System (ARS). The customizations adapt the product to the ILS processes used for EEB. ILM takes into account how business rules and logistics concepts are applied on the EEB project. This document does not address these considerations in detail, but the following general introduction should help.

Each inventory item is identified by a unique Equipment Inventory Number (EIN). In the case of hardware items, an EIN corresponds to a silver sticker affixed to the item. Some of the items are shipped to sites and installed. Others such as consumables are issued but not installed. After a period, some items may be transferred to other locations or relocated for use with other parent machines. Items are archived when no longer needed or serviceable.

For tracking and auditing purposes, inventory items – especially hardware – are allocated to "parent" machines. These parent and child relationships are called an EIN structure. EIN structures have active and inactive dates that establish the timeframe during which the pairing is in effect.

Table 23.1-1 summarizes the operator functions that ILM supports, and Table 23.1-2 describes ILM user groups and what privileges each group have. The sections that follow present how to use Remedy features that were customized for EEB inventory, logistics, and maintenance management. In addition, these sections also have detail instructions on how to perform functions designed for each individual form. For more information on Remedy's Action Request System, refer to Remedy help manual.

Table 23.1-1. Common Operator Functions Performed with ILM

Operating Function	GUI	Section	Description	When and Why to Use
Remedy Overview	Navigating Remedy User Tool Defining Search Criteria ILM Predefined Reports	23.2.1 23.2.2 23.2.3	Overview of Remedy User Tool.	To Navigate, search, and run ad hoc and predefined reports.
Property Management	ILM-EIN ILM-EIN Structure ILM-EIN Transactions ILM-Transaction Log ILM-OEM Parts ILM-Vendor-MFR ILM-HwSw Code ILM-Status Codes ILM-Maint Contract ILM-Sites ILM-Inventory Location	23.3.1 23.3.2 23.3.3 23.3.4 23.3.5 23.3.6 23.3.7 23.3.8 23.3.9 23.3.10 23.3.11	Maintain information about accountable property items, their product structures, and inter-relationships.	To maintain information that specifies the identity, source, location, transfer, relocation, and installation of procured inventory items.
Property Maintenance	ILM-MWO ILM-MWO Line Item	23.4.1 23.4.2	Manage information for required maintenance repairs.	To track and monitor maintenance activities
License Management	ILM-License Product ILM-License Entitlement ILM-License ILM-License Mapping ILM-Additional Host	23.5.1 23.5.2 23.5.3 23.5.4 23.5.5	Manage entitlements, licenses, and license allocations for licensed COTS software.	To track the receipt, movement, and consumption of software licenses and their associated rights-to-use.
System Administrator	ILM-System Parameters User Remedy Admin Tool Database Special Constraints Event and Error Messages	23.6.1 23.6.2 23.6.3 23.6.4 23.6.5 23.6.6	Manage AR System	Uses by Remedy Administrator to administrate Remedy Tool.

Table 23.1-2. Remedy-ILM Groups Description (1 of 3)

Group Name	Description	Access
ILMAdmin	Full privileges to all operator and system administrator functions within ILM	ALL ILM related Forms
ILMProperty	To maintain information that specifies the identity, source, location, transfer, relocation, and installation of procured inventory items.	ILM-EIN (Change) ILM-EIN Transactions (Change) ILM-Transaction Log (View) ILM-Vendor-MFR (Change) ILM-HwSw Code (View) ILM-OEM Parts (Change) ILM-Status Codes (View) ILM-Maint Contract (View) ILM-Sites (View) ILM-Inventory Location (View) ILM-MWO (Change) ILM-MWO Line Item (Change) ILM-License Product (View) ILM-License Entitlement (View) ILM-License (View) ILM-License Mapping (View) ILM-Additional Host (View)
ILMContract	Maintains maintenance contract purchased for EEB Hardware and COTS software.	ILM-EIN (Change - only to the Maint Contract ID, Maint Exp Date, and Maint Vendor on this form) ILM-EIN Transactions (View) ILM-Transaction Log (View) ILM-Vendor-MFR (View) ILM-HwSw Code (View) ILM-OEM Parts (View) ILM-Status Codes (View) ILM-Maint Contract (Change) ILM-Sites (View) ILM-Inventory Location (View) ILM-MWO (View) ILM-MWO Line Item (View) ILM-License Product (View) ILM-License Entitlement (Change - only to the Maint Contract ID and Maint Exp Date on this form) ILM-License (View) ILM-License Mapping (View) ILM-Additional Host (View)

Table 23.1-2. Remedy-ILM Groups Description (2 of 3)

Group Name	Description	Access
ILMlicuser	License management data update privileges for software license administrators	ILM-EIN (View) ILM-EIN Transactions (View) ILM-Transaction Log (View) ILM-Vendor-MFR (View) ILM-HwSw Code (View) ILM-OEM Parts (View) ILM-Status Codes (View) ILM-Maint Contract (View) ILM-Sites (View) ILM-Inventory Location (View) ILM-MWO (View) ILM-MWO Line Item (View) ILM-License Product (Change) ILM-License Entitlement (Change) ILM-License (Change) ILM-License Mapping (Change) ILM-Additional Host (Change)
ILMmaint	Maintenance management data update privileges for EDF's Maintenance Coordinator	ILM-EIN (View) ILM-EIN Transactions (View) ILM-Transaction Log (View) ILM-Vendor-MFR (View) ILM-HwSw Code (View) ILM-OEM Parts (View) ILM-Status Codes (View) ILM-Maint Contract (View) ILM-Sites (View) ILM-Inventory Location (View) ILM-MWO (Change) ILM-MWO Line Item (Change) ILM-License Product (View) ILM-License Entitlement (View) ILM-License (View) ILM-License Mapping (View) ILM-Additional Host (View)
ILMdaacAdmin	Full privileges to all operator and system administrator functions within ILM at a site.	ALL Remedy-ILM related forms.

Table 23.1-2. Remedy-ILM Groups Description (3 of 3)

Group Name	Description	Access
ILMdaacMaint	Maintenance management data update privileges for Local Maintenance Coordinator at the site.	ILM-EIN (View) ILM-EIN Transactions (View) ILM-Transaction Log (View) ILM-Vendor-MFR (View) ILM-HwSw Code (View) ILM-OEM Parts (View) ILM-Status Codes (View) ILM-Maint Contract (View) ILM-Sites (View) ILM-Inventory Location (View) ILM-MWO (Change) ILM-MWO Line Item (Change) ILM-License Product (View) ILM-License Entitlement (View) ILM-License (View) ILM-License Mapping (View) ILM-Additional Host (View)
ILMquery	ILM data query privileges only.	ILM-EIN (View) ILM-EIN Transactions (View) ILM-Transaction Log (View) ILM-Vendor-MFR (View) ILM-HwSw Code (View) ILM-OEM Parts (View) ILM-Status Codes (View) ILM-Maint Contract (View) ILM-Sites (View) ILM-Inventory Location (View) ILM-MWO (View) ILM-MWO Line Item (View) ILM-License Product (View) ILM-License Entitlement (View) ILM-License (View) ILM-License Mapping (View) ILM-Additional Host (View)

23.2 Remedy User Tool Overview

23.2.1 Navigating Remedy User Tool

Invoking Remedy-ILM from a PC

To start Remedy User,

- Click Start →Programs →Action Request System →Remedy User
- Double-click on a Remedy User icon on the desktop, if one exists.

The Remedy User screen is displayed. Enter user Id and password.

Once logged into Remedy User, user can open a form. To view a list of all available forms, select **File → Open,** or select the Open icon, the first icon in the toolbar. This display the complete list of forms to which the user have access (see Figure 23.2.1-1).

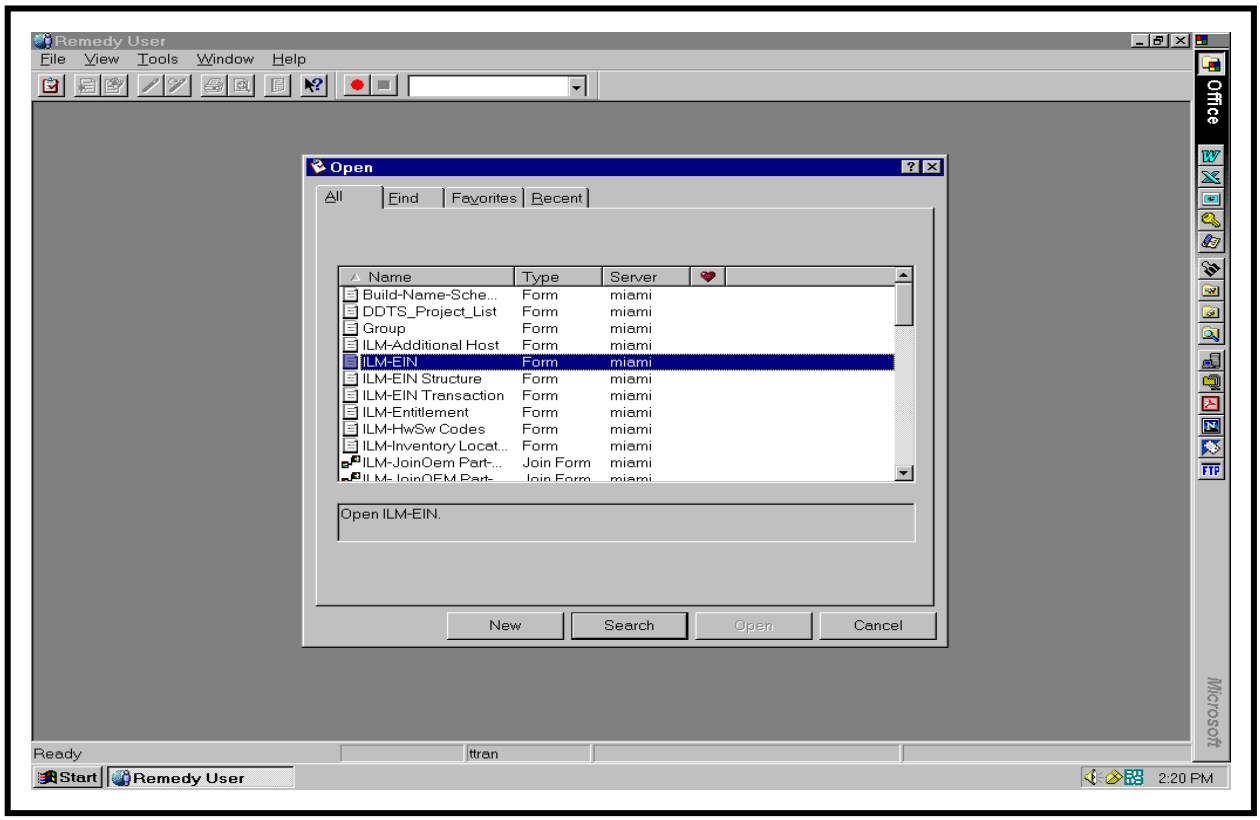


Figure 23.2.1-1. Open GUI

- To view a shorter list of forms, select the **Find, Favorites, and Recent** tabs in the Open dialog box.
    - **Find** – Lists only the requested forms.
    - **Favorites** – Lists only the forms designates as favorites.
    - **Recent** – Lists only the recently used forms.
- Remedy application is a Graphical User Interface (GUI). The GUI is very similar to any Microsoft application. It has a title bar, menu bar, tool bar, and status bar.
    - Title Bar – Displays form name and mode.
    - Menu Bar – The menus File, Edit, View, Tools, Actions, Window, and Help are standard AR System menus. Any other menus are those customized for a specific form. For instant, the ILM-EIN form has an additional menu selection calls ILM Reports.
    - Tool Bar – Displays Remedy tool bar icons.
    - Status Bar – Displays form status, logged on user and server name
- Remedy application is case-sensitive. The convention in Remedy-**ILM** is that most of the data are in UPPER CASE. One exception is **ECS Name**, which holds a host's name. To follow the EEB naming convention, some of the ECS Name will be in lower case and some will be in upper case.
- Pressing the <**ENTER**> key after each entry **DOES NOT WORK.** Use either the <TAB> key or the mouse to move to the next field.
- Each form can be open in one of two modes:
    - **New** – To create a new record
    - **Search** – To search for an existing record(s).
    - An easy way to change a form's mode to New or Search is to click the **New Request** or **New Search** icon in the toolbar.
- Field Labels Convention
    - **Required Fields** – required fields have labels in **bold type**. Except in cases where field values are added by default or automation, user must enter information in a required field. Otherwise, an attempt to save the request is rejected by the AR system.
    - **Optional Fields** –Optional fields have labels in regular type. Though this information is not always required to save the record, optional data helps to resolve, track, and reference a record.
    - ***System-generated Fields*** – System-generated fields have labels in *italicized type*. User does not enter information in these fields when saving a request, as information in these fields is automatically generated by the system.

23.2.2 Defining Search Criteria

23.2.2.1 Searching by Example

The easiest way to perform a search is to have a form in Search mode, fill one or more specific field values to search for, then click search. Remedy performs the search and displays the matching records. User may specify values for as many fields as needed. The more fields are filled, the more specific the search becomes. Data specified as search criteria is treated as a logical AND. Figure 23.2.2-1 displays an example of a search by example. This search will select all records where the manufacturer is SGI, AND the hardware and software code is Hardware (H), AND the Location is GSFC. Table 23.2.2-1 describes relational operators that can be used in the query window for Search by Example.

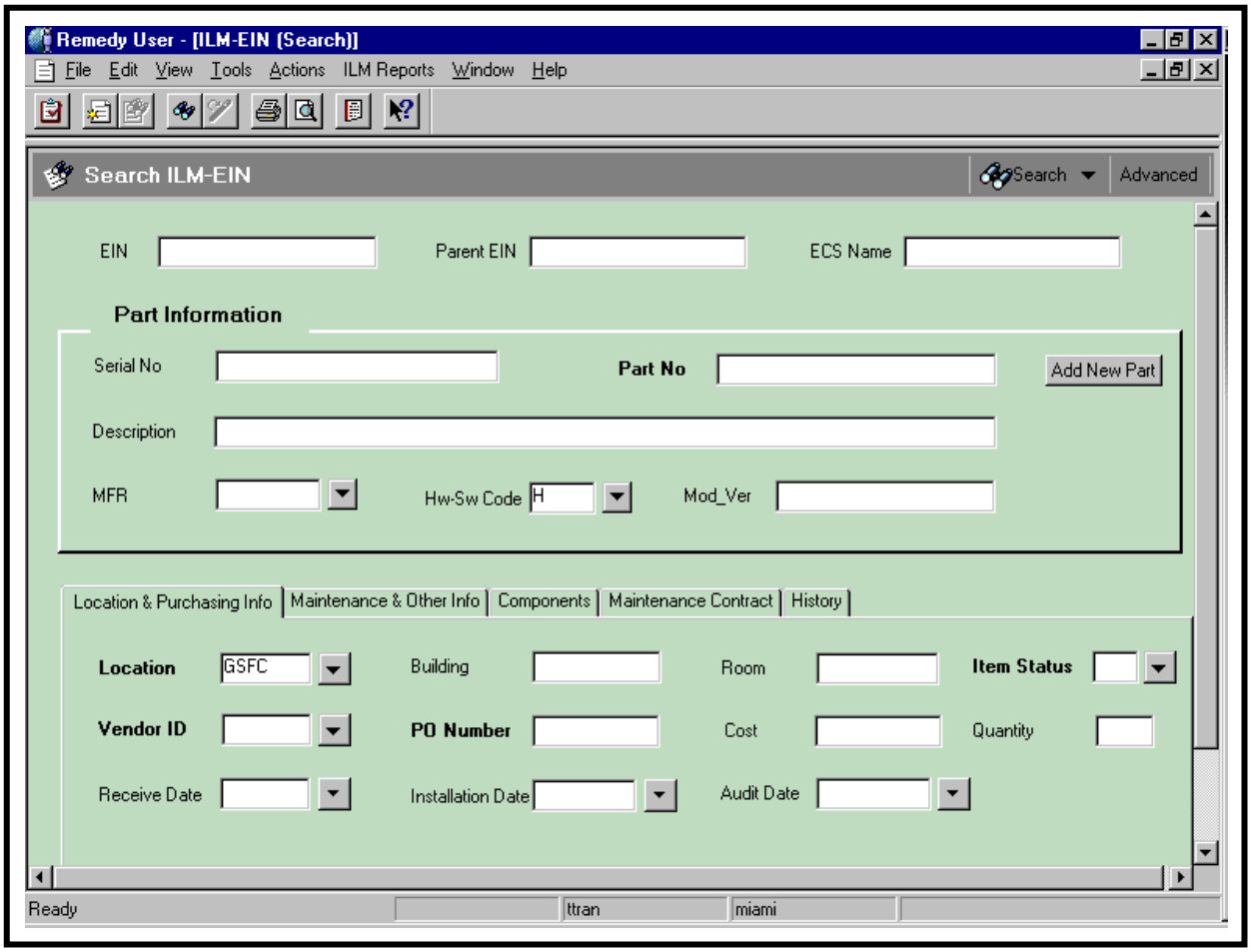


Figure 23.2.2-1. Search by Example

Table 23.2.2-1. Relational Operators Used in the Query Window

Operator	Action
<	Matches contents that are *less than* the value.
>	Matches contents that are *greater than* the value.
!=	Matches contents that are *not equal* to the value.
<=	Matches contents that are *less than or equal* to the value.
>=	Matches contents that are *greater than or equal* to the value.
=	Matches contents that are *equal* to the value.

NOTE: Stopping a Search – While the system is performing the search, user can stop the search by clicking **Stop Search** in the Active Search dialog.

23.2.2.2 Using the Advanced Search Bar

To display the Advanced Search Bar, click on the **Advanced** button in the search form banner, or choose **View -> Advanced Search Bar.** The bar displays at the bottom of the form. With the Advanced Search Bar method, the search criteria are defined in a statement, rather than in field value examples. The basic syntax for building a statement is:

Field_Label Relational_Operation Field_Value

- Field_Label must be enclosed with single quote (**‘**).
- Field_Value must be enclosed with double quote (**“**).

1. **Enter a Field Label**

   Use one of the following ways to enter a field label in the Advanced Search Bar:

   - Click on a field label in the form. The field label displays in the Advanced Search Bar, enclosed in single quotes.
   - Select the field name from the **Fields** menu. The name displays in the Advanced Search Bar, enclosed in single quotes.
   - In the Advanced Search Bar, type the field label between single quotes.

2. **Add a Relational Operator**

   - Click on the appropriate operator from the palette of buttons in the Advanced Search Bar area, or type the operator. Table 23.2.2-2 lists and describes the action each operator does. Table 23.2.2-3 describes the use of wildcard symbols.

3. **Enter a Field Value**

   The field value can be text, a number, or a keyword (Table 23.2.2-4 defines some of Remedy Keywords definition). To add a field value in the Advanced Search Bar, use one of the following methods:

   - Type the field value in the Advanced Search Bar enclosed the value with double quotes.

- Select the field value from the **Fields -> Selection Values** menu.

4. **Click on the Search icon or button to start the search.**

Once the search criteria are specified, user may display, modify, or generate reports from the results of the search.

Figure 23.2.2-2 illustrates how to use the Advanced Search Bar. This example selects all records where ECS Name contains the word "MOP" anywhere in the ECS Name and location equal to EMOSG.

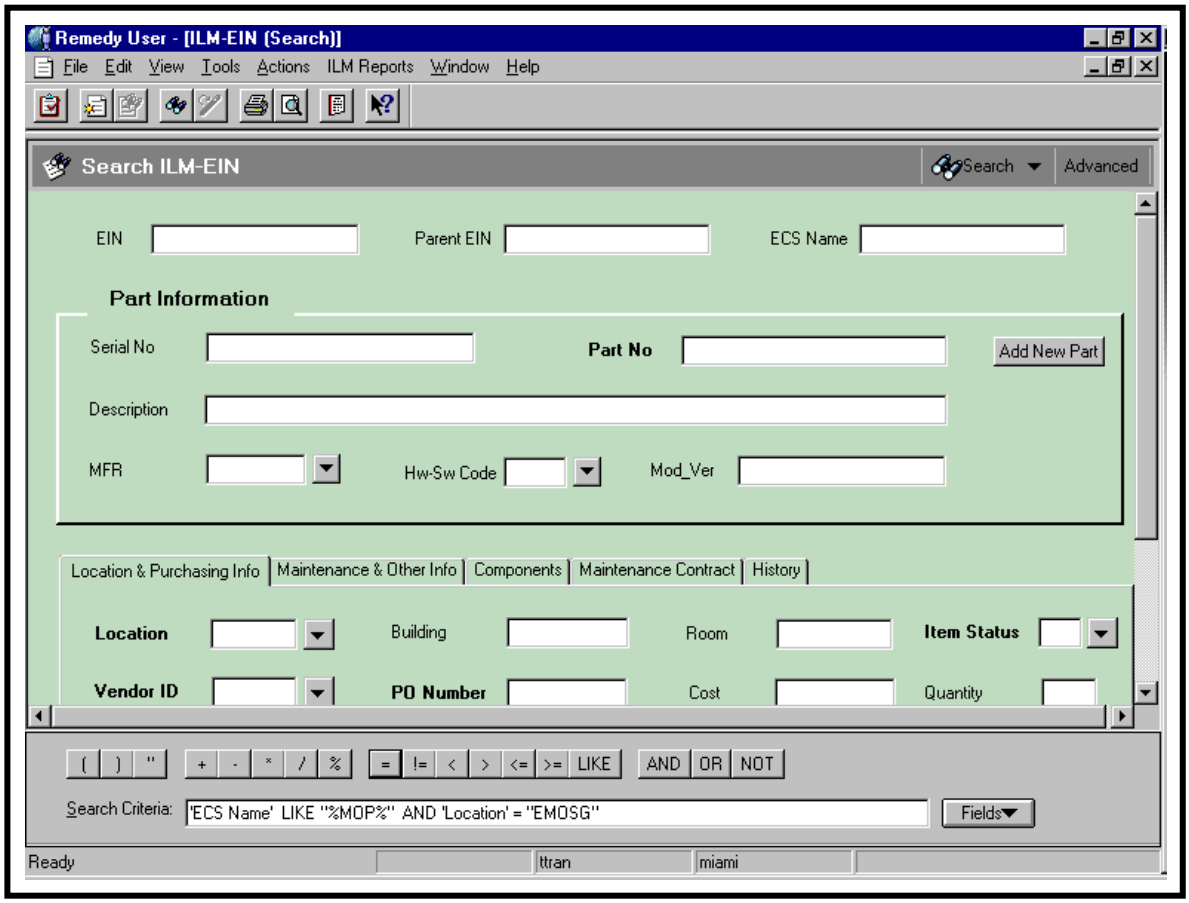


Figure 23.2.2-2. Using the Advanced Search Bar

Table 23.2.2-2. Operators Used in the Advanced Search Bar

Operator	Action
AND &&	Logical AND of the result of two conditions (the result is true only if both conditions are true). For example, 'MFR' = "SGI" AND 'Location' = "PVC" finds all SGI's equipment located in PVC. You can use the symbol && instead of the word AND.
OR ||	Logical OR of the result of two conditions (the result is true if either condition is true). For example, 'MFR' = "SGI" OR 'MFR' = "SUN" finds all SGI and SUN equipment. You can use the symbol || instead of the word OR.
NOT !	Negates the condition that follows (if the condition is false, the result is true). For example, NOT 'Room' = "1073" finds all entries that are not in room 1073. You can use the symbol ! instead of the word NOT.
LIKE	Performs a pattern search. For example, 'ECS Name' LIKE "g0%" finds all entries where the ECS Name starting with g0.
+	• Adds two integer or real values. • Adds an integer interval to a time value. • Concatenates two character strings.
-	• Subtracts two integer or real values. • Subtracts two time values. • Subtracts an integer interval from a time value.
*	Multiples two integer or real values.
/	Divides two integer or real values.
%	Supplies the module of two integer values (the remainder of a division of the values).
<	Matches contents that are less than the value.
>	Matches contents that are greater than the value.
!=	Matches contents that are not equal to the value.
<=	Matches contents that are less than or equal to the value.
>=	Matches contents that are greater than or equal to the value.
=	Matches contents that are equal to the value.

Table 23.2.2-3. Wildcard Symbols

Wildcard	Action
%	Matches any string of 0 or more characters. For example, 'ECS Name' = "%dms%" matches all ECS Name having dms anywhere in the ECS Name.
_	(Underbar). Matches any single character. For example, B_b matches Bab, Bob, and Bub.
-	(Hyphen). Indicates a range. Always use within brackets (**[]**).
[]	Use to match any single character within a specified range or set. For example, **[a-f]** matches the range of characters a through f while **[abcf]** matches the set of characters a, b, c, or f.
[^]	Matches any single character *not* within a specified range or set. For example, **[^a-f]** matches all characters except the range a through f while **[^abcf]** matches all characters except **a, b, c** or **f.**

Table 23.2.2-4. Using Keywords

Keyword	Action
$DATE$	Current date.
$TIME$	Current time.
$TIMESTAMP$	Current date and time.
$NULL$	Name of the user who is currently logged in.
$USER$	Lacking a value.

23.2.3 ILM Predefined Reports

ILM Predefined reports are reports that provide specific ILM information. Table 23.2.3-1 lists and defines these reports. This table also list the section numbers where the instruction to generate these reports can be found.

Table 23.2.3-1. ILM Pre-Defined Reports (1 of 2)

Report Type	Report Description
Inventory Management	
Install/Receipt Report	A receipt describing an operator-specified EIN item together with all of its associated components order by EIN number.
Installation Report	A receipt describing an operator-specified EIN item together with its components having status “I” (for installed).
Parent EIN Report	Provides a listing of only Parent items.
Parent EIN and total System Cost Report	Provides a listing of only Parent items and the total system cost for each Parent.
Inventory Report	Provides an ASCII formatted report identifying the inventory items by Parent EIN according to the operator-specified criteria.
Quarterly Property Management Report	Provides a list of contractor-acquired equipment items by quarter, sorted by Mfr and product description.
Purchase Order Cost Report	Provides a list of EINs and their cost associated with an operator-specified purchase order.
Cost – Selected ECS Managed Property	Provides the quantity and total cost of operator-selected EINs, grouped by type of inventory (Hardware, Software, Consumable, i.e.).
EIN Transaction History	A list of the transactions processed for operator-specified items during an operator-specified timeframe, sorted by EIN number and “from” location
Spare Equipment	A list of spare equipment sorted by EIN number.
ECS Shipment Report	Provides a listing of items that were shipped within an operator-specified time frame.

Table 23.2.3-1. ILM Pre-Defined Reports (2 of 2)

Report Type	Report Description
Maintenance Management	
Maintenance Work Order Verification Report	A full description of operator-selected work orders and the items undergoing maintenance action that they cover.
Maintenance Contract Report	Provides a list of operator-specified maintenance contract and all the associated items the contract covers.
RMA Work Order Report	Provides an ASCII formatted spreadsheet formatted report with embedded formulas for RMA data.
License Management	
License Entitlements Status Report	Lists the status of current license entitlements for licensed software products, sorted by software product, version, and license type.
License Allocations by Product Report	Lists license allocations for licensed software products, sorted by product, version, and host name.
License Allocations by Host Report	Lists license allocations, sorted by host name and ECS part alias.

23.3 Property Management

Remedy provides the maintenance and operations staffs at the EDF and the DAACs the capability to maintain inventory records, including EIN structures. Property Administrators can submit new records, modify existing ones, and perform transactions that capture installation, relocation, movement, shipment, and archive activities. These transactions are logged for historical purposes. The following sections will describe these functions in detail.

23.3.1 ILM-EIN GUI

The ILM-EIN form (Figures 23.3.1-1 through 23.3.1-20) is used for creating, viewing or modifying all EEB inventory records. In addition, this form also allows the Property Administrator to create and modify EIN structures via the Parent EIN field. Other ILM groups may view and perform reports on this form. The following tables provide detail instructions to perform the following functions:

- ILM-EIN Form Field Description (Table 23.3.1-1)
- Add New Inventory Item (Table 23.3.1-2)
- Modifying EIN record (Table 23.3.1-3)

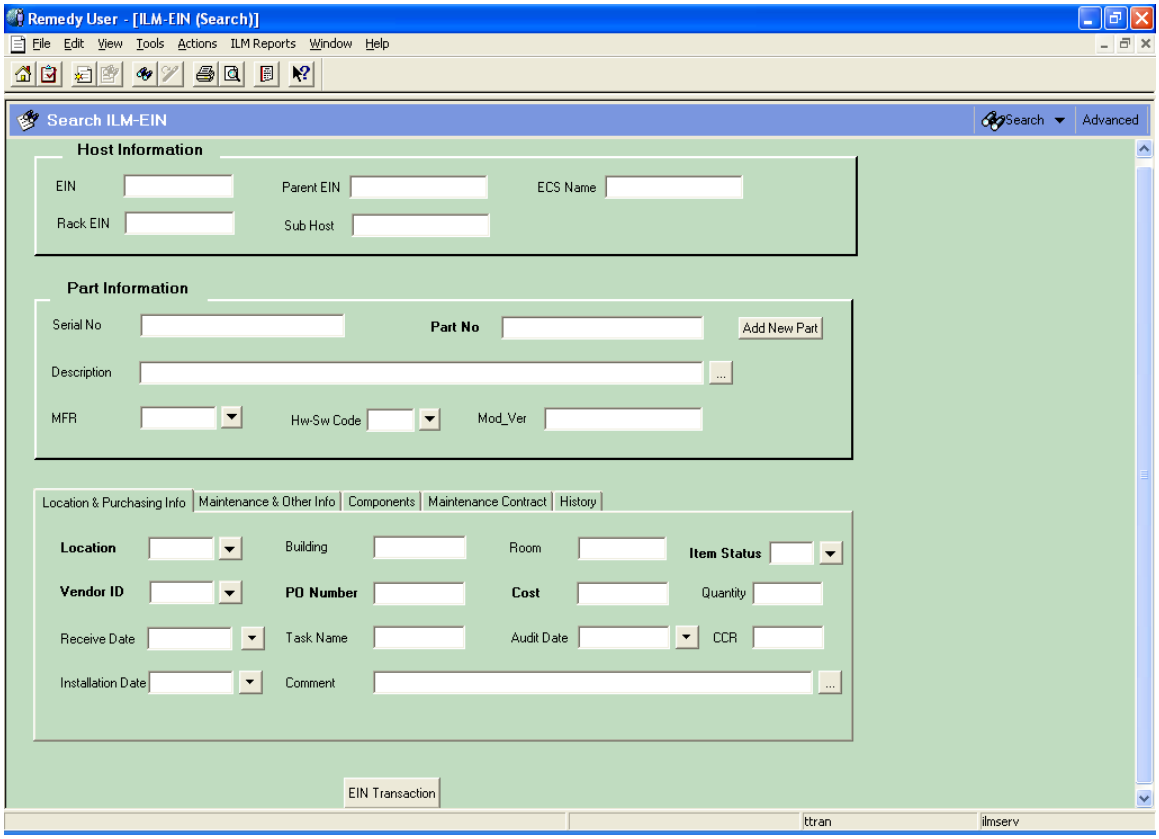


Figure 23.3.1-1. ILM-EIN (Part Info and Location & Purchasing Info) GUI

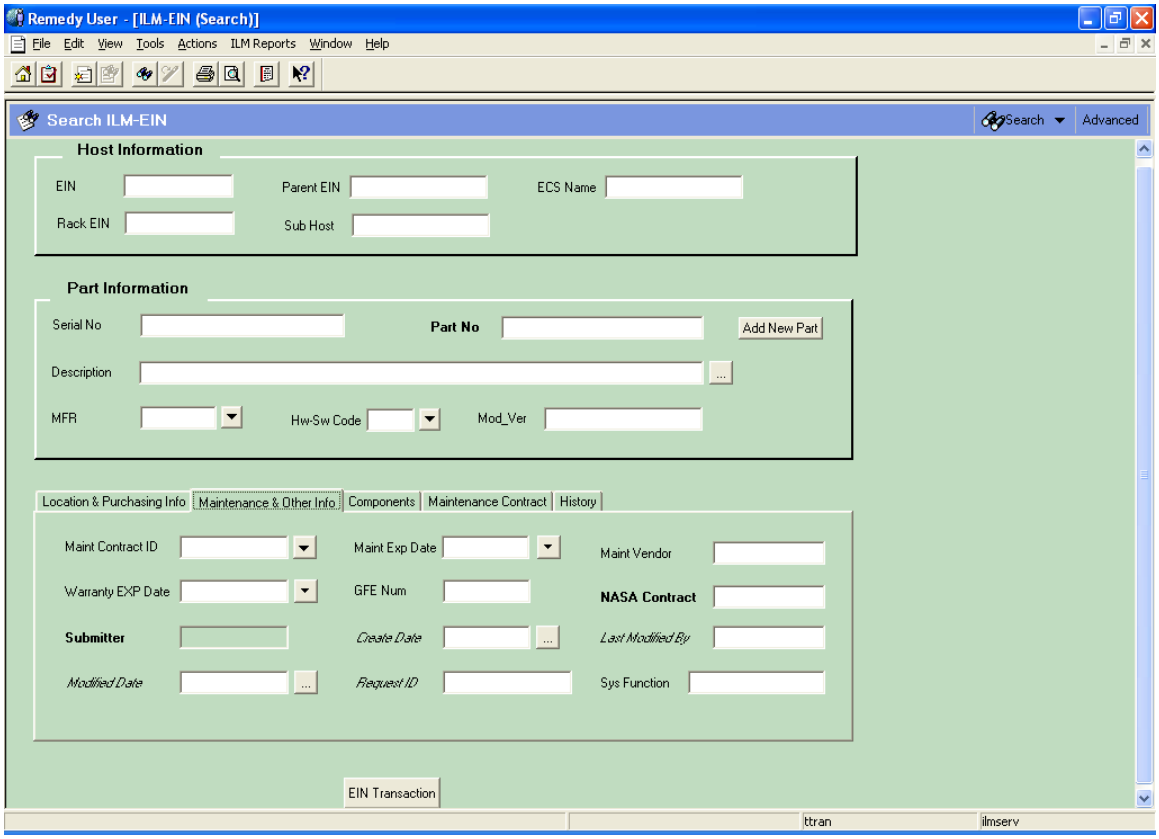


Figure 23.3.1-2. ILM-EIN (Maintenance & Other Info.) GUI

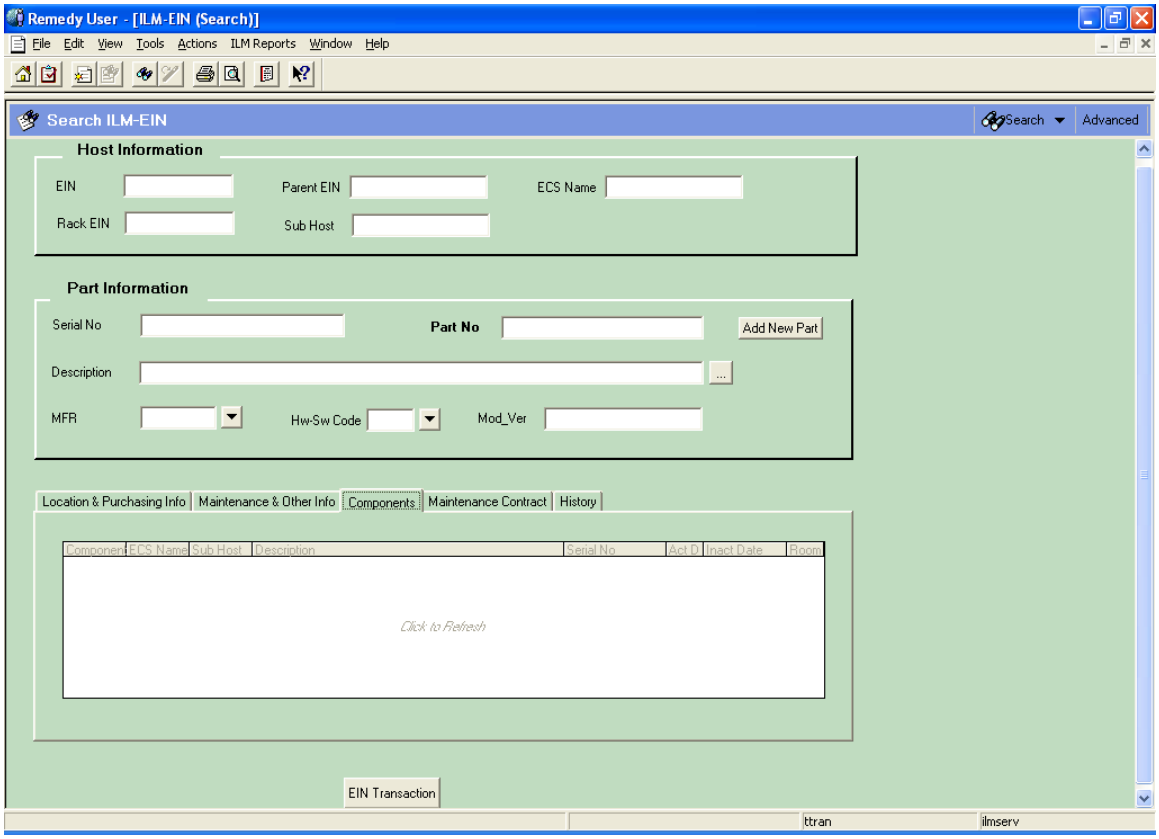


Figure 23.3.1-3. ILM-EIN (Components) GUI

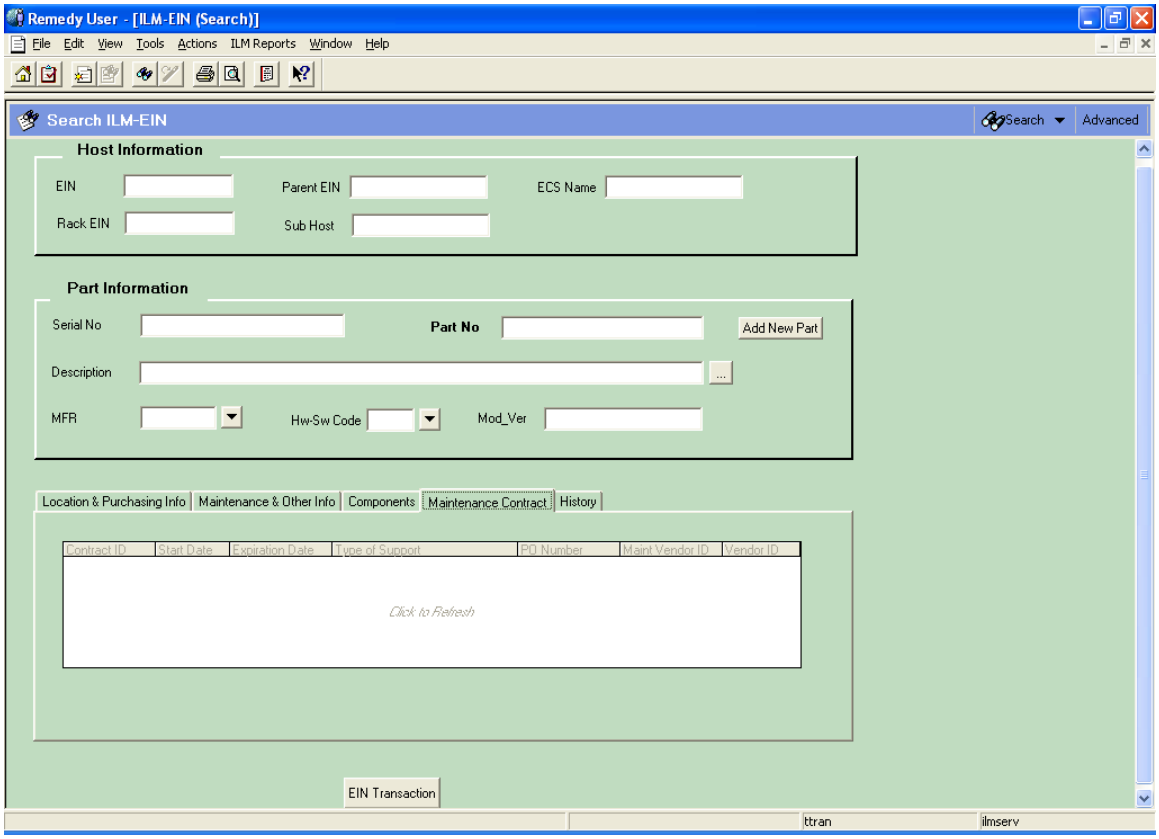


Figure 23.3.1-4. ILM-EIN (Maintenance Contract) GUI

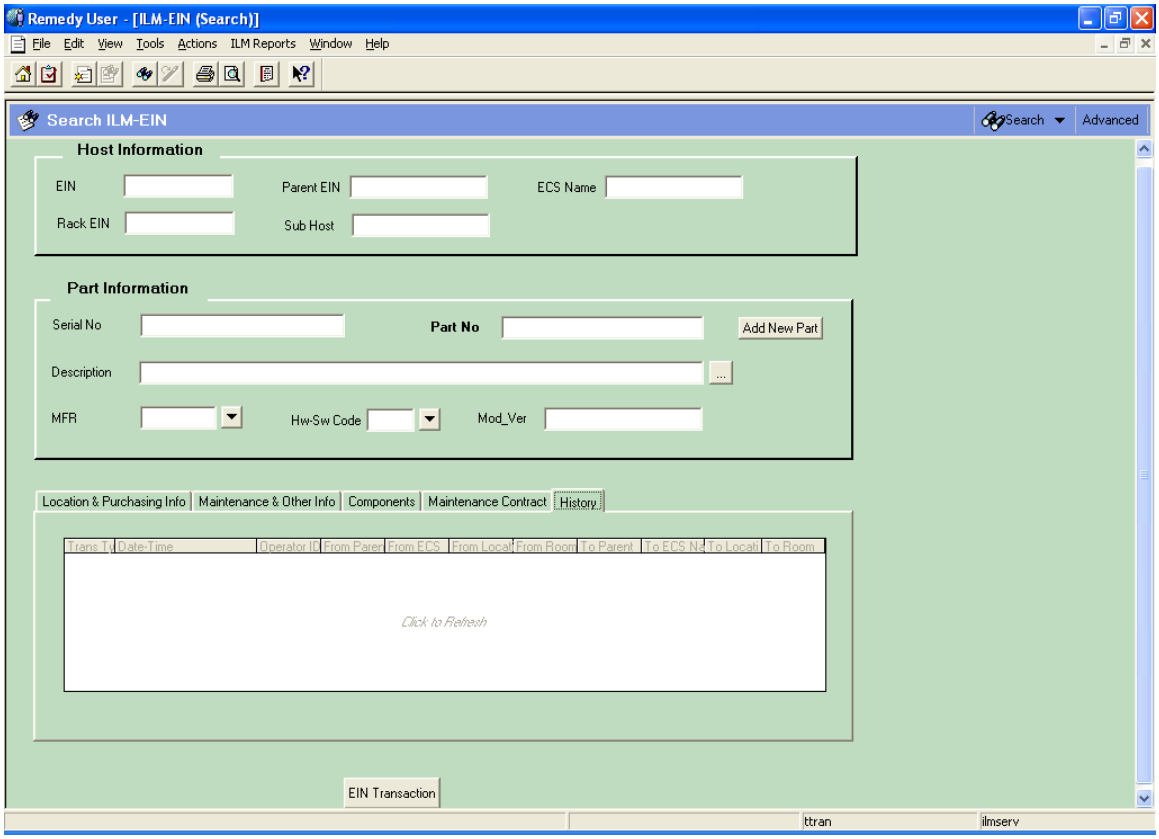


Figure 23.3.1-5. ILM-EIN (History) GUI

Table 23.3.1-1 describes the fields on the ILM-EIN form.

Table 23.3.1-1. ILM-EIN Form Field Description (1 of 2)

Field Name	Data Type	Size	Entry	Description
EIN	Char	20	Optional	Identifier for an inventory item.
Parent EIN	Char	20	Optional	EIN of the host of which this item is a component.
ECS Name	Char	30	Optional	Name of the machine with which the item is associated.
Rack EIN	Char	30	Optional	EIN or Rack name where the item is located.
Sub Host	Char	30	Optional	Sub host is use to identify individual hosts within a main host. For example: Communication Rack, Rack will have 1 name installed. Items in the rack can each have a different name, this name is put into the sub host field.
Serial No	Char	30	Optional	Manufacturer's serial number of the item.
Part No	Char	34	Optional	Manufacturer's or vendor's part number.
Description	Char	80	Optional	Manufacturer's or vendor's description for the item.
Hw-Sw Code	Char	2	Optional	Code for classifying inventory items by type.
MFR	Char	6	Optional	Code used for the manufacturer.
Mod-Ver	Char	24	Optional	Model or version of the item.
Location & Purchasing Info.			Page	Contains the following fields about the EIN item: Location, Building, Room, Item Status, Vendor ID, PO Number, Cost, Quantity, Receive Date, Installation date, and Audit Date.
Location	Char	6	Optional	Identifier that designates an inventory location.
Building	Char	6	Optional	Identifier for the building where the item can be found.
Room	Char	15	Optional	Identifier for the room where the item can be found.
Item Status	Char	2	Optional, default R.	Code that designates the status of the item. The following values are set when processing transactions: R = Received; SP = Spare Equipment; I = Installed; X = Returned to vendor; G = Transfer to Gov; TV = Trade in to Vendor; S = Excess sold to vendor; RG = Relieved from accountability
Vendor ID	Char	6	Required	Code for the Vendor from whom the item was purchased.
PO Number	Char	10	Required	Identifier of the purchase order against which the item was received.
Cost	Decimal	10.2	Optional	Purchase cost of the item.
Quantity	Integer	4	Optional	Number of items purchased on a particular purchase order
Receive Date	Char		Optional	Date item was received from vendor.

Table 23.3.1-1. ILM-EIN Form Field Description (2 of 2)

Field Name	Data Type	Size	Entry	Description
Task Name	Char	10	Optional	Name of the task order under the EEB contract that the item was originally purchased for.
Audit Date	Date		Optional	Date the item was physically inventoried last
CCR	Char	10	Optional	Approved CCR number that requested the purchasing of the item.
Installation Date	Date		Optional	Date the item was installed. The system sets the value during EIN Installation processing.
Comment	Char	120	Optional	Miscellaneous information specific to the item.
Maint Contract ID	Char	10	Optional	Identifier for the Maintenance Contract under which the item is covered.
Maint Exp Date	Date		Optional	Date the maintenance contract will expire. This field reflects the Expiration Date from the Maint Contract ID entered above.
GFE NUM	Char	8	Optional	Identifier assigned by the Government to an item of government furnished equipment.
NASA Contract	Char	11	Optional, default NAS5-03098	Identifier designating the government contract used for this item.
Submitter	Char	30	System-supplied	The user whom created the record.
Create Date	Date		System-supplied	Date the record was created.
Last Modified By	Char	30	System-supplied	The user last modified the record.
Modify Date	Date		System-supplied	The last date the system was modified.
Request ID	Char	15	System-supplied	Provides record identifier.
Sys Function	Char	50	Option	EEB System Function of the host.
Components			Page	Page for displaying the components of a parent EIN. It displays the Component EIN, ECS Name, Sub Host, description, Serial No, Active Date, Inactive Date, and Room.
Maintenance Contract			Page	Page displays attributes of the maintenance contract, such as Contract ID, Start Date, Expiration Date, Type of support, PO number, maintenance vendor, and vendor ID.
History			Page	Contains a listing of EIN transaction history for the EIN. This table displays the following fields describing the transactions: Trans Type, Date-Time, Operator ID, From Parent EIN, From ECS Name, From Location, From Room, To Parent EIN, To ECS Name, To Location, and To Room.

The following buttons are unique to this form:

- Add New Part – Activates the ILM-OEM Part form. This allows the operator to add new parts or to search for existing parts.
- EIN Transaction – brings up the ILM-EIN Transaction form. See section 23.3.3 for detail information about this form.

Table 23.3.1-2. Add New Inventory Item

Perform	Action	Expected Result
Navigate to the ILM-EIN Form	At the Remedy-ILM PC, **Start- > Programs -> Action Request System -> Remedy User** **File -> Open -> ILM-EIN -> New**	ILM-EIN form is displayed and ready for the user to add a new EIN record.
Defining new inventory item.	Fill in the necessary information: EIN: Enter the EIN number. If the item is an external hardware and has a silver sticker number, enter this number. If not, leave this field blank. Parent EIN: enter Parent EIN. Leave this field blank if the item is not a component to an EIN Structure. **NOTE:** Only structure hardware. Complete the Part information section. Note. The Part No field's label is **Bolded**. Therefore, you must enter a value into the Part No field. The Part No must exist in the ILM-OEM Part form. If not, the system will display an error message and will not except the value. If Part No does not exist, click on the Add New Part button and add the part information. Complete the Location & Purchasing Info section. **NOTE:** The following fields are **bolded**: **Location, Item Status, Vendor ID, and PO Number**. Therefore, you must enter values in all of these fields in order to save the record. If not, the system will display an error message stating that all required fields must be completed and will not save the record. Complete the Maintenance & Other Info section. Click on the **Save** icon on the tool bar to save the record.	When the Parent EIN is entered, the system will populate the following fields using the data derived from the Parent EIN record: ECS Name, Location, Building, Room, Vendor ID, PO Number, Item Status, Receive Date. If there is a value in the Parent EIN field, the system adds the EIN as a component to the Parent EIN Structure in the ILM-EIN Structure form using the current date as the active date. When the Part No is entered and the Part No exists in the ILM-OEM Part form, the system will populate the following fields: Description, MFR, Hw-Sw Code and Mod_Ver. If the EIN field is blank, the system will generate the next prefixed C number after the record is saved. The newly created EIN number is displayed in the Status bar on the bottom left of the form.

NOTE: To move to the next field, use either the TAB key or the Mouse. The Enter key will not move the cursor to the next field.

Table 23.3.1-3. Modifying EIN Record

Perform	Action	Expected Result
Navigate to the ILM-EIN Form	At the Remedy-ILM PC, **File -> Open -> ILM-EIN -> Search** **Perform a Search for the records to be modified.**	ILM-EIN form is displayed and ready for the user to add a new EIN record.
Modify ECS Name	Find the EIN of interest. Enter the ECS Name. **Warning**: To maintain data consistency in the database, the system will not allow users to update the ECS Name of components. Click on the **Save** icon on the tool bar.	The system updates the ECS Name for the EIN and all of its active components.
Modify the Audit Date	Find the EIN of interest. Enter the new Audit Date. Click on the **Save** icon on the tool bar.	The system updates the EIN's audit date as well as all the active C Number components audit date.

NOTE: To move to the next field use either the TAB key or the Mouse. The Enter key will not move the cursor to the next field.

23.3.1.1 ILM-EIN Predefined Reports

Table 23.3.1-4 lists a set of special report designed specifically for the ILM-EIN form. These reports are built in Crystal Report Writer. Table 23.3.1-4 describes the purpose each of the reports serves. Table 23.3.1-5 provides instruction on how to run these reports. The sections that follow present the report layouts.

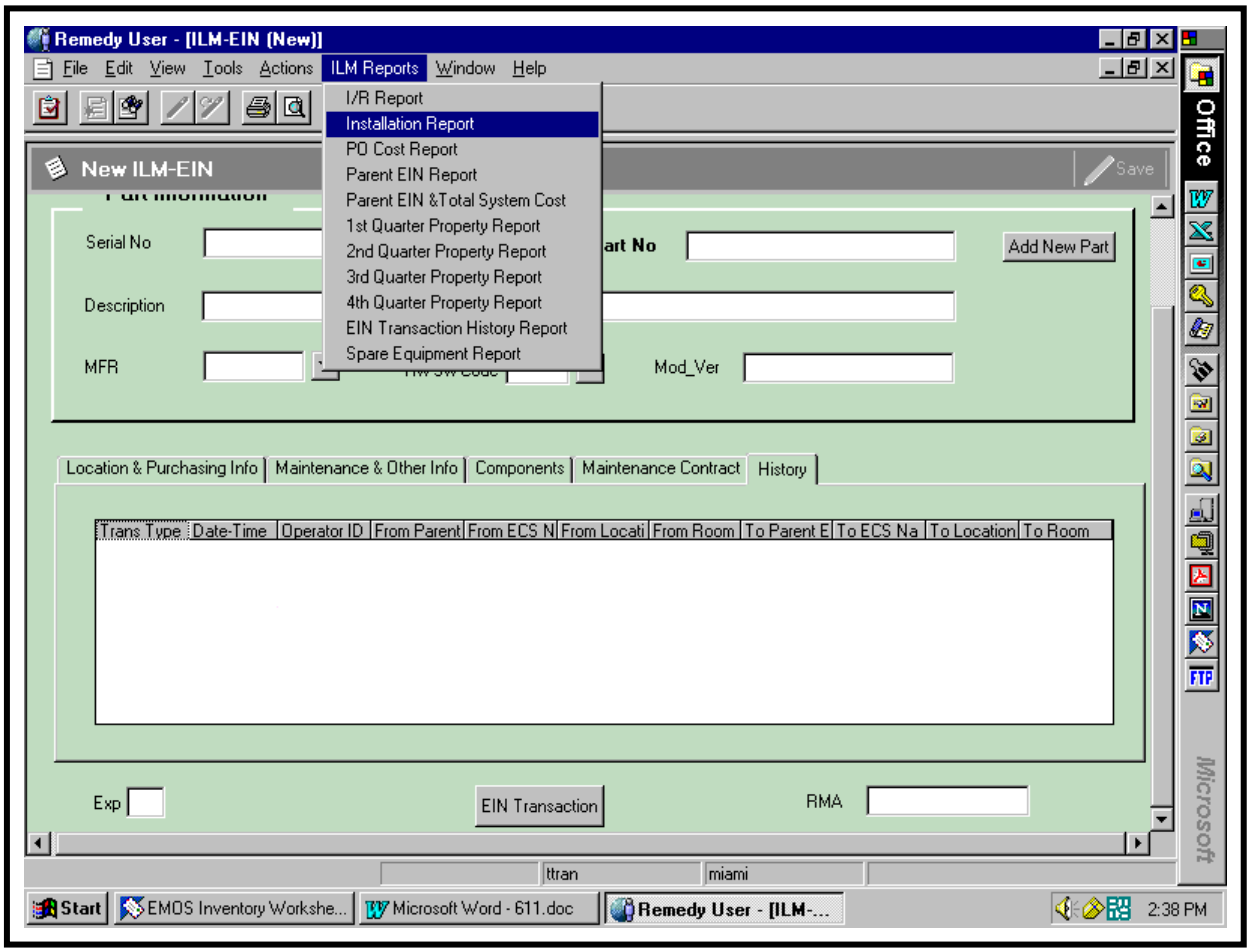


Figure 23.3.1-6. ILM-EIN Reports GUI

Table 23.3.1-4. ILM-EIN Pre-Defined Reports

Report Type	Report Description	Figure
Install/Receipt Report	A report describing an operator-specified EIN item together with all of its associated components order by EIN number.	23.3.1-11
Installation Report	A report describing an operator-specified EIN item together with its components having status “I” (for installed).	23.3.1-12
Purchase Order Cost Report	Provides a list of EINs and their cost associated with an operator-specified purchase order.	23.3.1-13
Parent EIN Report	Provides a listing of only Parent items.	23.3.1-14
Parent EIN and total System Cost Report	Provides a listing of only Parent items and the total system cost for each Parent.	23.3.1-15
Inventory Report	Provides an ASCII formatted report identifying the inventory items by Parent EIN according to the operator-specified criteria.	23.3.1-16
Quarterly Property Management Report	Provides a list of contractor-acquired equipment items by quarter, sorted by Mfr and product description.	23.3.1-17
Cost – Selected ECS Managed Property	Provides the quantity and total cost of operator-selected EINs, grouped by type of inventory (Hardware, Software, Consumable, i.e.).	23.3.1-18
EIN Transaction History	A list of the transactions processed for operator-specified items during an operator-specified timeframe, sorted by EIN number and “from” location	23.3.1-19
Spare Equipment Report	Provides a list of spare equipment for a selected site or system-wide.	23.3.1-20

Table 23.3.1-5. Procedures to Generate ILM-EIN Predefined Reports (1 of 4)

Perform	Action	Expected Result
Navigate to the ILM-EIN Form	At the Remedy-ILM PC, **File -> Open -> ILM-EIN -> Search**	ILM-EIN form is displayed.
Run Install/Receipt Report	Find the Parent EIN of Interest by doing a search in the **Parent EIN** field. When the records are displayed, **ILM Reports -> I/R Report** When the report is displayed, user has the option to either print the report by pressing the print icon or export the report into a file by pressing the Export Icon next to the print icon. Close the report preview.	The Install/Receipt Report is displayed. Refer to Figure 23.3.1-11 for the report layout.
Run Installation Report	Find the Parent EIN of Interest by doing a search in the **Parent EIN** field. When the records are displayed, **ILM Reports -> Installation Report** When the report is displayed, user has the option to either print the report by pressing the print icon or export the report into a file by pressing the Export Icon next to the print icon. Close the report preview.	The Installation Report is displayed. Refer to Figure 23.3.1-12 for the report layout.
Run Purchase Order Cost Report	Find the Purchase Order of Interest by doing a search in the **PO Number** field. When the records are displayed, **ILM Reports -> PO Cost Report** When the report is displayed, user has the option to either print the report by pressing the print icon or export the report into a file by pressing the Export Icon next to the print icon. Close the report preview.	The Purchase Order Cost Report is displayed. Refer to Figure 23.3.1-13 for the report layout.

NOTE: To move to the next field, use either the TAB key or the Mouse. The Enter key will not move the cursor to the next field.

Table 23.3.1-5. Procedures to Generate ILM-EIN Predefined Reports (2 of 4)

Perform	Action	Expected Result
Run Parent EIN Report	**ILM Reports -> Parent EIN Report** When the ILM-DIA Reports form is displayed (see Figure 23.3.1.1-2), select or enter a site name to run the report. Leaving the Site value blank will select all Parent EINs. When the report is displayed, user has the option to either print the report by pressing the print icon or export the report into a file by pressing the Export Icon next to the print icon. Close the report preview.	The Parent EIN report is displayed. Refer to Figure 23.3.1-14 for the report layout.
Run Parent EIN & Total System Cost Report	**ILM Reports -> Parent EIN & Total System Cost Report** When the ILM-DIA Reports form is displayed (see Figure 23.3.1.1-2), select or enter a site name to run the report. Leaving the Site value blank will select all Parent EINs. When the report is displayed, user has the option to either print the report by pressing the print icon or export the report into a file by pressing the Export Icon next to the print icon. Close the report preview.	The Parent EIN & Total System Cost report is displayed. Refer to Figure 23.3.1-15 for the report layout.

NOTE: To move to the next field, use either the TAB key or the Mouse. The Enter key will not move the cursor to the next field.

Table 23.3.1-5. Procedures to Generate ILM-EIN Predefined Reports (3 of 4)

Perform	Action	Expected Result
Run Inventory Report **NOTE:** This report is not listed under ILM Report. It's located in the Remedy's Report Style listing.	Search for the records of interest to perform the report on. When the records are displayed, make sure to un-select the highlighted record by pressing the **Ctrl** and single-click the highlighted item simultaneously. **Tools -> Reporting -> Inventory Rpt -> Report -> Export To -> File** When the Report to File GUI (see Figure 23.3.1.1-3) is displayed. Select the appropriate directory to save the report in Enter a report file name **Save as Type** = All File (*.*) **Warning:** The report will not work if the **Save as Type** is anything else other than All File. Press the **Save** button Bring up Excel **File -> Open -> <Report Name>** When the Text Import Wizard GUI (Figure 23.3.1.1-4) is displayed: **Delimiters –> Next** Select **Tab - > Next** Change the EIN, Parent EIN, Part No, and Serial No fields to Text. This will keep all the leading zeros. Click on the **Finish** button	The inventory report is displayed in Excel. User may make any necessary adjustment to this report. Please refer to MS Excel help for any question on how to use MS Excel. Refer to Figure 23.3.1-16 for the report layout.
Run (1st, 2nd, 3rd, or 4th) Quarterly Property Management Report	**ILM Reports -> (**1st, 2nd, 3rd, or 4th**) Quarterly Property Report** When the report is displayed, user has the option to either print the report by pressing the print icon or export the report into a file by pressing the Export Icon next to the print icon. Close the report preview.	The Quarterly Property Management report is displayed. Refer to Figure 23.3.1-17 for the report layout.

NOTE: To move to the next field, use either the TAB key or the Mouse. The Enter key will not move the cursor to the next field.

Table 23.3.1-5. Procedures to Generate ILM-EIN Predefined Reports (4 of 4)

Perform	Action	Expected Result
Run Cost-Selected ECS Managed Report **NOTE:** This report is not listed in the ILM Reports listing. It's locates in the Remedy's Report Style.	Search for the records of interest to perform the report. When the records are displayed, make sure to un-select the highlighted record by pressing the **Ctrl** and single-click the highlighted item simultaneously. **Tools -> Reporting -> Cost – ECS Managed Property -> Report -> Preview** When the report is displayed, user has the option to either print the report by pressing the print icon or export the report into a file by pressing the Export Icon next to the print icon. Close the report preview.	The Cost-Selected ECS Managed Report is displayed. See Figure 23.3.1-18 for report layout.
Run EIN Transaction History Report	Find the EIN of Interest by entering the EIN in the **EIN** field and performing a search. When the records are displayed, **ILM Reports -> EIN Transaction History Report** When the report is displayed, user has the option to either print the report by pressing the print icon or export the report into a file by pressing the Export Icon next to the print icon. Close the report preview.	The EIN Transaction History report is displayed. See Figure 23.3.1-19 for report layout.
Run Spare Equipment Report	**ILM Reports -> Spare Equipment Report** When the ILM-DIA Reports form is displayed (see Figure 23.3.1.1-2), select or enter a site name to run the report. Leaving the Site value blank will select all the spare equipment in the database. When the report is displayed, user has the option to either print the report by pressing the print icon or export the report into a file by pressing the Export Icon next to the print icon. Close the report preview.	The Spare Equipment report is displayed. See Figure 23.3.1-20 for report layout.

NOTE: To move to the next field, use either the TAB key or the Mouse. The Enter key will not move the cursor to the next field.

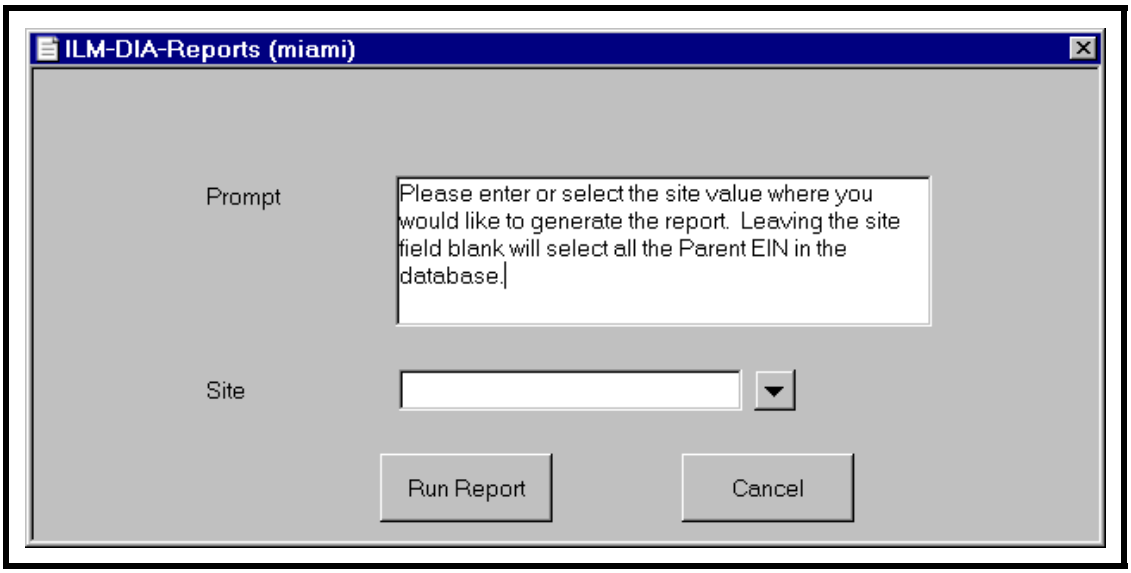


Figure 23.3.1-7. ILM-DIA Reports GUI

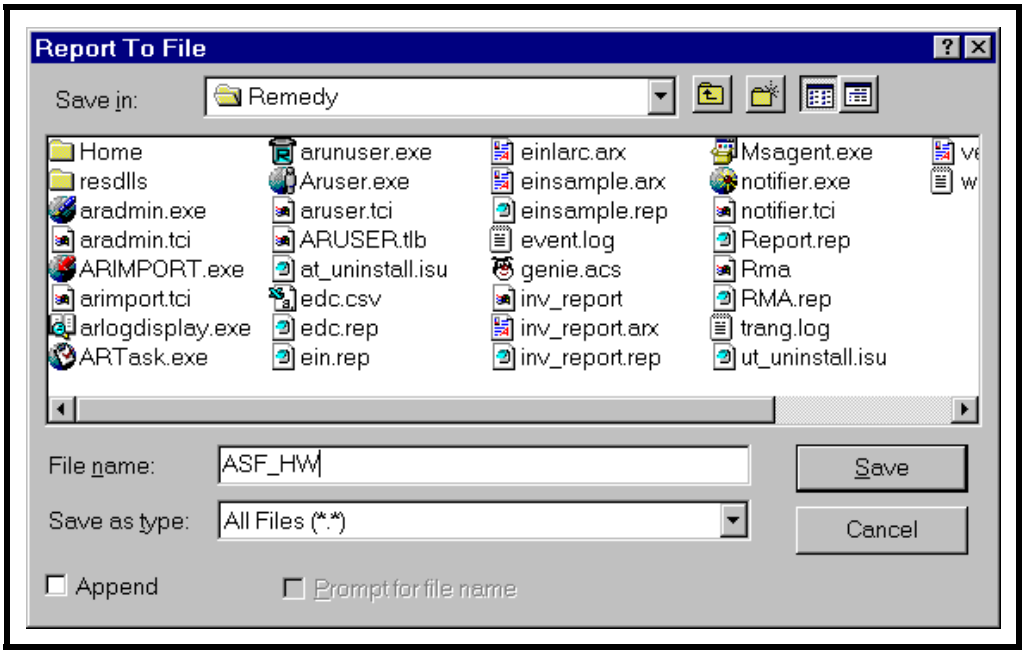


Figure 23.3.1-8. Report To File GUI

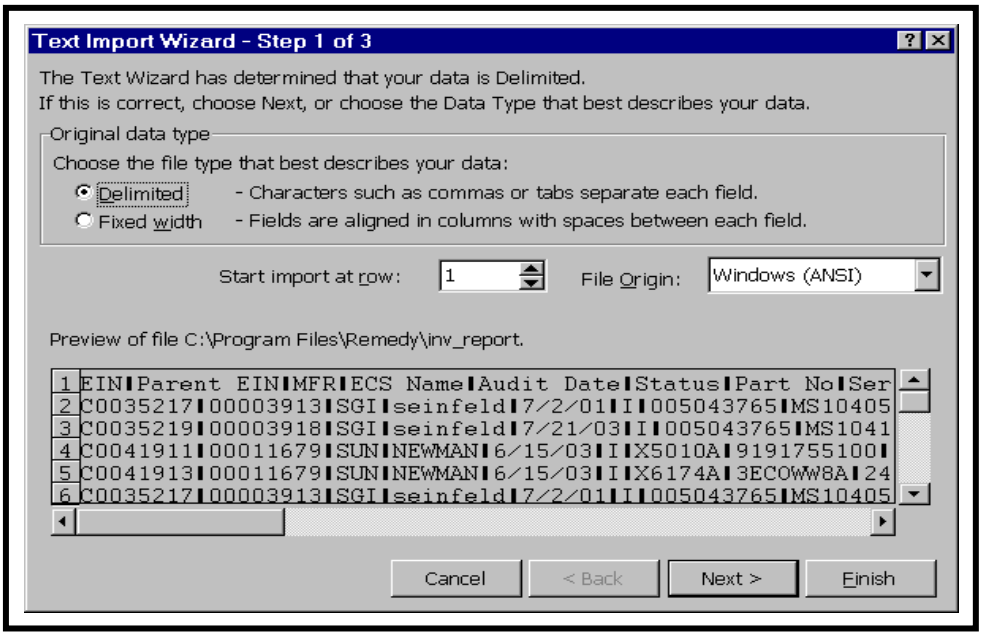


Figure 23.3.1-9. Text Import Wizard GUI

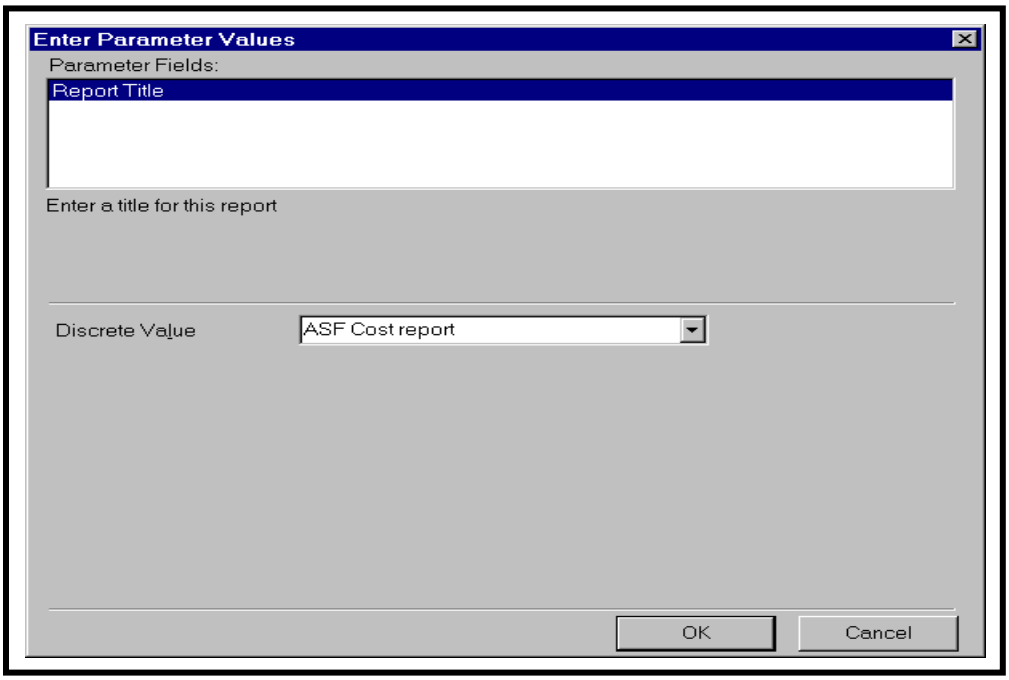
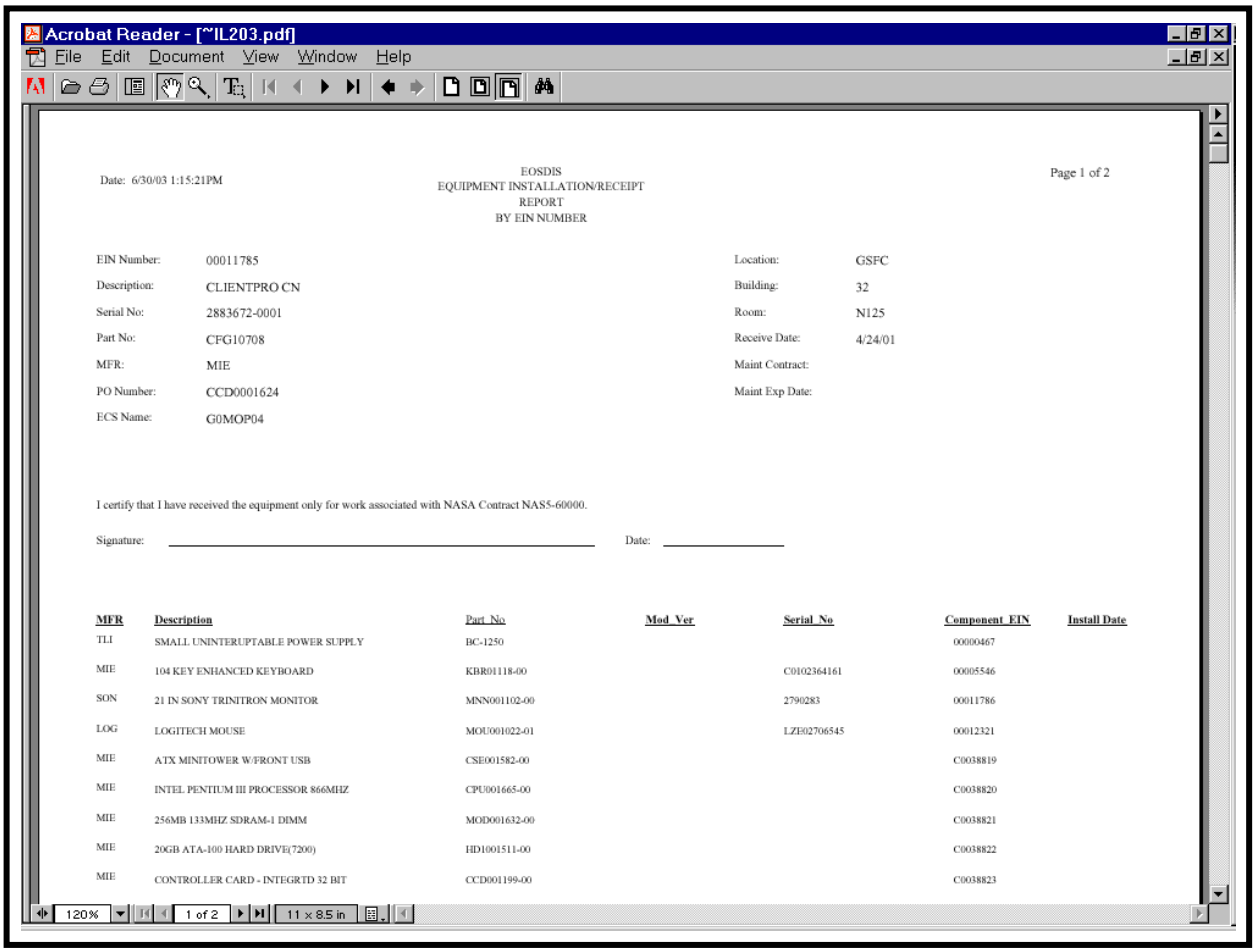


Figure 23.3.1-10. Enter Parameter Values GUI



Acrobat Reader - [~IL203.pdf]

File Edit Document View Window Help

Date: 6/30/03 1:15:21PM

EOSDIS
EQUIPMENT INSTALLATION/RECEIPT
REPORT
BY EIN NUMBER

Page 1 of 2

EIN Number:	00011785	Location:	GSFC
Description:	CLIENTPRO CN	Building:	32
Serial No:	2883672-0001	Room:	N125
Part No:	CFG10708	Receive Date:	4/24/01
MFR:	MIE	Maint Contract:	
PO Number:	CCD0001624	Maint Exp Date:	
ECS Name:	G0MOP04		

I certify that I have received the equipment only for work associated with NASA Contract NAS5-60000.

Signature: _____ Date: _____

MFR	Description	Part_No	Mod_Ver	Serial_No	Component_EIN	Install Date
TLI	SMALL UNINTERUPTABLE POWER SUPPLY	BC-1250			00000467	
MIE	104 KEY ENHANCED KEYBOARD	KBR01118-00		C0102364161	00005546	
SON	21 IN SONY TRINITRON MONITOR	MNN001102-00		2790283	00011786	
LOG	LOGITECH MOUSE	MOU001022-01		LZE02706545	00012321	
MIE	ATX MINITOWER W/FRONT USB	CSE001582-00			C0038819	
MIE	INTEL PENTIUM III PROCESSOR 866MHZ	CPU001665-00			C0038820	
MIE	256MB 133MHZ SDRAM-1 DIMM	MOD001632-00			C0038821	
MIE	20GB ATA-100 HARD DRIVE(7200)	HD1001511-00			C0038822	
MIE	CONTROLLER CARD - INTEGRTD 32 BIT	CCD001199-00			C0038823	

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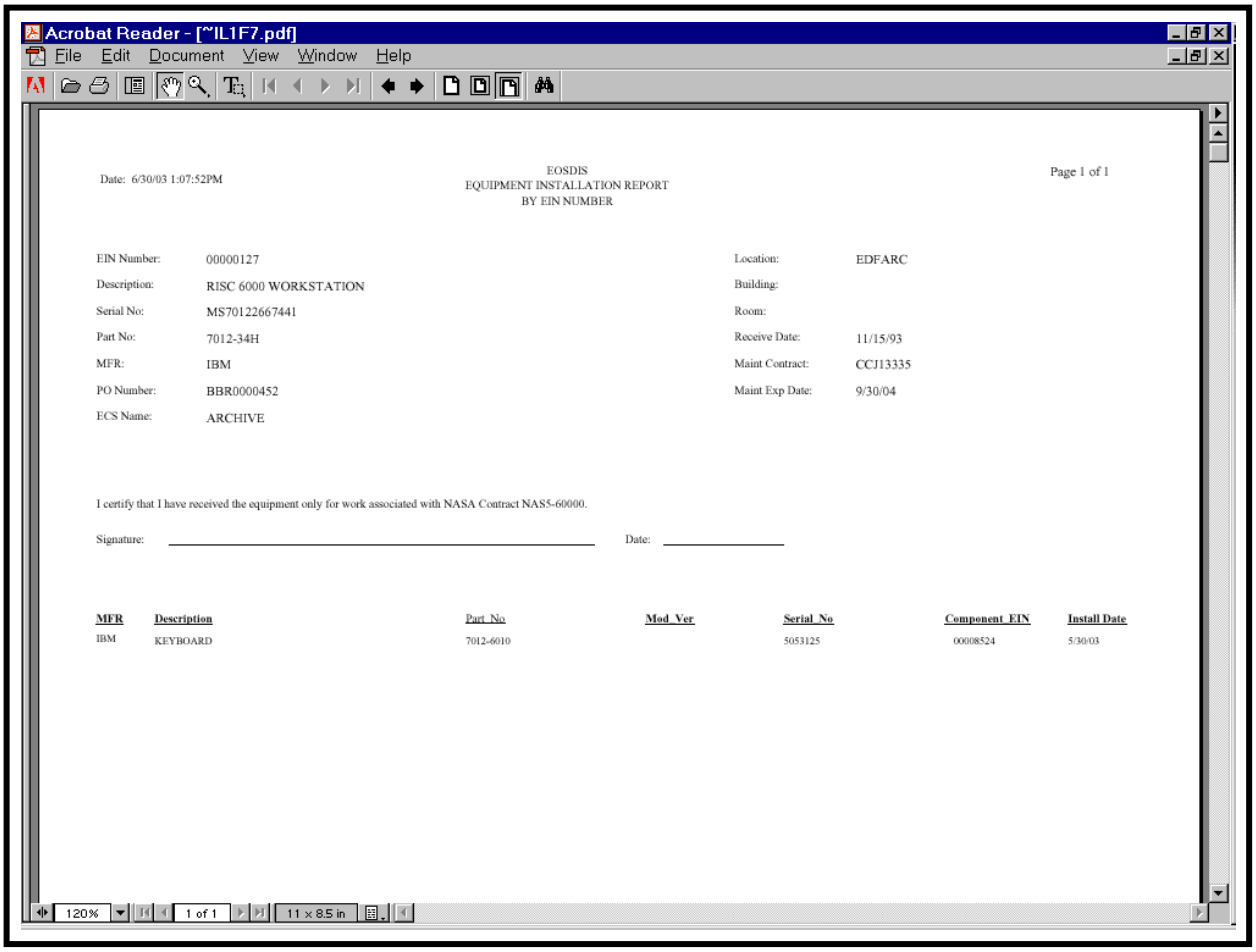
Figure 23.3.1-11. Install/Receipt Report GUI



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EOSDIS
EQUIPMENT INSTALLATION REPORT
BY EIN NUMBER

Page 1 of 1

EIN Number:	00000127	Location:	EDFARC
Description:	RISC 6000 WORKSTATION	Building:	
Serial No:	MS70122667441	Room:	
Part No:	7012-34H	Receive Date:	11/15/93
MFR:	IBM	Maint Contract:	CCJ13335
PO Number:	BBR0000452	Maint Exp Date:	9/30/04
ECS Name:	ARCHIVE		

I certify that I have received the equipment only for work associated with NASA Contract NAS5-60000.

Signature: _____ Date: _____

MFR	Description	Part_No	Mod_Ver	Serial_No	Component_EIN	Install Date
IBM	KEYBOARD	7012-6010		5053125	00008524	5/30/03

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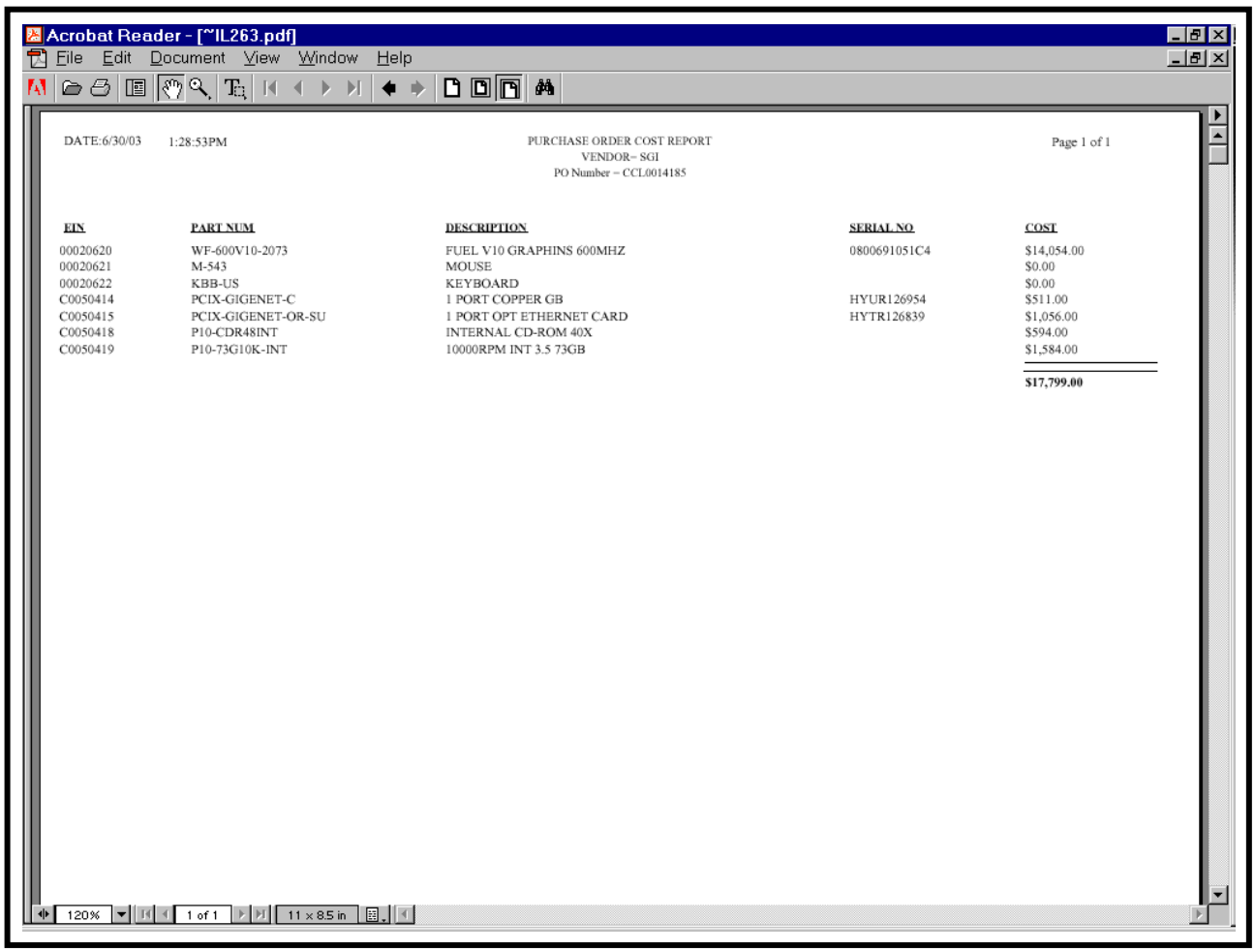
Figure 23.3.1-12. Installation Report GUI



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PURCHASE ORDER COST REPORT
VENDOR= SGI
PO Number = CCL0014185

Page 1 of 1

EIN	PART NUM	DESCRIPTION	SERIAL NO	COST
00020620	WF-600V10-2073	FUEL V10 GRAPHINS 600MHZ	0800691051C4	$14,054.00
00020621	M-543	MOUSE		$0.00
00020622	KBB-US	KEYBOARD		$0.00
C0050414	PCIX-GIGENET-C	1 PORT COPPER GB	HYUR126954	$511.00
C0050415	PCIX-GIGENET-OR-SU	1 PORT OPT ETHERNET CARD	HYTR126839	$1,056.00
C0050418	P10-CDR48INT	INTERNAL CD-ROM 40X		$594.00
C0050419	P10-73G10K-INT	10000RPM INT 3.5 73GB		$1,584.00
				$17,799.00

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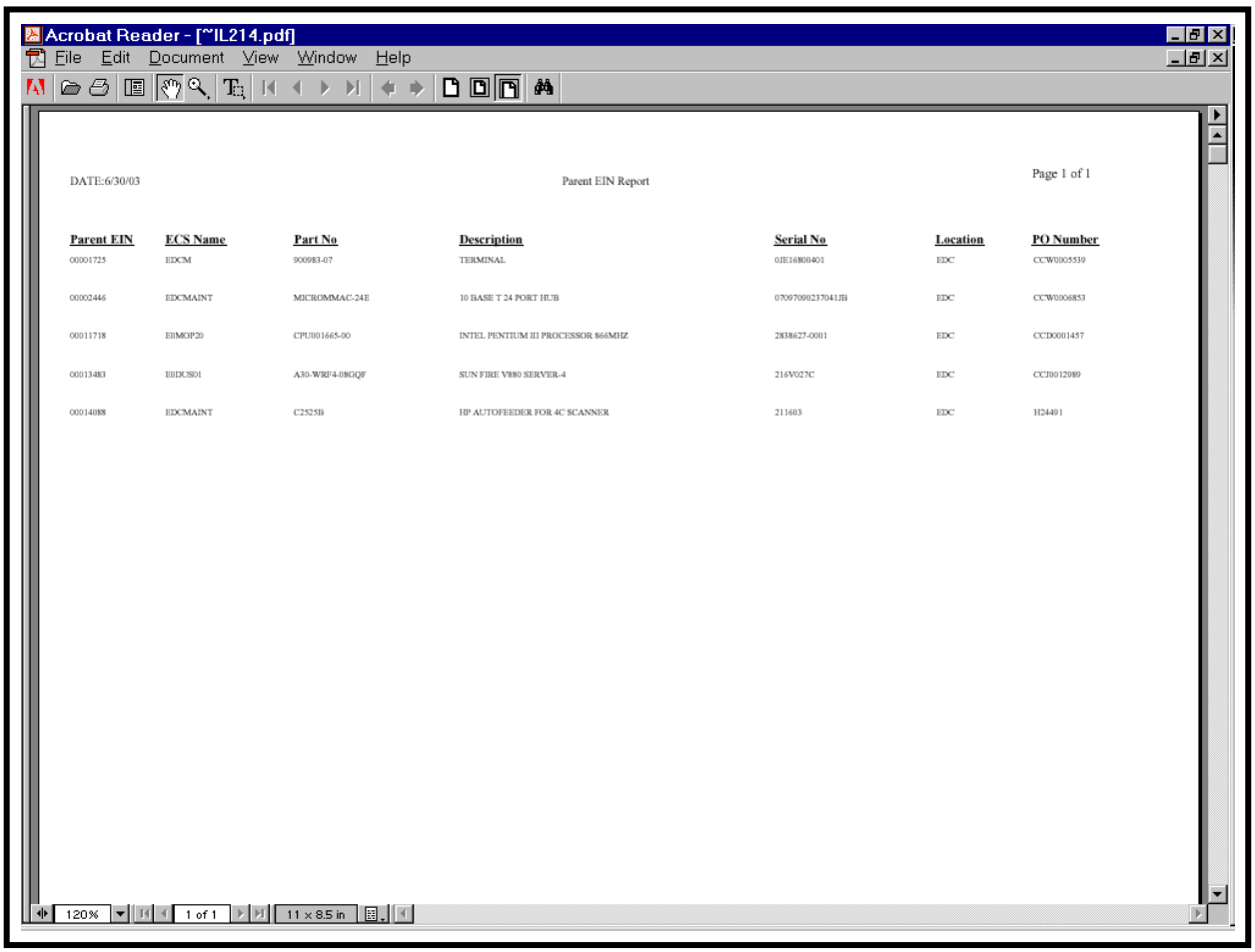
Figure 23.3.1-13. Purchase Order Cost Report GUI



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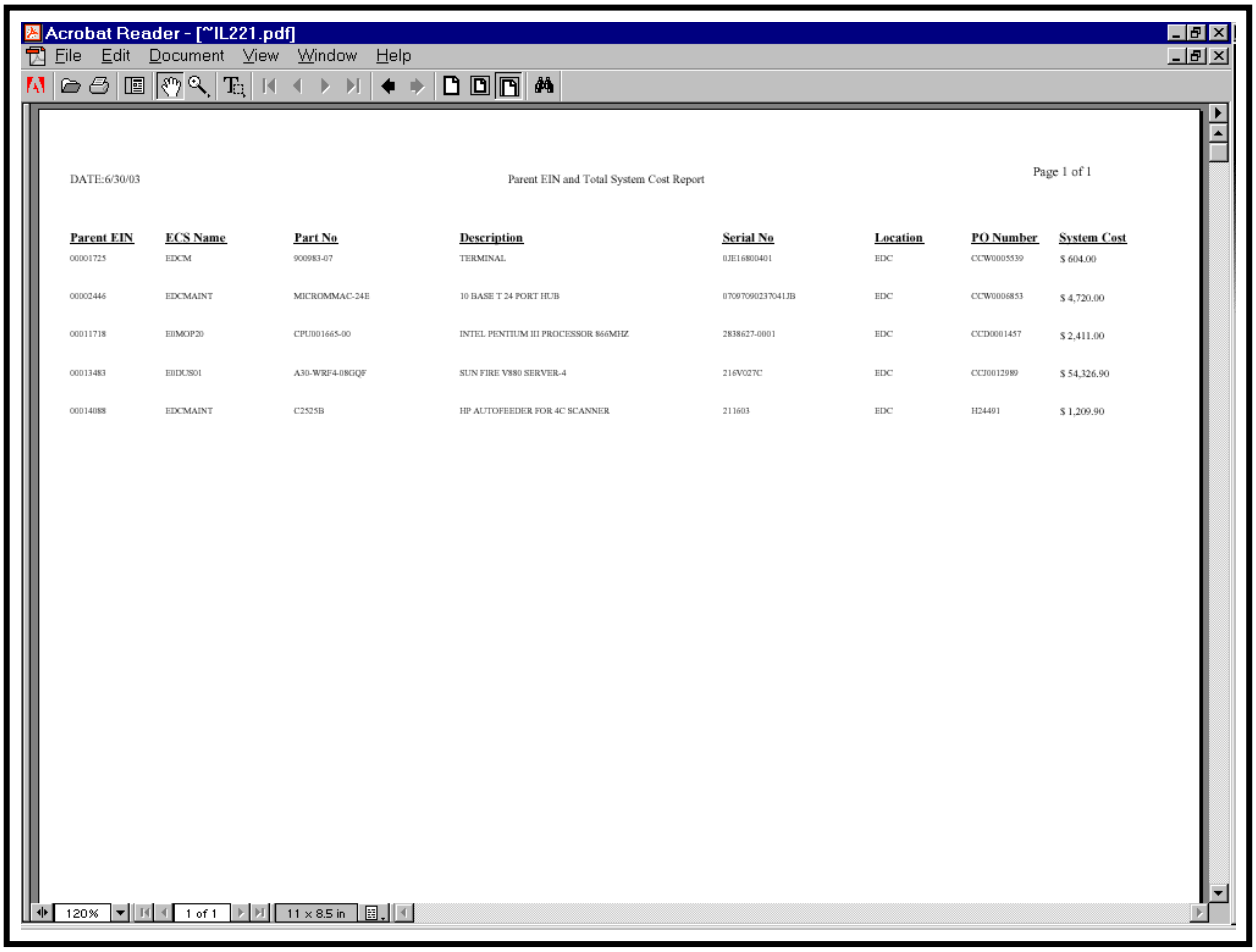
Parent EIN Report

Page 1 of 1

Parent EIN	ECS Name	Part No	Description	Serial No	Location	PO Number
00001725	EDCM	900983-07	TERMINAL	0JE16800401	EDC	CCW0005539
00002446	EDCMAINT	MICROMMAC-24E	10 BASE T 24 PORT HUB	07097090237041JB	EDC	CCW0006853
00011718	EIMOP20	CPU001665-00	INTEL PENTIUM III PROCESSOR 866MHZ	2838627-0001	EDC	CCD0001457
00013483	EIDCIS01	A30-WRF4-08GQF	SUN FIRE V880 SERVER-4	216V027C	EDC	CCJ0012989
00014088	EDCMAINT	C2525B	HP AUTOFEEDER FOR 4C SCANNER	211603	EDC	H24491

120% 1 of 1 11 x 8.5 in

Figure 23.3.1-14. Parent EIN Report GUI



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Parent EIN and Total System Cost Report

Page 1 of 1

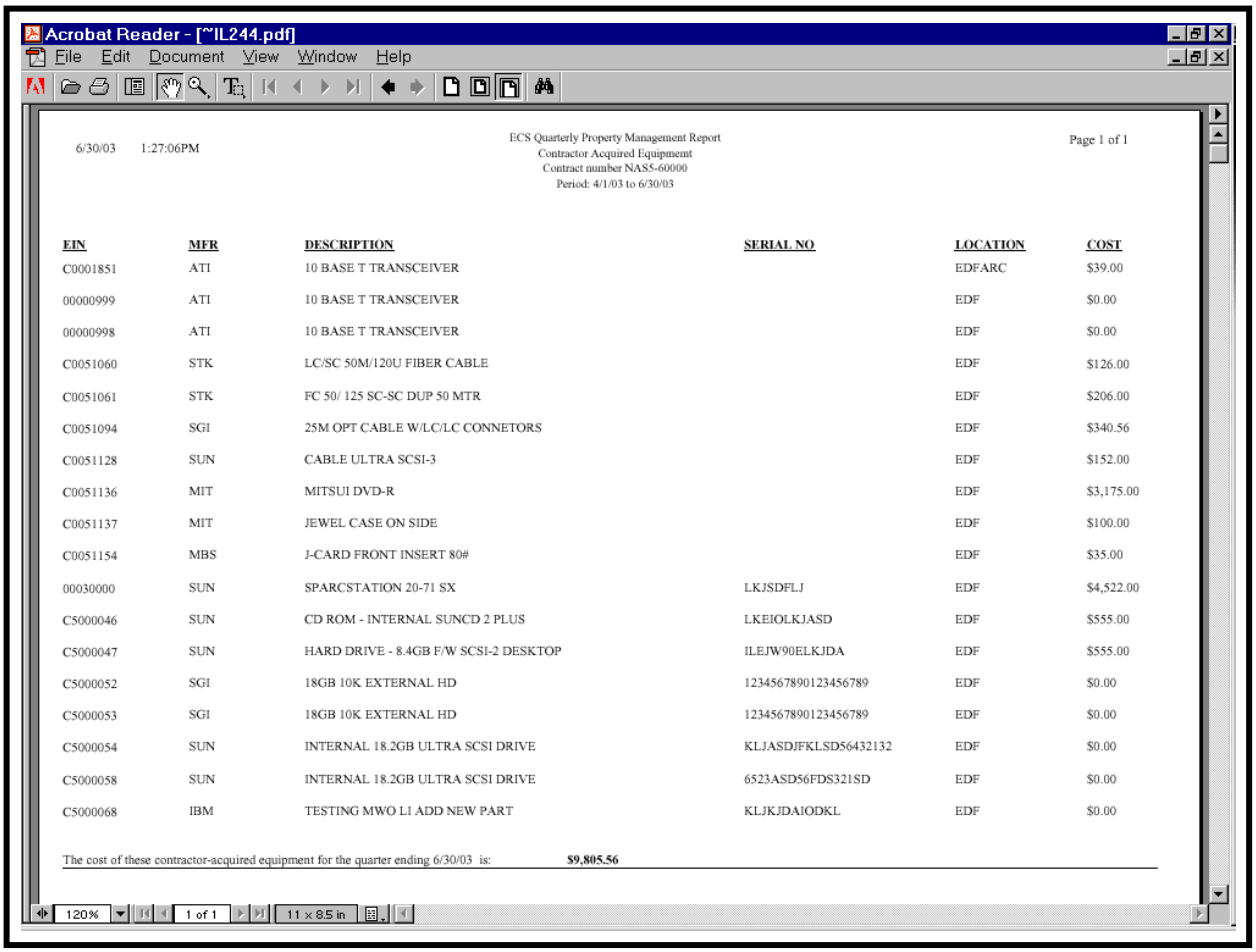
Parent EIN	ECS Name	Part No	Description	Serial No	Location	PO Number	System Cost
00001725	EDCM	900983-07	TERMINAL	0JE16800401	EDC	CCW0005539	$ 604.00
00002446	EDCMAINT	MICROMMAC-24E	10 BASE T 24 PORT HUB	0709709023704 1JB	EDC	CCW0006853	$ 4,720.00
00011718	EIIMOP20	CPU001665-00	INTEL PENTIUM III PROCESSOR 866MHZ	2838627-0001	EDC	CCD0001457	$ 2,411.00
00013483	EIIDCS01	A30-WRF4-08GQF	SUN FIRE V880 SERVER-4	216V027C	EDC	CCJ0012989	$ 54,326.90
00014088	EDCMAINT	C2525B	HP AUTOFEEDER FOR 4C SCANNER	211603	EDC	H24491	$ 1,209.90

120% 1 of 1 11 x 8.5 in

Figure 23.3.1-15. Parent EIN & Total System Cost Report GUI

Parent EIN	Part EIN	Mfr	ECS Name	Audit Date	Stat	Part Num	Serial Num	Unit Cost	Product Description	Location	Bldg	Room	Code	PO Num	Date Rec'd	Vendor
00001838	00001838	SUN	n0dms04	2/6/02	I	A12-UBA1-1E-064AB	645F0AA4	$8,797.00	Ultra 1 System	NSIDC	NSIDC	209	H	CCW0005354	12/2/96	SUN
00001838	00001891	SUN	n0dms04	2/6/02	I	X5203A	645G0830	$1,035.00	UniPak - 4.2 GB 5400 RPM FW SCSI-2	NSIDC	NSIDC	209	H	CCW0005354	12/18/96	SUN
00001838	00003491	SUN	n0dms04	2/6/02	I	X267A	9843KN4545	$5,000.00	Color Monitor - 20 IN	NSIDC	NSIDC	209	H	CCW0005354	12/2/96	SUN
00001838	00006793	SUN	n0dms04	2/6/02	I	NE SUN1	LZB64001097	$0.00	Mouse - 3 Button Track Ball	NSIDC	NSIDC	209	H	CCW0005354	12/2/96	SUN
00001838	00006794	SUN	n0dms04	2/6/02	I	320-1233-02	9626371319	$0.00	Keyboard	NSIDC	NSIDC	209	H	CCW0005354	12/2/96	SUN
00001838	C0009132	SUN	n0dms04	2/6/02	I	X1025A	12603	$1,500.00	FDDI SINGLE ATTACH SBUS CARD	NSIDC	NSIDC	209	H	CCW0005354	12/2/96	SUN
00001838	C0009133	SUN	n0dms04	2/6/02	I	X132P	501282278476877	$0.00	Memory - 32MB RAM Expansion (1x32	NSIDC	NSIDC	209	H	CCW0005354	12/2/96	SUN
00001838	C0009134	SUN	n0dms04	2/6/02	I	X132P	501262278476942	$0.00	Memory - 32MB RAM Expansion (1x32	NSIDC	NSIDC	209	H	CCW0005354	12/2/96	SUN
00001838	C0009135	SUN	n0dms04	2/6/02	I	X3500A		$0.00	Country Kit	NSIDC	NSIDC	209	H	CCW0005354	12/2/96	SUN
00001838	C0009136	SUN	n0dms04	2/6/02	I	X6001A	9625201083	$90.00	Floppy Drive - 3.5 IN Disk Drive-1	NSIDC	NSIDC	209	H	CCW0005354	12/2/96	SUN
00001838	C0009137	SUN	n0dms04	2/6/02	I	X6153A	9647723061	$240.00	CD ROM - Internal SUNCD 4	NSIDC	NSIDC	209	H	CCW0005354	12/2/96	SUN
00001838	C0009839	SUN	n0dms04	2/6/02	I	370-2286-01	9643604099	$0.00	Hard Drive - Internal for X5204A	NSIDC	NSIDC	209	H	CCW0005354	12/18/96	SUN
00001838	C0045377	SUN	n0dms04	6/25/02	I	X5237A	0145KP6EMS	$479.20	ULTRA SCSI DISK DRIVE, 18GB INTERN	NSIDC	NSIDC	209	H	CCD0002848	11/27/01	SUN
00001838	C0149507	SUN	n0dms04	1/27/99	I	SOLD-C		$45.00	Solaris Media for Servers	NSIDC	NSIDC	209	S	CCW0005354	12/2/96	SUN
00001839	00001839	SUN	n0mos20	2/6/02	I	A12-UBA1-1E-064AB	645F0B2C	$8,797.00	Ultra 1 System	NSIDC	NSIDC	252	H	CCW0005354	12/2/96	SUN
00001839	00001890	SUN	n0mos20	2/6/02	I	X5203A	645G0868	$1,035.00	UniPak - 4.2 GB 5400 RPM FW SCSI-2	NSIDC	NSIDC	252	H	CCW0005354	12/18/96	SUN
00001839	00003494	SUN	n0mos20	2/6/02	I	X267A	9647GI3704	$5,000.00	Color Monitor - 20 IN	NSIDC	NSIDC	252	H	CCW0005354	4/3/00	SUN
00001839	00006771	SUN	n0mos20	2/6/02	I	320-1233-02	9626371388	$0.00	Keyboard	NSIDC	NSIDC	252	H	CCW0005354	12/2/96	SUN
00001839	00006772	SUN	n0mos20	2/6/02	I	NE SUN1	LZB64001084	$0.00	Mouse - 3 Button Track Ball	NSIDC	NSIDC	252	H	CCW0005354	12/2/96	SUN
00001839	C0009138	SUN	n0mos20	2/6/02	I	370-2040-03	9643547711	$0.00	Hard Drive - 2.1 GB Internal	NSIDC	NSIDC	252	H	CCW0005354	12/2/96	SUN
00001839	C0009139	SUN	n0mos20	2/6/02	I	X1025A	11748	$1,500.00	FDDI SINGLE ATTACH SBUS CARD	NSIDC	NSIDC	252	H	CCW0005354	12/2/96	SUN
00001839	C0009140	SUN	n0mos20	2/6/02	I	X132P	501262279495644	$0.00	Memory - 32MB RAM Expansion (1x32	NSIDC	NSIDC	252	H	CCW0005354	12/2/96	SUN
00001839	C0009141	SUN	n0mos20	2/6/02	I	X132P	501262279495714	$0.00	Memory - 32MB RAM Expansion (1x32	NSIDC	NSIDC	252	H	CCW0005354	12/2/96	SUN
00001839	C0009142	SUN	n0mos20	2/6/02	I	X3500A		$0.00	Country Kit	NSIDC	NSIDC	252	H	CCW0005354	12/2/96	SUN
00001839	C0009143	SUN	n0mos20	2/6/02	I	X6001A	9625201087	$90.00	Floppy Drive - 3.5 IN Disk Drive-1	NSIDC	NSIDC	252	H	CCW0005354	12/2/96	SUN
00001839	C0009144	SUN	n0mos20	2/6/02	I	X6153A	6Y50C01029	$240.00	CD ROM - Internal SUNCD 4	NSIDC	NSIDC	252	H	CCW0005354	12/2/96	SUN
00001839	C0009838	SUN	n0mos20	2/6/02	I	370-2286-01	9643604145	$0.00	Hard Drive - Internal for X5204A	NSIDC	NSIDC	252	H	CCW0005354	12/18/96	SUN
00001839	C0038808	SUN	n0mos20	2/6/02	I	501-2961	017403	$0.00	System Board	NSIDC	NSIDC	252	H	CCW0005354	4/16/01	SUN
00001839	C0149508	SUN	n0mos20	1/27/99	I	SOLD-C		$45.00	Solaris Media for Servers	NSIDC	NSIDC	252	S	CCW0005354	12/2/96	SUN

Figure 23.3.1-16. Inventory Report GUI



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ECS Quarterly Property Management Report
Contractor Acquired Equipmemt
Contract number NAS5-60000
Period: 4/1/03 to 6/30/03

Page 1 of 1

EIN	MFR	DESCRIPTION	SERIAL NO	LOCATION	COST
C0001851	ATI	10 BASE T TRANSCEIVER		EDFARC	$39.00
00000999	ATI	10 BASE T TRANSCEIVER		EDF	$0.00
00000998	ATI	10 BASE T TRANSCEIVER		EDF	$0.00
C0051060	STK	LC/SC 50M/120U FIBER CABLE		EDF	$126.00
C0051061	STK	FC 50/ 125 SC-SC DUP 50 MTR		EDF	$206.00
C0051094	SGI	25M OPT CABLE W/LC/LC CONNETORS		EDF	$340.56
C0051128	SUN	CABLE ULTRA SCSI-3		EDF	$152.00
C0051136	MIT	MITSUI DVD-R		EDF	$3,175.00
C0051137	MIT	JEWEL CASE ON SIDE		EDF	$100.00
C0051154	MBS	J-CARD FRONT INSERT 80#		EDF	$35.00
00030000	SUN	SPARCSTATION 20-71 SX	LKJSDFLJ	EDF	$4,522.00
C5000046	SUN	CD ROM - INTERNAL SUNCD 2 PLUS	LKEIOLKJASD	EDF	$555.00
C5000047	SUN	HARD DRIVE - 8.4GB F/W SCSI-2 DESKTOP	ILEJW90ELKJDA	EDF	$555.00
C5000052	SGI	18GB 10K EXTERNAL HD	1234567890123456789	EDF	$0.00
C5000053	SGI	18GB 10K EXTERNAL HD	1234567890123456789	EDF	$0.00
C5000054	SUN	INTERNAL 18.2GB ULTRA SCSI DRIVE	KLJASDJFKLSD56432132	EDF	$0.00
C5000058	SUN	INTERNAL 18.2GB ULTRA SCSI DRIVE	6523ASD56FDS321SD	EDF	$0.00
C5000068	IBM	TESTING MWO L1 ADD NEW PART	KLJKJDAIODKL	EDF	$0.00

The cost of these contractor-acquired equipment for the quarter ending 6/30/03 is: **$9,805.56**

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Figure 23.3.1-17. Quarterly Property Management Report GUI

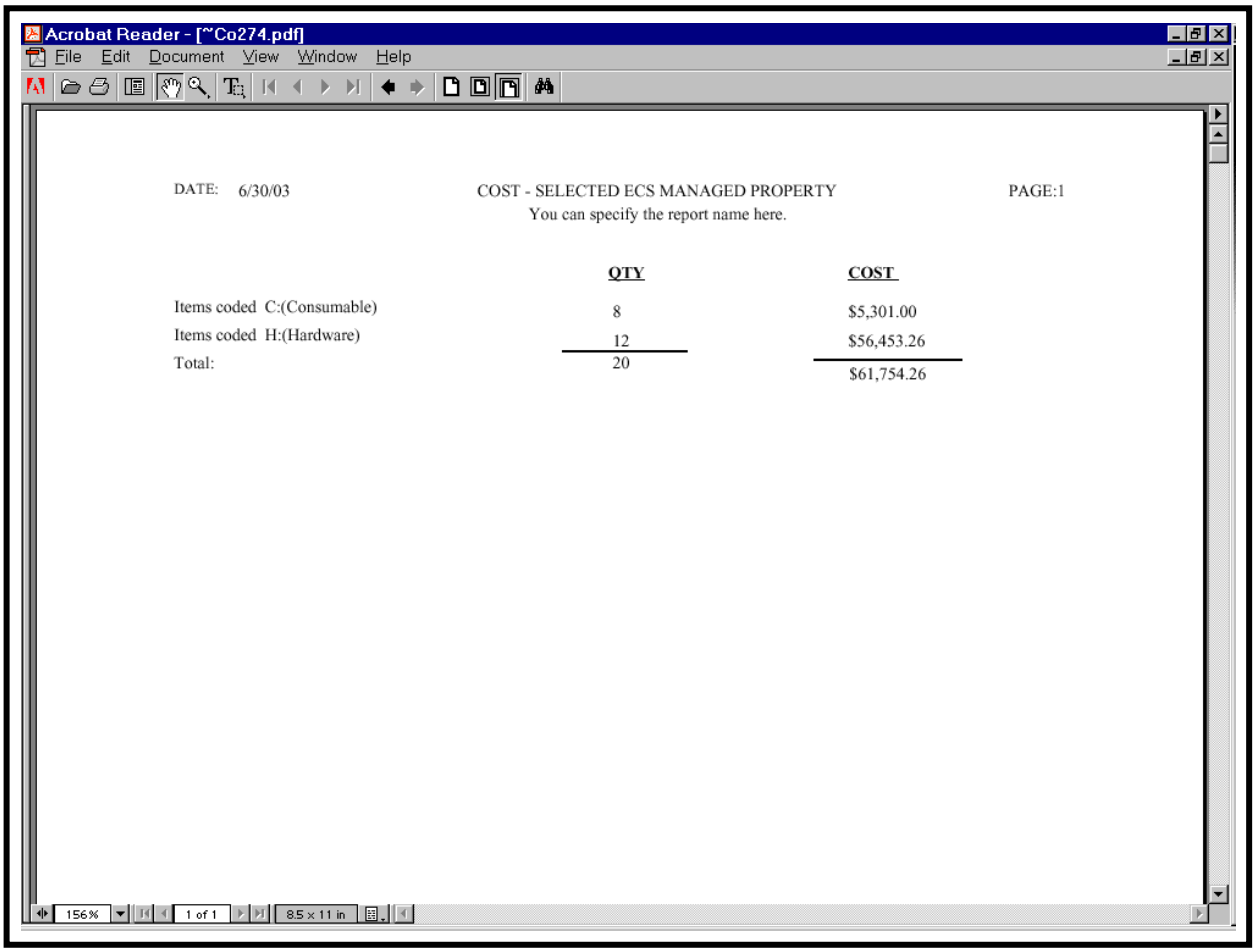
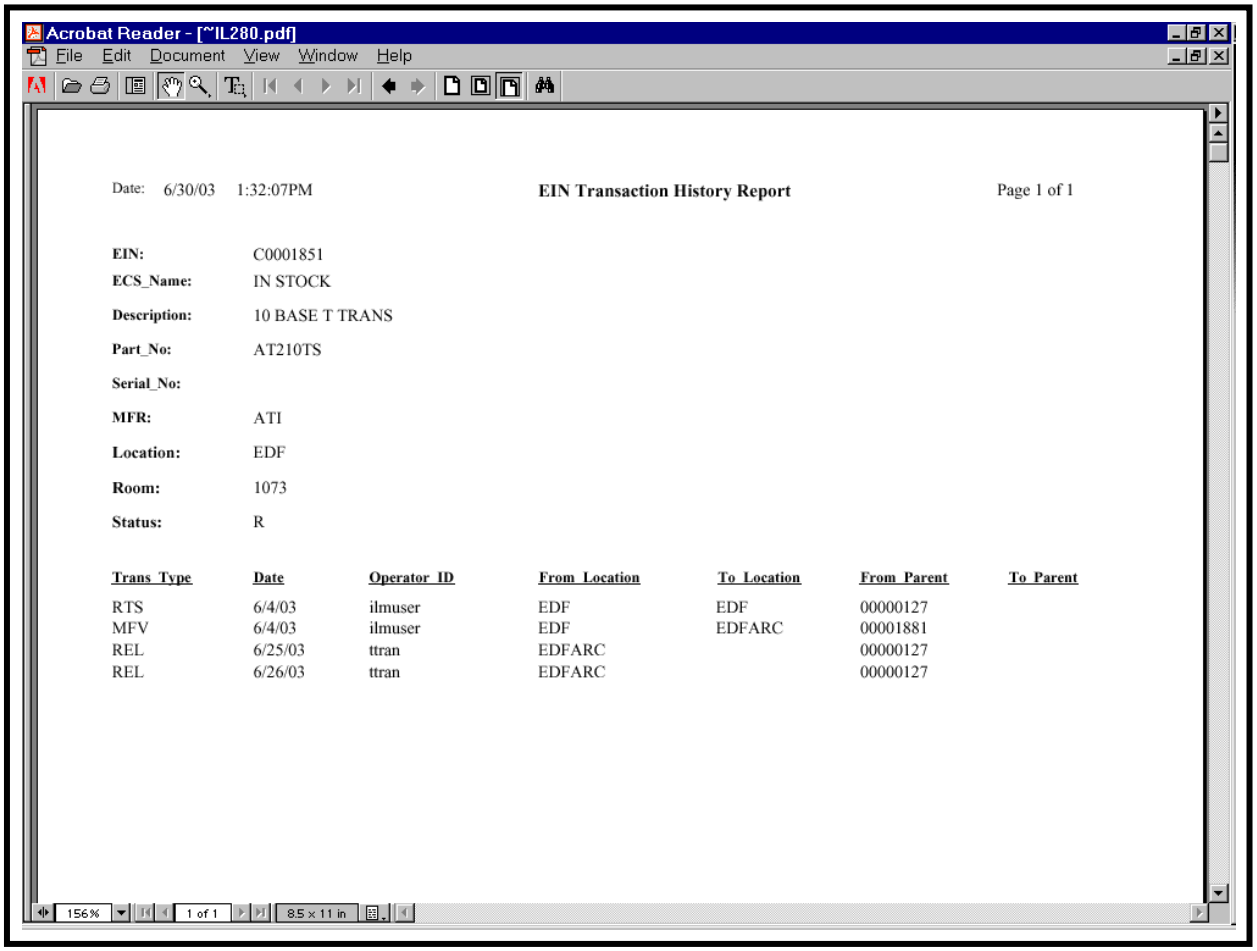


Figure 23.3.1-18. Cost – Selected ECS Managed Report GUI



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Date: 6/30/03 1:32:07PM **EIN Transaction History Report** Page 1 of 1

EIN: C0001851
ECS_Name: IN STOCK
Description: 10 BASE T TRANS
Part_No: AT210TS
Serial_No:
MFR: ATI
Location: EDF
Room: 1073
Status: R

Trans_Type	Date	Operator_ID	From_Location	To_Location	From_Parent	To_Parent
RTS	6/4/03	ilmuser	EDF	EDF	00000127	
MFV	6/4/03	ilmuser	EDF	EDFARC	00001881	
REL	6/25/03	ttran	EDFARC		00000127	
REL	6/26/03	ttran	EDFARC		00000127	

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Figure 23.3.1-19. EIN Transaction History Report

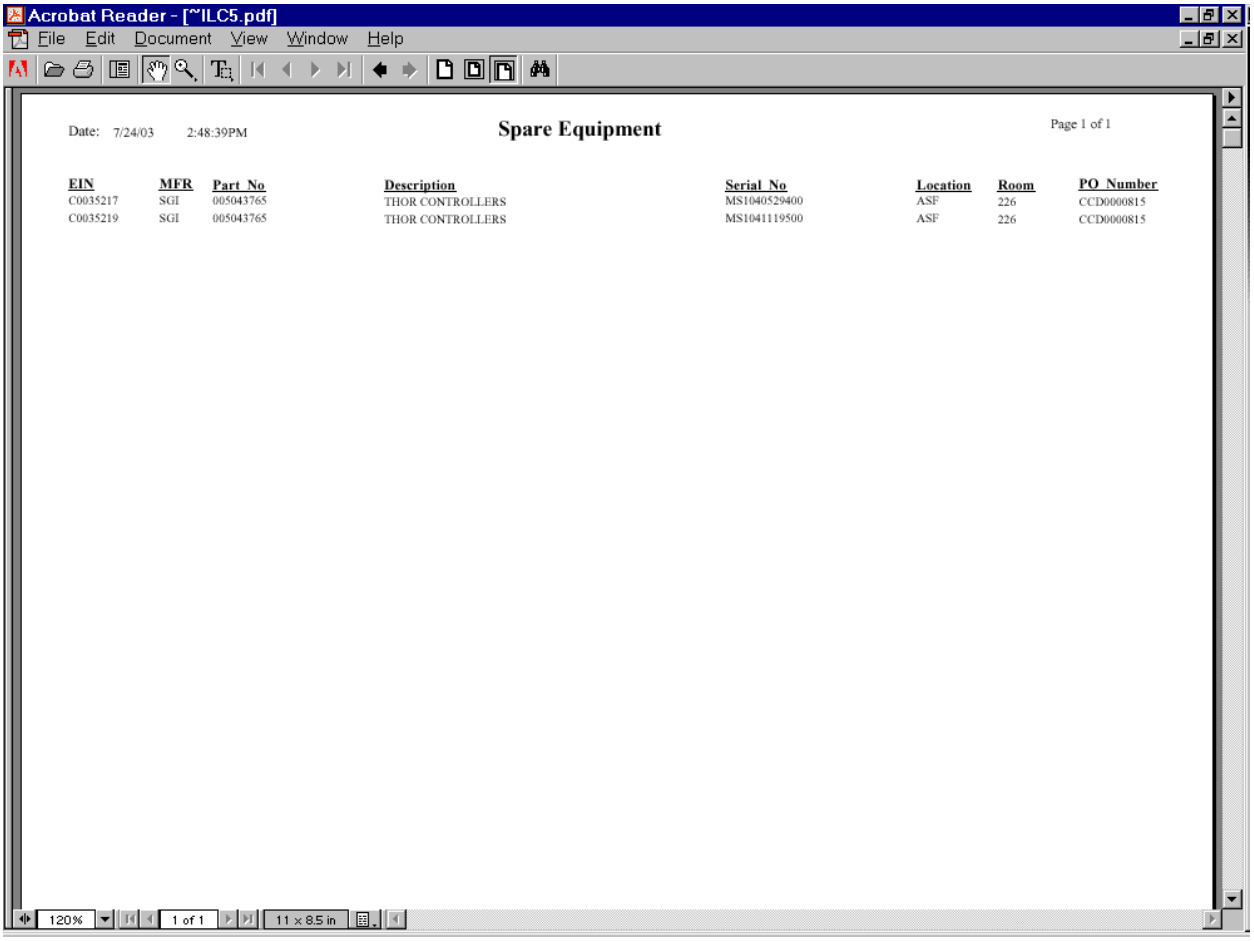


Figure 23.3.1-20. Spare Equipment Report GUI

23.3.2 ILM-EIN Structure GUI

The ILM-EIN Structure form (Figures 23.3.2-1) is designed to allow an Administrator to repair EIN structure records. Other ILM groups may view EIN Structure via the ILM-EIN form discussed in the previous section. To make changes to EIN Structures use the ILM-EIN Transaction form discussed in the next section.

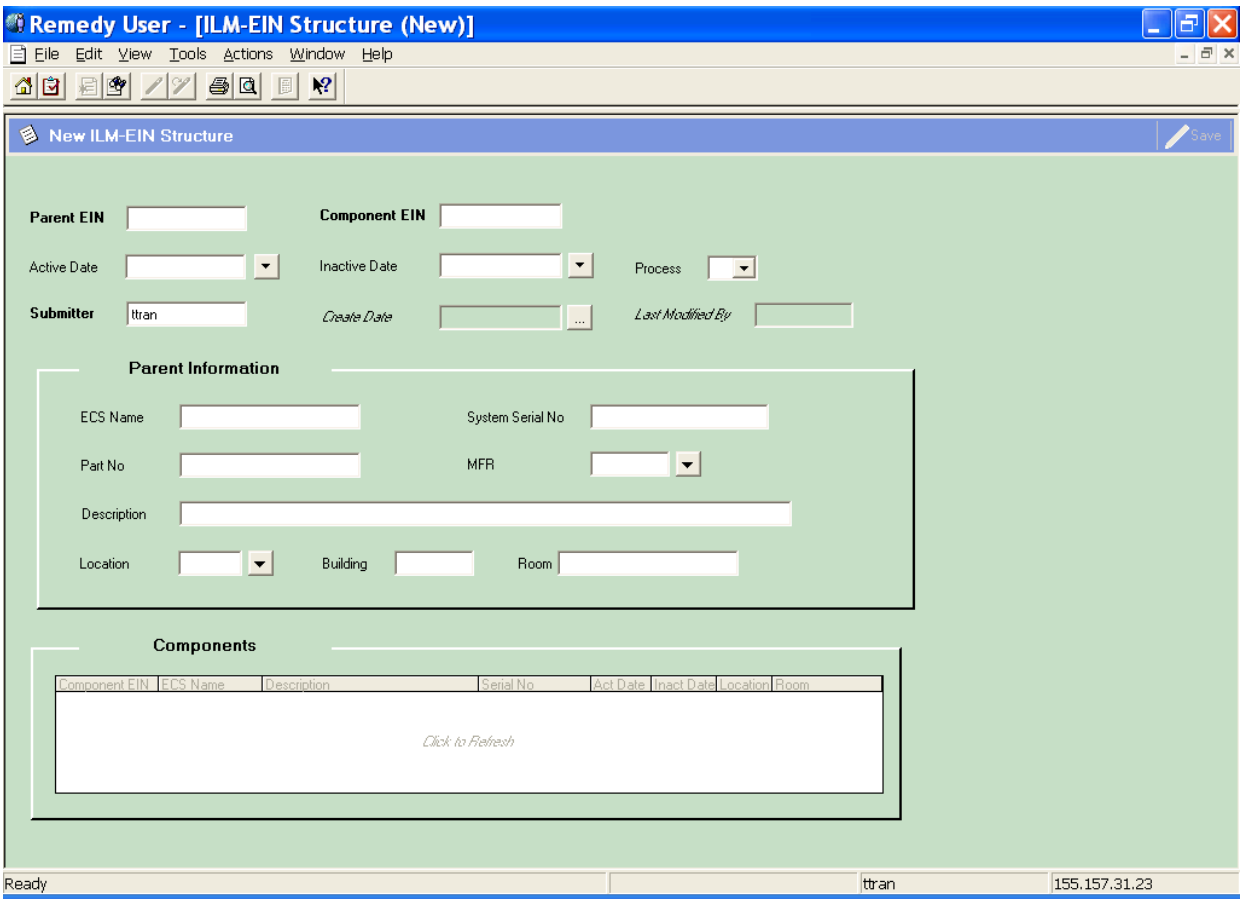


Figure 23.3.2-1. ILM-EIN Structure GUI

Table 23.3.2-1 contains description of the ILM-EIN Structure form fields.

Table 23.3.2-1. ILM-EIN Structure Field Descriptions

Field Name	Data Type	Size	Entry	Description
Parent EIN	Char	20	Required	EIN for the parent item in an EIN structure.
ECS Name	Char	30	System-supplied	Name of the machine with which the item is associated.
System Serial No	Char	30	System-supplied	Serial number of the item.
Part No	Char	34	System-supplied	Manufacturer's part number.
Description	Char	60	System-supplied	Manufacturer's or vendor's description for the item.
MFR	Char	6	System-supplied	Code for the manufacturer of the item.
Location	Char	6	System-supplied	Identifier that designates an inventory location.
Building	Char	6	System-supplied	The building where the item can be found.
Room	Char	15	System-supplied	The room where the item can be found.
Component EIN	Char	20	Required	Identifier for an EIN controlled inventory item.
Active Date	Date		Required	Date the item was added to the parent structure.
Inactive Date	Date		Optional	Date the component is no longer assigned to the Parent EIN.
Process	Char	1	Optional	Identifier for Component EIN to be processed by EIN transactions.
Components	Table field		System-supplied	Field for displaying the components of a parent EIN. This table contains the following fields describing the Component EIN: Component EIN, ECS Name, Description, Serial No, Active Date, Inactive Date, Location, and Room.

23.3.3 ILM-EIN Transaction GUI

The ILM-EIN Transaction form (Figures 23.3.3-1 through 23.3.3-3) lets the operator perform the following EIN transactions for inventory items: Installation, Relocation, Return to Stock, Movement, Shipment, and Archive. The operator may select the type of transaction from the drop down list on the Transaction Type field as displayed below. Depending on the type of transaction the operator selects, Remedy will perform inventory updates accordingly. The Operator can specify components to be processed by pressing the "Select Components to Process" button. Remedy then transfer the operator to the ILM-Process Component form to complete the transaction. Table 23.3.3-1 describes the field definitions for this form. Table 23.3.3-2 presents detail instructions on how to perform these transactions and how each of them affects the property records and their EIN structures.

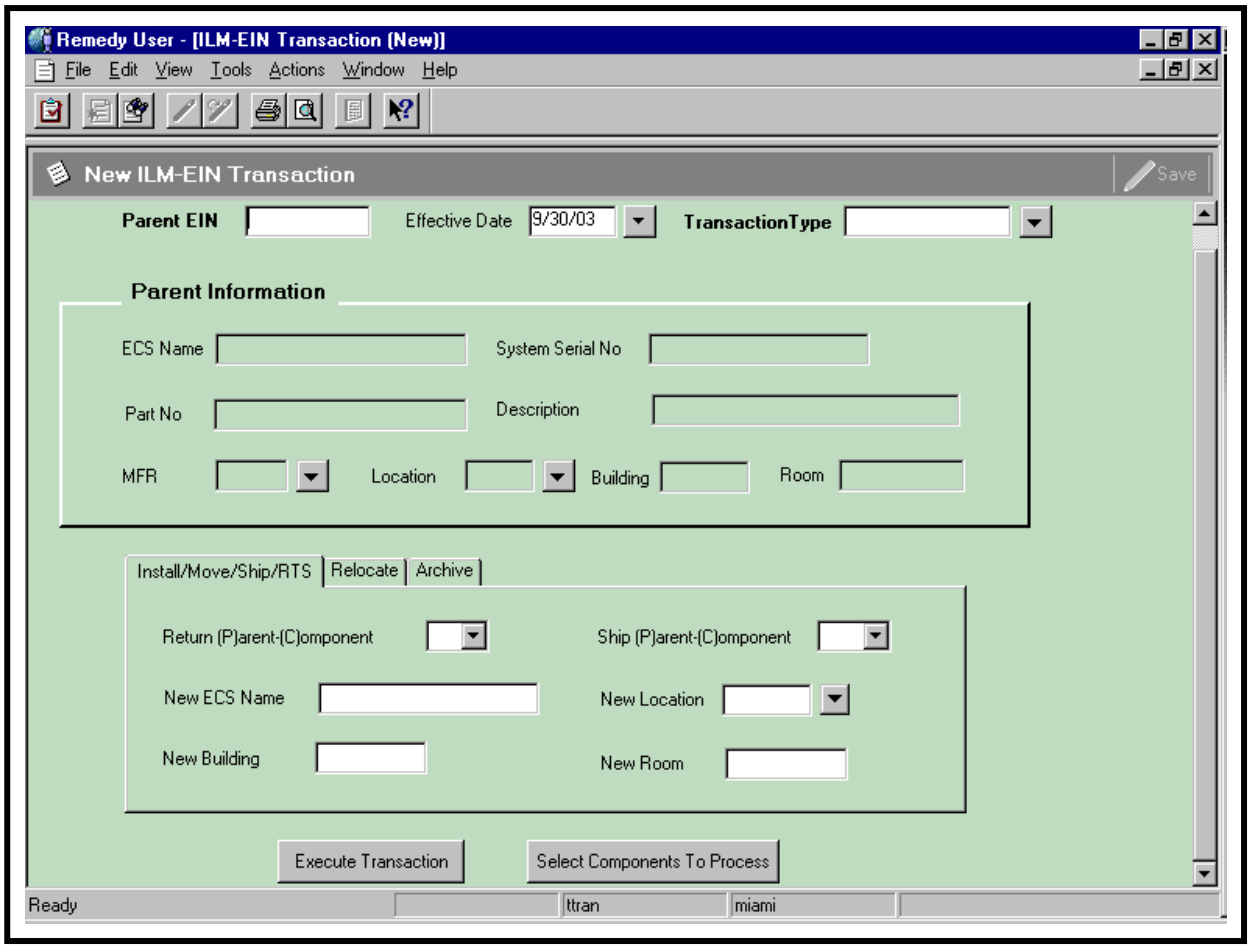


Figure 23.3.3-1. ILM-EIN Transaction GUI (Install/Move/Ship/RTS)

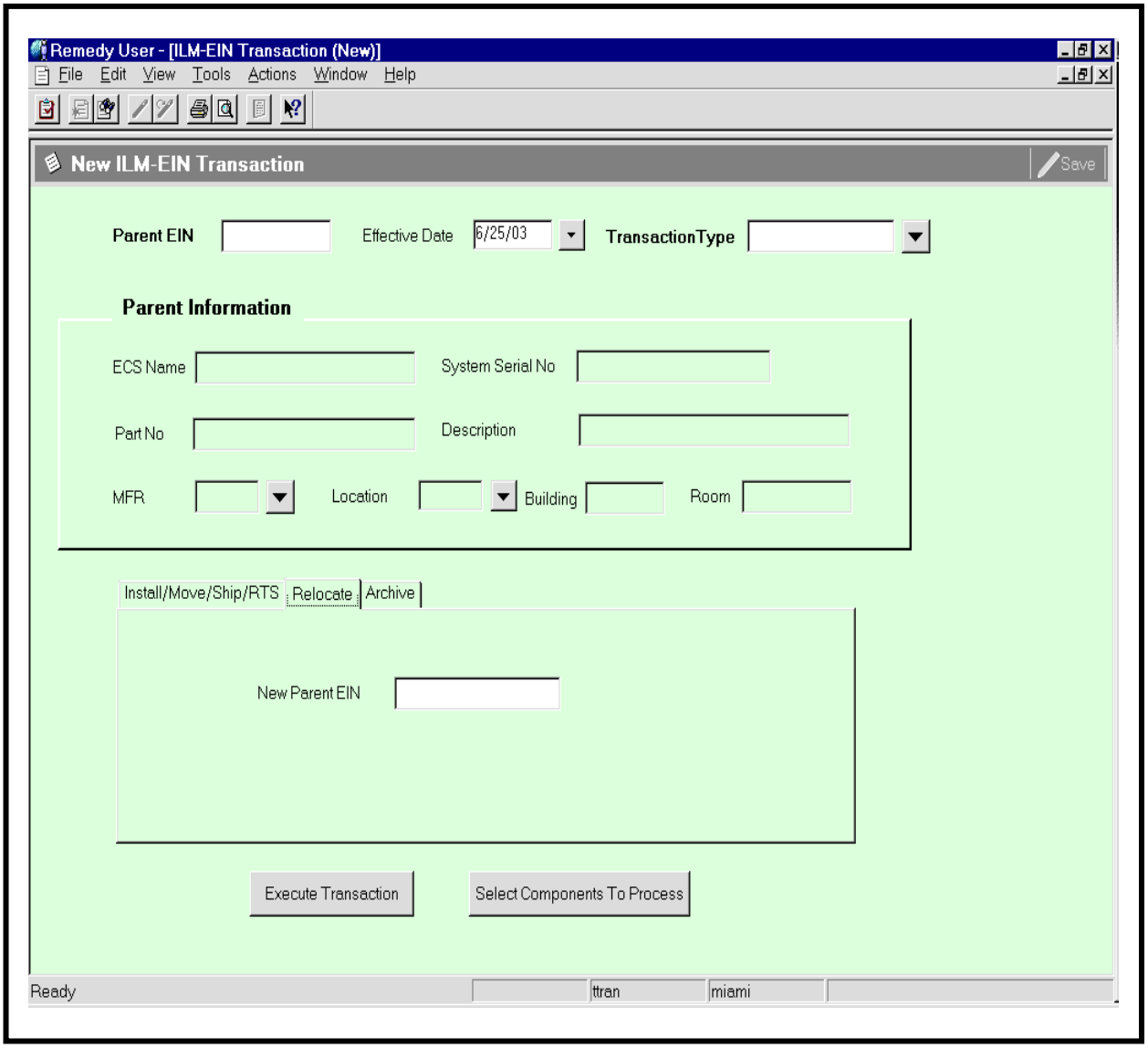


Figure 23.3.3-2. ILM-EIN Transaction GUI (Relocation)

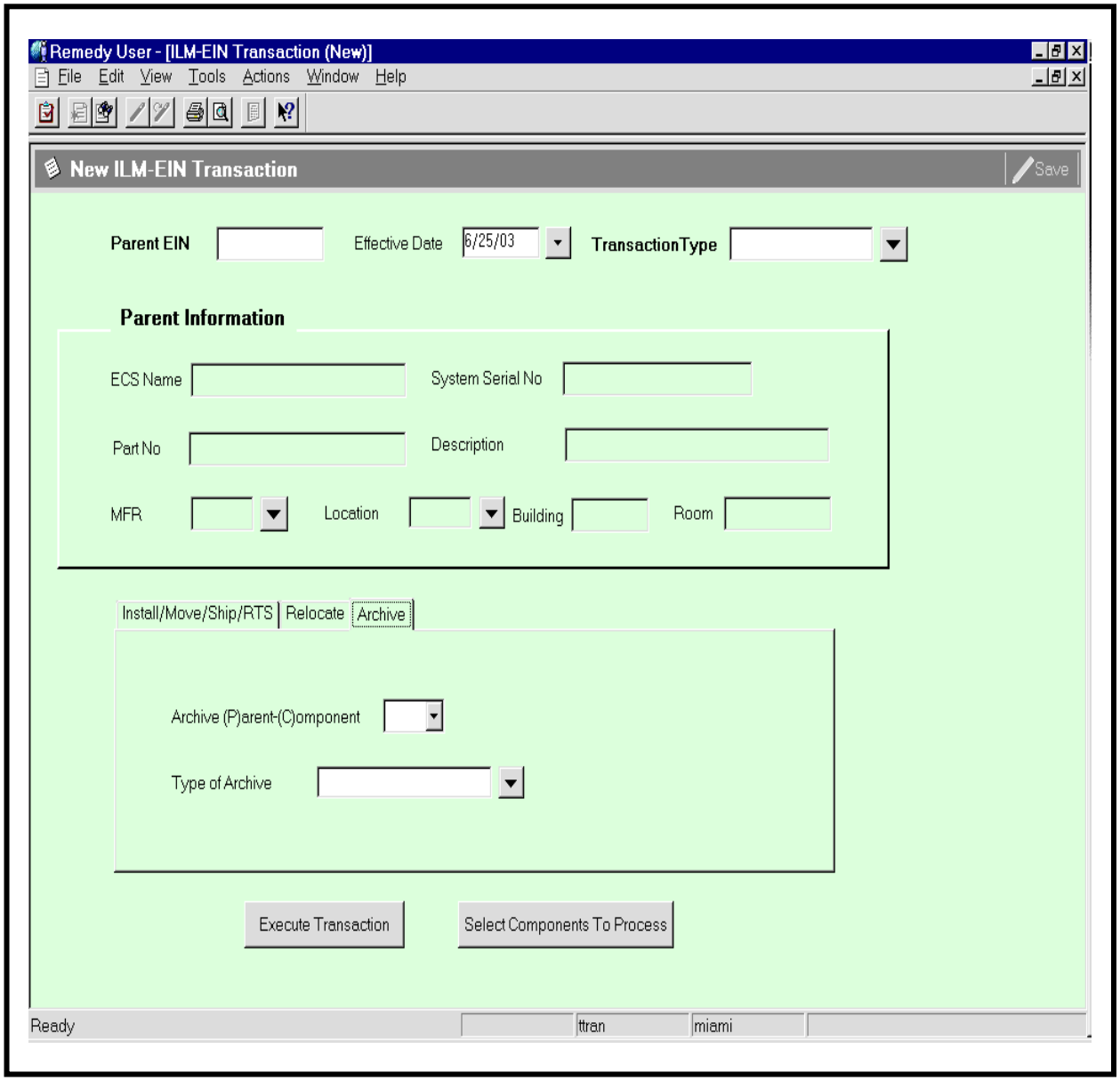


Figure 23.3.3-3. ILM-EIN Transaction GUI (Archive)

Table 23.3.3-1 describes the ILM-EIN transaction form field definitions.

Table 23.3.3-1. ILM-EIN Transaction Form Field Descriptions (1 of 2)

Field Name	Data Type	Size	Entry	Description
Parent EIN	Char	20	Required	EIN for the parent item in an EIN structure.
Transaction Type	Char	15	Required	Type of transaction performs on the Parent EIN such as Installation, relocation, movement, shipment, Return To Stock, and archive.
Effective Date	Date		Optional	The date the transaction is in effect.
ECS Name	Char	30	System-supplied	Name of the machine with which the item is associated.
System Serial No	Char	30	System-supplied	Serial number of the Parent EIN.
Part No	Char	34	System-supplied	Manufacturer's or vendor's part number.
MFR	Char	6	System-supplied	Code for the manufacturer of the item.
Description	Char	60	System-supplied	Manufacturer's or vendor's description for the item.
Location	Char	6	System-supplied	Identifier that designates an inventory location.
Room	Char	15	System-supplied	The room where the item can be found.
New ECS Name	Char	30	Optional	New ECS Name for the Parent EIN.
New Location	Char	6	Optional	New Location where the item will be.
New Building	Char	6	Optional	New Building where the item will be.
New Room	Char	15	Optional	New room where the item will be.
Return (P)arent-(C)omponent	Char	1	Optional, P or C	Identify whether the operator will return Parent and all of the components to stock or return some of the components to stock.
Ship (P)arent-(C)omponent	Char	1	Optional, P or C	Identify whether the operator will ship Parent and all of the components or ship some of the components to a new location.
New Parent EIN	Char	20	Optional	New Parent EIN to which the item(s) will be associated with.
Archive (P)arent-(C)omponent	Char	1	Optional, P or C	Identify whether the operator will archive the Parent as well as all the active components or archive a subset of components.
Type of Archive	Char	6	Optional, X, TV,G, RG	Define the type of archive, i.e.: Return to Vendor – X; Trade in to vendor – TV; Transferred to government – G; Government Relieved Accountability – RG; and Excess sold to vendor = S

Table 23.3.3-1. ILM-EIN Transaction Form Field Descriptions (2 of 2)

Field Name	Data Type	Size	Entry	Description
Install/Move/Ship/ RTS	Page		N/A	This page contains the following fields to perform the EIN Installation, Movement, Shipment, and Return to Stock: Return (P)arent-(C)omponent, Ship (P)arent-(C)omponent, New ECS Name, New Location, New Building, and New Room.
Relocate	Page		N/A	This page contains the New Parent EIN field for user to perform EIN relocation.
Archive	Page		N/A	This page contains the following fields to perform EIN archive: Archive (P)arent-(C)omponent and Type of Archive.

- Pressing the Execute Transaction will process the transaction and updates inventory items according to the type of transaction the operator selected.
- Pressing the "Select Components to Process" button will bring up the ILM-Process Component form. This button will be visible only when the transaction is associated with components.

Table 23.3.3-2. Procedures to Perform EIN Transactions (1 of 8)

Perform	Action	Expected Result
Navigate to the ILM-EIN Transaction	At the Remedy-ILM PC, **File -> Open -> ILM-EIN Transaction-> New**	ILM-EIN Transaction form is displayed.
Installing a Parent and all of it component – Installation is designed for updating property records to reflect installation of inventory items.	Enter **Parent EIN** into the Parent EIN field Enter the **Effective Date** Select **Installation** from the list of Transaction Types Enter **New ECS Name, New Location, New Building, and New room** Press the **Execute Transaction** button on the bottom of the form. The ILM-TRS-Dialog form (Figure 23.3.3-4) displayed, asking the user "Would you like to perform another transaction?" and provides the following options: Same Parent EIN Another Parent EIN Exit EIN Transaction Press "Another Parent EIN" button to perform another transaction.	Remedy performs the following updates for the Parent EIN and all of its active components: ECS Name = New ECS Name Location = New Location Building = New Building Room = New Room Item Status = I (Install) Installation and Audit Date = Effective Date Writes an "INS" record in the transaction log to capture details of the event. This includes date/time of the event, operator initiating it, and ECS Name and Location values changes.
Moving a Parent and all of its components. EIN Movement is designed for updating property records when a Parent EIN and all of its children are being moved from one room within a site to another. **NOTE:** Use Shipment for inter-site movement.	Enter **Parent EIN** into the Parent EIN field Enter the **Effective Date** Select **Movement** from the list of Transaction Types Enter **New ECS Name, New Building, and New room** Press the **Execute Transaction** button on the bottom of the form. The ILM-TRS-Dialog form (Figure 23.3.3-4) displayed, asking the user "Would you like to perform another transaction?" and provides the following options: Same Parent EIN Another Parent EIN Exit EIN Transaction Press "Another Parent EIN" button to perform another transaction.	Remedy performs the following updates for the Parent EIN and all of its active components: ECS Name = New ECS Name Building = New Building Room = New Room Item Status = I (Install) Installation and Audit Date = Effective Date Writes an "MV" record in the transaction log to capture details of the event. This includes date/time of the event, operator initiating it, and ECS Name and Location values changes.

NOTE: To move to the next field, use either the TAB key or the Mouse. The Enter key will not move the cursor to the next field.

Table 23.3.3-2. Procedures to Perform EIN Transactions (2 of 8)

Perform	Action	Expected Result
Shipping a Parent and all of its components	Enter **Parent EIN** into the Parent EIN field Enter the **Effective Date** Select **Shipment** from the list of Transaction Types Select **P** from the Ship (P)arent-(C)omponent field. Enter **New ECS Name, New Location, New Building, and New room** Press the **Execute Transaction** button on the bottom of the form. The ILM-TRS-Dialog form (Figure 23.3.3-4) displayed, asking the user "Would you like to perform another transaction?" and provides the following options: Same Parent EIN Another Parent EIN Exit EIN Transaction Press "Another Parent EIN" button to perform another transaction.	Remedy performs the following updates for the Parent EIN and all of its active components: ECS Name = New ECS Name Location = New Location Building = New Building Room = New Room Item Status = I (Install) Installation and Audit Date = Effective Date Writes an "SHP" record in the transaction log to capture details of the event. This includes date/time of the event, operator initiating it, and ECS Name and Location values changes.

NOTE: To move to the next field, use either the TAB key or the Mouse. The Enter key will not move the cursor to the next field.

Table 23.3.3-2. Procedures to Perform EIN Transactions (3 of 8)

Perform	Action	Expected Result
Shipping Components only	Enter **Parent EIN** into the Parent EIN field Enter the **Effective Date** Select **Shipment** from the list of Transaction Types Select **C** from the Ship (P)arent-(C)omponent field. Enter **New ECS Name, New Location, New Building, and New room** Press the "**Select Components To Process**" button When the ILM-Join Process Component form (Figure 23.3.3-5) is displayed, find the component to be processed listed in the result list. Select **Y** from the Process field. Press the **Save** icon. When finished specifying components to process, close the ILM-Join Process Component form. Press the **Execute Transaction** button on the bottom of the ILM-EIN Transaction form. The ILM-TRS-Dialog form (Figure 23.3.3-4) displayed, asking the user "Would you like to perform another transaction?" and provides the following options: Same Parent EIN Another Parent EIN Exit EIN Transaction Press "Another Parent EIN" button to perform another transaction.	Remedy performs the following updates for the selected components: Parent EIN = Blank ECS Name = New ECS Name Location = New Location Building = New Building Room = New Room Item Status = R (Receive) Installation date = Blank Audit Date = Effective Date Writes an "SHP" record in the transaction log to capture details of the event. This includes date/time of the event, operator initiating it, and ECS Name, Parent EIN, and Location values changes. Inactivate the selected components from the EIN Structure using the Effective Date as the Inactive date.

NOTE: To move to the next field, use either the TAB key or the Mouse. The Enter key will not move the cursor to the next field.

Table 23.3.3-2. Procedures to Perform EIN Transactions (4 of 8)

Perform	Action	Expected Result
Moving Parent and Components to stock	Enter **Parent EIN** into the Parent EIN field Enter the **Effective Date** Select **Return To Stock** from the list of Transaction Types Select **P** from the Return (P)arent-(C)omponent field. Enter **New ECS Name, New Location, New Building, and New room** Press the **Execute Transaction** button on the bottom of the form. The ILM-TRS-Dialog form (Figure 23.3.3-4) displayed, asking the user "Would you like to perform another transaction?" and provides the following options: Same Parent EIN Another Parent EIN Exit EIN Transaction Press "Another Parent EIN" button to perform another transaction.	Remedy performs the following updates for the Parent EIN and all of its active components: ECS Name = IN STOCK Location = New Location Building = New Building Room = New Room Item Status = R (Receive) Installation Date = BLANK Audit Date = Effective Date Writes an "RTS" record in the transaction log to capture details of the event. This includes date/time of the event, operator initiating it, ECS Name, and Location values changes.

NOTE: To move to the next field, use either the TAB key or the Mouse. The Enter key will not move the cursor to the next field.

Table 23.3.3-2. Procedures to Perform EIN Transactions (5 of 8)

Perform	Action	Expected Result
Moving components to stock	Enter **Parent EIN** into the Parent EIN field Enter the **Effective Date** Select **Return To Stock** from the list of Transaction Types Select **C** from the Return (P)arent-(C)omponent field. Enter **New Location, New Building, and New room** Press the "**Select Components To Process**" button When the ILM-Join Process Component form (Figure 23.3.3-5) is displayed, find the component to be processed listed in the result list. Select **Y** from the Process field. Press the **Save** icon. When finished specifying components to process, close the ILM-Join Process Component form. Press the **Execute Transaction** button on the bottom of the ILM-EIN Transaction form. The ILM-TRS-Dialog form (Figure 23.3.3-4) displayed, asking the user "Would you like to perform another transaction?" and provides the following options: Same Parent EIN Another Parent EIN Exit EIN Transaction Press "Another Parent EIN" button to perform another transaction.	Remedy performs the following updates for the selected components: Parent EIN = Blank ECS Name = IN STOCK Location = New Location Building = New Building Room = New Room Item Status = R (Receive) Installation Date = BLANK Audit Date = Effective Date Writes an "RTS" record in the transaction log to capture details of the event. This includes date/time of the event, operator initiating it, and ECS Name, Parent EIN, and Location values changes. Inactivate the selected components from the EIN Structure using the Effective Date as the Inactive date.

NOTE: To move to the next field, use either the TAB key or the Mouse. The Enter key will not move the cursor to the next field.

Table 23.3.3-2. Procedures to Perform EIN Transactions (6 of 8)

Perform	Action	Expected Result
Relocating components to a new EIN Structure	Enter **Current Parent EIN** into the Parent EIN field Enter the **Effective Date** Select **Relocation** from the list of Transaction Types Enter the **new Parent EIN** into the New Parent EIN field. Press the "**Select Components To Process**" button When the ILM-Join Process Component form (Figure 23.3.3-5) is displayed, find the component to be processed listed in the result list. Select **Y** from the Process field. Press the **Save** icon. When finished specifying components to process, close the ILM-Join Process Component form. Press the **Execute Transaction** button on the bottom of the ILM-EIN Transaction form. The ILM-TRS-Dialog form (Figure 23.3.3-4) displayed, asking the user "Would you like to perform another transaction?" and provides the following options: Same Parent EIN Another Parent EIN Exit EIN Transaction Press "Another Parent EIN" button to perform another transaction.	Remedy performs the following updates for the selected components: Parent EIN = New Parent EIN ECS Name = New Parent's ECS Name Location = New Parent's Location Building = New Parent's Building Room = New Parent's Room Item Status = I (Install) Installation and Audit Date = Effective Date Writes an "REL" record in the transaction log to capture details of the event. This includes date/time of the event, operator initiating it, and ECS Name, Parent EIN and Location values changes. Inactivate the selected components from the Old EIN Structure using the Effective Date as the Inactive date. Add the selected components to the New EIN Structure using the Effective Date as the active date.

NOTE: To move to the next field, use either the TAB key or the Mouse. The Enter key will not move the cursor to the next field.

Table 23.3.3-2. Procedures to Perform EIN Transactions (7 of 8)

Perform	Action	Expected Result
Archiving a Parent and all of its components	Enter **Parent EIN** into the Parent EIN field Enter the **Effective Date** Select **Archive** from the list of Transaction Types Select **P** from the Archive (P)arent-(C)omponent field. Select the type of archive from the list of archive types: Return to Vendor (X) Trade in to Vendor (TV) Excess sold to vendor (S) Transferred to Government (G) Government Relieved from accountability (RG) Press the **Execute Transaction** button on the bottom of the form. The ILM-TRS-Dialog form (Figure 23.3.3-4) displayed, asking the user "Would you like to perform another transaction?" and provides the following options: Same Parent EIN Another Parent EIN Exit EIN Transaction Press "Another Parent EIN" button to perform another transaction.	Remedy performs the following updates for the Parent EIN and all of its active components: ECS Name = ARCHIVE Location = EDFARC Building = BLANK Room = BLANK Item Status = Depends on type of archive selected. Installation Date = BLANK Audit Date = Effective Date Writes an "ARC" record in the transaction log to capture details of the event. This includes date/time of the event, operator initiating it, and ECS Name and Location values changes.

NOTE: To move to the next field, use either the TAB key or the Mouse. The Enter key will not move the cursor to the next field.

Table 23.3.3-2. Procedures to Perform EIN Transactions (8 of 8)

Perform	Action	Expected Result
Archiving components only	Enter **Parent EIN** into the Parent EIN field Enter the **Effective Date** Select **Archive** from the list of Transaction Types Select **C** from the Archive (P)arent-(C)omponent field. Select the type of archive from the list of archive types: Return to Vendor (X) Trade in to Vendor (TV) Excess sold to vendor (S) Transferred to Government (G) Government Relieved from accountability (RG) Press the "**Select Components To Process**" button When the ILM-Join Process Component form (Figure 23.3.3-5) is displayed, find the component to be processed listed in the result list. Select **Y** from the Process field. Press the **Save** icon. When finished specifying components to process, close the ILM-Join Process Component form. Press the **Execute Transaction** button on the bottom of the ILM-EIN Transaction form. The ILM-TRS-Dialog form (Figure 23.3.3-4) displayed, asking the user "Would you like to perform another transaction?" and provides the following options: Same Parent EIN Another Parent EIN Exit EIN Transaction Press "Another Parent EIN" button to perform another transaction.	Remedy performs the following updates for the selected components: Parent EIN= Blank ECS Name = ARCHIVE Location = EDFARC Building = BLANK Room = BLANK Item Status = Depends on type of archive selected. Installation Date = BLANK Audit Date = Effective Date Writes an "ARC" record in the transaction log to capture details of the event. This includes date/time of the event, operator initiating it, and ECS Name, Parent EIN and Location values changes. Inactivate the selected components from the EIN Structure using the Effective Date as the Inactive date.

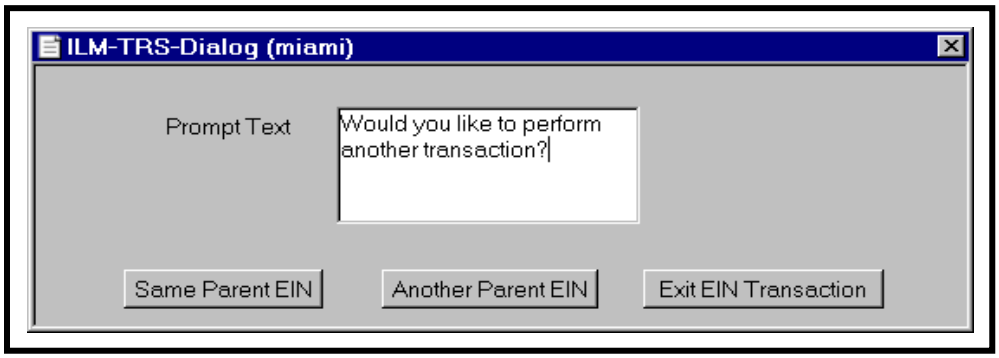


Figure 23.3.3-4. ILM-TRS Dialog GUI

23.3.3.1 ILM-Process Component GUI

The ILM-Process Component form (Figure 23.3.3-5) displays all the active components for the Parent EIN entered on the ILM-EIN Transaction form. The User may specify components to be processed by entering a "Y" in the Process field. This form can be accessed through the "Select Components To Process" button on the bottom of the ILM-EIN Transaction form. This button is only visible when the transaction is being performed on components. For example, when the user selects to return components (Return (P)arent-(C)omponent) to stock, or relocate components to a new EIN Structure, or archive components.

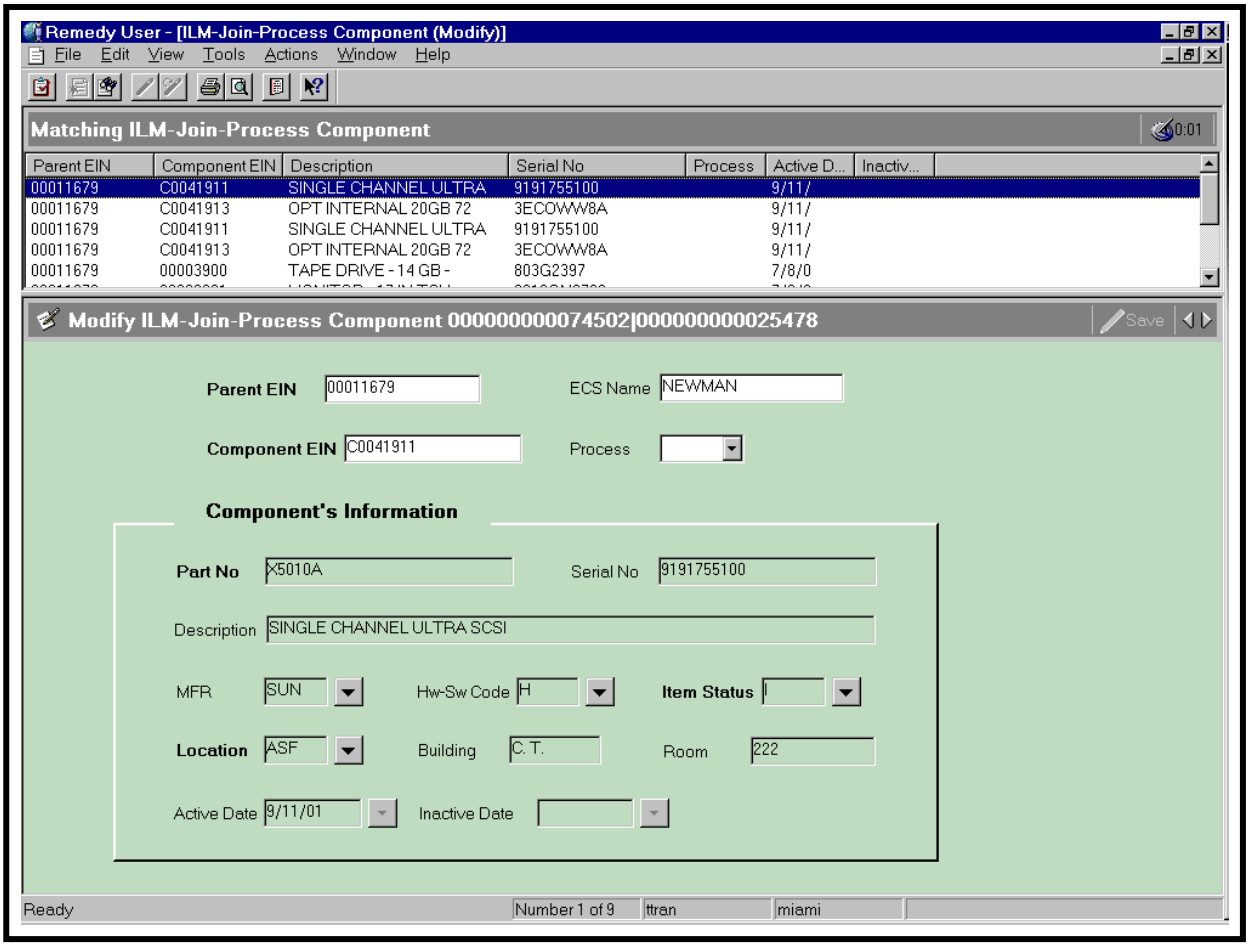


Figure 23.3.3-5. ILM-Process Component GUI

Table 23.3.3-3 describes the field definitions for the ILM-Process Component Form.

Table 23.3.3-3. ILM-Component to Process Field Descriptions

Field Name	Data Type	Size	Entry	Description
Parent EIN	Char	20	System-supplied	EIN for the parent item in an EIN structure.
ECS Name	Char	30	System-supplied	Name of the machine with which the item is associated.
Component EIN	Char	20	System-supplied	EIN for the Component item in an EIN structure.
Process	Char	1	Optional	Indicates whether or not a component is to be processed. Y = Yes, N = No.
Part No	Char	34	System-supplied	Manufacturer's or vendor's part number.
MFR	Char	6	System-supplied	Code for the manufacturer of the item.
Description	Char	60	System-supplied	Manufacturer's or vendor's description for the item.
Serial No	Char	30	System-supplied	Serial number of the item.
Item Status	Char	1	System-supplied	Code that designates the status of the item.
Location	Char	6	System-supplied	Identifier that designates an inventory location.
Room	Char	15	System-supplied	The room where the item can be found.
Active Date	Date		System-supplied	Date the item was added to the parent structure.
Inactive Date	Date		System-supplied	Date the component is no longer assigned to the EIN Structure.

23.3.4 ILM-Transaction Log

ILM-Transaction Log form (Figure 23.3.4-1) is designed for viewing/browsing all the EIN transactions performed on property records. Remedy logs the type of transaction, date/time, operator initiating the transaction, ECS name, Parent EIN, and location changes. In addition, this form also shows property record changes due to maintenance actions performed on inventory items (refer to Section 23.4).

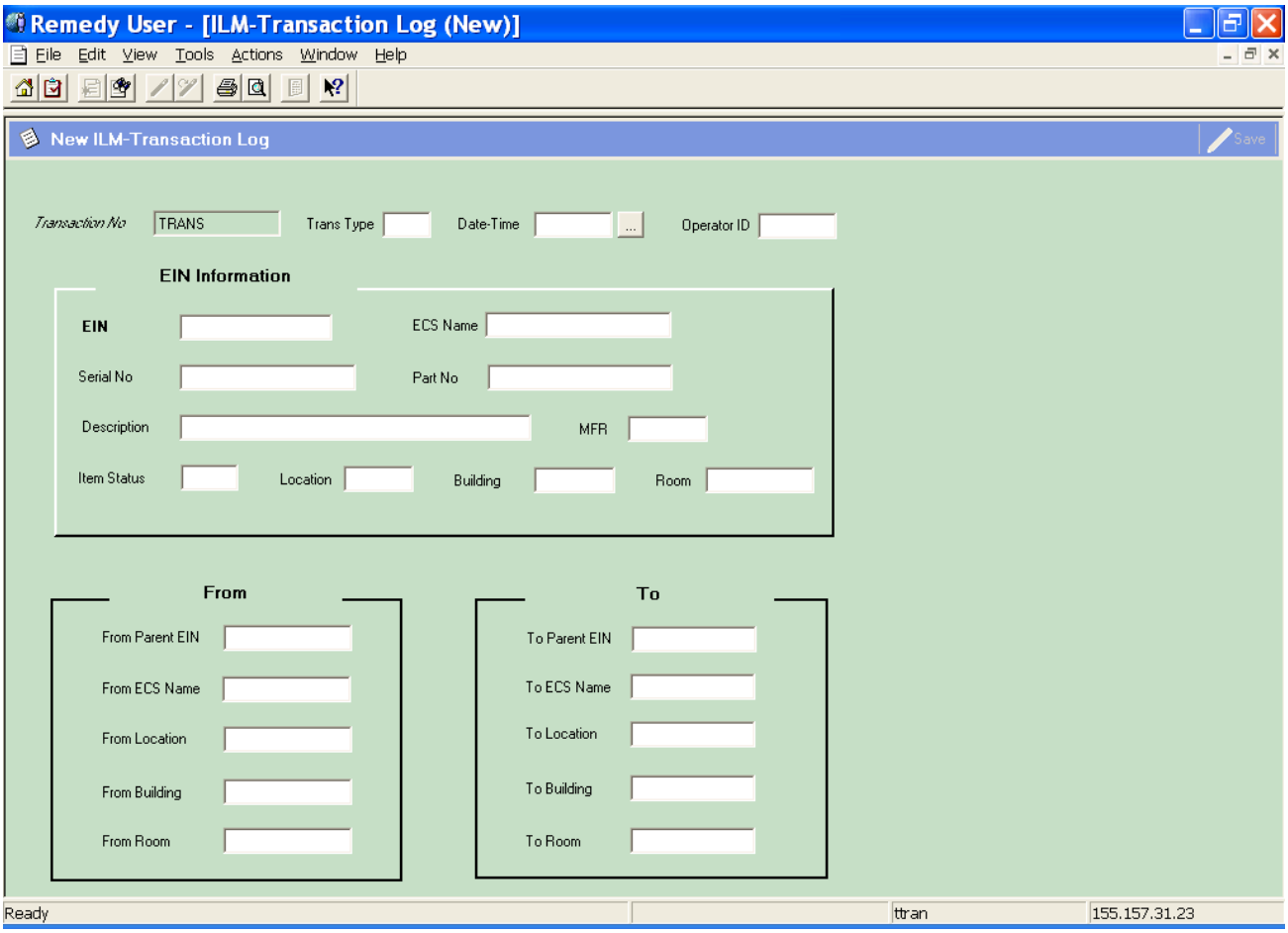


Figure 23.3.4-1. ILM-Transaction Log GUI

Table 23.3.4-1 describes the fields on the ILM-Transaction form. Table 23.3.4-2 describes the procedures to generate the EIN shipment report.

Table 23.3.4-1. ILM-Transactions Field Descriptions (1 of 2)

Field Name	Data Type	Size	Entry	Description
Transaction No	Numeric	10	System-supplied	A system generated number that uniquely identifies the transaction.
Trans Type	Char	5	System-supplied	The type of transaction operators perform on an inventory item, including: INS - Install, MVE – Move, REL - Relocate, ARC – Archive, SHP – Ship, RTS – Return to Stock, MFS – Failed and Returned to Stock, MFV – Failed and returned to the vendor, MNS – New and came from stock, MNV – New and came from vendor, MRR – Relocate to a new Parent via the MWO, and MRS – Relocate to stock via the MWO.
Date-Time	Date		System-supplied	Date and time the transaction occurred.
Operator ID	Char	10	System-supplied	The operator id of the person who performed the transaction.
EIN	Char	20	System-supplied	The EIN number that the transaction performed on.
ECS Name	Char	30	System-supplied	Name of the machine with which the item is associated.
Serial No	Char	30	System-supplied	Serial number of the item.
Part No	Char	30	System-supplied	Manufacturer's or vendor's part number.
Description	Char	60	System-supplied	Manufacturer's or vendor's description of the item.
MFR	Char	6	System-supplied	Code for the manufacturer of the item.
Item Status	Char	2	System-supplied	Code that designates the status of the item. The following values are set when processing transactions: R = Received; SP = Spare Equipment; I = Installed; X = Returned to vendor; G = Transfer to Gov; TV = Trade in to Vendor; S = Excess sold to vendor; RG = Relieved from accountability
Location	Char	6	System-supplied	Identifier designates an inventory location.
Building	Char	6	System-supplied	Identifier for the building where the item can be found.
Room	Char	15	System-supplied	Identifier for the room where the item can be found.

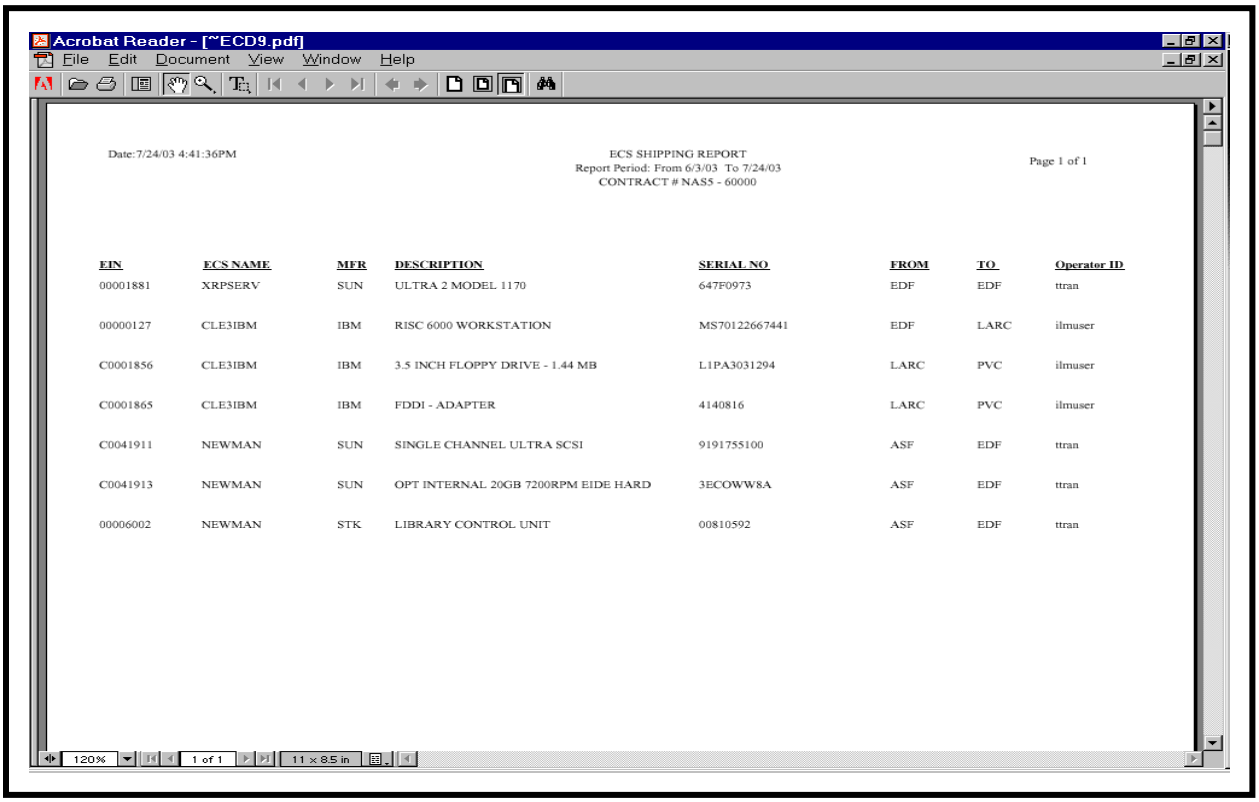
Table 23.3.4-1. ILM-Transactions Field Descriptions (2 of 2)

Field Name	Data Type	Size	Entry	Description
From Parent EIN	Char	20	System-supplied	The parent EIN where the EIN originated.
To Parent EIN	Char	20	System-supplied	The new parent EIN where the EIN is locating.
To ECS Name	Char	30	System-supplied	Name of the machine with which the item is associated.
From Location	Char	6	System-supplied	The original location of the EIN.
To Location	Char	6	System-supplied	The new location of the EIN.
From Building	Char	6	System-supplied	The original building where the EIN was located.
To Building	Char	6	System-supplied	The new building where the EIN is located.
From Room	Char	15	System-supplied	The original room where the EIN was located.
To Room	Char	15	System-supplied	The new room where the EIN is located.

Table 23.3.4-2. Procedures to Generate EIN Shipment Report

Perform	Action	Expected Result
Navigate to the ILM-Transaction Log Form	At the Remedy-ILM PC, **File -> Open -> ILM-Transaction Log -> Search**	ILM-Transaction Log form is displayed.
Run ECS Shipping Report	Enter **SHP** into the Trans Type field. Use the Advance Search Bar to specify the Date-time period to report and click the search button. When the records are displayed, make sure to un-select the highlighted record by pressing the **Ctrl** and single-click the highlighted item simultaneously. **Tools - > Reporting - > ECS Shipping Report - > Report - > Preview** When the report is displayed, user has the option to either print the report by pressing the print icon or export the report into a file by pressing the Export Icon next to the print icon. Close the report preview.	The ECS Shipping Report is displayed. See Figure 23.3.4-2 for the report layout.

NOTE: To move to the next field, use either the TAB key or the Mouse. The Enter key will not move the cursor to the next field.



Acrobat Reader - [~ECD9.pdf]

File Edit Document View Window Help

Date:7/24/03 4:41:36PM

ECS SHIPPING REPORT
Report Period: From 6/3/03 To 7/24/03
CONTRACT # NAS5 - 60000

Page 1 of 1

EIN	ECS NAME	MFR	DESCRIPTION	SERIAL NO	FROM	TO	Operator ID
00001881	XRPSERV	SUN	ULTRA 2 MODEL 1170	647F0973	EDF	EDF	ttran
00000127	CLE3IBM	IBM	RISC 6000 WORKSTATION	MS70122667441	EDF	LARC	ilmuser
C0001856	CLE3IBM	IBM	3.5 INCH FLOPPY DRIVE - 1.44 MB	L1PA3031294	LARC	PVC	ilmuser
C0001865	CLE3IBM	IBM	FDDI - ADAPTER	4140816	LARC	PVC	ilmuser
C0041911	NEWMAN	SUN	SINGLE CHANNEL ULTRA SCSI	9191755100	ASF	EDF	ttran
C0041913	NEWMAN	SUN	OPT INTERNAL 20GB 7200RPM EIDE HARD	3ECOWW8A	ASF	EDF	ttran
00006002	NEWMAN	STK	LIBRARY CONTROL UNIT	00810592	ASF	EDF	ttran

120% 1 of 1 11 x 8.5 in

Figure 23.3.4-2. ECS Shipping Report GUI

23.3.5 ILM-OEM Parts

Property Administrator uses the ILM-OEM Parts form (Figure 23.3.5-1) to maintain standardized information about manufacturer's parts. Part information must be recorded before they can be added to an inventory item.

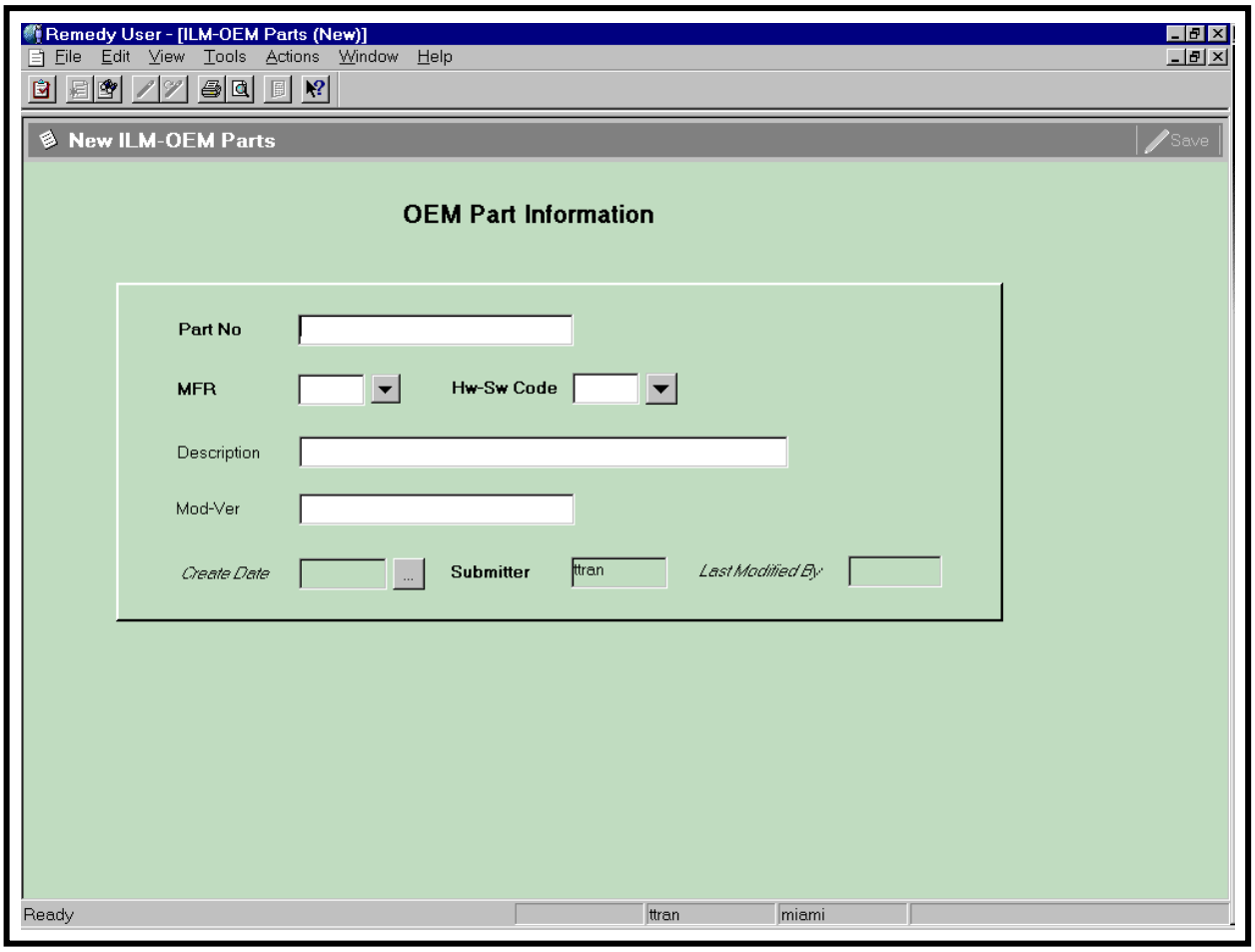


Figure 23.3.5-1. ILM-OEM Parts GUI

Table 23.3.5-1 describes the fields on the ILM-OEM Parts form.

Table 23.3.5-1. ILM-OEM Parts Field Descriptions

Field Name	Data Type	Size	Entry	Description
Part No	Char	34	Required	Manufacturer's or vendor's part number for an item.
MFR	Char	6	Required	Code for the manufacturer of the item. The MFR code must exist in the ILM-Vendor-MFR form.
Hw-Sw Code	Char	2	Required	Code for classifying items according to source of maintenance costs. The Hw-Sw Code must exist in the ILM-HwSw Code Form.
Description	Char	60	Optional	Manufacturer's or vendor's description of the item.
Mod-Ver	Char	24	Optional	Model or version of the item.
Submitter	Char	30	System-supplied	The user whom created the record.
Create Date	Date		System-supplied	Date the record was created.
Last Modified By	Char	30	System-supplied	The user last modified the record.

23.3.6 ILM-Vendor-MFR GUI

The ILM-Vendor-MFR form (Figure 23.3.6-1) allows operators to define valid vendor codes for used with EIN records and OEM parts records. The operator enters or modifies the fields for this screen as required (see Table 23.3.6-1).

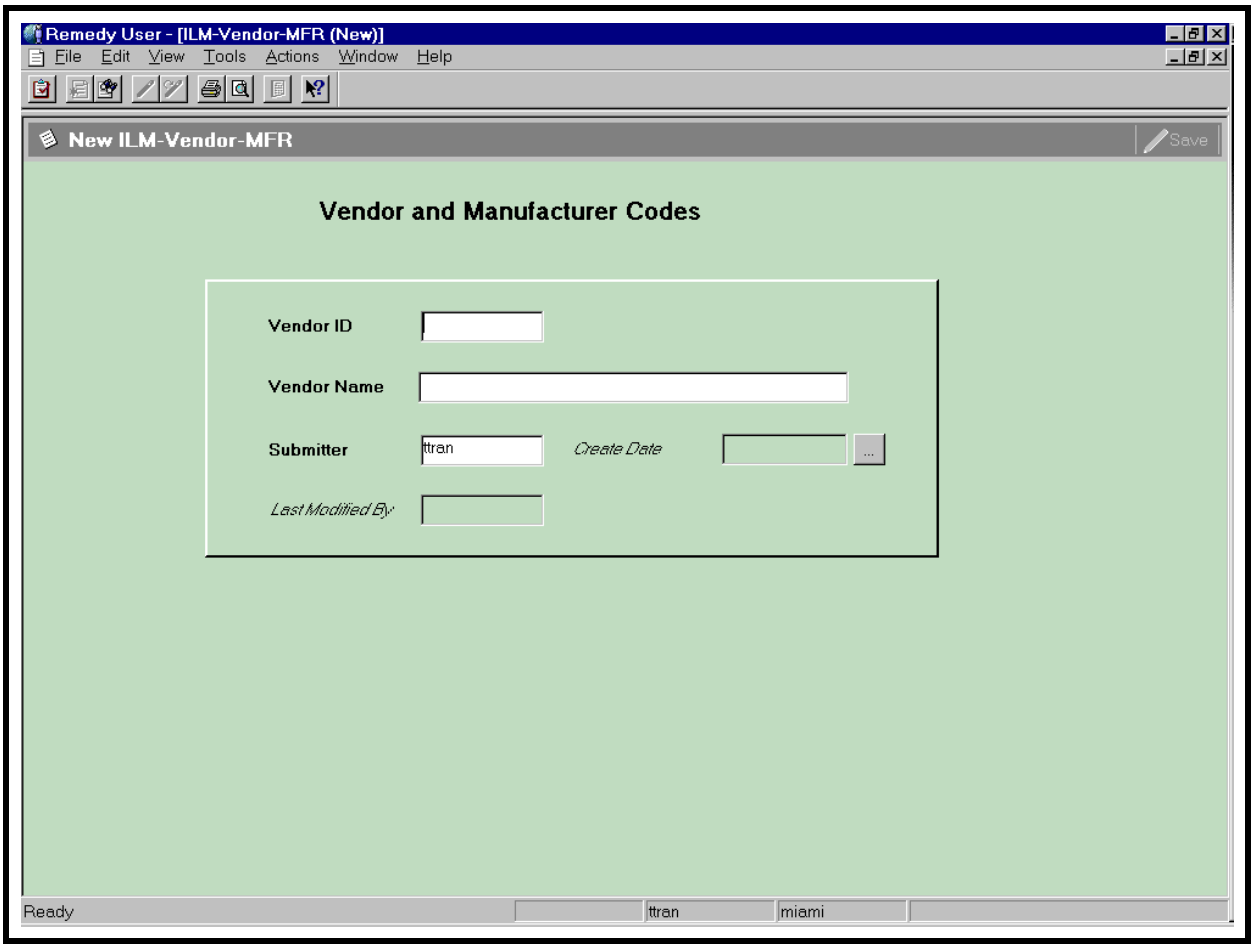


Figure 23.3.6-1. ILM-Vendor-MFR GUI

Table 23.3.6-1 describes the fields on the ILM-Vendor-MFR form.

Table 23.3.6-1. ILM-Vendor-MFR Field Descriptions

Field Name	Data Type	Size	Entry	Description
Vendor ID	Char	6	Required	Code for a vendor from whom items are purchased.
Vendor Name	Char	30	Required	Full name of a vendor from who items are purchased.
Submitter	Char	30	System-supplied	The user whom created the record.
Create Date	Date		System-supplied	Date the record was created.
Last Modified By	Char	30	System-supplied	The user last modified the record.

23.3.7 ILM-HwSw Codes GUI

Operators use this form (Figure 23.3.7-1) to maintain a standard set of codes for distinguishing items according to source of maintenance costs. These codes are associated with EIN items and are essential for grouping inventory items for reporting and browsing.

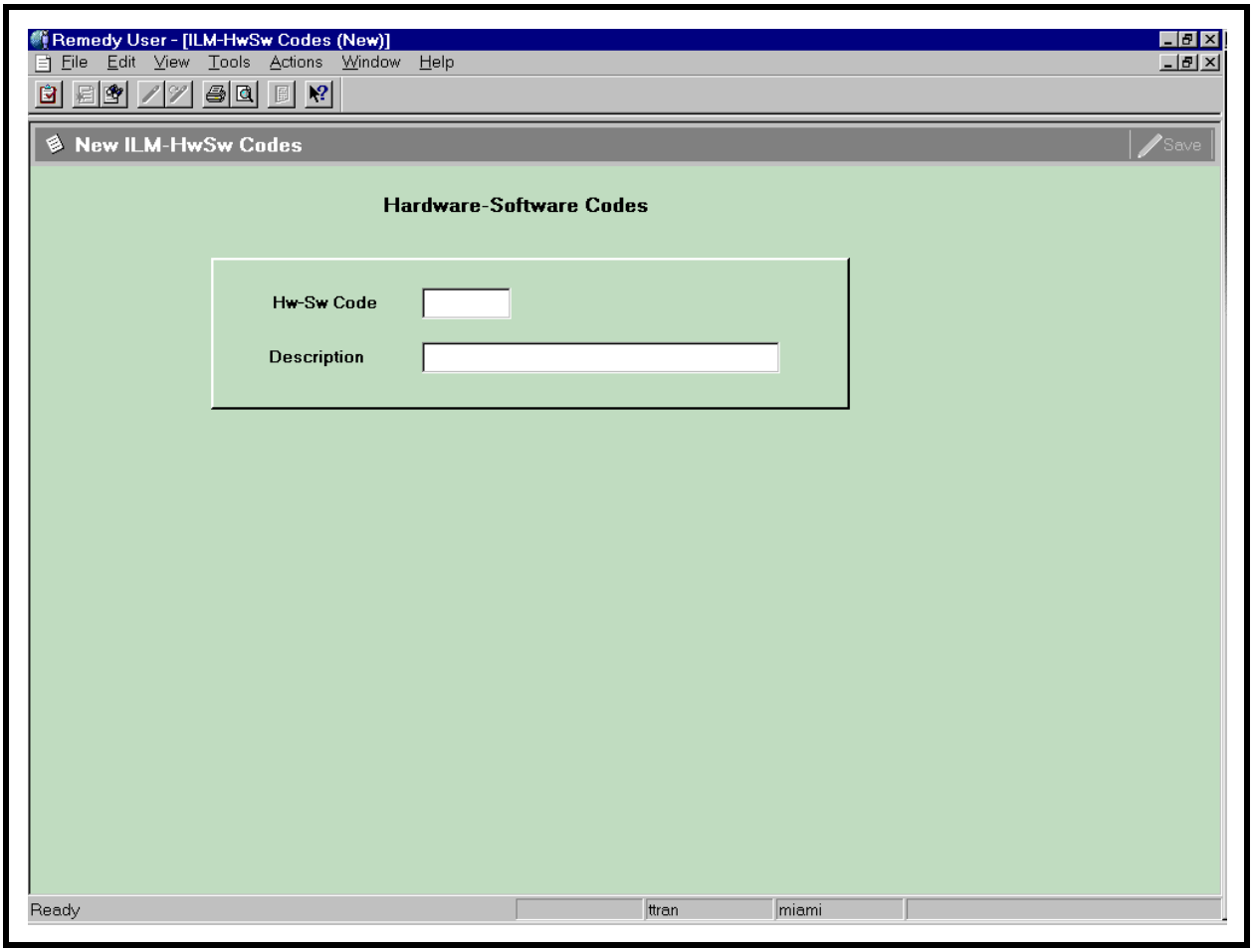


Figure 23.3.7-1. ILM-HwSw Codes GUI

Table 23.3.7-1 describes the fields on the ILM-HwSw Codes form.

Table 23.3.7-1. ILM-HwSw Codes Field Descriptions

Field Name	Data Type	Size	Entry	Description
Hw/Sw Code	Char	2	Required	Code for classifying items according to source of maintenance costs.
Description	Char	30	Required	Description for the Hardware/Software code.

23.3.8 ILM-Status Codes GUI

The ILM-Status Codes form (Figure 23.3.8-1) maintains a set of standardized codes for identifying valid inventory item states in the inventory and logistics life cycle.

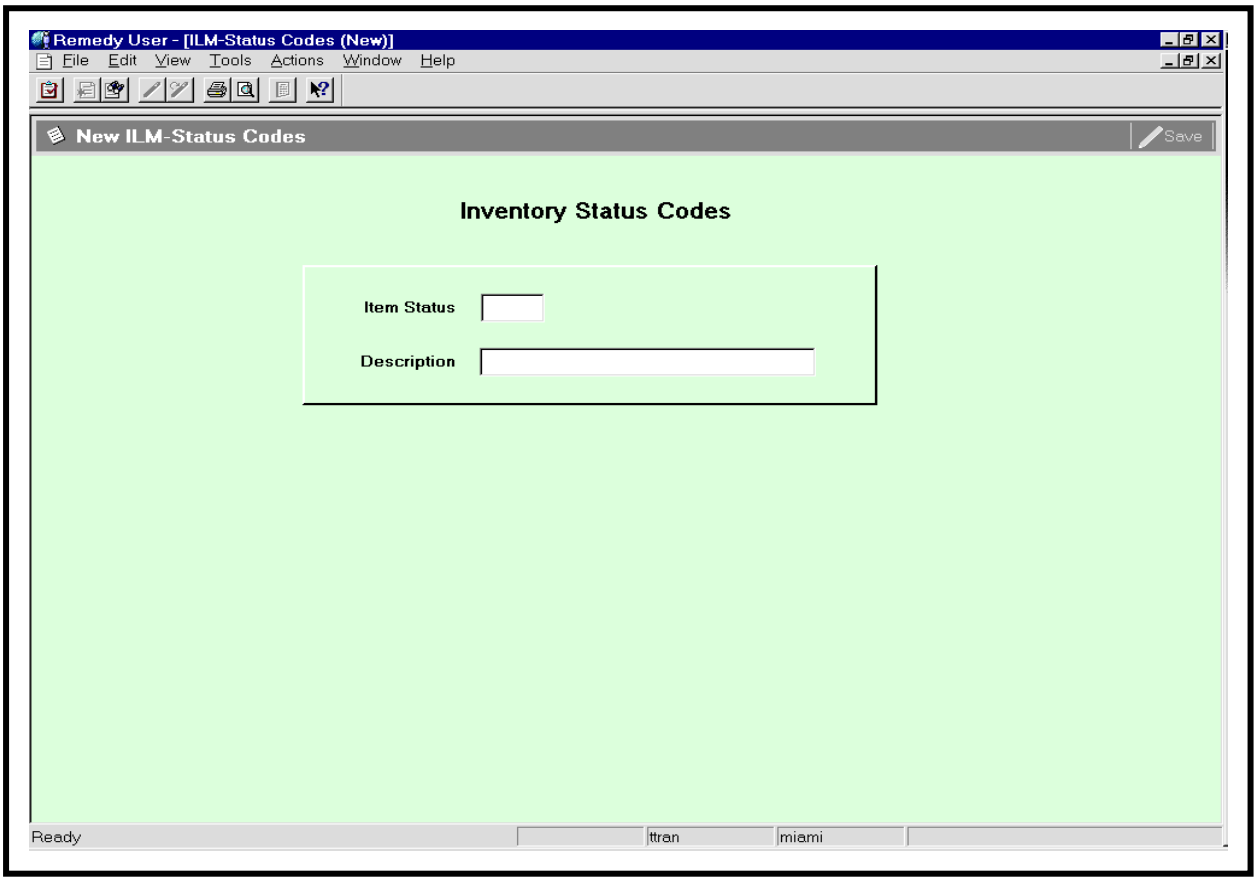


Figure 23.3.8-1. ILM-Status Codes GUI

Table 23.3.8-1 describes the fields on the ILM-Status Codes form.

Table 23.3.8-1. ILM-Status Codes Field Descriptions

Field Name	Data Type	Size	Entry	Description
Item Status	Char	6	Required	Code for an inventory status for an item.
Description	Char	30	Required	Description for the code.

23.3.9 ILM-Maint Contract GUI

The ILM-Maint Contract form (Figures 23.3.9-1 to 23.3.9-3) provides the ability to track information about maintenance contracts with vendors and suppliers. The contract ID is the key field and should be the actual number that purchasing or the vendor assigns. The data entered here supports data entry for the ILM-EIN form (Section 23.3.1). User may run a Maintenance Contract report that lists all EIN records that the individual maintenance contract covers. Table 23.3.9-2 provides instruction on how to run this report.

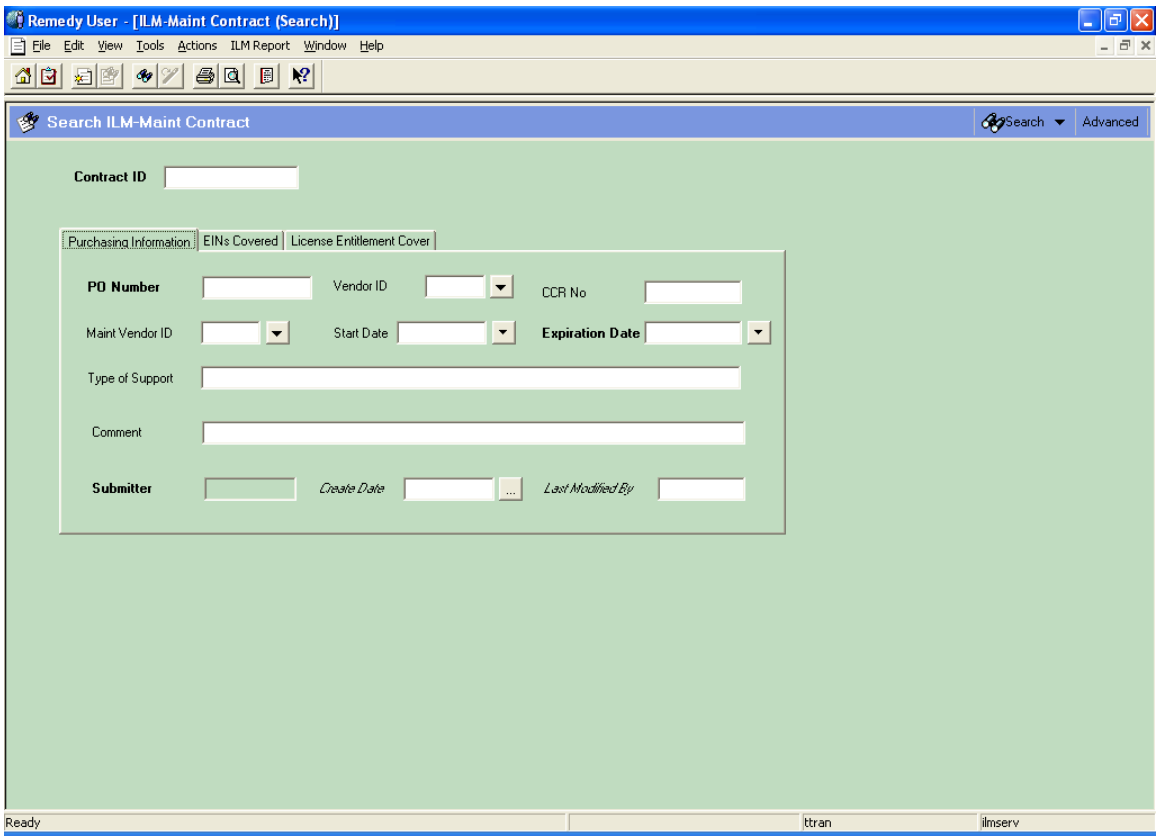


Figure 23.3.9-1. ILM-Maint Contract GUI – Purchasing Information

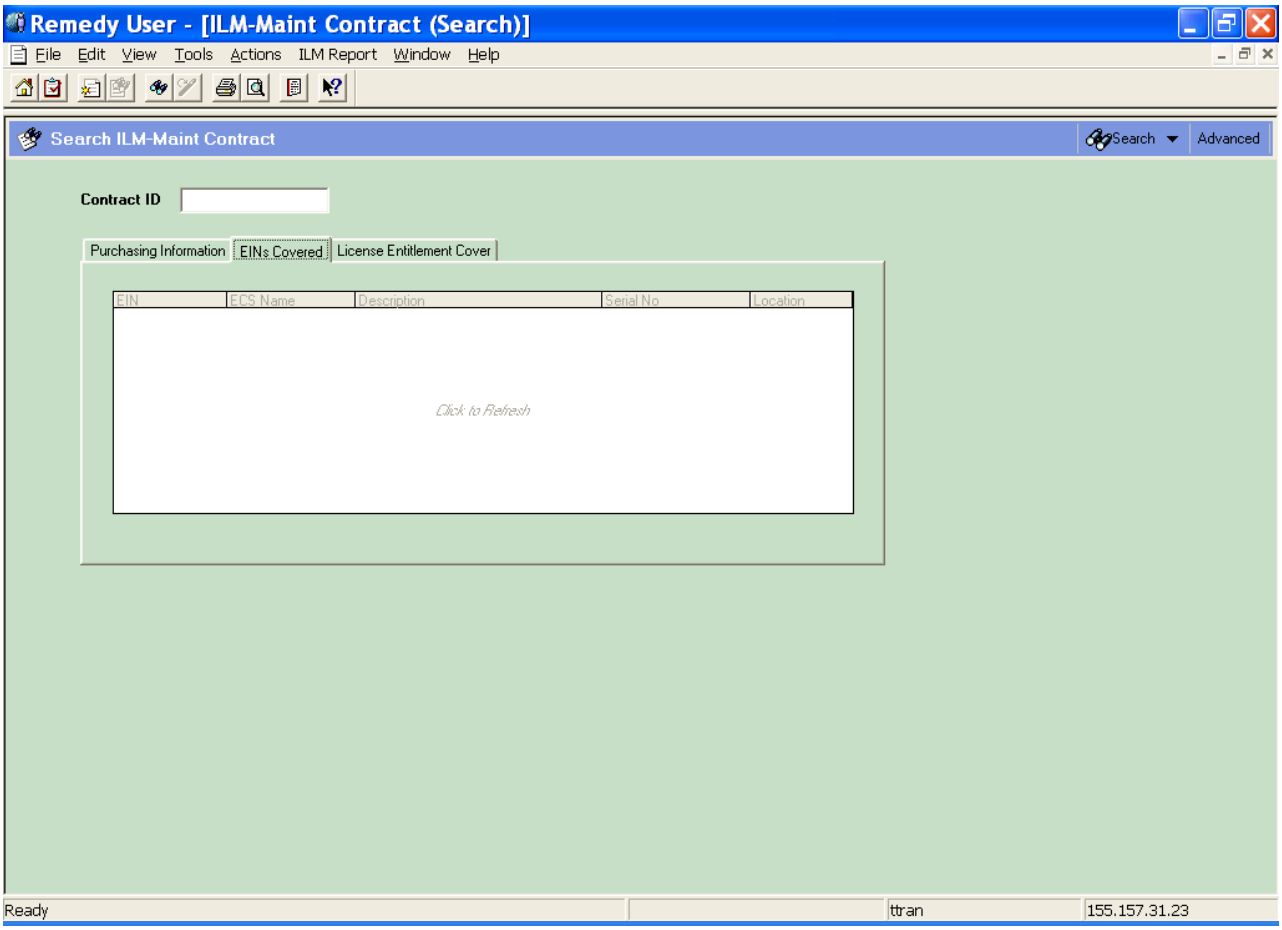


Figure 23.3.9-2. ILM-Maint Contract GUI – EINs Covered

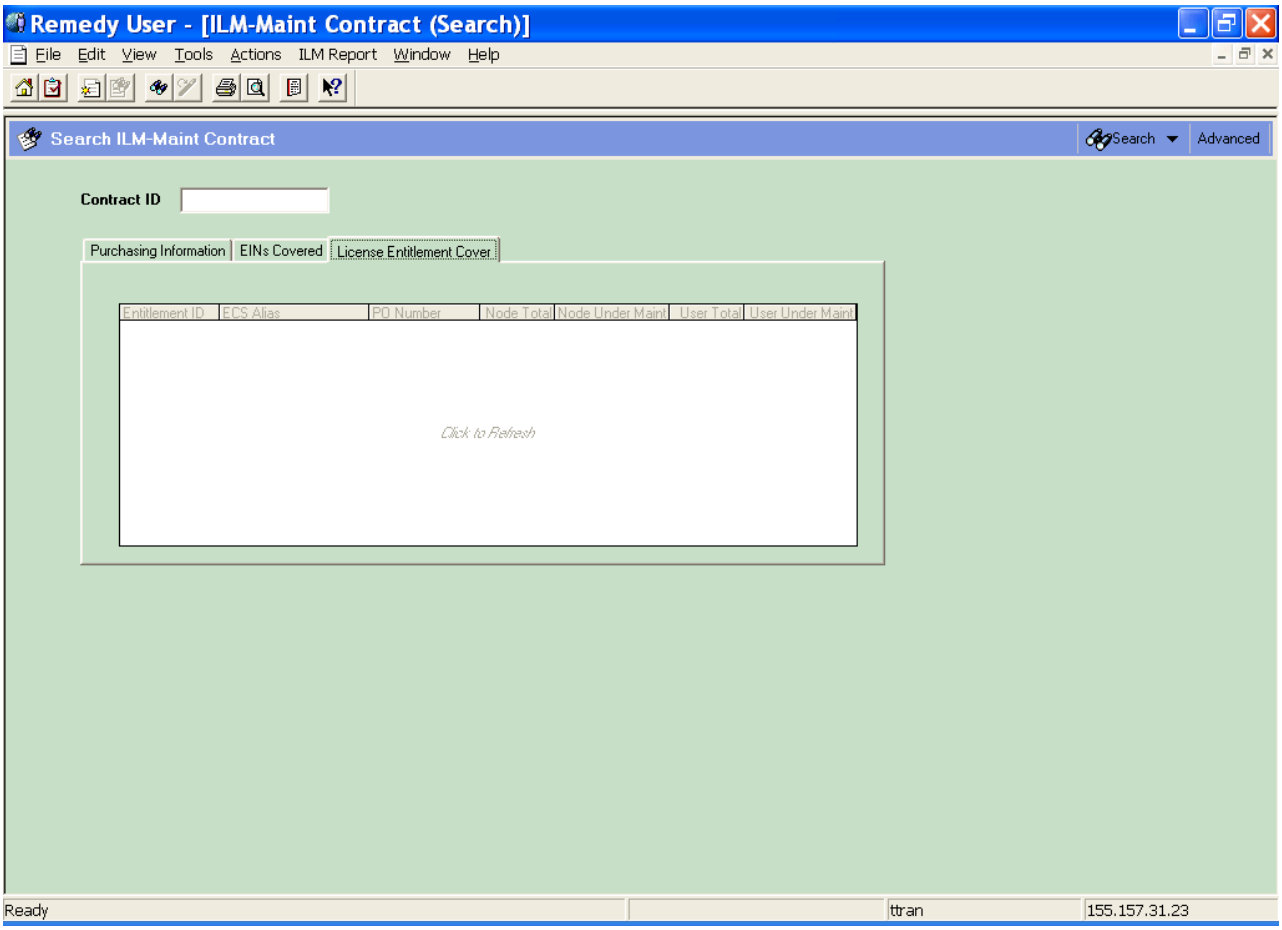


Figure 23.3.9-3. ILM-Maint Contract GUI – License Entitlement Cover

Table 23.3.9-1 describes the field descriptions for the ILM-Maint Contract form.

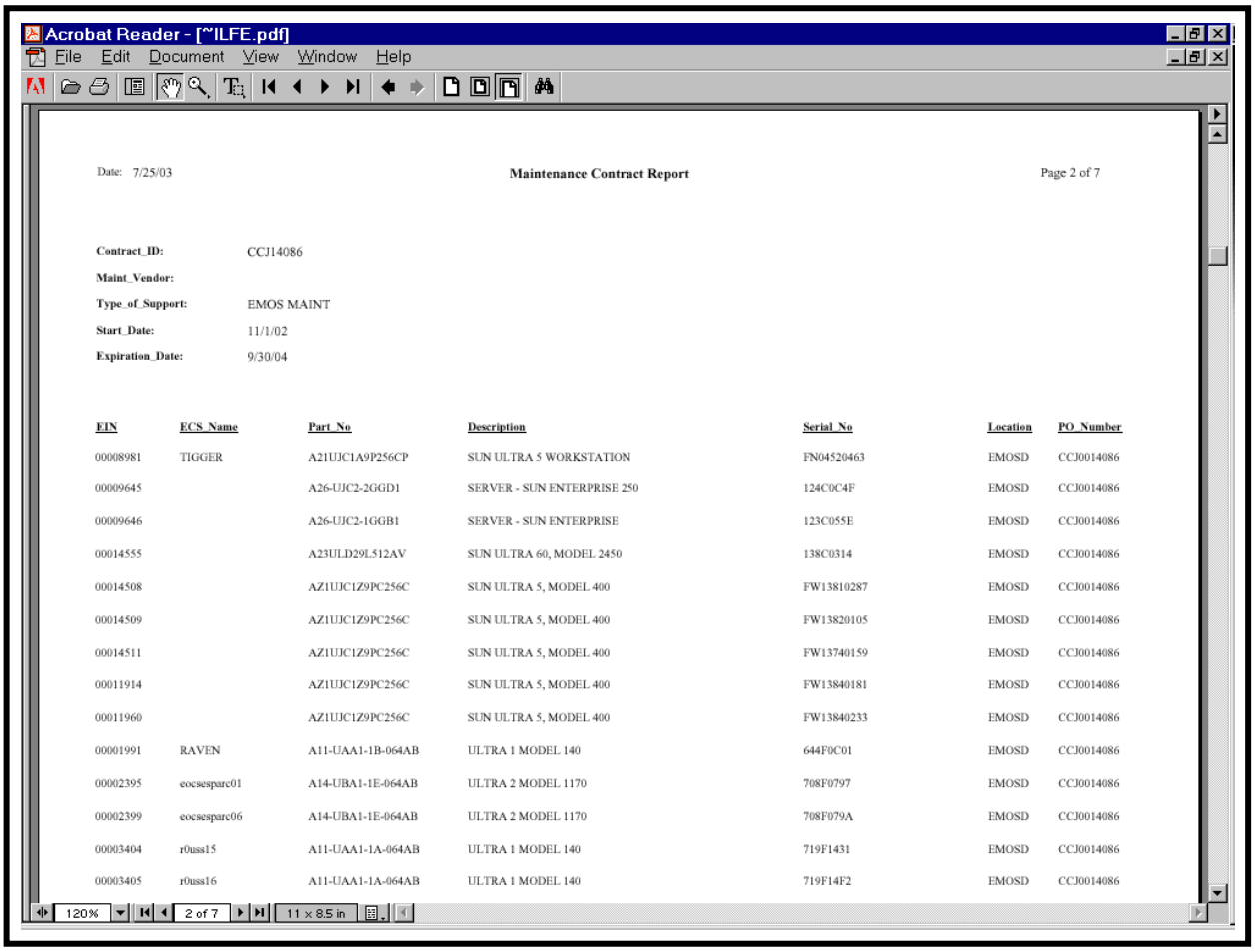
Table 23.3.9-1. ILM-Maint Contract Field Descriptions

Field Name	Data Type	Size	Entry	Description
Contract ID	Char	20	Required	Identifier for the maintenance contract as assigned by purchasing or provided by the vendor.
PO Number	Char	10	Required	Purchase order number of the purchase order that procured the maintenance coverage.
Vendor ID	Char	6	Optional	Code for the vendor with whom the contract is placed.
CCR No	Char	10	Optional	Approved CCR number that requested the purchasing of the item.
Maint Vendor ID	Char	6	Optional	Code for the vendor whom will provide the services.
Start Date	Date		Optional	Date the contract is to become effective.
Expiration Date	Date		Required	Date the contract will expire.
Type of Support	Char	60	Optional	Type of support procured.
Comment	Char	60	Optional	Miscellaneous information specific to the maintenance contract.
EINs Covered	Table field		System-supplied	Field for displaying the EINs covered under the maintenance contract.
License Entitlement Cover	Page		System-supplied	Page for displaying the license entitlements covered under the maintenance contract.
Submitter	Char	30	System-supplied	The user whom created the record.
Create Date	Date		System-supplied	Date the record was created.
Last Modified By	Char	30	System-supplied	The user last modified the record.

Table 23.3.9-2. Procedures to Generate Maintenance Contract Report

Perform	Action	Expected Result
Navigate to the ILM-Maint Contract Form	At the Remedy-ILM PC, **File -> Open -> ILM-Maint Contract -> Search**	ILM-Maint Contract form is displayed.
Run Maintenance Contract Report	Find the Maintenance Contract of interest **ILM Report - > Maintenance Contract Report** When the report is displayed, user has the option to either print the report by pressing the print icon or export the report into a file by pressing the Export Icon next to the print icon. Close the report preview.	The Maintenance Contract Report is displayed. See Figure 23.3.9-4 for the report layout.

NOTE: To move to the next field, use either the TAB key or the Mouse. The Enter key will not move the cursor to the next field.



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Date: 7/25/03 **Maintenance Contract Report** Page 2 of 7

Contract_ID: CCJ14086

Maint_Vendor:

Type_of_Support: EMOS MAINT

Start_Date: 11/1/02

Expiration_Date: 9/30/04

EIN	ECS_Name	Part_No	Description	Serial_No	Location	PO_Number
00008981	TIGGER	A21UJC1A9P256CP	SUN ULTRA 5 WORKSTATION	FN04520463	EMOSD	CCJ0014086
00009645		A26-UJC2-2GGD1	SERVER - SUN ENTERPRISE 250	124C0C4F	EMOSD	CCJ0014086
00009646		A26-UJC2-1GGB1	SERVER - SUN ENTERPRISE	123C055E	EMOSD	CCJ0014086
00014555		A23ULD29L512AV	SUN ULTRA 60, MODEL 2450	138C0314	EMOSD	CCJ0014086
00014508		AZ1UJC1Z9PC256C	SUN ULTRA 5, MODEL 400	FW13810287	EMOSD	CCJ0014086
00014509		AZ1UJC1Z9PC256C	SUN ULTRA 5, MODEL 400	FW13820105	EMOSD	CCJ0014086
00014511		AZ1UJC1Z9PC256C	SUN ULTRA 5, MODEL 400	FW13740159	EMOSD	CCJ0014086
00011914		AZ1UJC1Z9PC256C	SUN ULTRA 5, MODEL 400	FW13840181	EMOSD	CCJ0014086
00011960		AZ1UJC1Z9PC256C	SUN ULTRA 5, MODEL 400	FW13840233	EMOSD	CCJ0014086
00001991	RAVEN	A11-UAA1-1B-064AB	ULTRA 1 MODEL 140	644F0C01	EMOSD	CCJ0014086
00002395	eocsesparc01	A14-UBA1-1E-064AB	ULTRA 2 MODEL 1170	708F0797	EMOSD	CCJ0014086
00002399	eocsesparc06	A14-UBA1-1E-064AB	ULTRA 2 MODEL 1170	708F079A	EMOSD	CCJ0014086
00003404	r0uss15	A11-UAA1-1A-064AB	ULTRA 1 MODEL 140	719F1431	EMOSD	CCJ0014086
00003405	r0uss16	A11-UAA1-1A-064AB	ULTRA 1 MODEL 140	719F14F2	EMOSD	CCJ0014086

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Figure 23.3.9-4. Maintenance Contract Report GUI

23.3.10 ILM-Sites GUI

This form (Figure 23.3.10-1) allows operators to maintain a set of valid standard codes and descriptions for identifying new sites. Each code represents one site.

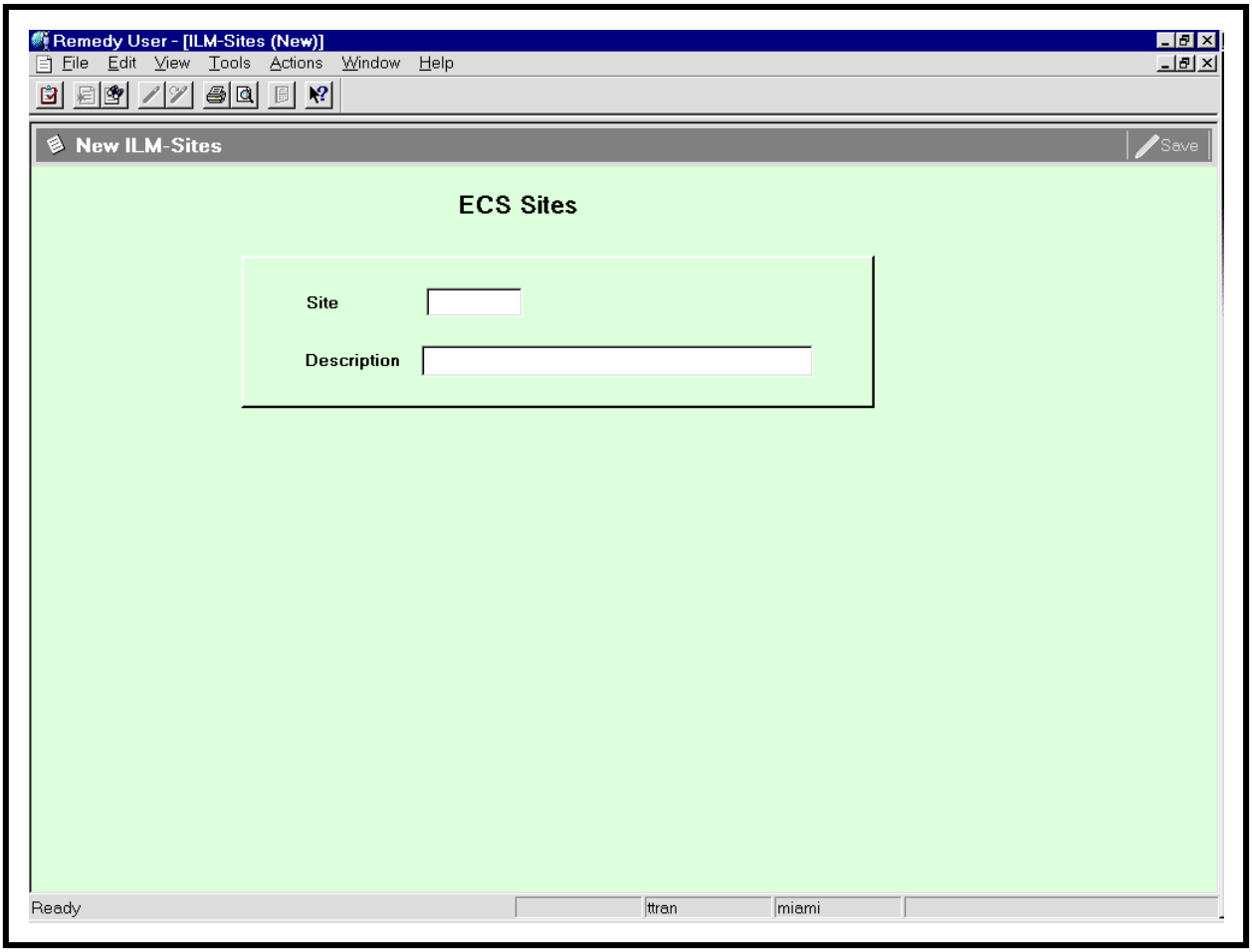


Figure 23.3.10-1. ILM-Sites GUI

Table 23.3.10-1 describes the fields on the ILM-Sites form.

Table 23.3.10-1. ILM-Sites Field Descriptions

Field Name	Data Type	Size	Entry	Description
Site	Char	6	Required	Code for a site.
Description	Char	40	Required	Description of the site.

23.3.11 ILM-Inventory Location GUI

The form shown in Figure 23.3.11-1 is used to maintain information about EEB inventory locations. This standardized information is available to other screens and reports, which can access it by reference to a location.

NOTE: An important distinction is made in Remedy between a site and an inventory location. Sites are officially designated by NASA and generally include the SMC, DAACs, and other official support installations. EEB Property Administrators designate inventory locations for purposes of property management. They are typically facilities or locales where inventory items are stored or installed, and more than one can exist at a site. Inventory locations are sometimes assigned the same names and codes as a site, but Remedy ILM treats the two as different entities.

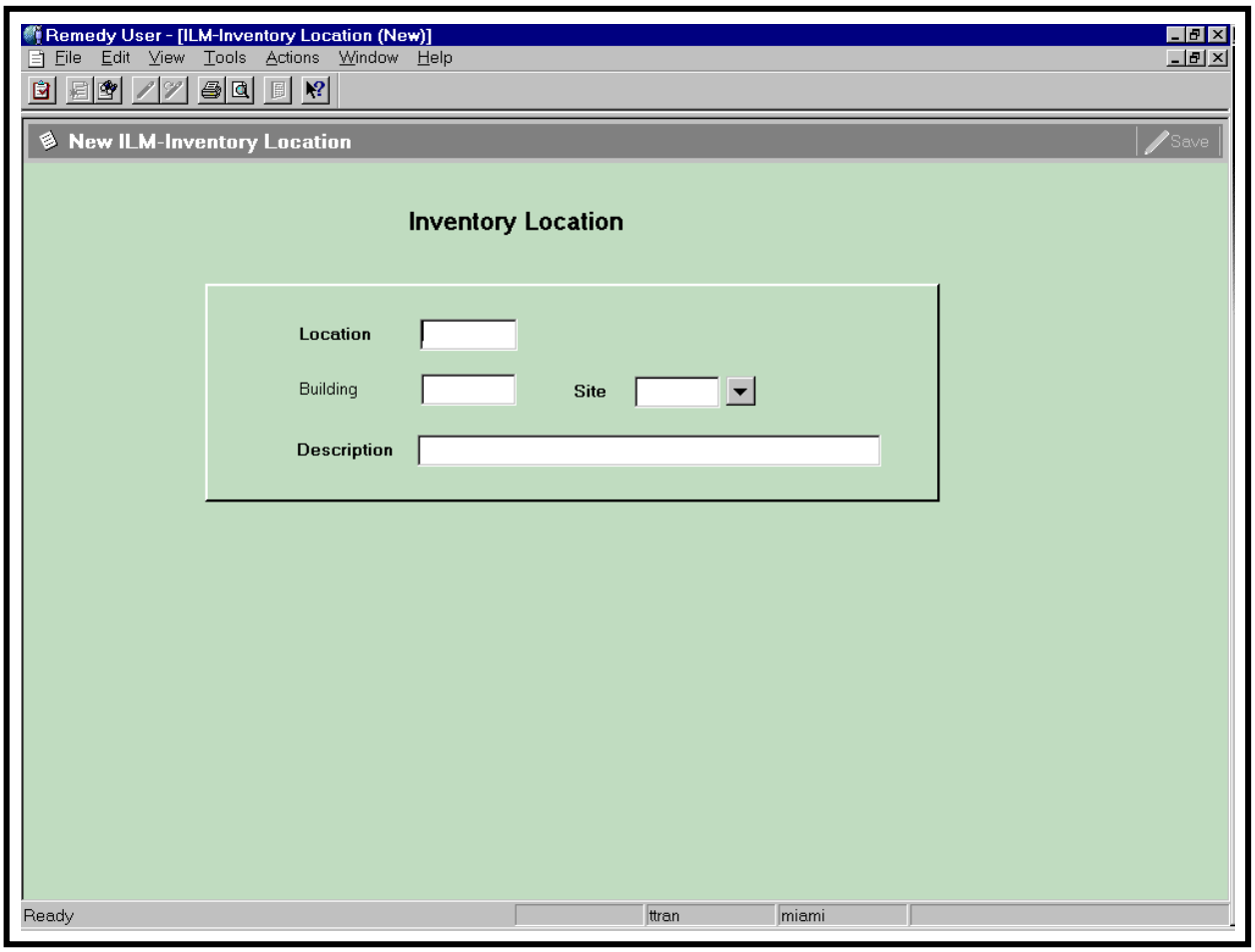


Figure 23.3.11-1. ILM-Inventory Location GUI

Table 23.3.11-1 describes the fields on the ILM-Inventory Location form.

Table 23.3.11-1. ILM-Inventory Location Field Descriptions

Field Name	Data Type	Size	Entry	Description
Location	Char	6	Required	Identifier for the inventory location where material can be found.
Building	Char	6	Optional	Building where the inventory items can be found.
Description	Char	30	Required	Description for the location id.
Site	Char	6	Required	Code for the site hosting the inventory location.

23.4 Maintenance Management

Maintenance Work Orders (MWOs) are used for collecting downtime information for equipment subject to Reliability, Maintainability, and Availability (RMA) reporting as well as to identify equipment that has failed and/or been replaced during system maintenance. By way of a special feature available to the ILM-MWO and the ILM-MWO Line Item forms, operators can have the system update property records automatically based on the maintenance activities a work order describes. The following sections will describe maintenance work orders in detail.

23.4.1 ILM-MWO GUI

The ILM-MWO form (Figures 23.4.1-1 through 23.4.1-5) provides the ability to create and update maintenance work orders as maintenance activity proceeds and as additional information about the repair becomes known. It also has a special feature that updates property records on demand based on events and data described about a work order's line items.

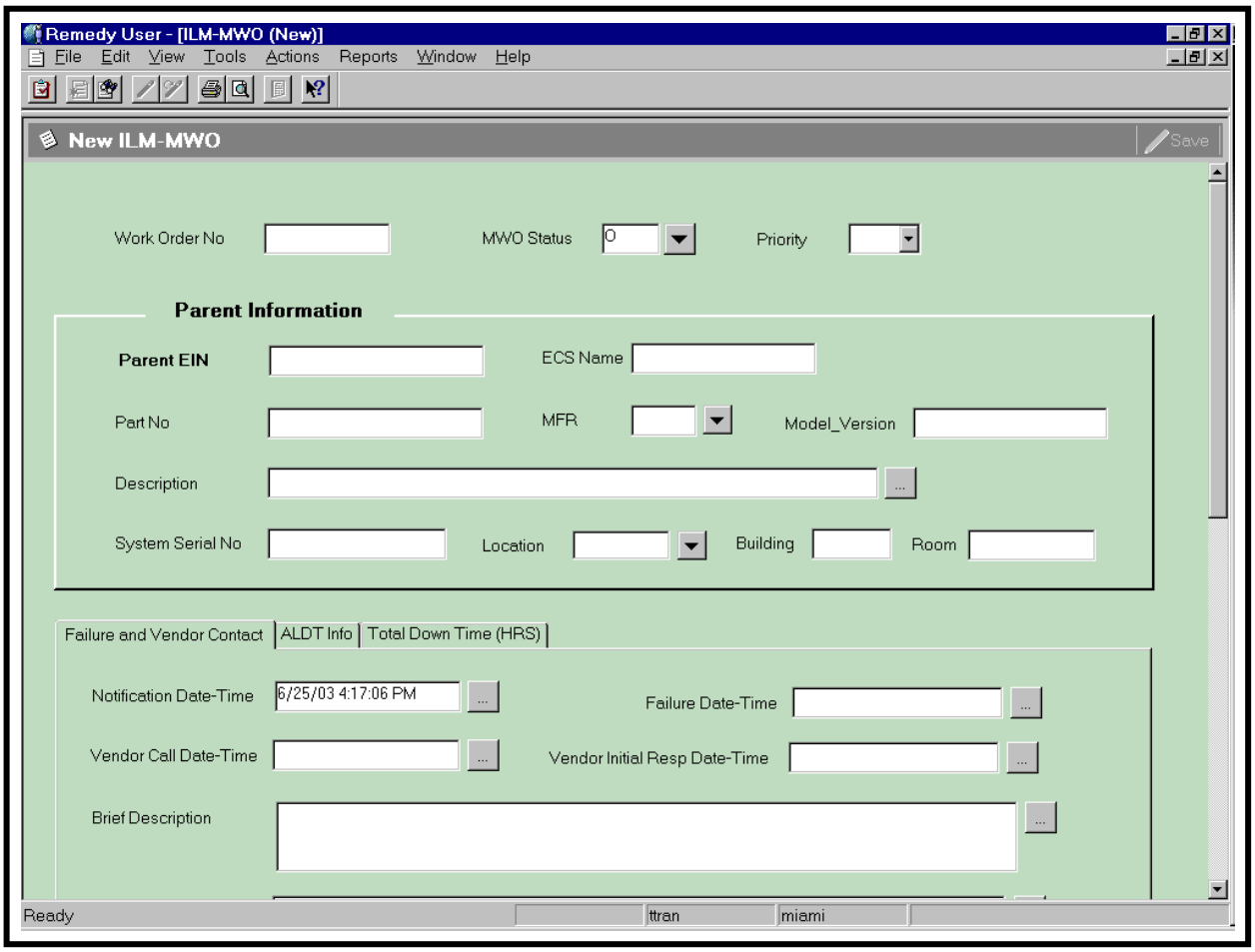


Figure 23.4.1-1. ILM-MWO GUI – Parent Information

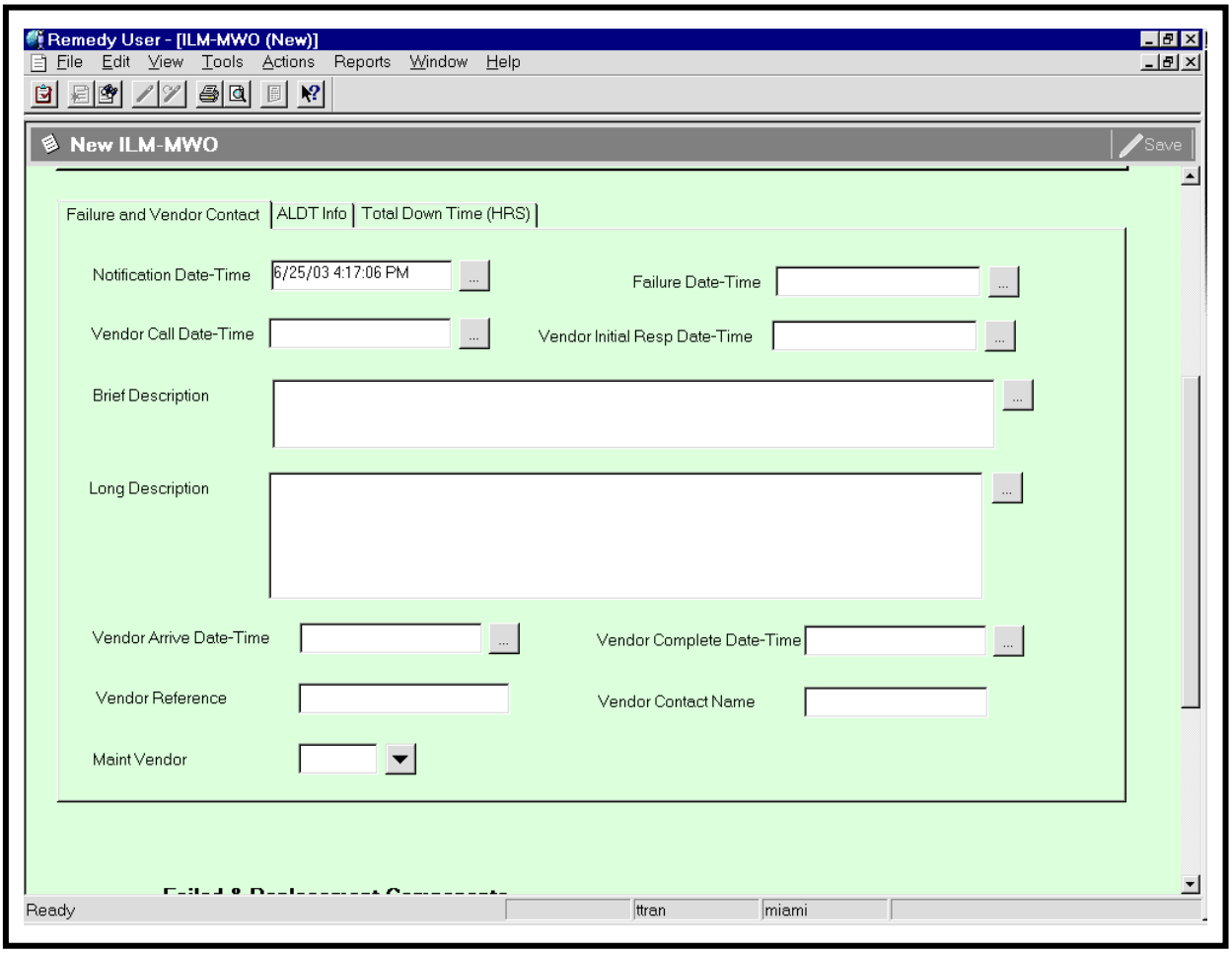


Figure 23.4.1-2. ILM-MWO GUI - Failure and Vendor Contact

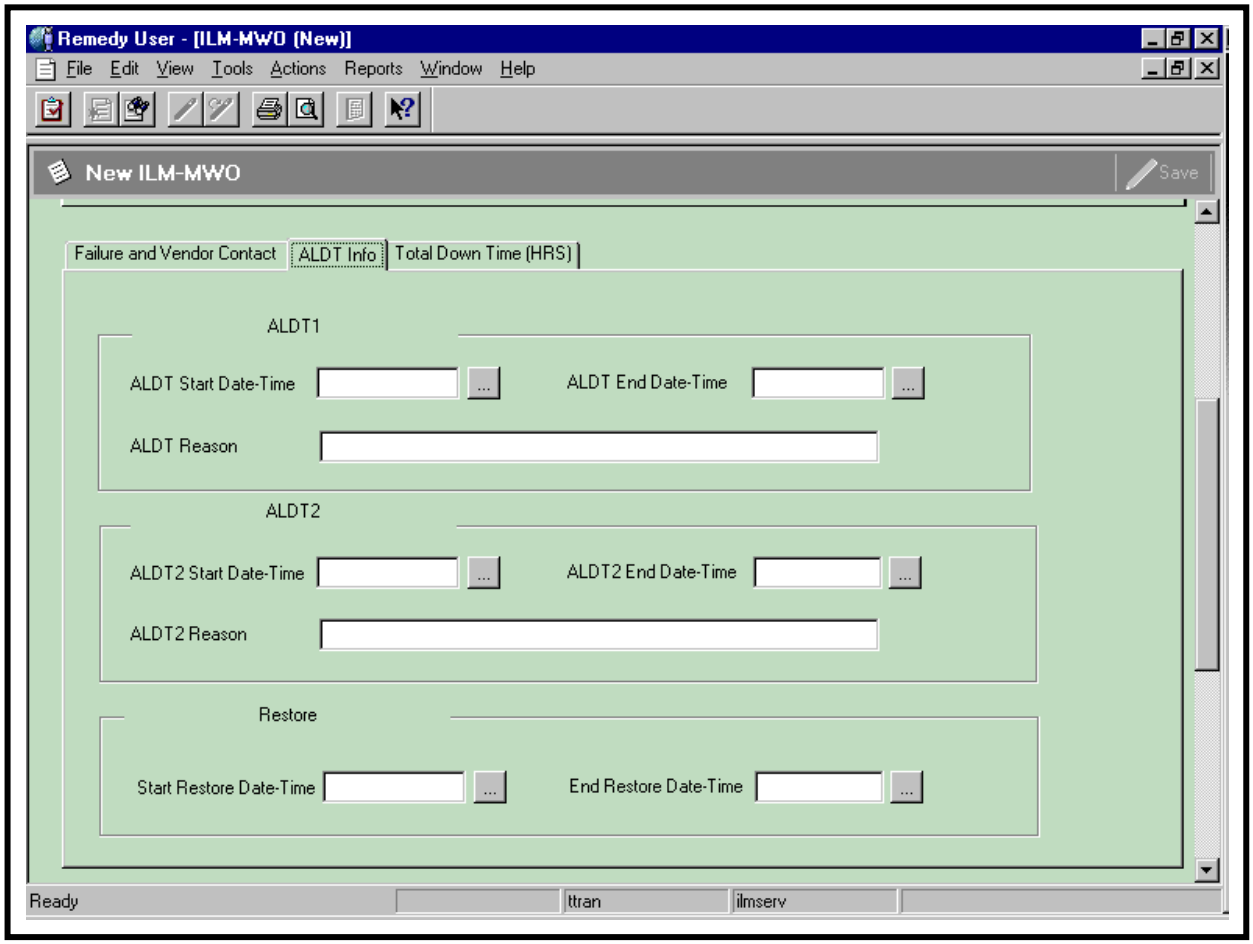


Figure 23.4.1-3. ILM-MWO GUI – ALDT

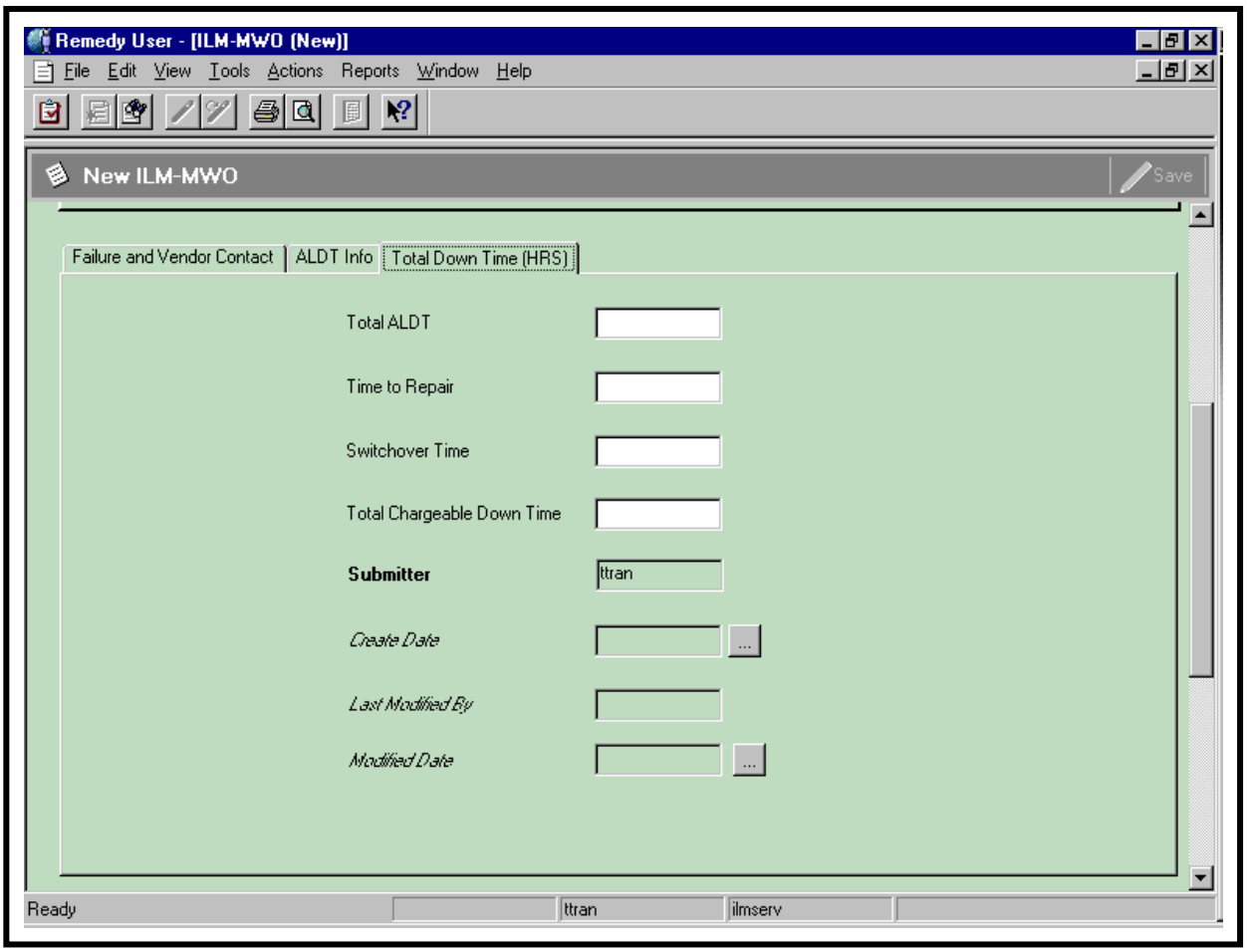


Figure 23.4.1-4. ILM-MWO GUI - Total Down Time

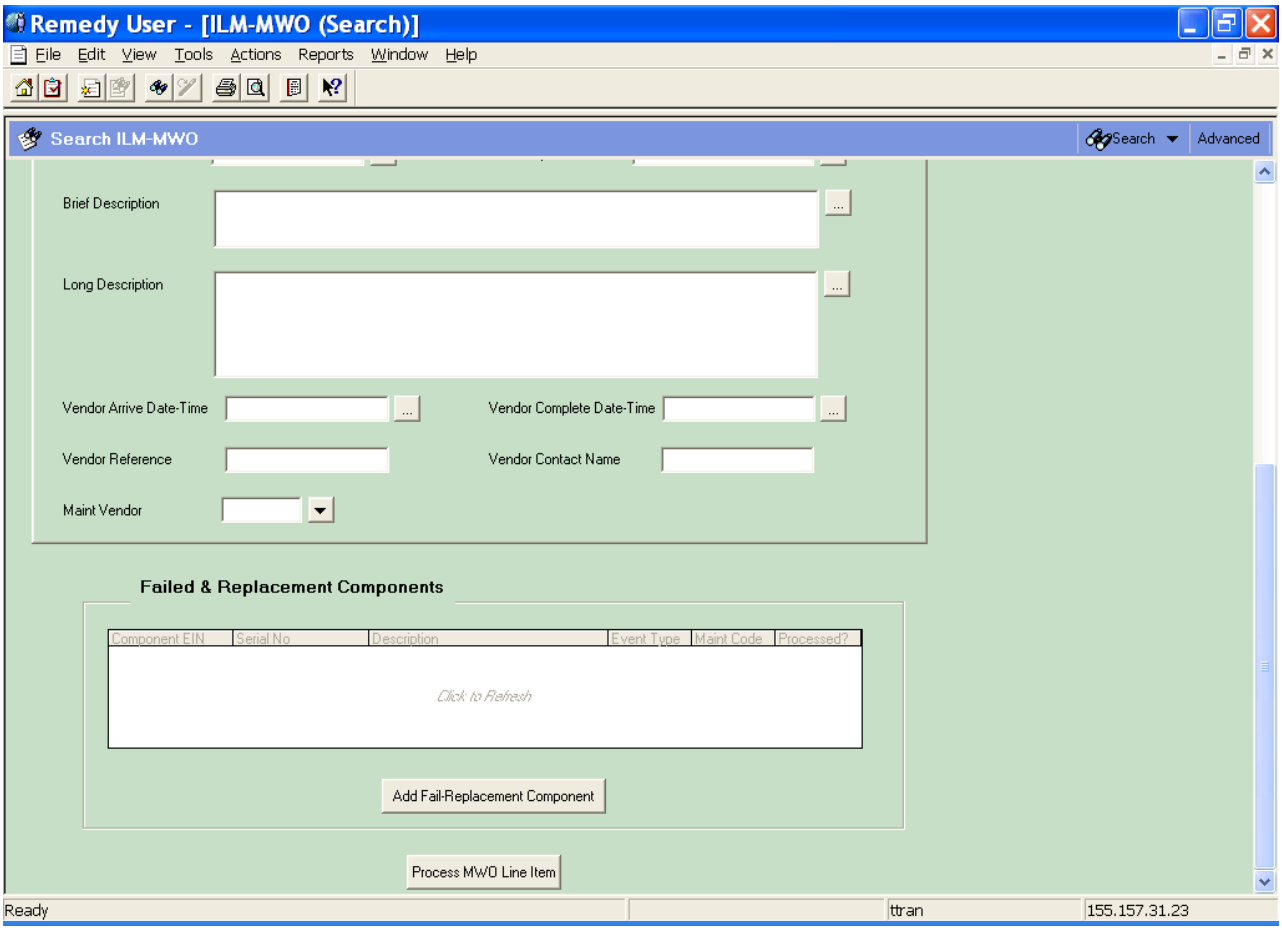


Figure 23.4.1-5. ILM-MWO GUI - Failed & Replacement Components

Table 23.4.1-1 describes the fields on the ILM-MWO Form.

Table 23.4.1-1. ILM-MWO Field Descriptions (1 of 2)

Field Name	Data Type	Size	Entry	Description
Work Order No	Char	10	Optional	Identifier for the work order. The work order no is prefixed with site's first three letters.
MWO Status	Char	1	Optional; O, A, F, or R	Code for the status of the work order. O = Open; A = Audit; F=Finish; R = Retired.
Priority	Char	1	Optional	Code for the priority assigned to the work.
Parent EIN	Char	20	Required	EIN for the parent item in an EIN structure.
System Serial Number	Char	30	System-supplied	Serial number of the item entered as Parent EIN.
ECS Name	Char	30	System-supplied from EIN record	Name of the machine with which the item is associated.
Part No	Char	34	System-supplied from EIN record	Manufacturer's part number for the item entered as Parent EIN.
Description	Char	60	System-supplied from EIN record	Manufacturer's description for the item entered as Parent EIN.
Location	Char	8	System-supplied from EIN record	Designator for the location where the item entered as Parent EIN is situated.
Room	Char	6	System-supplied from EIN record	Room in which the item entered as Parent EIN is situated.
Notification Date-Time	Date-Time		Optional	The date and time problem was reported. This field is initialized with the current date and time but can be modified.
Failure Date-Time	Date-Time		Optional	Date and time that the failure occurred. The earliest between the following: 1) the time the LMC (Local Maintenance Coordinator) is notified or 2) the time the hardware problem is first recognized.
Brief Description	Char	140	Optional	A brief description of the problem and resolution.
Long Description	Char	1024	Optional	A long description of the problem and resolution relevant to the maintenance event.
Vendor Call Date-Time	Date-Time		Optional	The date and time the maintenance vendor was called.
Vendor Initial Resp Date-Time	Date-Time		Optional	Indicate the vendor initial response date and time to the service call.
Vendor Arrive Date-Time	Date-Time		Optional	The date and time the maintenance vendor actually arrived to perform the repairs.
Vendor Complete Date-Time	Date-Time		Optional	Date and time the repair was completed.
Vendor Contact Name	Char	30	Optional	Vendor point of contact.

Table 23.4.1-1. ILM-MWO Field Descriptions (2 of 2)

Field Name	Data Type	Size	Entry	Description
Vendor Reference	Char	20	Optional	Identifier to the reference when contacting the vendor about the problem with the item.
ALDT Start Date-Time	Date-Time		Optional	The date and time a delay in repairing the system began.
ALDT End Date-Time	Date-Time		Optional	The date and time a delay in repairing the system ended.
ALDT Reason	Char	60	Optional	A code for the reason a delay was encountered.
Start Restore Date-Time	Date-Time		Optional	The date and time when start restoring the failed system.
End Restore Date-Time	Date-Time		Optional	The date and time end restoring the system.
Total ALDT	Real	5.2	Optional	Total Administrative logistic delay time (ALDT) Specified in hours.
Time To Repair	Real	5.2	Optional	Time required to effect the repair. Specified in hours.
Switchover Time	Real	5.2	Optional	Time required for system switch-over. Specified in hours.
Total Chargeable Down Time	Real	5.2	Optional	Time to be charged for downtime. Specified in hours.
Submitter	Char	30	System-supplied	The user whom created the record.
Create Date	Date		System-supplied	Date the record was created.
Last Modified By	Char	30	System-supplied	The name of the user who last changed this record.
Modified Date	Date		System-supplied	The last date the record was modified.
Failed & Replacement Components	Table field		System-supplied	Field for displaying the failed and replacement components.

The following buttons/functions are unique to the ILM-MWO form:

- Add Fail/Replacement Component - provides access to the ILM-MWO Line Item Form (Figure 23.4.2-1) for adding data about components involved in individual maintenance actions.
- Process MWO Line Item - The Process MWO Line Item button provides a convenient, reliable, and efficient means for updating ILM property records based on information contained in ILM-MWO line item form. New EIN records are created as necessary, as are corresponding Part No and EIN structure records. Processing adds new items to the inventory, archives those that have failed or been returned to the vendor, and re-assigns any that have been relocated or returned to stock. Additionally, items returned to a vendor are rendered obsolete with respect to their parent EINs and, of those that had failed, costs are

Table 23.4.1-2. Procedure to Add a New Work Order

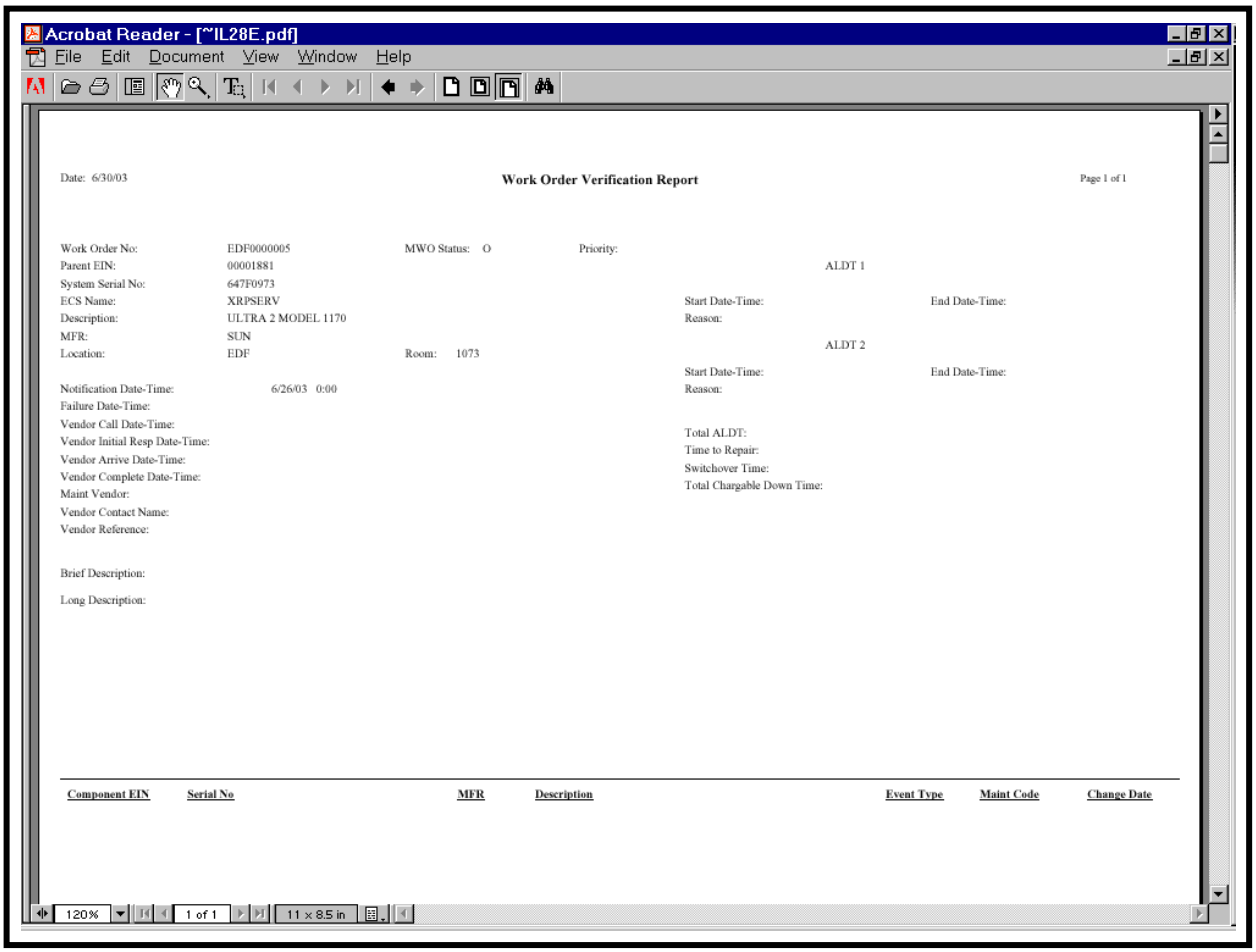
Perform	Action	Expected Result
Navigate to the ILM-MWO Form	At the Remedy-ILM PC, **File -> Open -> ILM-MWO -> New**	ILM-MWO form is displayed and ready for the user to add a new MWO record.
Creating a new work order	Fill in the necessary information: Work Order No – User may enter a Work Order No or leave this field blank. Leaving this field blank, the system will generate a Site's prefix work order no. Select the Work Order Status from the MWO Status field. The default is "O" for Open. Select a priority from the list of priority: Enter a **1** for any malfunction that results in down time of a production system and immediate correction is needed. Enter a **2** for any malfunction that impairs system performance but does not result in down time; however, may result in down time if system must be brought down to fix the problem. Enter a **3** for any malfunction that will not result in system down time (e.g. minor flickering screen, key sticking, sticking mouse, etc…) Enter **Parent EIN** number Complete the Failure and Vendor Contact Information, ALDT, and Total Down Time sections. Click on the **Save** icon on the tool bar to save the record.	When the Parent EIN is entered and the Parent EIN existed in the ILM-EIN form, the system will populate the Parent Information section with the information about the entered Parent EIN. The system will generate the next Site's prefixed Work Order number after the record is saved. The newly created Work Order number is displayed in the Status bar on the bottom left of the form.

NOTE: To move to the next field, use either the TAB key or the Mouse. The Enter key will not move the cursor to the next field.

Table 23.4.1-3. Procedures to Generate ILM-MWO Predefined Reports

Perform	Action	Expected Result
Navigate to the ILM-MWO Form	At the Remedy-ILM PC, **File -> Open -> ILM-MWO -> Search** **Perform a Search for the records to be reported.**	ILM-MWO form is displayed.
Run Work Order Verification Report	Find the Work Order of Interest When the records are displayed, **Reports -> Work Order Verification** When the report is displayed, user has the option to either print the report by pressing the print icon, or user may export the report into a file by pressing the Export Icon next to the print icon. Close the report preview.	The Work Order Verification Report is displayed. Refer to Figure 23.4.1-6 for the report layout.
Run an RMA report and export into MS Excel	Select the records of interest to perform the report on. When the record is displayed, make sure to un-select the highlighted record by pressing the **Ctrl** and single-click the highlighted item simultaneously. **Tools -> Reporting -> Rma_Rpt -> Report -> Export To -> File** When the Report to File GUI (see Figure 23.3.1-8) is displayed. Select the appropriate directory to save the report in Enter a report file name **Save as Type** = All File (*.*) **Warning:** The report will not work if the **Save as Type** is anything else other than All File. Press the **Save** button Bring up MS Excel **File -> Open -> <Report Name>** When the Text Import Wizard GUI is displayed: **Delimiters –> Next** Select **Tab - > Next** Change the EIN, Parent EIN, Part No, and Serial No fields to Text. This will keep all the leading zeros. Click on the **Finish** button	The RMA report is displayed. User may make any necessary adjustment to this report. Please refer to MS Excel help for any question on how to use MS Excel. Refer to Figure 23.4.1-7 for the report layout.

NOTE: To move to the next field, use either the TAB key or the Mouse. The Enter key will not move the cursor to the next field.



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Date: 6/30/03

Work Order Verification Report

Page 1 of 1

Work Order No: EDF0000005 MWO Status: O Priority:
Parent EIN: 00001881
System Serial No: 647F0973
ECS Name: XRPSERV
Description: ULTRA 2 MODEL 1170
MFR: SUN
Location: EDF Room: 1073

Notification Date-Time: 6/26/03 0:00
Failure Date-Time:
Vendor Call Date-Time:
Vendor Initial Resp Date-Time:
Vendor Arrive Date-Time:
Vendor Complete Date-Time:
Maint Vendor:
Vendor Contact Name:
Vendor Reference:

Brief Description:

Long Description:

ALDT 1
Start Date-Time: End Date-Time:
Reason:

ALDT 2
Start Date-Time: End Date-Time:
Reason:

Total ALDT:
Time to Repair:
Switchover Time:
Total Chargable Down Time:

Component EIN	Serial No	MFR	Description	Event Type	Maint Code	Change Date

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Figure 23.4.1-6. Work Order Verification Report GUI

Work Order	MFR	DESCRIPTION OF SYSTEM DOWN	SYSTEM NAME	SITE	DATE/TIME Partially/Capable	TOTAL Partially Capable TIME (HRS)	DATE/TIME SYSTEM DOWN	DATE RETURNED TO OPERATION	TOTAL DOWN TIME (HRS)	Restore Time	Problem Description & Solution	Notes
EDC0000509	SGI	RACK SERVER BASIC CHASIS	e0drg12	EDC	10/16/02 9:00		10/16/02 9:00	10/16/02 10:00	1.0	1.0	System board crashed due to bad node board.	Downtime was the result of troubleshooting and repair actions. System took an hour to restore but was operational.
LaR0000269	STK	9940A	STK Powderhorn silo2	LaRC	10/15/02 8:00	28.0		10/16/02 12:00			Bad drive. Replace drive.	
EDC0000498	STK	Small Communications Rack	e0hippi1	EDC	09/30/02 5:15	224.7		09/30/02 16:00			Bad HIPPI fiber Channel card going to e0drg12.	No Down time associated because Ops had an alternative path GB router.
EDC0000500	SUN	Enterprise 4000 Enclosure 8-Slot Card Ca	e0sps04	EDC	09/09/02 2:45	8.3		09/09/02 11:00			32MB simm had parity errors causing box to reboot.	There are redundant cpu boards with memory.

Figure 23.4.1-7. RMA Report GUI

23.4.2 ILM-MWO Line Item GUI

The ILM-MWO Line Item form (Figures 23.4.2-1 through 23.4.2-3) provides the ability for the Local Maintenance Coordinator (LMC) to identify equipment that has failed and/or been replaced during system maintenance. In general, a line item should be created for each EIN component that has failed, been replaced, or been added new. **NOTE:** line items can be created even if an EIN record does not exist for the component. Line items may only be created via the ILM-MWO form by pressing the "Add Fail/Replacement Component" button on the bottom of the form. Table 23.4.2-1 describes the fields on the ILM-MWO Line Item form.

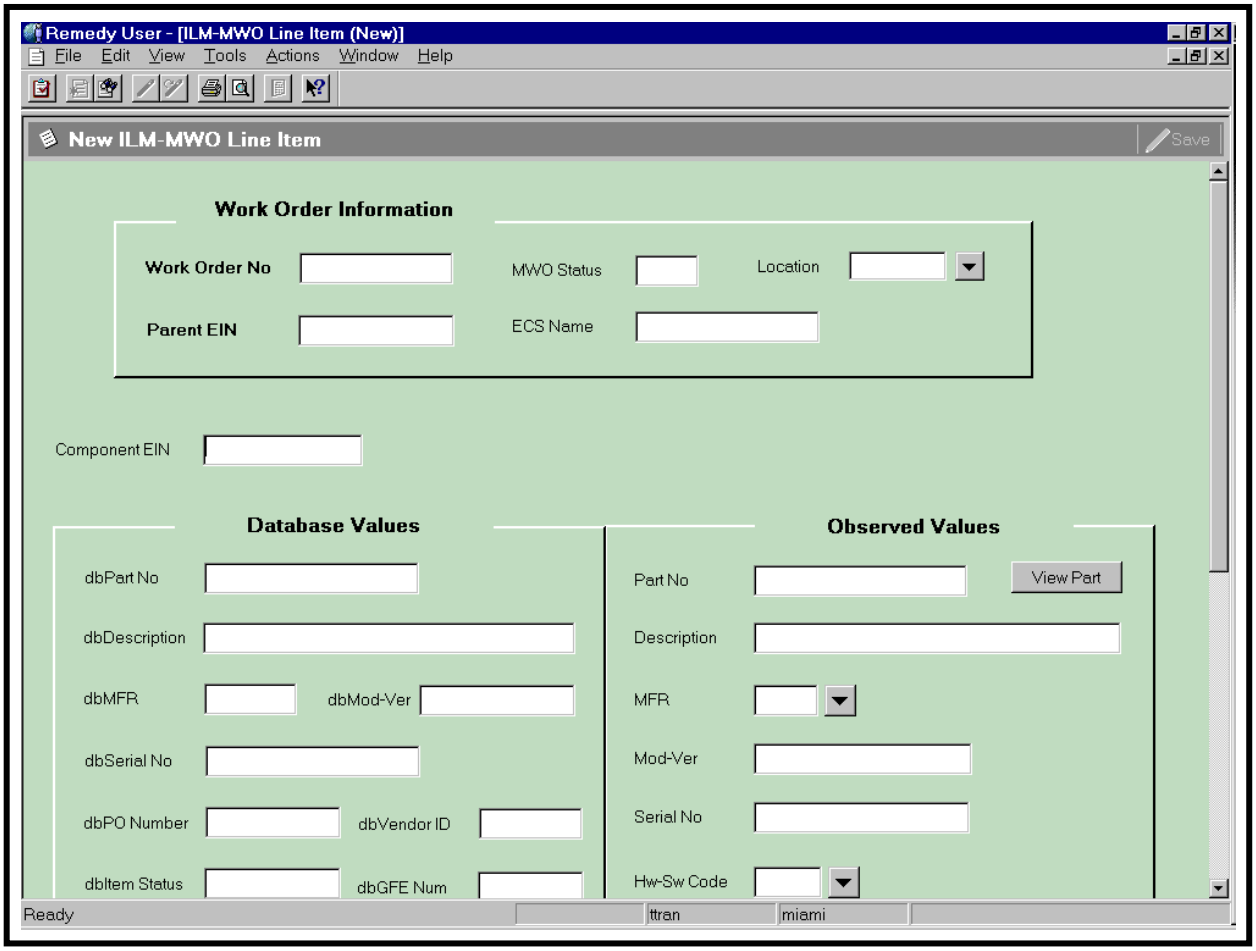


Figure 23.4.2-1. ILM-MWO Line Item GUI – Part 1

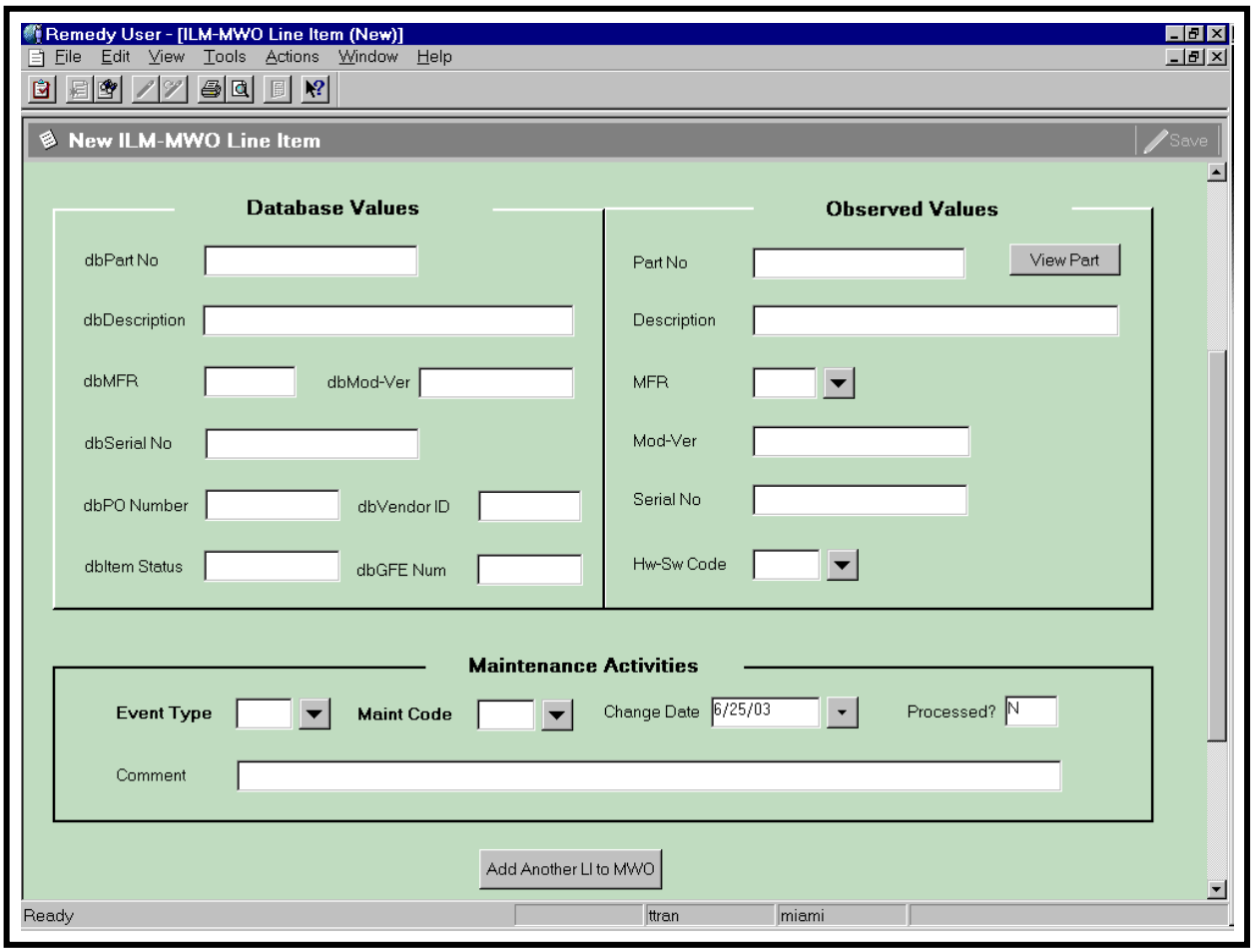


Figure 23.4.2-2. ILM-MWO Line Item GUI – Part 2

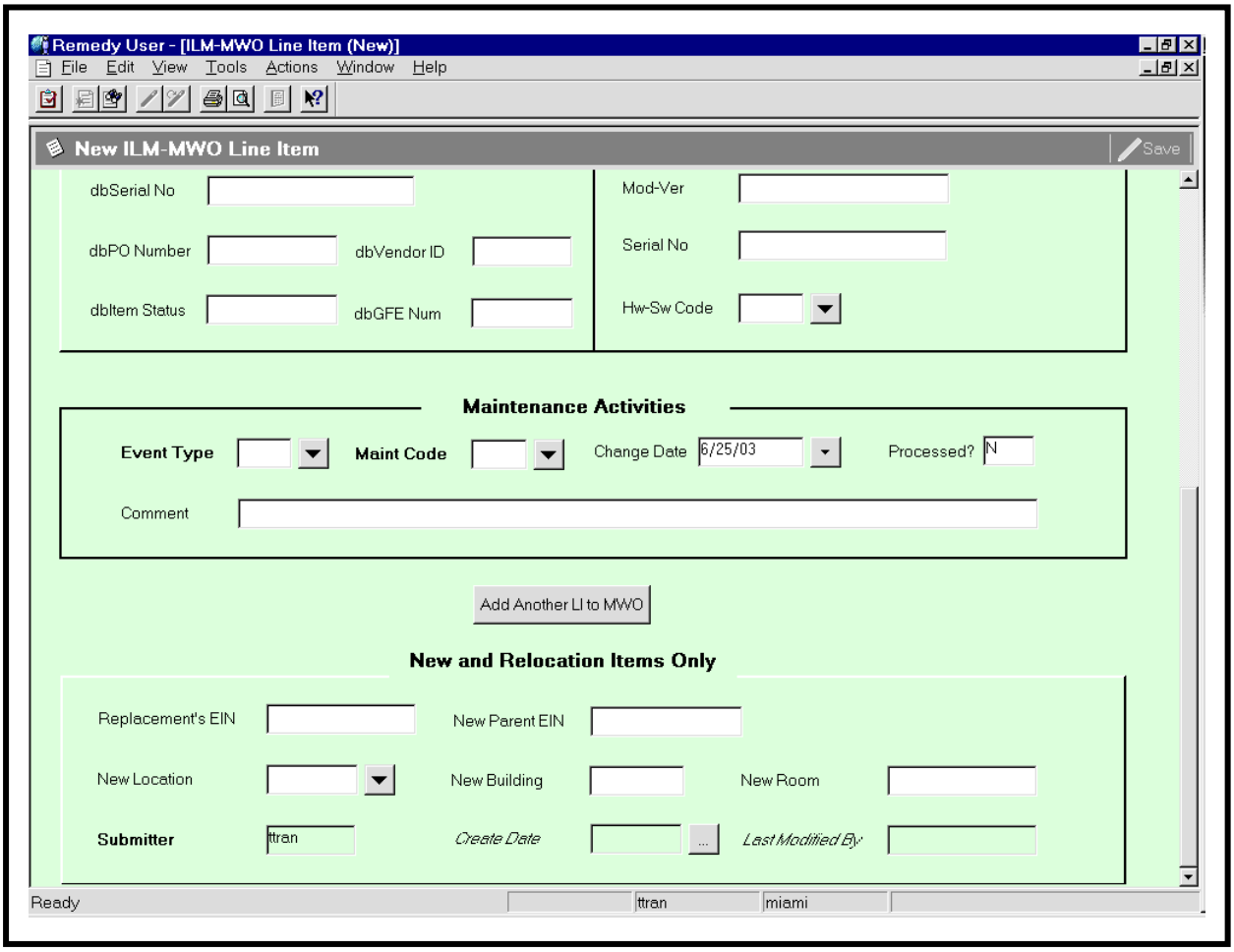


Figure 23.4.2-3. ILM-MWO Line Item GUI – Part 3

Table 23.4.2-1 describes the fields on the ILM-MWO Line Item form.

Table 23.4.2-1. ILM-MWO Line Item Field Descriptions (1 of 2)

Field Name	Data Type	Size	Entry	Description
Work Order No	Char	10	System-supplied	Identifier for the work order.
Parent EIN	Char	20	System-supplied	EIN for the parent item in an EIN structure.
MWO Status	Char	1	System-supplied	Code for the status of the work order. O = Open; A = Audit; F=Finish; R = Retired.
ECS Name	Char	30	System-supplied	Name of the machine with which the item is associated.
Location	Char	8	System-supplied	Designator for the location where the item entered as Parent EIN is situated.
Component EIN	Char	20	Optional	Identifier for an item that is a child (component) of a parent EIN and the target of the maintenance event. If the field is left blank, the system will create an inventory number with a C-prefix for it automatically when the line item is processed.
Database Values				If the entered Component EIN exists in the ILM-EIN form, the system will populate this section with the data derived from the ILM-EIN form that describes the component EIN undergoing the maintenance activity.
Observed Values				User may enter information that describes the Component EIN in this section. If the Component EIN does not exist in the database, the component EIN will be added to the database using the information provided in the Observed Values section.
Part No	Char	34	Optional	Manufacturer’s or vendor’s part number for the item.
Description	Char	60	Optional	Manufacturer’s or vendor’s description of the item.
MFR	Char	6	Optional	Code used for the manufacturer of the item.
Mod-Ver	Char	24	Optional	Model or Version of the item.
Serial No	Char	30	Optional	Serial number of the item.
Item Status	Char	6	Optional	Code that designates the status of the item.
Hw-Sw Code	Char	2	Optional	Code for classifying items according to source of inventory.
GFE Num	Char	8	Optional	Gov't Furnished Equipment (GFE) number for the item.
Event Type	Char	1	Required	Code identifying a type of maintenance event (N=new item installed; F=failed item replaced; R=serviceable item replaced).
Maint Code	Char	1	Required	Code designating the item's disposition. Property records are updated differently depending on the value entered. (R = Relocate, S = Stock, V = Vendor).

Table 23.4.2-1. ILM-MWO Line Item Field Descriptions (2 of 2)

Field Name	Data Type	Size	Entry	Description
Change Date	Date		Required	Effective date of the configuration change.
Processed?	Char	1	System-supplied	Flag signifying whether or not the line item has been processed.
Replacement's EIN	Char	20	Optional	Identifier of the new item being used as a replacement. This field is used only for items that have failed and replaced by a new EIN.
New Parent EIN	Char	20	Optional, Required when the Event Type = R and Maint Code = R	EIN of the item to which the Component EIN is to be re-assigned. This field is applicable only to components that have failed or are being replaced (Event Type="F" or "R"), and are being relocated (Maint Code="R"). *The value must be supplied or the item will not get processed.*
New Location	Char	6	Optional	Code for the new inventory location to which the item is to be assigned.
New Building	Char	6	Optional	Building where the item is to be installed.
New Room	Char	15	Optional	Room where the item is to be installed.
Submitter	Char	30	System-supplied	The user whom created the record.
Create Date	Date		System-supplied	Date the record was created.
Last Modified By	Char	30	System-supplied	The user last modified the record.

Table 23.4.2-2 lists the appropriate combinations of Event Type and Maint Code and the effects on property records when processed.

Table 23.4.2-2. Effects on Property Records by MWO Line Item Processing (1 of 4)

Event Type	Maint Code	Situation/Property Record Updates
F (Failed)	S (Stock)	When an item failed and returned to stock. EIN records: Creates a record if one doesn't exist for the specified component EIN For the specified component EIN: Clears its Parent EIN Clears its installation date Sets Item status to "F" Sets audit date to the Change Date Sets ECS name to "IN STOCK" Sets location, building, and room to new values. OEM part records: Creates an OEM Part record if "observed values" for Part No, MFR, and Description are specified and the part record doesn't already exist EIN structure records: Obsoletes the specified component EIN in EIN Structures where it is active. The structure is rendered inactive as of the specified Change Date Inventory transaction records: Creates an entry for event of type "MFS" for the specified component
F (Failed)	V (Vendor)	When an item failed and returned to the vendor. EIN records: If the Component EIN field is blank, the system will not process the record and sets the Process field to X. Creates a record if one doesn't exist for the specified component EIN For the specified component EIN: Clears its Parent EIN Clears its installation date Sets item status to "X" Sets audit date to the Change Date Sets ECS name to "ARCHIVE" Sets location to "EDFARC" and clears building and room values. OEM part records: Creates an OEM Part record if "observed values" for Part No, MFR, and Description are specified and the part record doesn't already exist EIN structure records: Obsoletes the specified component EIN in EIN Structures where it is active. The structure is rendered inactive as of the specified Change Date Inventory transaction records: Creates an entry for event of type "MFV" for the specified component

Table 23.4.2-2. Effects on Property Records by MWO Line Item Processing (2 of 4)

Event Type	Maint Code	Property Record Updates
N (New)	S (Stock)	When the replacement item is new and taken from stock. EIN records: Creates a record if one doesn't exist for the specified component EIN For the specified component EIN: Sets the Parent EIN to the MWO's Parent EIN Sets installation date to the Change Date Sets item status to "I" Sets audit date to the Change Date Sets ECS name to that of the Parent EIN specified for the MWO itself Sets location and room values to that of the Parent EIN specified for the MWO OEM part records: Creates an OEM Part record if "observed values" for Part No, MFR, and Description are specified and the part record doesn't already exist EIN structure records: Obsoletes the specified component EIN in EIN Structures where it is active, if any. The structure is rendered inactive as of the specified Change Date Adds the EIN as a component of the item specified as a component of the MWO's Parent EIN. The structure is rendered active as of the Change Date specified Inventory transaction records: Creates an entry for event of type "MNS" for the specified component

Table 23.4.2-2. Effects on Property Records by MWO Line Item Processing (3 of 4)

Event Type	Maint Code	Property Record Updates
N (New)	V (Vendor)	When the replacement item is new and came from the vendor. EIN records: Creates a record if one doesn't exist for the specified component EIN For the specified component EIN: Sets the Parent EIN to the MWO's Parent EIN Sets installation date to the Change Date Sets receive date to the Change Date Sets item status to "I" Sets audit date to the Change Date Sets ECS name to that of the Parent EIN specified for the MWO itself Sets location, building, and room values to that of the Parent EIN specified for the MWO itself If the component is replacing an EIN specified in a separate line item as a failed item being returned to the vendor and , copies the item cost from the EIN record for the failed item to the EIN record for the new item For a failed item being replaced by the specified component EIN: Sets cost to 0 OEM part records: Creates an OEM Part record if "observed values" for Part No, MFR, and Description are specified and the part record doesn't already exist EIN structure records: Obsoletes the specified component EIN in EIN Structures where it is active, if any. The structure is rendered inactive as of the specified Change Date Adds the EIN as a component of the item specified as a component of the MWO's Parent EIN. The structure is rendered active as of the Change Date specified Inventory transaction records: Creates an entry for event of type "MNV" for the specified component

Table 23.4.2-2. Effects on Property Records by MWO Line Item Processing (4 of 4)

Event Type	Maint Code	Property Record Updates
R (Replaced)	R (Relocate)	When an item is being relocated to a new machine. EIN records: Creates a record if one doesn't exist for the specified component EIN For the specified component EIN: Sets the Parent EIN to the New Parent EIN Sets the Installation Date to Change Date Sets item status to "I" Sets audit date to the Change Date Sets ECS name to the name of the new parent EIN Sets location, building, and room to that of the new parent EIN OEM part records: Creates an OEM Part record if "observed values" for Part No, MFR, and Description are specified and the part record doesn't already exist EIN structure records: Obsoletes the specified component EIN in EIN Structures where it is active. The structure is rendered inactive as of the specified Change Date Adds the EIN as a component of the item specified as New Parent EIN. The structure is rendered active as of the specified Change Date Inventory transaction records: Creates an entry for event of type "MRR" for the specified component
R (Replaced)	S (Stock)	When an item is being returned to stock. EIN records: Creates a record if one doesn't exist for the specified component EIN For the specified component EIN: Sets the Parent EIN to blank Clears its installation date Sets item status to "R" Sets audit date to the Change Date Sets ECS name to "IN STOCK" Sets location, building, and room to new values, if specified OEM part records: Creates an OEM Part record if "observed values" for Part No, MFR, and Description are specified and the part record doesn't already exist EIN structure records: Obsoletes the specified component EIN in EIN Structure where it is active. The structure is rendered inactive as of the specified Change Date Inventory transaction records: Creates an entry for event of type "MRS" for the specified component

Table 23.4.2-3 describes the Procedure to Add Work Order Line Items.

Table 23.4.2-3. Procedure to Add Work Order Line Items (1 of 4)

Perform	Action	Expected Result
Navigate to the ILM-MWO Line Item Form	At the Remedy-ILM PC, **File -> Open -> ILM-MWO -> Search** Find the Work order No to add the line items When the Work order is displayed, click on the "Add Fail-Replacement Component" button on the bottom of the ILM-MWO form **Warning:** User **Must** use the ILM-MWO form to create new work order line items. The reason being is that the system needs to know the work order where the line item was generate from.	ILM-MWO Line Item form is displayed and ready for the user to add new work order line items.
Entering a failed item and returned to vendor	At the ILM-MWO Line Item form, Component EIN – Enter a component EIN if known – the system populates the "Database Values" section if the Component EIN existed in the ILM-EIN form. If the Component EIN does not exist in the database, complete the "Observed Values" section. Event Type – Enter an "**F**" for failed. Maint Code – Enter a "**V**" to specify that the failed component was returned to the vendor. Enter a Replacement EIN into the Replacement EIN field if known. Press the "Add Another LI to MWO" button.	The system added the Failed component to the ILM-MWO Line Item form and is ready for user to add another line item to the work order. Refer to Table 23.4.2-2 Event Type (F) and Maint Code (V) for detail description of property updates after the Property Administrator processes this line item.

NOTE: To move to the next field, use either the TAB key or the Mouse. The Enter key will not move the cursor to the next field.

Table 23.4.2-3. Procedure to Add Work Order Line Items (2 of 4)

Perform	Action	Expected Result
Entering a failed item and return to stock	At the ILM-MWO Line Item form, Component EIN – Enter a component EIN if known – the system populates the "Database Values" section if the Component EIN existed in the ILM-EIN form. If the Component EIN does not exist in the database, complete the "Observed Values" section. Event Type – Enter an "**F**" for failed. Maint Code – Enter an "**S**" to specify that the failed component was returned to stock. Enter the new stock location values in the New Location, New Building, and New Room fields. Press the "Add Another LI to MWO" button.	The system added the Failed component to the ILM-MWO Line Item form and is ready for user to add another line item to the work order. Refer to Table 23.4.2-2 Event Type (F) and Maint Code (S) for detail description of property updates after the Property Administrator processes this line item.
adding a component EIN to the MWO's Parent EIN structure where the Component EIN came from stock	At the ILM-MWO Line Item form, Component EIN – Enter a component EIN if known – the system populates the "Database Values" section if the Component EIN existed in the ILM-EIN form. If the Component EIN does not exist in the database, complete the "Observed Values" section. Event Type – Enter an "**N**" for failed. Maint Code – Enter an "**S**" to specify that the failed component came from stock. Press the "Add Another LI to MWO" button.	The system added the Failed component to the ILM-MWO Line Item form and is ready for user to add another line item to the work order. Refer to Table 23.4.2-2 Event Type (N) and Maint Code (S) for detail description of property updates after the Property Administrator processes this line item.

NOTE: To move to the next field, use either the TAB key or the Mouse. The Enter key will not move the cursor to the next field.

Table 23.4.2-3. Procedure to Add Work Order Line Items (3 of 4)

Perform	Action	Expected Result
adding a new component EIN to the MWO's Parent EIN Structure where the Component EIN came from the vendor.	At the ILM-MWO Line Item form, Component EIN – Enter a component EIN if known – the system populates the "Database Values" section if the Component EIN existed in the ILM-EIN form. If the Component EIN does not exist in the database, complete the "Observed Values" section. Event Type – Enter an "**N**" for failed. Maint Code – Enter a "**V**" to specify that the failed component was returned to the vendor. Press the "Add Another LI to MWO" button.	The system added the Failed component to the ILM-MWO Line Item form and is ready for user to add another line item to the work order. Refer to Table 23.4.2-2 Event Type (N) and Maint Code (V) for detail description of property updates after the Property Administrator processes this line item.
Relocating a component to a new Parent EIN structure	At the ILM-MWO Line Item form, Component EIN – Enter a component EIN if known – the system populates the "Database Values" section if the Component EIN existed in the ILM-EIN form. If the Component EIN does not exist in the database, complete the "Observed Values" section. Event Type – Enter an "**R**" for relocate. Maint Code – Enter an "**R**" to specify that the component EIN is being relocated to a new Parent EIN. Enter the new Parent EIN into the New Parent EIN field. Press the "Add Another LI to MWO" button.	The system added the Failed component to the ILM-MWO Line Item form and is ready for user to add another line item to the work order. Refer to Table 23.4.2-2 Event Type (R) and Maint Code (R) for detail description of property updates after the Property Administrator processes this line item.

NOTE: To move to the next field, use either the TAB key or the Mouse. The Enter key will not move the cursor to the next field.

Table 23.4.2-3. Procedure to Add Work Order Line Items (4 of 4)

Perform	Action	Expected Result
Relocating a component to stock	At the ILM-MWO Line Item form, Component EIN – Enter a component EIN if known – the system populates the "Database Values" section if the Component EIN existed in the ILM-EIN form. If the Component EIN does not exist in the database, complete the "Observed Values" section. Event Type – Enter an "**R**" for relocate. Maint Code – Enter an "**S**" to specify that the component EIN is being returned to stock. Enter the new stock location values in the New Location, New Building, and New Room fields. Press the "Add Another LI to MWO" button.	The system added the Failed component to the ILM-MWO Line Item form and is ready for user to add another line item to the work order. Refer to table 23.4.2-2 Event Type (R) and Maint Code (S) for detail description of property updates after the Property Administrator processes this line item.

NOTE: To move to the next field, use either the TAB key or the Mouse. The Enter key will not move the cursor to the next field.

23.5 License Management

Many software products used in EEB are licensed; that is, subject to conditions limiting how many users can run the product and where. Licenses take numerous forms. Nodelock licenses let users run the product, but only on a designated machine; counted nodelock licenses limit the number of users that can run the product on that machine. Floating licenses allow users to run a product from any machine in a network. They may limit the number of users that can run the product concurrently, the number of servers that can be used concurrently, the number of sites that can use the product, or any combination of the above. Licenses can apply to a named product, one or more of its features, one or more of its versions, and/or one or more types of platforms. Some vendors enforce these provisions through use of license keys, but EEB is accountable for adhering to licensing provisions whether vendors use keys or not.

When purchasing a product or obtaining an upgrade, engineering determines what licensing provisions are required. Depending on the product, license entitlements may appear as separate line items on purchase orders, or frequently not. (For example, purchased licensing provisions may be provided with the product; that is, not purchased separately.) License certificates (rights to certify) typically accompany software when it arrives and, in the case of operating system software, accompanies the computers themselves. These certificates describe the licensing provisions that were purchased and may carry an associated cost. Sometimes, the certificates include a license key, but usually they represent the right to obtain keys.

Multiple licenses are sometimes obtained from the product vendor under the provisions of a single license certificate. Each license would account for part of the rights-to-use under the certificate. Conversely, individual licenses can consume rights-to-use from more than one certificate. Each unique license key implies a unique license, but not every license has a key.

Licenses are allocated to the sites and host machines where their keys are installed, and keyless licenses are allocated to where their software products are installed. This is not so much for property accounting (i.e., cost accounting), but to verify adherence to purchased licensing provisions and to identify where licenses are used in case rights-to-use must transfer elsewhere.

License rights-to-use are counted differently depending on the type of licenses purchased. Rights for nodelock license are allocated and counted by node and are consumed at the rate of one license per node. Floating license rights are allocated and counted based on number of users on a network rather than by specific machines, where the network is represented by a machine on which the license is installed. Floating license rights are consumed at the rate of number of users per license. Occasionally, a purchased entitlement covers a total number of users across a limited number of machines. In this case, rights are consumed at the rate of one license per node as well as number of users per license.

The following forms provide the software license administrator (SLA) capabilities to manage software licenses.

- ILM-License Products – to maintain standardized information about manufacturer's part numbers.
- ILM-License Entitlement – to maintain records of purchased rights-to-use for licensed software.
- ILM-License – to maintain records of software licenses obtained from vendors and maintains license allocation.
- ILM-License Mapping – manages the mapping of a license to purchased entitlements.
- ILM-Additional Host – identifies redundant or backup server machines on which the license will be installed

23.5.1 ILM-License Products GUI

This form (Figure 23.5.1-1) provides the SLA the ability to maintain standardized information about manufacturers' part numbers. Entitlement Part number must be recorded before they can be added to an entitlement or license via the ILM-Entitlement form or the ILM-License form.

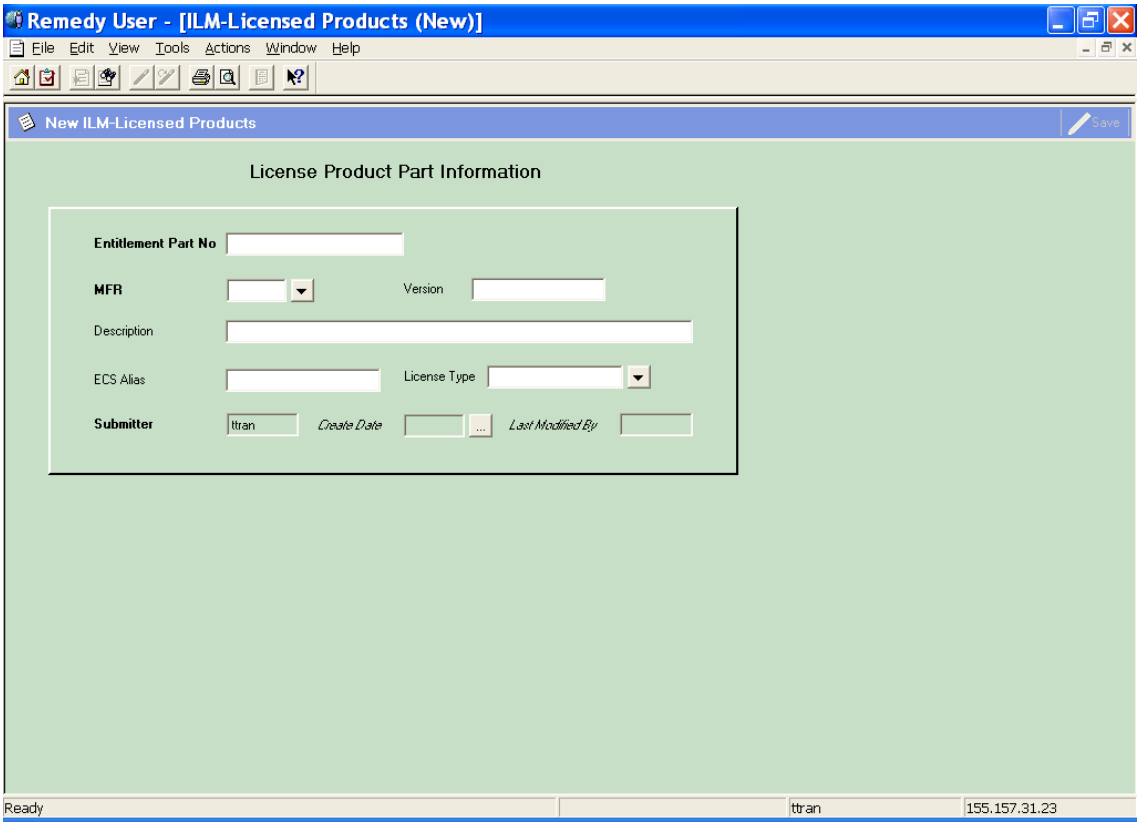


Figure 23.5.1-1. ILM-License Products GUI

Table 23.5.1-1 describes the ILM-License Products form field definition.

Table 23.5.1-1. ILM-License Products Field Descriptions

Field Name	Data Type	Size	Entry	Description
Entitlement Part No	Char	34	Required	Manufacturer's or vendor's part number for the entitlement.
MFR	Char	6	Required	Code for the manufacturer from whom the item was purchased.
Version	Char	34	Optional	Version number of the part.
Description	Char	50	Required	Manufacturer's or vendor's description for the entitlement.
ECS Alias	Char	30	Optional	Common name used for the licensed product and all its versions and variants.
License Type	Char	16	Optional	Classification that distinguishes among licenses according to rules of use. Examples include: floating (limited number of concurrent users), nodelocked (limited to use on a single machine), project (unlimited use anywhere by individuals working on a certain project), site (unlimited use at a single site), etc.
Submitter	Char	30	System-supplied	The user that created the record.
Create Date	Date		System-supplied	Date the record was created.
Last Modified By	Char	30	System-supplied	The user who last modified the record.

23.5.2 ILM-License Entitlement GUI

Operators use the ILM-License Entitlement form (Figures 23.5.2-1 to 23.5.2-3) to maintain records of purchased rights-to-use for licensed software, including how many node and user rights-to-use have been consumed, remain, and are under maintenance. Rights consumed and remaining are computed automatically based on the licenses mapped against it. Table 23.5.2-1 provides ILM-License Entitlement field descriptions.

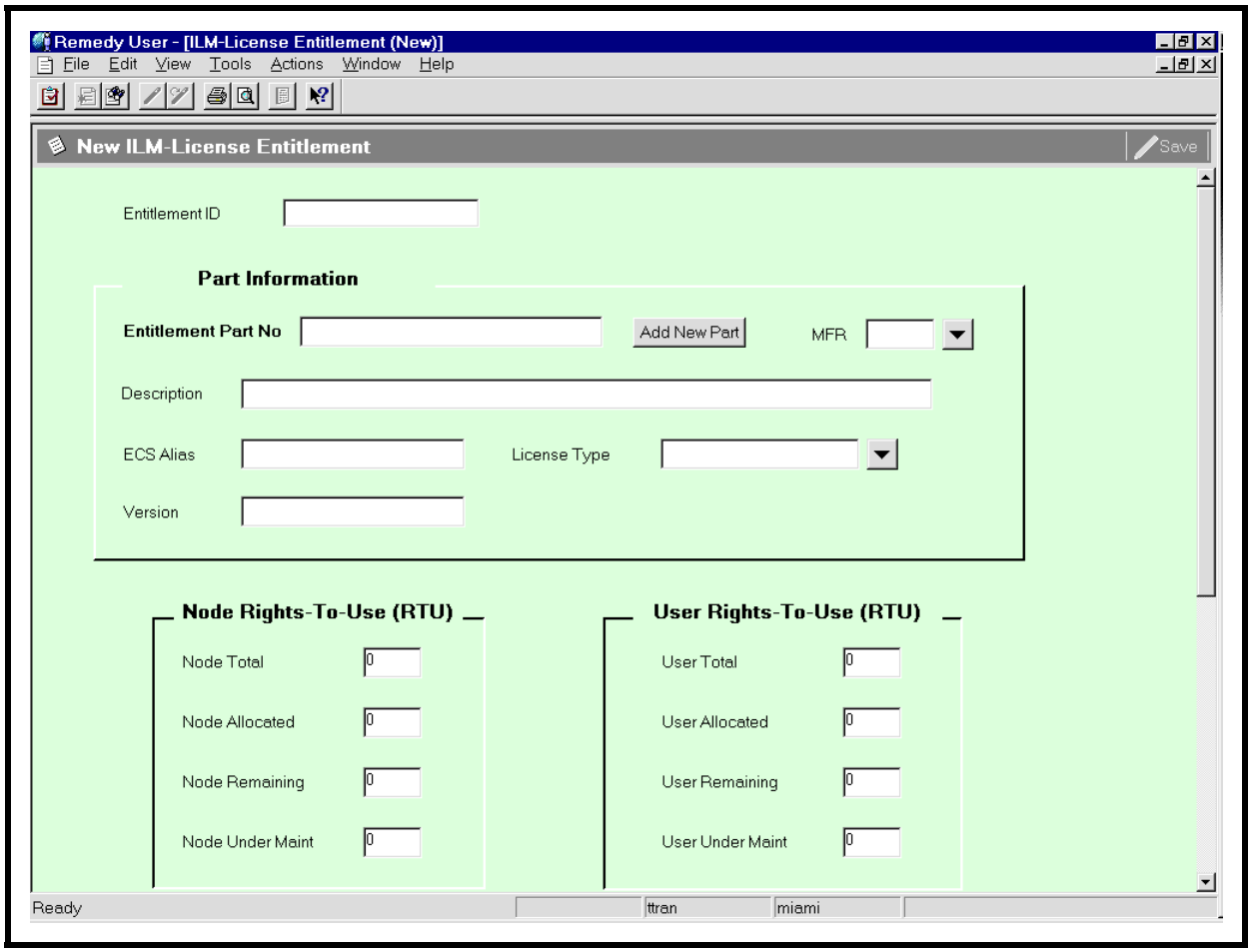


Figure 23.5.2-1. ILM-License Entitlement GUI

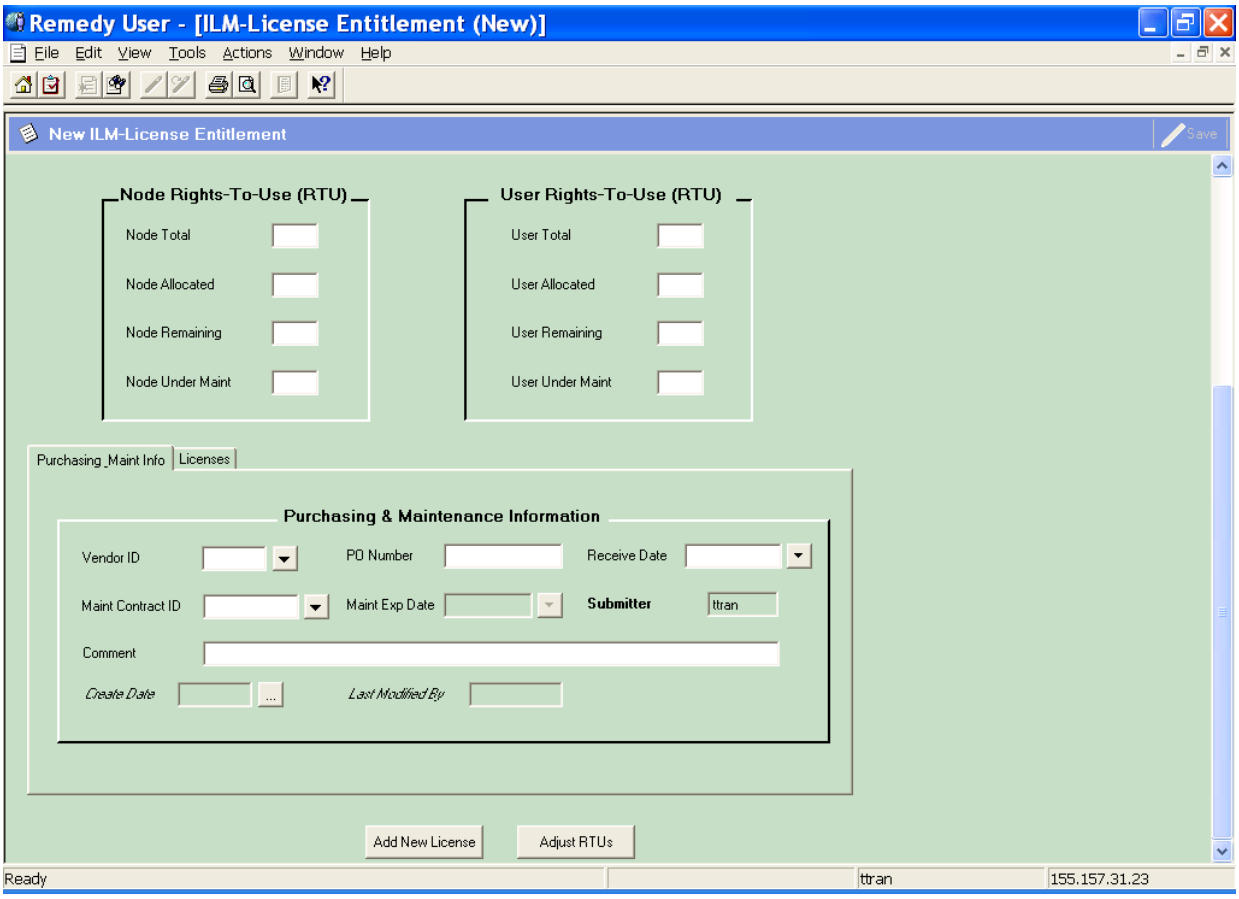


Figure 23.5.2-2. ILM-License Entitlement GUI – Purchasing_Maint Info

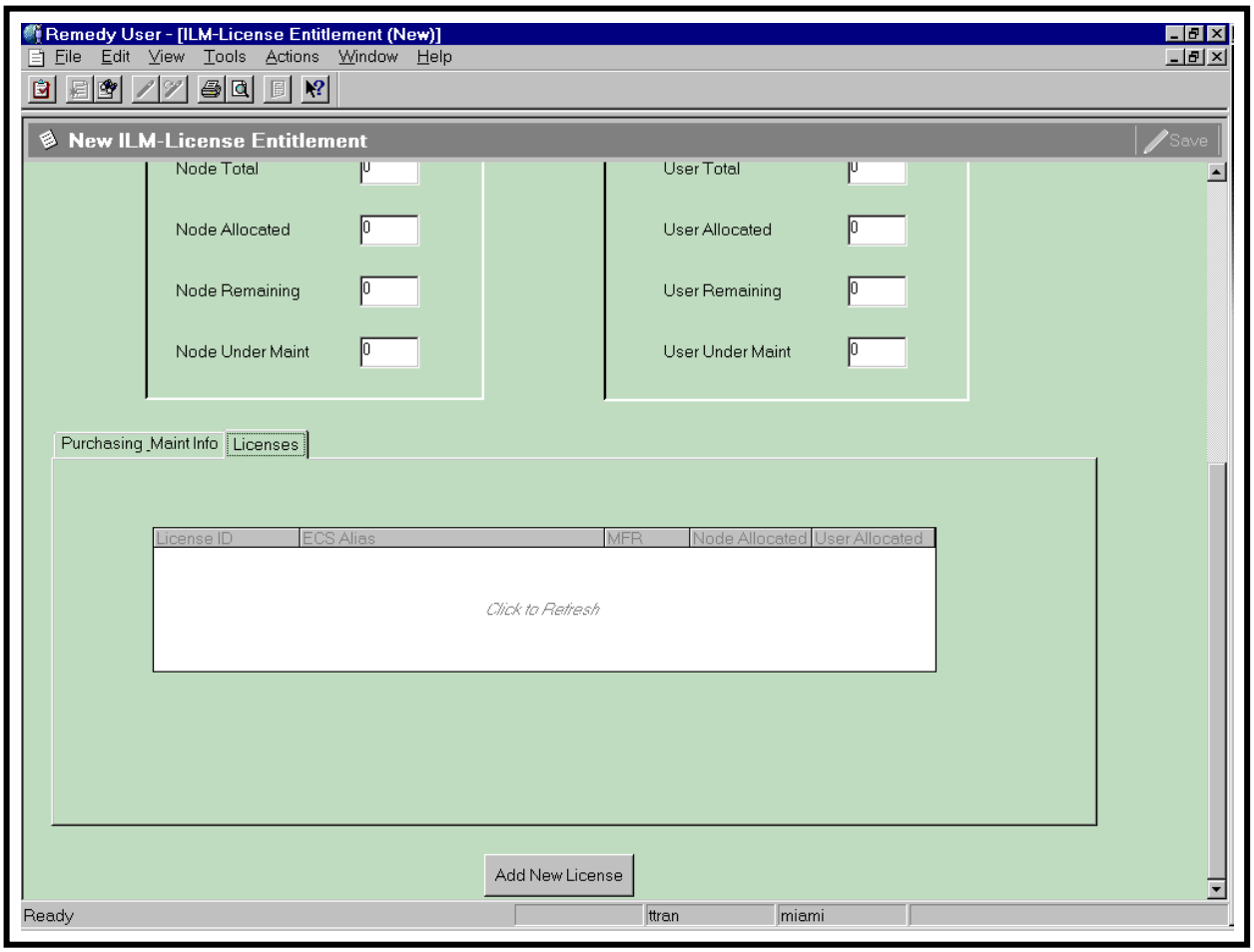


Figure 23.5.2-3. ILM-License Entitlement GUI - Licenses

Table 23.5.2-1. ILM-Entitlement Field Descriptions

Field Name	Data Type	Size	Entry	Description
Entitlement ID	Char	10	System supplies	Identifier for a purchased license entitlement.
Entitlement Part No	Char	34	Required	Manufacturer's or vendor's part number for the entitlement.
MFR	Char	6	System supplied	Code for the manufacturer from whom the item was purchased. in the field above.
Description	Char	50	System supplied	Manufacturer's or vendor's description for the entitlement.
ECS Alias	Char	30	System supplied	Common name used for the licensed product and all its versions and variants.
License Type	Char	16	System supplied	Classification that distinguishes among licenses according to rules of use.
Version	Char	34	System supplied	Version number of the part.
Rights to Use (RTU)	Integer	8	Optional	Quantity of node or user rights-to-use authorized by this purchased entitlement.
Node/User Allocated	Integer	8	System supplied	Quantity of node or user rights under the license entitlement currently allocated by licenses mapped to the entitlement. This value is calculated by the system and reflects the total number of allocations of those licenses.
Node/User Remaining	Integer	8	System supplied	Quantity of node or user rights under a license entitlement not yet consumed by the mapping of licenses to the entitlement.
Node/User Under Maint	Integer	8	System supplied	Quantity of node or user rights-to-use currently under maintenance.
Vendor ID	Char	6	Optional	Code for the vendor from whom the item was purchased.
Receive Date	Date		Optional	Date item was received from vendor.
Maint Contract ID	Char	10	Optional	Identifier for the Maintenance Contract under which the item is covered.
Maint Exp Date	Date		Optional	Date the maintenance contract expired.
Comment	Char	30	Optional	Miscellaneous information specific to the item.
Licenses	Page			This table lists any license(s) the license entitlement is mapped to and how many user rights-to-use were assigned to the license id.
Submitter	Char	30	System-supplied	The user whom created the record.
Create Date	Date		System-supplied	Date the record was created.
Last Modified By	Char	30	System-supplied	The user who last modified the record.

The following buttons are unique to this form:

- Add New Part – Activates the ILM-License Products form. This allows the operator to add new parts.
- Add New License – displays the ILM-License form (Figure 23.5.3) to allow the SLA to add new licenses.
- Adjust RTUs – Facilitates adjustments of the right-to-use numbers.

Table 23.5.2-2 provides instruction on how to add a new License Entitlement.

Table 23.5.2-2. Procedure to Add New License Entitlement

Perform	Action	Expected Result
Navigate to the ILM-License Entitlement Form	At the Remedy-ILM PC, **File -> Open -> ILM-License Entitlement -> New**	ILM-License Entitlement form is displayed and ready for the user to add new license entitlement.
Defining a new license entitlement	Filling in the necessary information, Entitlement ID – Leave this field blank. The system will generate the next prefixed "LE" number when user saves the record. Complete the Part information section. Note. The Entitlement Part No field's label is **Bolded**. Therefore, you must enter a value into the Entitlement Part No field. The Entitlement Part No must exist in the ILM-License Products form. If not, the system will display an error message and will not except the value. If the license entitlement is a Node lock license, complete the Node Rights-To-Use section. If the license entitlement is a floating license, complete the User Rights-To-Use section. Complete the Purchasing & Maintenance Info section. Press the **Save** icon to save the record.	The system will generate the next prefixed "LE" license entitlement number and saves the new record in the database.

NOTE: To move to the next field, use either the TAB key or the Mouse. The Enter key will not move the cursor to the next field**.**

Table 23.5.2-3 provides instruction on how to run the License Entitlement status report that was specifically designed for this form. This report lists the status of current license entitlements for licensed software products, sorted by software product, version, and license type.

Table 23.5.2-3. Procedures to Generate ILM-License Entitlement Predefined Reports

Perform	Action	Expected Result
Navigate to the ILM-License Entitlement Form	At the Remedy-ILM PC, **File -> Open -> ILM-License Entitlement -> Search**	ILM-License Entitlement form is displayed.
Run License Entitlement Status Report	Find the records of interest When the records are displayed, **Tools - > Reporting -> License Ent Status Report** When the report is displayed, user has the option to either print the report by pressing the print icon or export the report into a file by pressing the Export Icon next to the print icon. Close the report preview.	The License Entitlement Status Report is displayed. See Figure 23.5.2-4 for the report layout.

NOTE: To move to the next field, use either the TAB key or the Mouse. The Enter key will not move the cursor to the next field.

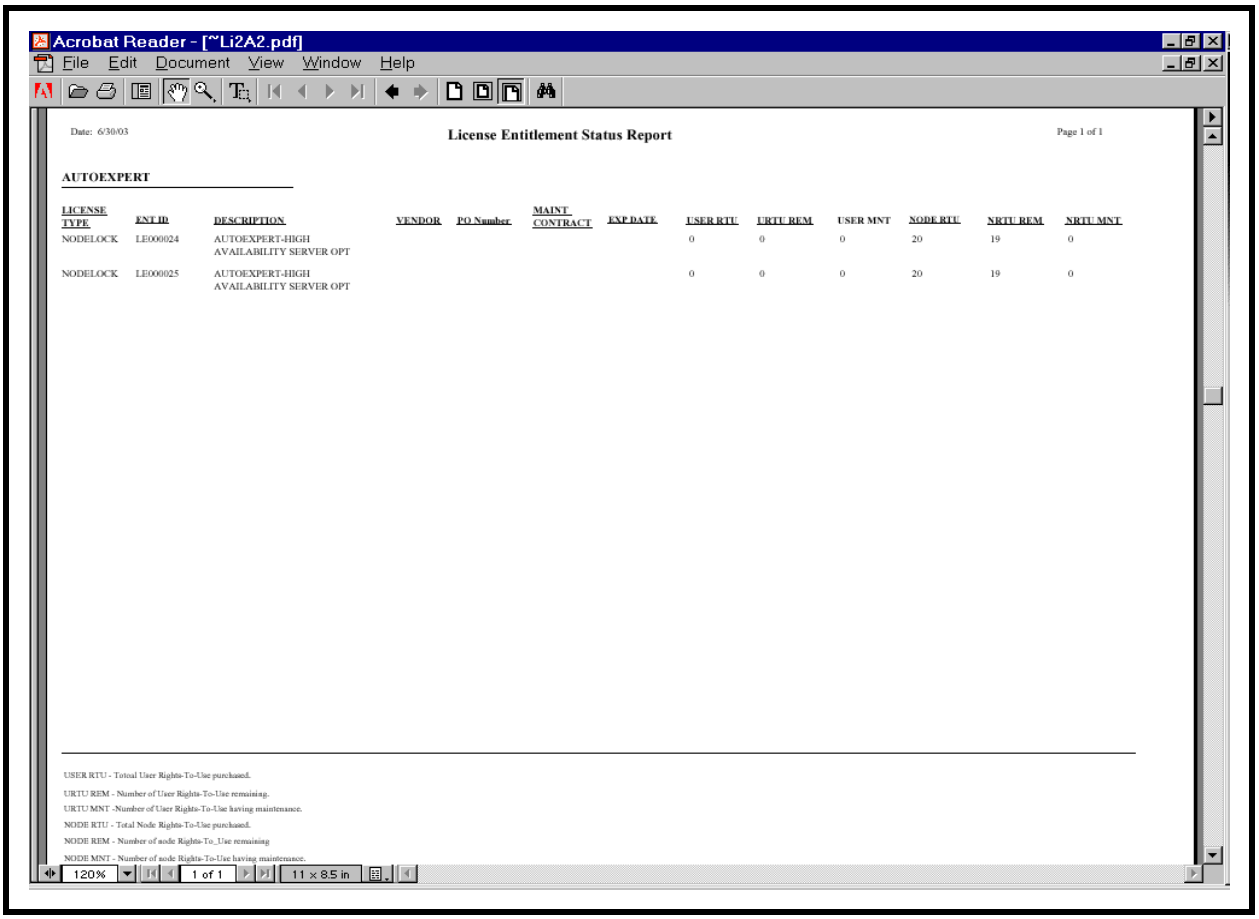


Figure 23.5.2-4. License Entitlement Status Report GUI

23.5.3 ILM-License GUI

The ILM-License form (Figures 23.5.3-1 to 23.5.3-4) maintains records of software licenses obtained from vendors. This form also maintains records about the hosts and sites to which the licenses have been allocated. Licenses must be mapped to purchased license entitlements so that consumption of license rights can be tracked.

A license is a euphemism for the rights granted a number of users to operate a software product or one or more of the product's versions or features concurrently on certain machines. These rights are often encoded in a license "key", but not all products employ such keys.

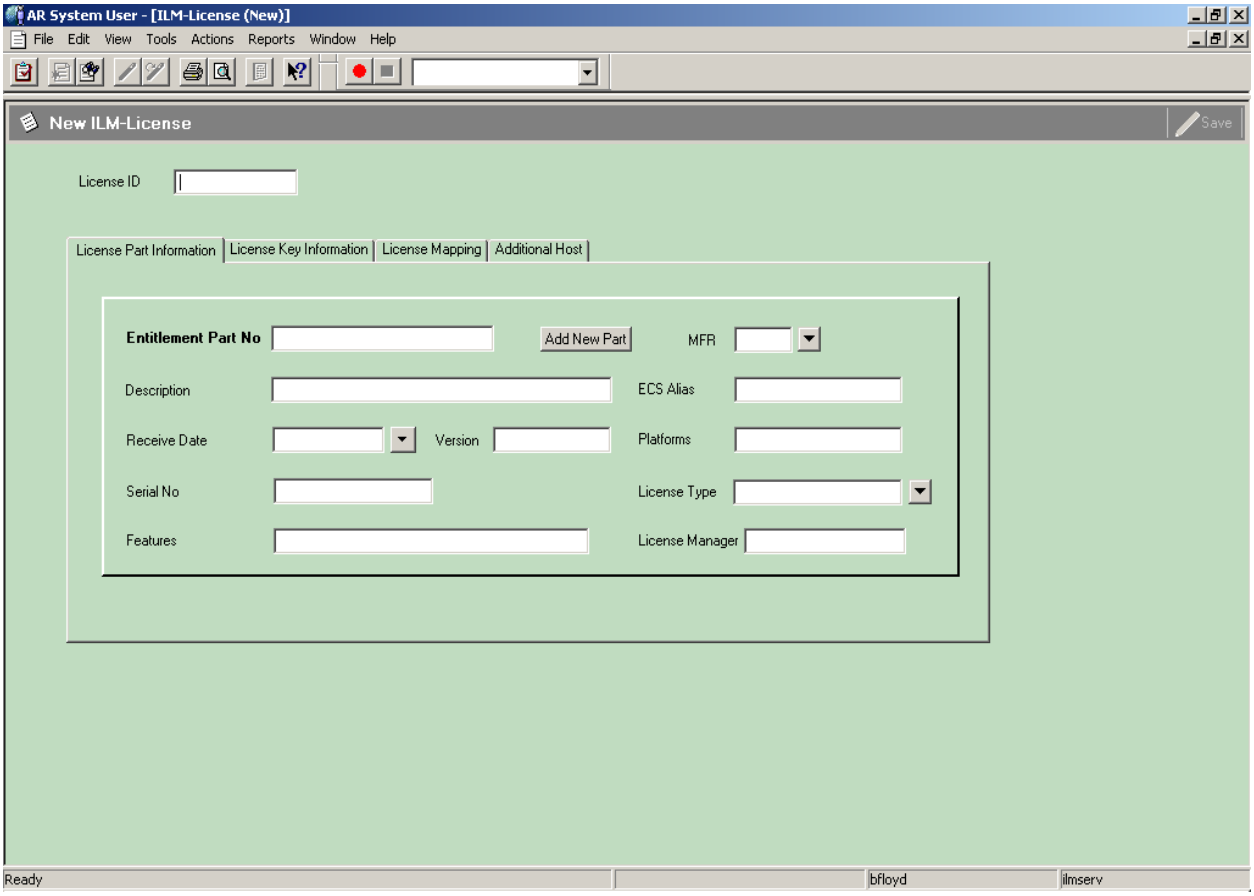


Figure 23.5.3-1. ILM-License GUI – License Part Information

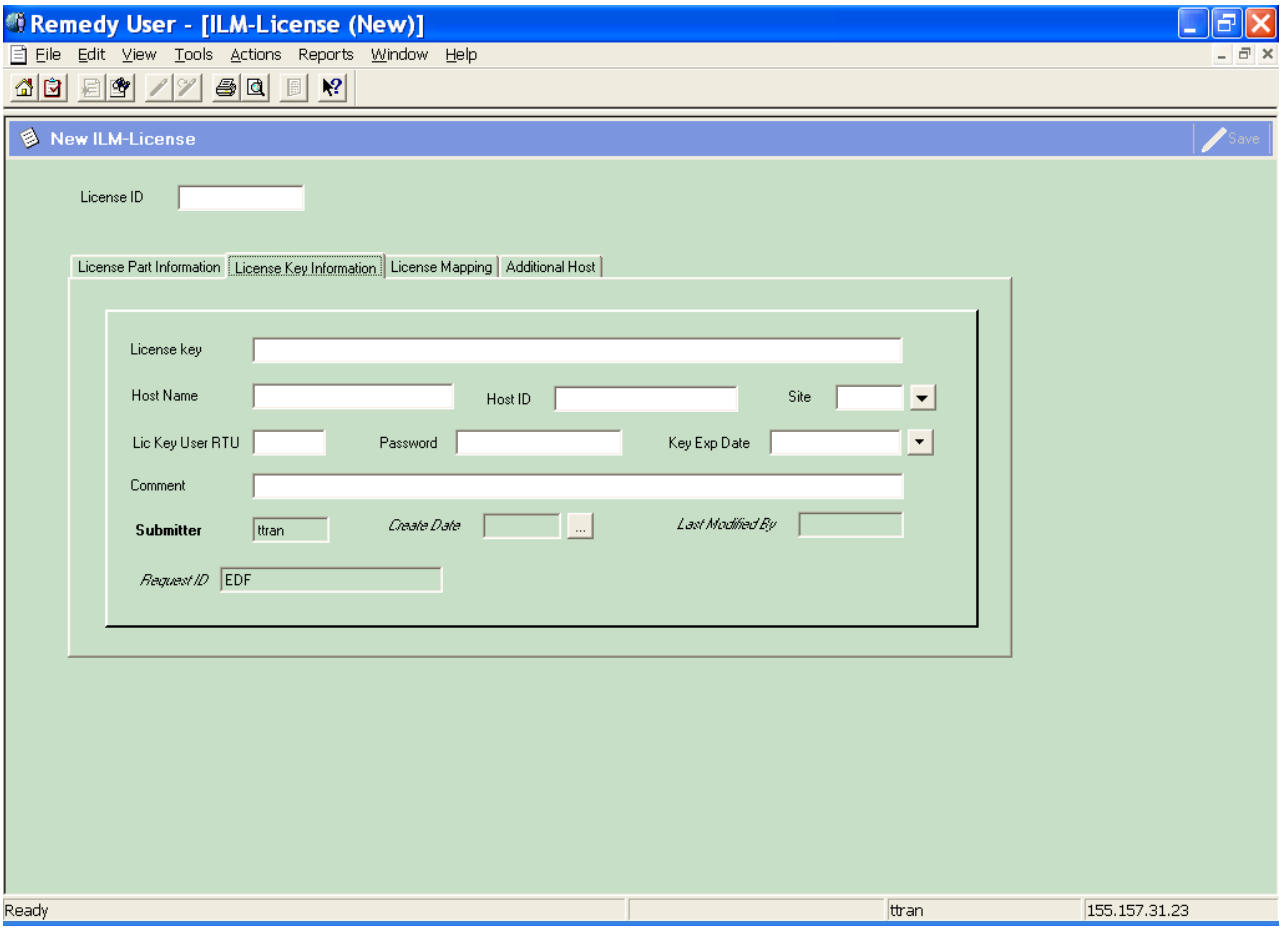


Figure 23.5.3-2. ILM-License GUI – License Key Information

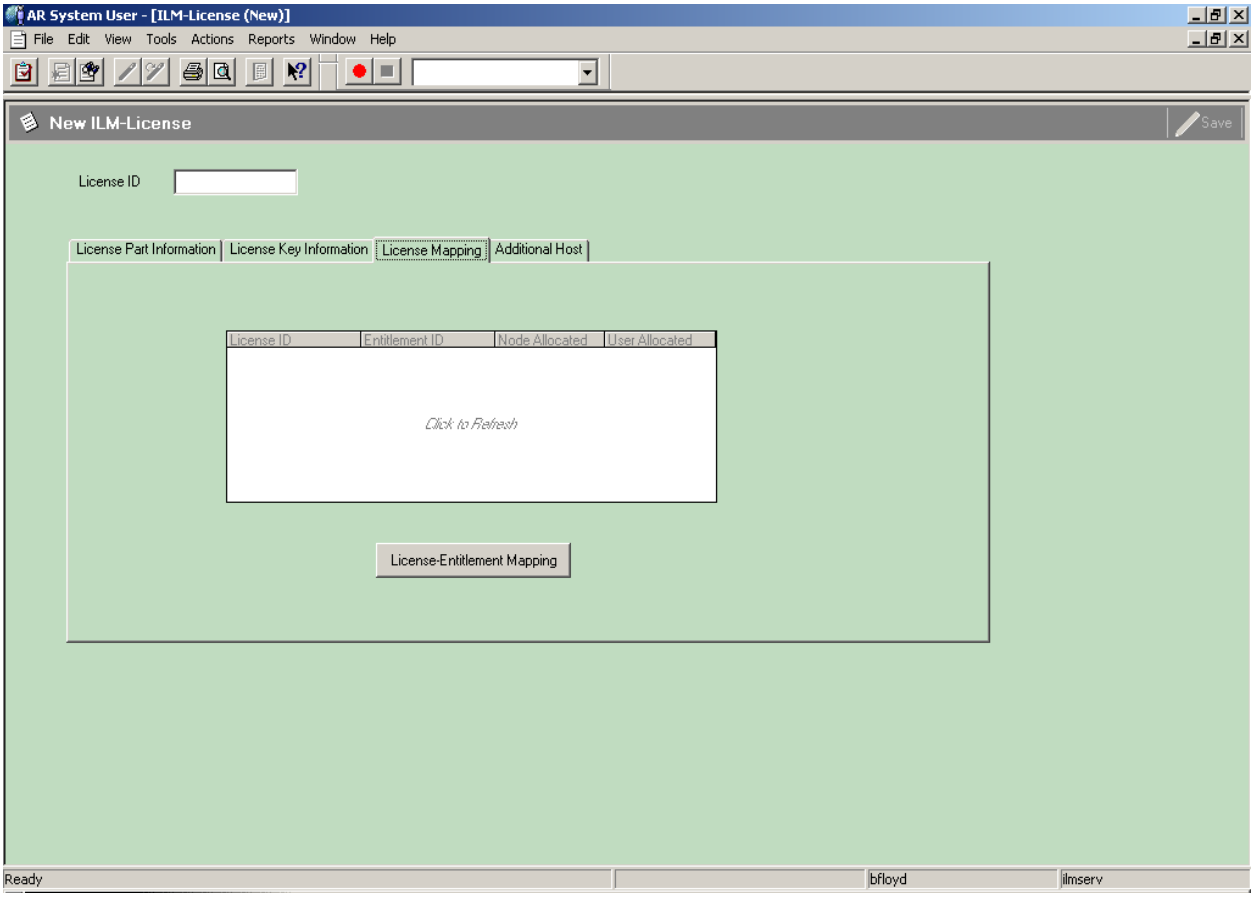


Figure 23.5.3-3. ILM-License GUI – License Mapping

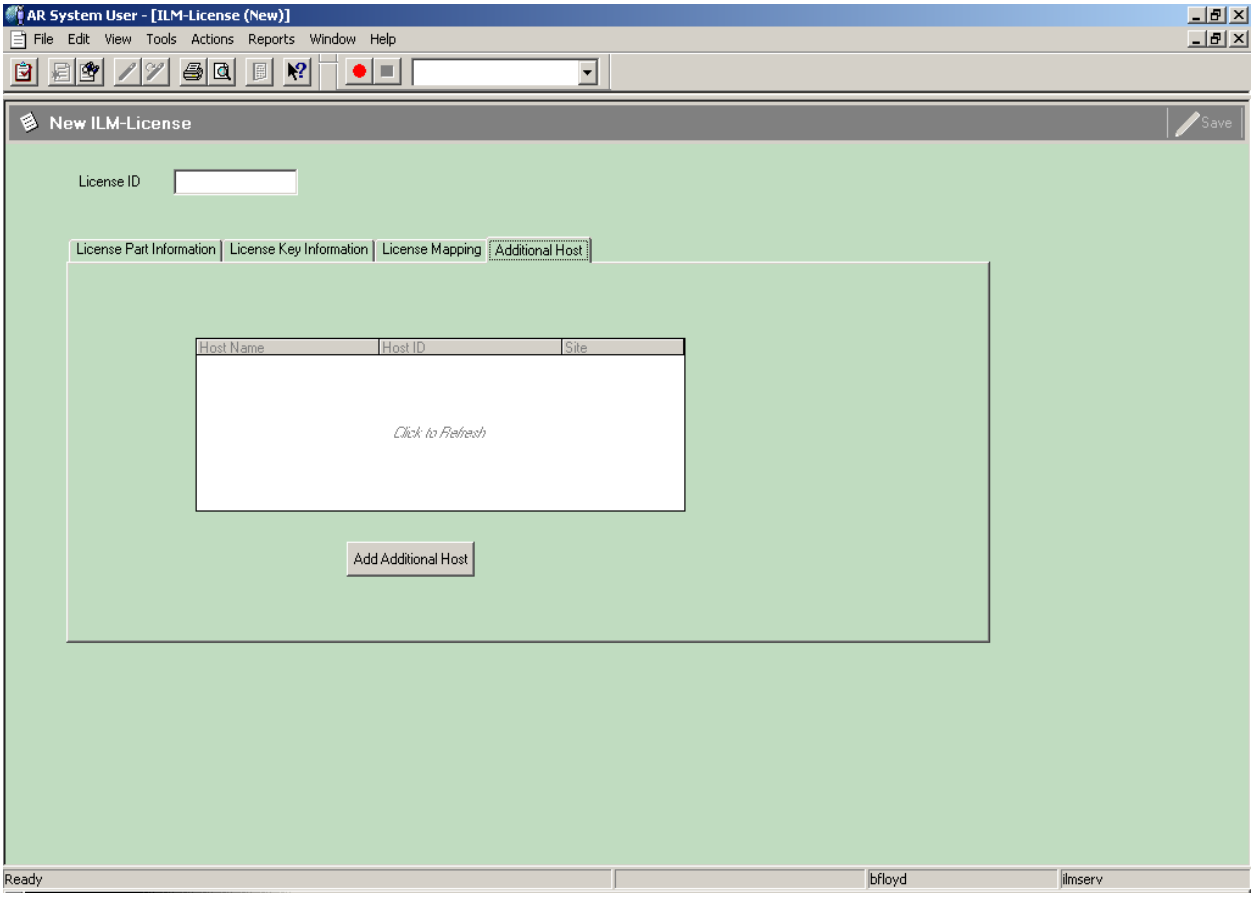


Figure 23.5.3-4. ILM-License GUI – Additional Host

Table 23.5.3-1 describes the field definition for the ILM-License form, and table 23.5.3-2 and 23.5.3-3 provide instructions on how to create a new license and how to map a license to entitlement.

Table 23.5.3-1. ILM-License Field Descriptions (1 of 2)

Field Name	Data Type	Size	Entry	Description
License ID	Char	10	System Supplies	Unique designator for a license.
Entitlement Part No	Char	34	Required	Manufacturer's or vendor's part number for the entitlement.
MFR	Char	6	System supplied	Code for the manufacturer from whom the item was purchased.
Description	Char	50	System supplied	Manufacturer's or vendor's description for the entitlement.
ECS Alias	Char	30	System supplied	Common name used for the licensed product and all its versions and variants.
Receive Date	Date		Optional	Date the license key and/or data arrived.
Version	Char	34	System supplied	Version number of the part.
Platforms	Char	15	Optional	One or more codes for the types of machines to which the license applies (e.g., Sun, SGI, PC, etc.)
Serial No	Char	30	Optional	Vendor-supplied serial number for the license or the product being licensed.
License Type	Char	16	System supplied	Classification that distinguishes among licenses according to rules of use.
Features	Char	54	Optional	Name(s) of one or more features of the licensed product that are covered by the license.
License Manager	Char	12	Optional	Technology employed in managing the license on-line (e.g., flexlm, proprietary, etc.)
License Key	Char	50	Optional	Char of alphanumeric characters that represent the provisions for a license in an encoded form.
Host Name	Char	30	Optional	ECS Name of a machine to which the license is allocated.
Host ID	Char	20	Optional	Host id of the license server machine supplied to the vendor when requesting the license. Allocations of licenses to machines are accomplished via the License Allocation Manager screen.
Site	Char	6	Optional	Code for the site to which the license is allocated.
Lic Key User RTU	Integer	8	Optional	Number of users authorized by the license to run the licensed product concurrently on a single network. This value limits the user rights-to-use that can be recorded in the license's allocation records.
Password	Char	20	Optional	Password supplied along with the license key by the vendor.
Key Exp Date	Date		Optional	Date on which the license key is no longer usable.
Comment	Char	60	Optional	Comment to be stored in the record.

Table 23.5.3-1. ILM-License Field Descriptions (2 of 2)

Field Name	Data Type	Size	Entry	Description
Submitter	Char	30	System-supplied	The user whom created the record.
Create Date	Date		System-supplied	Date the record was created.
Last Modified By	Char	30	System-supplied	The user last modified the record.

The following buttons are unique to this form:

- Add New Part – Activates the ILM-License Products form. This allows the operator to add new parts.
- License-Entitlement Mapping - activates the ILM-License Mapping form that allows the SLA to map the license to the purchased entitlement.
- Add Additional Host – activates the ILM-Additional host form to allow the SLA to add redundant host or backup server to the license.

Table 23.5.3-2. Procedure to Add New License and Allocate It to a Machine (1 of 2)

Perform	Action	Expected Result
Navigate to the ILM-License Form	At the Remedy-ILM PC, **File -> Open -> ILM-License -> New** Or While the ILM-License Entitlement form is displayed, press the "Add New License" button on the bottom of the form.	ILM-License form is displayed and ready for the user to add new license.
Defining a new license and allocate the license to a host	Filling in the necessary information, License ID – Leave this field blank. The system will generate the next prefixed "L" number when user saves the record. Complete the Part information section. Note. The Entitlement Part No field's label is **Bolded**. Therefore, you must enter a value into the Entitlement Part No field. The Entitlement Part No must exist in the ILM-License Products form. If not, the system will display an error message and will not except the value. License Key – Enter the license key that the vendor provided. Enter Host name, Host ID, and Site where the license is allocated. Complete the rest of the information in the License Key section. Press the **Save** icon to save the record.	The system will generate the next prefixed "L" license entitlement number and saves the new record in the database. The system displays the ILM-License Mapping form (Figure 23.5.4-1) with the newly created license information that just created and ready for user to map the license to the purchased entitlement.

NOTE: To move to the next field, use either the TAB key or the Mouse. The Enter key will not move the cursor to the next field.

Table 23.5.3-2. Procedure to Add New License and Allocate It to a Machine (2 of 2)

Perform	Action	Expected Result
Mapping the new license to a purchased entitlement	When the **Save** button is pressed, the system displays the ILM-License Mapping form with the data about the newly created license record created in the step above. Enter the following information to complete mapping the license to a purchase entitlement: Entitlement ID – Enter an Entitlement ID against which this license ID should be mapped. If the license type is a Node lock license, enter "**1**" to allocate 1 node lock license to this license ID. If the license type is a floating license, enter the number of user rights-to-use allocated to this license ID. The number of User rights-to-use cannot exceed the number user rights-to-use assigned to the license ID. Press the **Save** icon to save the record. Close the ILM-License Mapping form.	If the license type is a Node Lock license, the system will decrement 1 node rights-to-use remaining from the Entitlement ID and increments 1 from the Node rights-to-use allocated. If the license type is a floating license, the system will decrement 1 from the user rights-to-use remaining from the Entitlement ID and increments 1 from the user rights-to-use allocated.
Adding additional host to the license	while the ILM-License form is on the displayed, Find the license of interest Press the "Add Additional Host" button on the bottom of the form to add additional host to the license ID. Enter the additional Host Name, Host ID, and Site. Press the **Save** icon to finish adding additional host to the license, OR Press the "Add Additional Host to License" button to add additional hosts to the license ID. Close the ILM-Additional Host form when finished adding all the additional hosts.	The ILM-Additional Host form is displayed. See Section 23.5.5 for more information about the ILM-Additional Host form. Additional hosts are added to the license.

NOTE: To move to the next field, use either the TAB key or the Mouse. The Enter key will not move the cursor to the next field.

Moreover, there are two pre-defined reports that were designed specially for this form. The license allocation by host report lists license allocations, sorted by host name and part alias and the license allocation by product report lists license allocations for licensed software products, sorted by product, version, and host name. Table 23.5.3-4 provides instructions on how to run these reports. Refer to Figures 23.5.3-6 and 23.5.3-7 for the report layouts.

Table 23.5.3-3. Procedures to Generate ILM-License Predefined Reports

Perform	Action	Expected Result
Navigate to the ILM-License Form	At the Remedy-ILM PC, **File -> Open -> ILM-License -> Search**	ILM-License Entitlement form is displayed.
Run License Allocation by Host Report	**Tools - > Reports -> License Allocation By Host** When the ILM-DIA-Lic Report form is displayed (see Figure 23.5.3-5), select or enter a site name, and/or enter the ECS Alias. Leaving the Site and the ECS Alias values blank will select all licenses in the database. Press the “Run Report” button to start running the report. Press on the “Report Preview” to bring up the report layout. When the report is displayed, user has the option to either print the report by pressing the print icon or export the report into a file by pressing the Export Icon next to the print icon. Close the report preview.	The License Allocation by Host Report is displayed. See Figure 23.5.3-4 for the report layout.
Run License Allocation by product Report	**Tools - > Reports -> License Allocation By Product** When the ILM-DIA-Lic Report form is displayed (see Figure 23.5.3-3), enter the ECS Alias. Leaving the Site ECS Alias values blank will select all licenses in the database. Press the “Run Report” to start running the report. Press on the “Report Preview” to bring up the report layout. When the report is displayed, user has the option to either print the report by pressing the print icon or export the report into a file by pressing the Export Icon next to the print icon. Close the report preview.	The License Allocation by Product Report is displayed. See Figure 23.5.3-5 for the report layout.

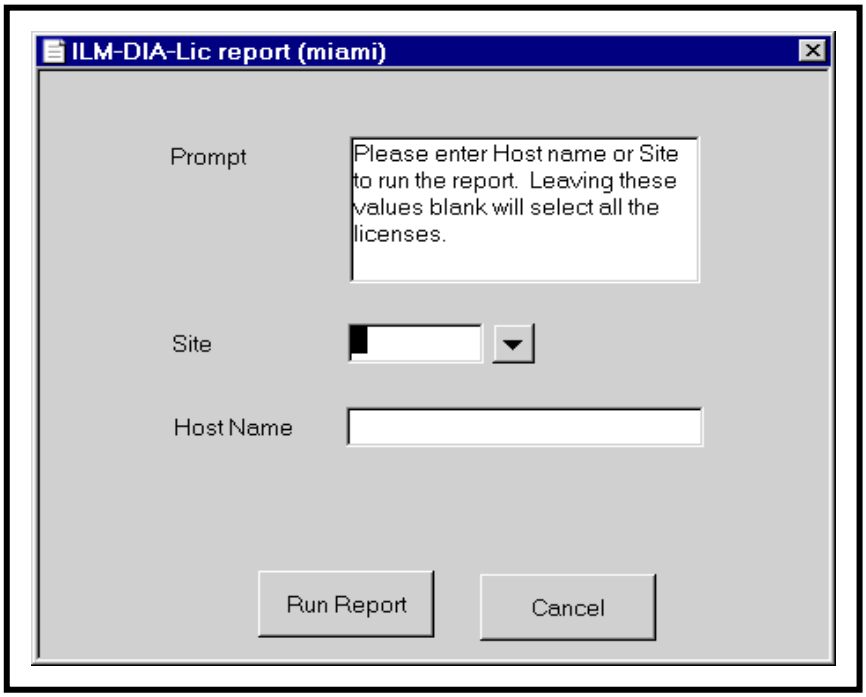
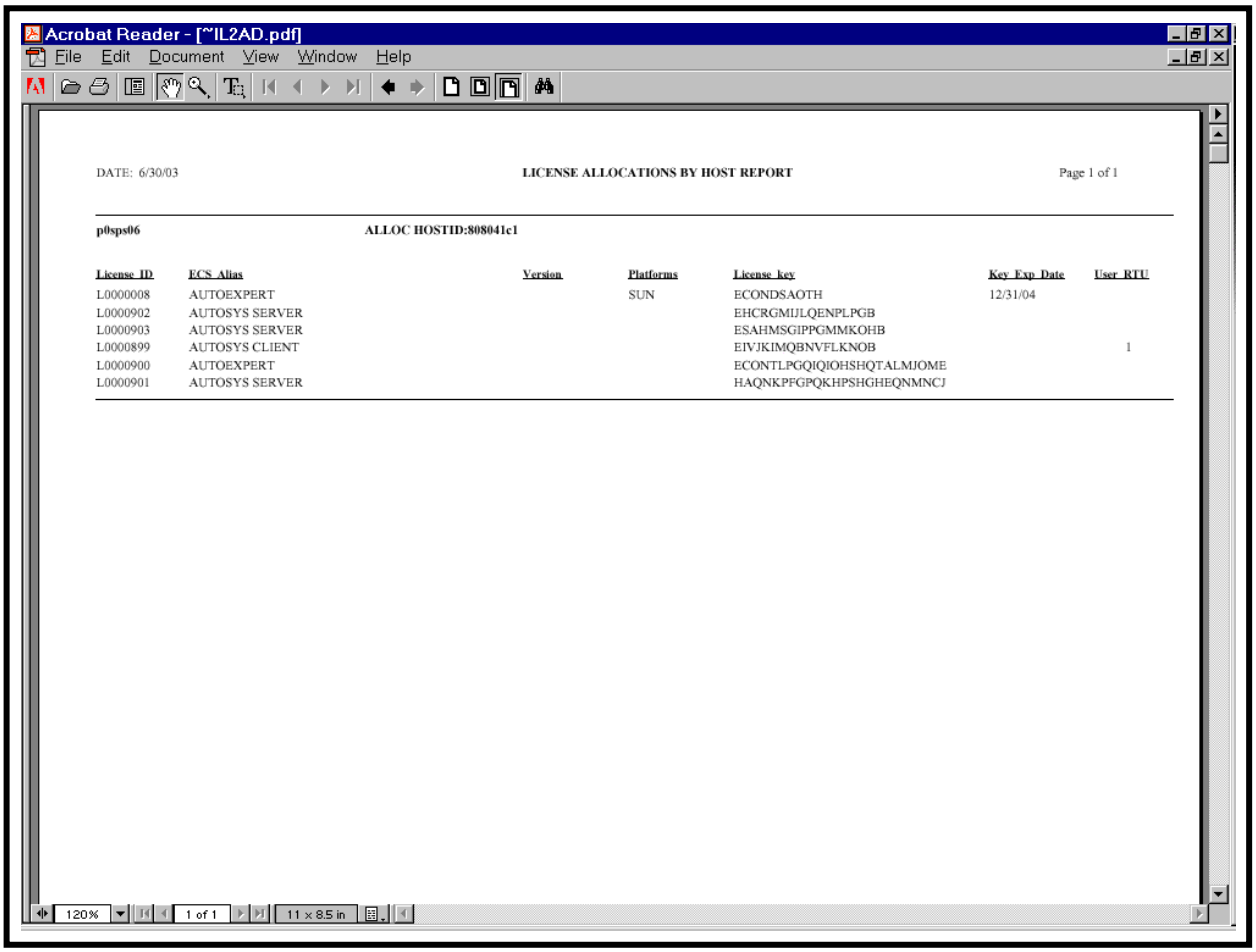


Figure 23.5.3-5. ILM-DIA-Lic Report GUI



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File Edit Document View Window Help

DATE: 6/30/03 **LICENSE ALLOCATIONS BY HOST REPORT** Page 1 of 1

p0sps06 **ALLOC HOSTID:808041c1**

License_ID	ECS_Alias	Version	Platforms	License_key	Key_Exp_Date	User_RTU
L0000008	AUTOEXPERT		SUN	ECONDSAOTH	12/31/04	
L0000902	AUTOSYS SERVER			EHCRGMIJLQENPLPGB		
L0000903	AUTOSYS SERVER			ESAHMSGIPPGMMKOHB		
L0000899	AUTOSYS CLIENT			EIVJKIMQBNVFLKNOB		1
L0000900	AUTOEXPERT			ECONTLPGQIQIOHSHQTALMJOME		
L0000901	AUTOSYS SERVER			HAQNKPFGPQKHPSHGHEQNMNCJ		

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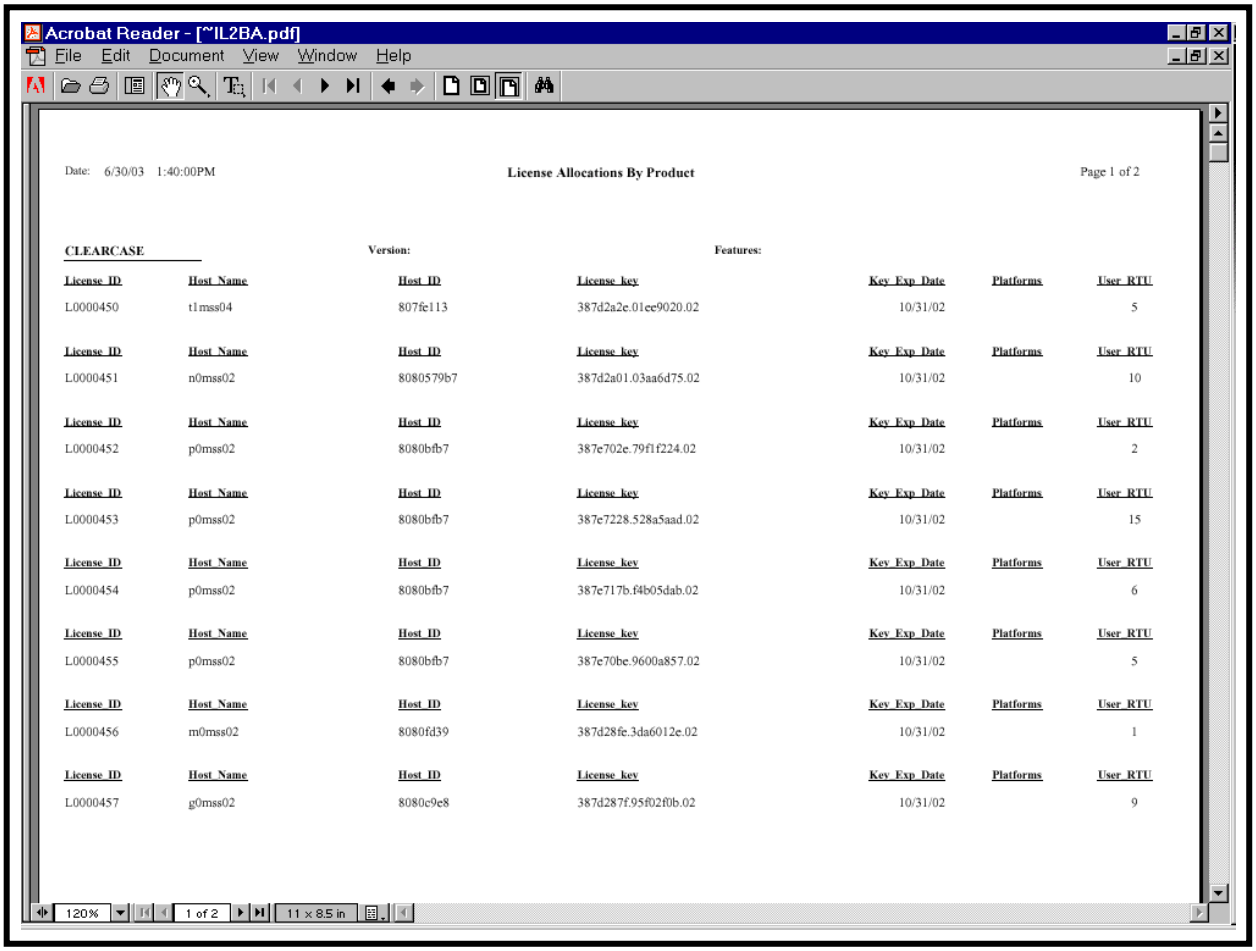
Figure 23.5.3-6. License Allocation By Host Report GUI



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File Edit Document View Window Help

Date: 6/30/03 1:40:00PM

License Allocations By Product

Page 1 of 2

CLEARCASE **Version:** **Features:**

License_ID	Host_Name	Host_ID	License_key	Key_Exp_Date	Platforms	User_RTU
L0000450	t1mss04	807fe113	387d2a2e.01ee9020.02	10/31/02		5
L0000451	n0mss02	8080579b7	387d2a01.03aa6d75.02	10/31/02		10
L0000452	p0mss02	8080bfb7	387e702e.79f1f224.02	10/31/02		2
L0000453	p0mss02	8080bfb7	387e7228.528a5aad.02	10/31/02		15
L0000454	p0mss02	8080bfb7	387e717b.f4b05dab.02	10/31/02		6
L0000455	p0mss02	8080bfb7	387e70be.9600a857.02	10/31/02		5
L0000456	m0mss02	8080fd39	387d28fe.3da6012e.02	10/31/02		1
L0000457	g0mss02	8080c9e8	387d287f.95f02f0b.02	10/31/02		9

120% 1 of 2 11 x 8.5 in

Figure 23.5.3-7. License Allocation By Product Report GUI

23.5.4 ILM-License Mapping GUI

The ILM-License Mapping form (Figure 23.5.4-1) manages the mapping of a license to purchased entitlements and specifies how many node and/or user rights-to-use the license is consuming from each. The form ensures that:

a) The rights-to-use attributed to an entitlement do not exceed the entitlement's rights remaining;

b) The sum of the rights being attributed to all entitlements does not exceed the rights-to-use for the license.

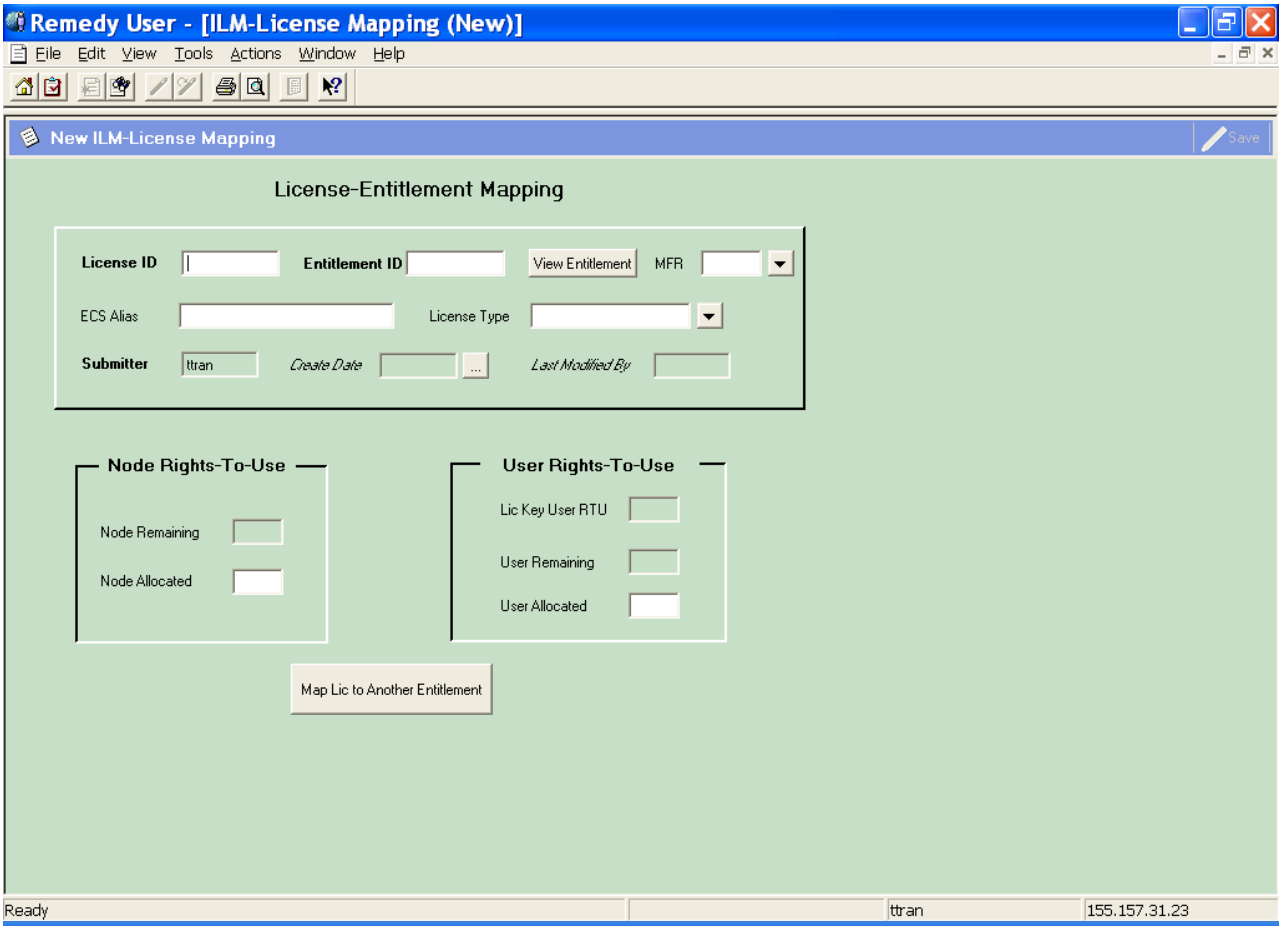

Figure 23.5.4-1. ILM-License Mapping GUI

Table 23.5.4-1 describes the fields on the ILM-License Mapping form.

Table 23.5.4-1. ILM-License Mapping Field Descriptions

Field Name	Data Type	Size	Entry	Description
License ID	Char	10	System Supplies	Unique designator for a license.
Entitlement ID	Char	10	Required	Identifier for a purchased license entitlement.
ECS Alias	Char	40	System supplied	Common name used for the licensed product and all its versions and variants.
License Type	Char	16	System supplied	Classification that distinguishes among licenses according to rules of use.
MFR	Char	6	System supplied	Code for the manufacturer from whom the item was purchased. in the field above.
Lic Key User Rtu	Numeric	8	System supplied	Number of users authorized by the license to run the licensed product concurrently on a single network. This value limits the user rights-to-use that can be recorded in the license's allocation records.
Remain	Numeric	8	System supplied	Quantity of node or user rights under a license entitlement not yet consumed by the mapping of licenses to the entitlement.
Allocated	Numeric	8	Optional	Number of node or user rights-to-use to be counted under the entitlement as having been consumed by the license. The value may not exceed the current value plus the rights remaining under the entitlement.
Submitter	Char	30	System-supplied	The user that created the record.
Create Date	Date		System-supplied	Date the record was created.
Last Modified By	Char	30	System-supplied	The user who last modified the record.

23.5.5 ILM-Additional Host GUI

The ILM-Additional Host form (Figure 23.5.5-1) is used for maintaining records about backup or redundant license servers for machines to which a license has been allocated. Identifying additional hosts has no effect on calculations of entitlements node or user rights-to-use consumed or remaining, but is useful for tracking where redundant licenses are supposed to be or may be installed.

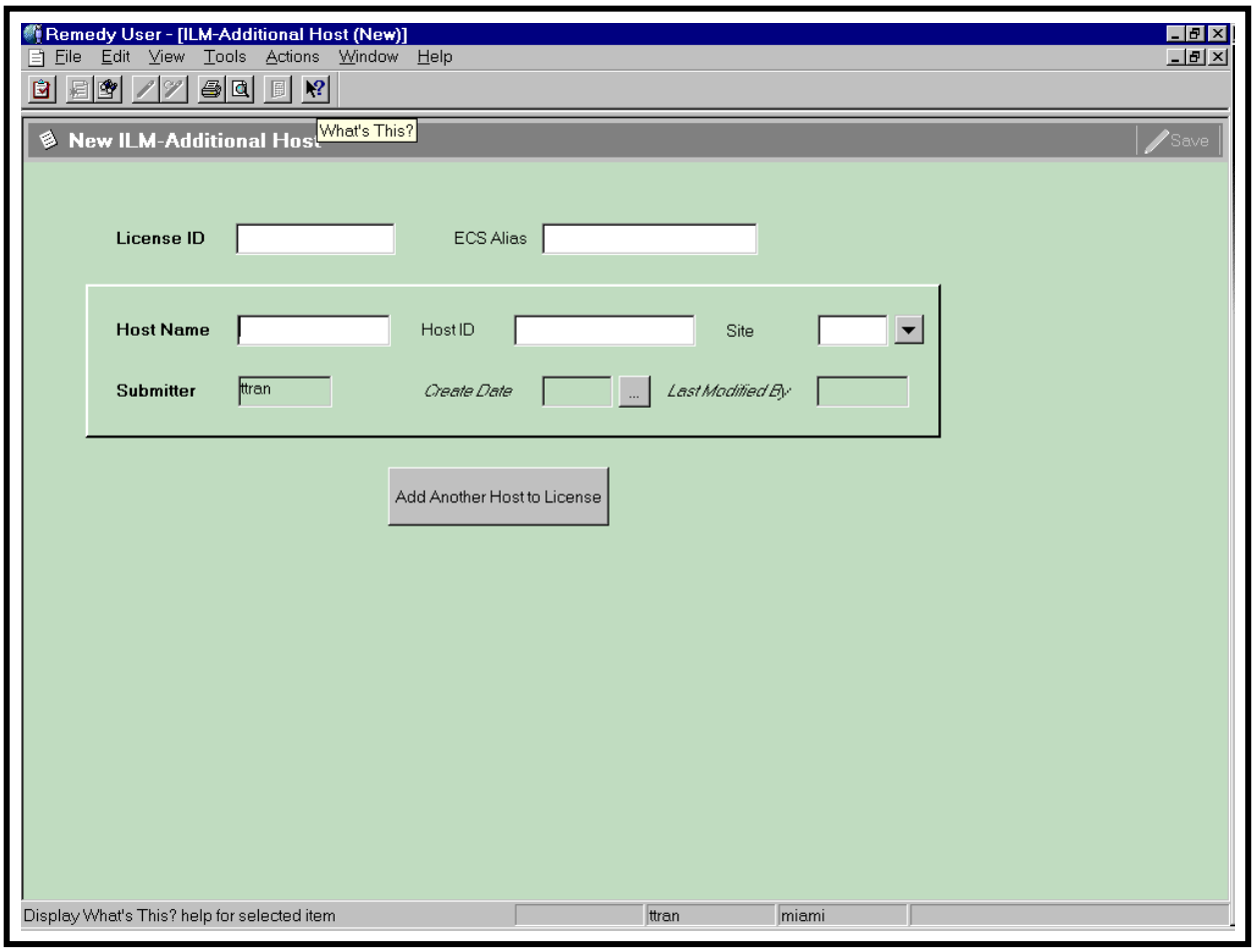

Figure 23.5.5-1. ILM-Additional Host GUI

Table 23.5.5-1 describes the fields on the ILM-Additional Host form.

Table 23.5.5-1. ILM-Additional Host Field Descriptions

Field Name	Data Type	Size	Entry	Description
License ID	Char	10	System Supplied	Unique designator for a license. Derived from the displayed license.
ECS Alias	Char	30	System Supplied	Common name used for the licensed product and all its versions and variants.
Host Name	Char	30	Optional	ECS name of a machine that is a backup or redundant license server for the one to which the license is principally allocated.
Host ID	Char	20	Optional	Host id of a machine that is a backup or redundant license server for the one to which the license is principally allocated.
Site	Char	6	Optional	Code for the site to which the license is allocated.
Submitter	Char	30	System-supplied	The user that created the record.
Create Date	Date		System-supplied	Date the record was created.
Last Modified By	Char	30	System-supplied	The user who last modified the record.

23.6 System Administrator Functions

23.6.1 ILM-System Parameters

The ILM-System Parameters form (Figure 23.6.1-1) is for maintaining system-wide Remedy-ILM parameters and is principally used for initializing certain identifier fields.

Several fields have particular significance for ILM. The Site ID field contains the code for the site where the operator's copy of Remedy is installed. The field is interrogated by ILM processes that have to determine which assets belong to the local site.

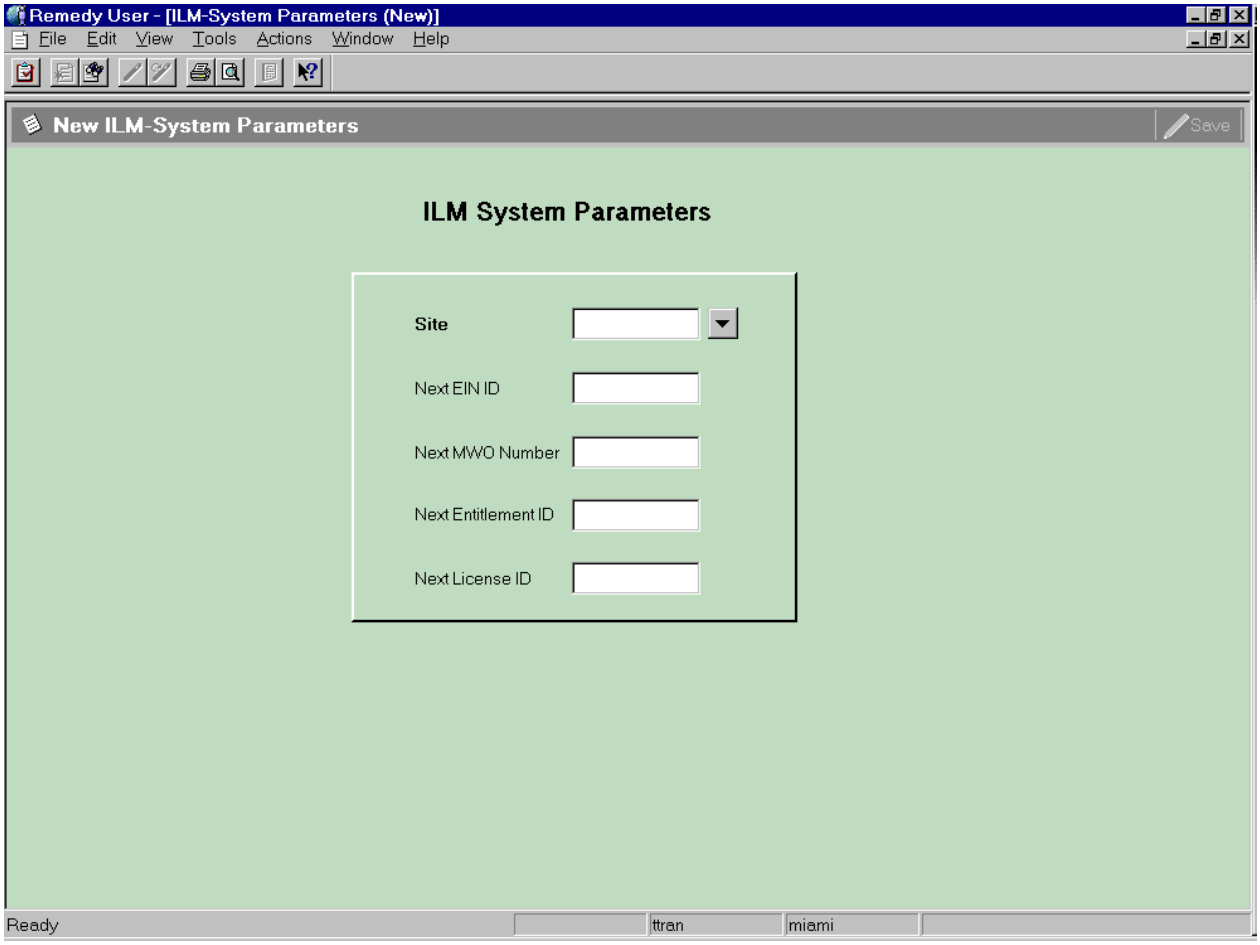

Figure 23.6.1-1. ILM-System Parameters GUI

Table 23.6.1-1 describes the fields on the ILM-System Parameters form.

Table 23.6.1-1. ILM-System Parameters Field Descriptions

Field Name	Data Type	Size	Entry	Description
Site	Char	6	Required	Code that identifies the site where this Remedy system is installed.
Last EIN	Char	20	System-supplied, but modifiable	Code used in determining the next sequentially available identifier when assigning EIN numbers automatically.
Last MWO	Char	10	System-supplied, but modifiable	The last MWO number used.
Last Entitlement ID	Char	10	System-supplied, but modifiable	The last entitlement id used.
Last License ID	Char	10	System-supplied, but modifiable	The last license id used.

23.6.2 User GUI

The User form, shown in Figure 23.6.2-1, is used by the administrator to add, modify, or remove users from the Action Request (AR) System. The "User" form is used in conjunction with the "Group" form to provide users with permissions ultimately determining which operations individual users can perform and which forms and fields they can access. For more information on the "User" form and the AR System access control, refer to the Action Request System Server Administrator's Guide.

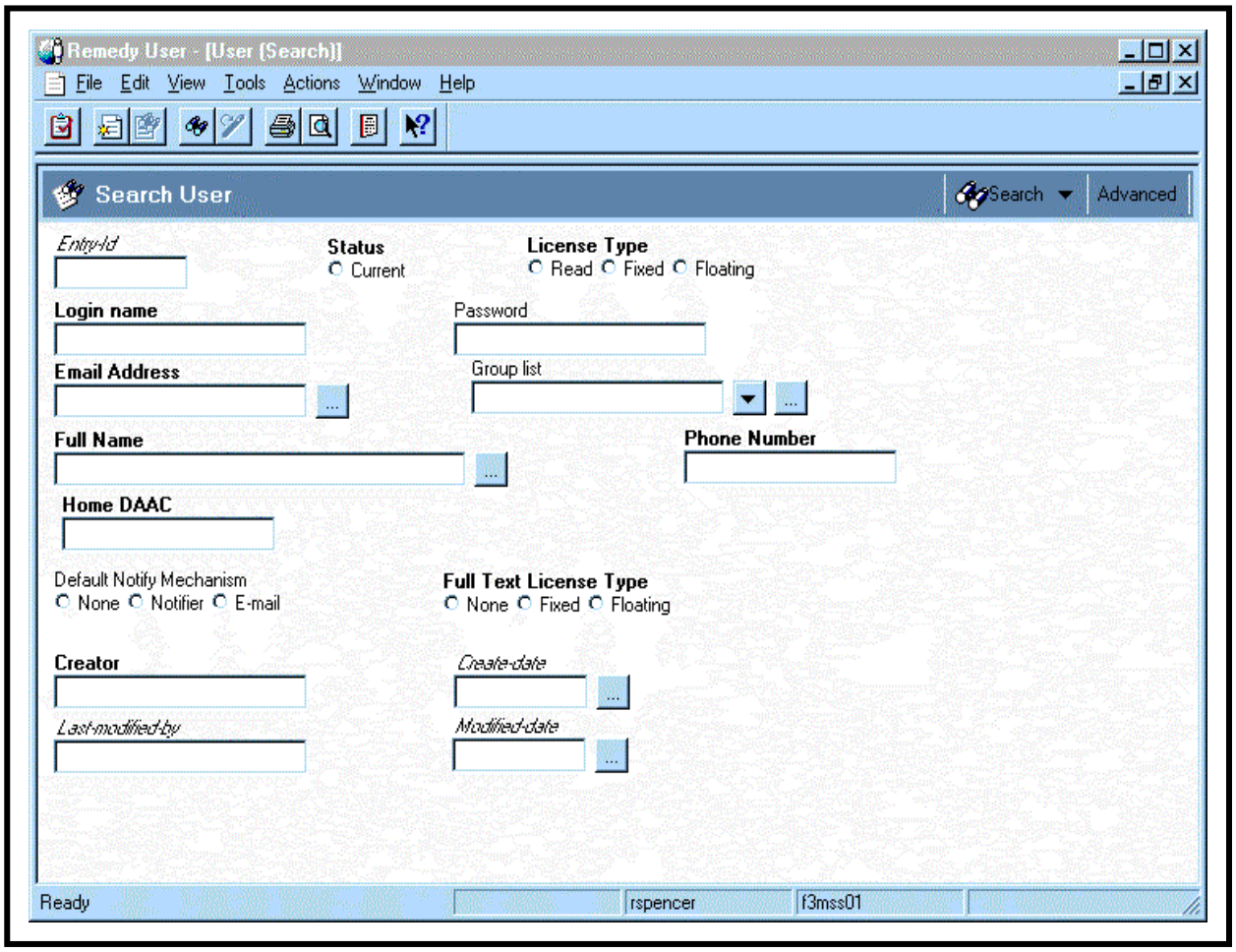

Figure 23.6.2-1. User GUI

Table 23.6.2-1 shows the User Form Field descriptions.

Table 23.6.2-1. User Form Field Descriptions

Field Name	Data Type	Size	Entry	Description
Entry-Id	Character	15	System generated	Entry ID of user
Status	Selection	*	Required	Is user current or not as shown by the “current” button
License Type	Selection	*	Required	What type of license does this user have? (e.g., read, fixed, floating)
Login name	Character	30	Required	Login name of user
Password	Character	30	Optional	Password of User
Email Address	Character	255	Required	E-mail address of User
Group list	Character	255	Optional	Groups to which the user belongs
Full Name	Character	128	Required	Full Name of User
Phone Number	Character	55	Required	Phone Number of User
Home DAAC	Character	55	Required	Home DAAC of User
Default Notify Mechanism	Selection	*	Optional	Notification method (e.g., None, Notifier, and Email buttons)
Full Text License Type	Selection		Required	Not applicable
Creator	Character	30	Required	Person who created the user account
Create-date	Date/Time	17	System generated	Date and time the entry was created at the present site (mm/dd/yy hh:mm:ss)
Last-modified-by	Character	30	System generated	User ID of person that last modified the user entry
Modified-date	Date/Time	17	System generated	Date and time of last modification to user entry (mm/dd/yy hh:mm:ss)

***NOTE:** The size of a field with a "selection" data type can vary and the size is automatically adjusted to the size of the item selected from the selection list.

23.6.3 Remedy’s Admin Tool GUI

The Remedy Administrator Tool is the tool one uses to create, modify, and delete Remedy objects (e.g. forms and menus). Figure 23.6.3-1 shows the main Administrator Tool GUI and its starting screen, the server window, and the workflow objects categories.

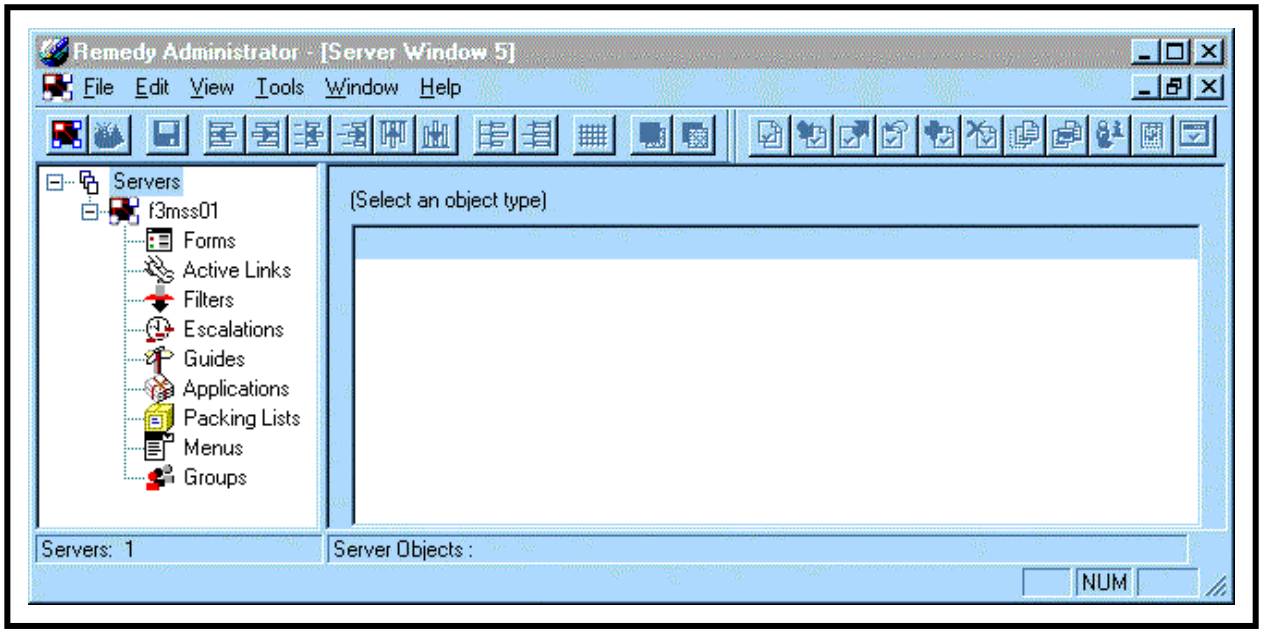

Figure 23.6.3-1. Admin Tool GUI

Table 23.6.3-1 provides a description of the Admin Tool GUI Workflow objects. For more information on these options, see *Remedy's Action Request System Administrator's Guide*, Vol. 1, Chapter 4, and/or the Remedy Administrator Tutorial using the Administrator Tool's Help menu.

Table 23.6.3-1. Admin Tool GUI, Workflow Object Descriptions

Workflow Object	Size	Entry	Description
Forms	Variable	System Generated	List of available forms.
Active links	Variable	System Generated	List of available active links.
Filters	Variable	System Generated	List of available filters.
Escalations	Variable	System Generated	List of available escalations.
Guides	Variable	System Generated	List of available guides.
Applications	Variable	System Generated	List of available applications.
Packing lists	Variable	System Generated	List of available packing lists.
Menus	Variable	System Generated	List of available menus.
Groups	Variable	System Generated	List of available groups.

23.6.4 Databases

Remedy's Action Request System uses a Sybase database called AR System. Tables and columns are created, modified, and deleted when forms are built and edited. This is all done automatically and is invisible to the user.

23.6.5 Special Constraints

Note that while ILM forms are open to all operators, and operators have view privileges to the user form, only system administrators have the ability to modify forms and tools presented in this section. Privileges are set according to DAAC policy.

23.6.6 Event and Error Messages

For Remedy's Action Request System's system messages see the *Action Request System Error Messages Guide*.

Table 23.6.6-1 lists non-system failure related messages that appear on the operator's screen.

Table 23.6.6-1. Non System-Failure Related Error Messages (1 of 6)

Error Message Char	Cause	Action
Inventory Management		
Parent EIN does not exist. Enter the correct Parent EIN.	Attempting to associate a component EIN to a Parent EIN that does not exist.	Enter the correct Parent EIN.
Parent EIN, $Parent EIN$, is a component. Please enter the correct Parent EIN number.	Attempting to associate a component EIN to a Parent EIN that is a component to another EIN Structure.	Enter the correct Parent EIN.
Parent EIN, $Parent EIN$, is not hardware. Enter the correct Parent EIN!	Attempting to associate a component EIN to a Parent EIN that is not hardware.	Enter the correct Parent EIN.
Part not found. Add new part into the part table or enter the correct part no.	Attempting to enter a part no. that does not exist in the database.	Enter the correct Part No into the ILM-OEM Parts form or enter the correct part no.
Part Number, $Part No$, already exists. Enter the correct Part Number!	Attempting to add a new Part No. enter the ILM-OEM Parts form where the Part No. already existed in the form.	Enter the correct Part number.
EIN is a component to Parent EIN. Update the Parent EIN's ECS name instead.	Attempting to update an ECS Name of a component EIN.	Update the Parent EIN's ECS Name.
New Parent EIN is the same as the old Parent EIN. Enter the correct new Parent EIN.	Attempting to relocate to relocate an item to the same Parent EIN.	Enter the correct New Parent EIN.
EIN already existed. Enter the correct EIN.	Attempting to create a new EIN that is already existed in the database.	Enter the correct EIN number.

Table 23.6.6-1. Non System-Failure Related Error Messages (2 of 6)

Error Message Char	Cause	Action
A record for Location, $Location$, with Building, $Building$, already exists. Enter the correct Location and its associated Building!	Attempting to create a new location in the ILM-Inventory location form where the combination of location and building values already existed in the form.	Do not enter the new location and use the existed one.
EIN (EIN) is a Parent to EIN ($EIN is Parent$). Cannot assign a Parent to another Parent structure.	Attempting to assign a Parent EIN as a component to an EIN structure.	Verify the Component EIN and the Parent EIN.
Audit Date ($Audit Date$) cannot be greater than current date. Enter the correct audit date.	Attempting to update the audit date to a date greater than the current date.	Enter the correct audit date.
Receive Date ($Receive Date$) cannot be greater than the current date ($DATE$). Enter the correct receive date.	Attempting to update the receive date to a date greater than the current date.	Enter the correct receive date.
Vendor ID, $Vendor ID$, already exists. Enter the correct Vendor ID!	Attempting to add a new vendor id that already existed in the ILM-Vendor-MFR form.	Use the existing Vendor ID if the vendor name is the same. If the vendor name is not the same, use another code to define the new vendor.
Site, $Site$, already exists. Enter the correct Site!	Attempting to add a site code that already existed in the ILM-Site form.	Use the existing site code.
Item Status, $Item Status$, already exists. Enter the correct Item Status!	Attempting to add a new item status that already existed in the ILM-Status Code form.	Enter the correct item status.
EIN Transactions		
Parent EIN field is a required. Enter a Parent EIN value into the Parent EIN field.	Attempting to perform an EIN transaction where the Parent EIN value is not provided in the Parent EIN field.	Enter the correct Parent EIN value into the Parent EIN.
Parent EIN ($Parent EIN$) does not exist. Enter the correct Parent EIN.	Attempting to perform an EIN transaction on the Parent EIN where the Parent EIN does not exist in the ILM-EIN form.	Enter the correct Parent EIN.
Parent EIN, $Parent EIN$ is a component of Parent EIN $Temp Parent Parent$. Perform transaction on the Parent EIN, $Temp Parent Parent$ instead.	Attempting to perform an EIN transaction on a component.	Enter the correct Parent EIN.

Table 23.6.6-1. Non System-Failure Related Error Messages (3 of 6)

Error Message Char	Cause	Action
One or more of these fields is not completed (Archive (P)arent-(C)omponent and Archive Type. Enter values into both of these fields and execute the transaction again.	Attempting to perform an archive transaction where the Archive (P)arent-(C)omponent and/or Archive Type field(s) is/are not completed.	Complete both of these fields.
New Parent EIN is a component to Parent EIN ($Temp New Parent Parent$). Enter another New Parent EIN.	Attempting to relocate component(s) to a new Parent EIN where the new Parent EIN is a component to another EIN Structure.	Enter the correct new parent EIN.
New Parent EIN does not exist. Enter another New Parent EIN.	Attempting to relocate component(s) to a new parent EIN where the new parent EIN does not exist in the ILM-EIN form.	Enter the correct new parent EIN.
New Parent EIN ($New Parent EIN$) is not hardware. Enter another New Parent EIN value.	Attempting to relocate component(s) to a new parent EIN where the new parent EIN is something else other then hardware.	Enter the correct new parent EIN.
New Parent EIN ($New Parent EIN$) is the same as the old Parent EIN. Enter another new Parent EIN.	Attempting to relocate component(s) to a new parent EIN where the new parent EIN is the same as the old parent EIN	Enter the correct new parent EIN.
New Location values (New Location, New Building, or New Room) are not completed. Complete all the new location values.	Attempting to perform a transaction where all the new location values are not completed.	Make sure all the new location values are completed.
Maintenance Work Order		
Parent EIN ($Parent EIN$) does not exist. Enter the correct Parent EIN.	Attempting to create a new maintenance work order where the Parent EIN does not exist in the ILM-EIN form.	Enter the correct Parent EIN.
EIN, $Parent EIN$, is not a parent. Enter the correct Parent EIN!	Attempting to create a new MWO where the parent EIN entered is a component of some EIN structure.	Enter the correct parent EIN.
ALDT 1 End Date-Time ($ALDT End Date-Time$) cannot be greater than current date.	Attempting to enter an ALDT End Date-Time that is greater than the current date and time.	Enter the correct ALDT End date-time.
Notification Date ($Notification Date-Time$) cannot be greater than current date.	Attempting to enter a notification Date-Time that is greater than the current date and time.	Enter the correct notification date-time.
Vendor Complete Date-Time ($Vendor Complete Date-Time$) cannot be greater than current date.	Attempting to enter a vendor complete Date-Time that is greater than the current date and time.	Enter the correct vendor complete date-time.

Table 23.6.6-1. Non System-Failure Related Error Messages (4 of 6)

Error Message Char	Cause	Action
Vendor Call Date-Time ($Vendor Call Date-Time$) cannot be greater than current date.	Attempting to enter a vendor call Date-Time that is greater than the current date and time.	Enter the correct vendor call date-time.
ALDT Start Date-Time ($ALDT Start Date-Time$) cannot be greater than current date.	Attempting to enter an ALDT start Date-Time that is greater than the current date and time.	Enter the correct ALDT start date-time.
Failure Date ($Failure Date-Time$) cannot be greater than current date.	Attempting to enter a failure Date-Time that is greater than the current date and time.	Enter the correct failure date-time.
Vendor Arrive Date-Time ($Vendor Arrive Date-Time$) cannot be greater than current date.	Attempting to enter a vendor arrive Date-Time that is greater than the current date and time.	Enter the correct vendor arrive date-time.
Vendor Initial Response Date-Time ($Vendor Initial Resp Date-Time$) cannot be greater than current date.	Attempting to enter a vendor initial response Date-Time that is greater than the current date and time.	Enter the correct vendor initial response date-time.
The MWO must already be created and you must have the MWO displayed in a Search/Modify window before clicking the Add Fail-Replacement Component Button!	Attempting to add a new work order line item where the work order information is blank.	Use the ILM-MWO form to find the appropriate work order and press the “Add Fail-Replacement Component” button to start adding line items to that work order.
Component EIN is the same as the MWO Parent EIN. Enter the correct component EIN.	Attempting to add a work order line item where the component EIN is the same as the MWO’s Parent EIN.	Enter the correct component EIN.
New Parent EIN is the same as the MWO's Parent EIN. Enter the correct New Parent EIN.	Attempting to add a work order line item to move a component to a new EIN structure where the new parent EIN is the same as the MWO’s Parent EIN.	Enter the correct new parent EIN value.
New Parent EIN ($New Parent EIN$) is a component to Parent EIN ($New Parent EIN Parent$). Enter the correct New Parent EIN value	Attempting to add a work order line item to move a component to a new EIN structure where the new parent EIN is the same as the MWO’s Parent EIN.	Enter the correct new parent EIN value.
New Parent EIN does not exist. Enter the correct New Parent EIN.	Attempting to add a work order line item to move a component to a new EIN structure where the new parent EIN does not exist in the ILM-EIN form.	Enter the correct new parent EIN value.
New Parent EIN is not hardware. Enter the correct New Parent EIN value.	Attempting to add a work order line item to move a component to a new EIN structure where the new parent EIN in not hardware.	Enter the correct new parent EIN value.

Table 23.6.6-1. Non-System-Failure Related Error Messages (5 of 6)

Error Message Char	Cause	Action
License Management		
Component EIN is a parent. Enter the correct Component EIN value.	Attempting to add a work order line item where the component EIN is a parent.	Enter the correct component EIN value.
Line Item does not have the correct event type and maint code. Enter the correct event type and maint code.	Entering the incorrect combination of event type and maint code in the ILM-MWO Line Item form.	Enter the correct event type and maint code.
Entitlement Part No. does not exist. Enter the correct part number or add the new part into the ILM-License Entitlement Part form.	Attempting to associate entitlement with an Entitlement Part No. that does not exist in the ILM-License Entitlement Form.	Enter the correct part number or add the new part into the ILM-License Entitlement Part form.
Contract ID, $Contract ID$, already exists. Enter the correct Contract ID!	Attempting to associate a license entitlement with a contract ID where the contract id does not exist in the ILM-Maint contract form.	Enter the correct contract ID.
Entitlement ID does not exist. Enter the correct Entitlement ID.	Attempting to map a license to a purchased entitlement that does not exist in the ILM-Entitlement form.	Enter the correct Entitlement ID.
Node allocated is greater than Node remaining. Reduce number of Right-To-Use or enter another Entitlement ID.	Attempting to map a license to an entitlement where the entitlement node remaining is less than the amount allocating.	Reduce the number of node allocated.
User Allocated is greater than License Key User RTU allocated to the license. Enter the correct User Allocated value.	Attempting to map a license to an entitlement where the user allocated is greater than the license key user rights-to-use.	Reduce the user allocated to equal to or less than the license key RTU.
User Allocated is greater than User RTU Remaining. Lower User Allocated or Enter another Entitlement ID.	Attempting to map a license to an entitlement where the user allocated is greater than the entitlement user rights-to-use remaining	Reduce the user allocated.
This license right-to-use had already been mapped to entitlement $Ent ID Holder$.	Attempting to map a node lock license to more than one entitlement.	Do not map the license to another entitlement.
Total user allocated ($Total User Allocated$) is greater than the lic key user RTU. Reduce number of User Allocated	Attempting to map a license to entitlements where the total user allocated is greater than the license key user rights-to-use.	Reduce the user allocated to equal to or less than the license key RTU.
Node allocated or User allocated has not been assigned to this Entitlement ID ($Entitlement ID$).	Attempting to map a license to an entitlement where the user did not enter any value in the Node or user allocated.	Enter node or user allocated to map against the entitlement.

Table 23.6.6-1. Non-System-Failure Related Error Messages (6 of 6)

Error Message Char	Cause	Action
Node Allocated cannot be greater than one for nodelock licenses. Enter 1 to allocate 1 Right-To-Use for this Nodelock license.	Attempting to allocate more than 1 node rights-to-use for a node lock license.	Reduce the number of node rtu allocated to 1.
Combination of Entitlement Part No-MFR and Version $Temp PN_MFR_Ver$ already existed. Enter the correct Entitlement Part No.	Attempting to add a new entitlement part into the ILM-License Products form where the combination of the Entitlement Part No, MFR, and version already existed in the database.	Use the existing entitlement part information.

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 EEB 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 EEB 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.
- Sybase server 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 EEB CM, and are posted on the EEB Baseline Information System (EBIS) Site (http://pete.hitc.com/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 EEB 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 EEB 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 EEB developers are allowed to modify them.
- The '.cfgparms', '.extparms' 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 .extparms files contain parameters to generate non-standard (or extension) files, and are not used by most subsystems. The .dbparms files hold parameters used in database operations.
- The .cfgparms file patches the .cfgparms, .extparms 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 Overview of Configuration Registry

The Registry Database is initially created with parameters from the .CFG files that are generated by running ECS Assistant's mkcfg process. In future other files such as the .PCFG and .ACFG files may be housed in the registry database. There are several processes that can be used to add, update or delete a parameter. A .rgypatch file is can be used to make a change to a registry configuration parameter. Another method of making changes to the parameters in the registry is to use the Registry GUI. The final method that can be used to make a change to the registry is to use the EcCoPopulateRegistry. This tool inserts *.CFG files into the registry. The only drawback is parameter history is lost.

System servers use a single class to access. CFG files. This class was modified to request values from the registry servers, if there is no .CFG file present. The registry server then obtains the

requested values from the registry database, and returns them to the requester. It is important to note that the registry server provides read-only access to the configuration parameters, and caches non-leaf nodes. Therefore changes made via the GUI which is mode specific, do not take effect until the affected servers have been restarted. If a non-leaf node is added, deleted, or updated, the changes do not take affect until the registry server has been restarted and then the affected servers have been restarted.

The registry schema contains provision for Access Control List (ACL) processing. This restricts read and write privileges. For example, the write privileges of the registry in the OPS mode could be granted to individuals in a supervisory role, while read privileges could be non-supervisory.

24.3.1 Registry 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. EEB 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.

24.3.2 How to Run a Mkcfg

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

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

24.3.3 Registry

24.3.3.1 How to Apply a Registry Patch

Note: Application of the registry patch process will not be implemented for the 7.23 software release.

24.3.3.2 How to Run the Registry Population Tool

The population tool can be run once on each machine on which .CFG files are being created or once for the entire mode. For this installation, it is recommended that the Population tool be used on a platform-by-platform basis.

Follow the steps listed below, supplying the hostname when running the population tool from the command line as identified below.

The command to run the tool is:

/tools/common/ea/EcCoPopulateRegistry MODE {HostName|ALL} {ConfigFileName|ALL} DbServerName DbUserName DbName AttributeTreeName

The following parameters are used:

MODE - the mode that you are working in.

HostName – the name of the host (like x4dpl01). If you use ALL you will load all .CFG files into the indicated registry tree. If you do this, you must be on a Linux and you must have secure shell properly installed.

ConfigFileName – ALL – **Note**: Use the ALL option to load all configuration files under /usr/ecs/MODE/CUSTOM/cfg. If you enter an individual config file name, you must give the fully qualified path name like /usr/ecs/<MODE>/CUSTOM/cfg/EcOmOrderManager.CFG.

DbServerName - SQL server name where Registry Database resides.

DbUserName – Registry database dbo name.

DbName – EcCsRegistry_<mode>. For OPS, use EcCsRegistry.

AttributeTreeName – the form is <mode>_<release>. For example, OPS_703.

The Population Tool will report the success or failure status back to the screen for each configuration file. When all files have been loaded, rename the .CFG files as .CFG.rgy files unless indicated otherwise.

The following commands can be used:

For one file: 'mv <filename> <filename>.rgy'

For multiple files (in c shell):

```
foreach file (*.CFG)↵
mv $file $file.rgy↵
end
```

IMPORTANT NOTE:

Some things do not run from the registry. These include EcDsDdDCLI and EcOmEPD. Also no part of the SSS or DPL (with the exception of EcDlQuickServer) runs from the registry.

We always "diff" newly generated .CFG files with .rgy files before we populate the registry with any newly generated .CFG files. When we move the .CFG files into the registry, we copy back the appropriate files to .CFG files in order to have both .CFG files and .rgy files.

For example on the Queuing Server (x4oml01) we populate the Registry with EcOmOrderManager.CFG, move the file to EcOmOrderManager.CFG.rgy and then copy the EcOmOrderManager.CFG.rgy to EcOmOrderMAnager.CFG. Then next time the make config for the Queuing Server is run we can diff all the newly generated .CFG files with the "old" .rgy files

The following commands can be used:

For one file: 'diff file.CFG file.CFG.rgy'

For multiple files (in c shell):

```
foreach file (*.CFG)↵
echo $file ↵
diff $file $file.rgy↵
end
```

Differences can easily be resolved before the Registry is populated

24.4 Configuration Registry Procedures

Table 24.4-1 contains the Configuration Registry Activity Checklist.

Table 24.4-1. Configuration Registry - Activity Checklist

Order	Role	Task	Section	Complete?
1	SA	Registry Preparation Procedure	(P) 24.4.1	
2	SA	Registry Database Backup Procedure	(P) 24.4.2	
3	SA	Registry Patch Procedure	(P) 24.4.3	
4	SA	Display Parameters Using the Configuration Registry GUI	(P) 24.4.4	

24.4.1 Registry Preparation Procedure

1 Ensure that the registry database has been backed up.
- For detailed instructions refer to Section 24.4.2, **Registry Database Backup Procedure**.

2 Start the registry GUI for the mode into which the required software release is being installed.

3 Select the attribute tree name that is mapped to the current mode from the drop-down menu
- When the correct tree is selected, the name of the mode should appear in the "**Attribute Information**" box below).

4 Click on the name of the attribute tree in the window below (the window with a white background), to enable the menu icons.

5 Click on the **Copy selected item** icon (the icon on the left).

6 Enter the name of the new registry tree in the **Attribute Name** box.

7 Select the **Ok** button.

8 Wait for the new tree to be created.

NOTE: It may take a long time for the new tree to be created -- on the order of 30 minutes).

9 Select the newly-created tree name in the window.

10 Click on the **MAP** icon.

11 Select the mode name from the drop-down menu in the new window that appears.

12 Select **Ok**.

13 Exit the GUI by selecting the **File → Exit** menu option.

The Registry database should be regularly (e.g., nightly) backed up via the Sybase dumps. (The DAACs should have added the registry db to their list of databases for backup).

24.4.2 Registry Database Backup Procedure

1 To make a backup copy of a tree within the registry, just click on the "copy" in the registry GUI before making modifications to the tree.

2 To make a backup copy of a tree and dump it to a file first click on **Add New Tree** at the bottom of the tree display in the GUI.

3 Select the **Create Registry Patch** option from the menu

4 Specify the new tree (which is empty) and the tree that you want to copy.
- This produces a file containing the tree in the rgypatch format.

Patch the Registry Database using the **.rgypatch** file.

24.4.3 Registry Patch Procedure

1 From the ECS Assist Subsystem Manager, select the appropriate Mode, Subsystem, and Component from the main window.

2 Select **Registry Data Patch** from the **Tools** menu.
- An **Apply Registry Data Patch** window is displayed.

3 In the **Apply Registry Data Patch** window enter the name of the SQL server in the **Registry Database Server:** box.

4 Enter the registry database DBO ID.

5 Enter the registry database password.

6 In the **Registry DB Name:** box enter the name of the registry database (**EcCsRegistry_<mode>**) and press the **ENTER** key.
- ECS Assist connects to the registry database and populates the drop-down menu associated with the next field (**Tree to patch :**).

7 Use the drop-down menu to select the appropriate registry tree that is being patched.
- If unsure which tree to select, bring up the registry GUI and verify which tree is mapped to the mode being updated.

8 Click on the **Select Patch File** button to bring up the **File Selection Dialog** window.

9 Navigate through this window to find the .rgypatch file.
- If the installation was successful, it should appear in the /usr/ecs/<MODE>/CUSTOM/.installed/DMS directory).

10 Highlight the .rgypatch file in the window and select **OK**.

11 Verify that the appropriate information is indicated in the **Patch File:** box in the **Apply Registry Data Patch** window and select **OK**.
- At this point, the registry patch will be applied.

12 Monitor the output via ECS Assist for any warning or error messages as the patch is run.

Display parameters using the Configuration Registry GUI.

24.4.4 Display Parameters Using the Configuration Registry GUI

1 On workstation ***x*4oml01**, at the UNIX prompt in a terminal window, type **/usr/ecs/*mode*/CUSTOM/utilities/EcCsRegistryGUIStart *mode* &** at a UNIX command prompt and then press the **Return/Enter** key (where ***mode*** is likely to be **TS1**, **TS2**, or **OPS**).
- NOTE: The ***x*** in the workstation name will be a letter designating your site: **g** = GSFC, **m** = SMC, **l** = LaRC, **e** = EDC, **n** = NSIDC, **o** = ORNL, **a** = ASF, **j** = JPL; the **##** will be an identifying two-digit number (e.g., **n4oml01** indicates a data management subsystem workstation at NSIDC). If you access the workstation through a secure shell remote login (ssh), you must enter **setenv DISPLAY <local_workstation IP address>:0.0** prior to the ssh before entering the command after the ssh. The **<*ipaddress*>** is the ip address of ***x*0mss*##***, and **xterm** is required when entering this command on a Sun terminal.

- The Database Login window is displayed with entries filled in for **User Id:** (e.g., **EcCsRegistry**), **Server:** (e.g., ***x4oml01*_srvr**), and **DB Name:** (e.g., **EcCsRegistry_*mode***).

2 In the Database Login window click in the **Password:** field and type the password.

- The typed password is not displayed (dots are displayed in place of the password).

3 Click on the **Sign On** button.

- The Database Login window is closed and the Configuration Registry GUI is displayed.

4 On the tree showing system hosts displayed on the left side of the GUI, click on the "+" sign next to one of the hosts for which parameters are to be displayed.

- The tree displays a **config** branch.

5 Click on the "+" next to **config**.

- The tree displays a **CFG** branch.

6 Click on the "+" next to **CFG**.

- The tree displays the computer software components for the selected host.

7 Click on one of the listed components (or its folder icon).

- The **Attribute Listing** field displays the configuration parameters associated with the selected component. If there are a large number of parameters, the right side of the window will have a scroll bar that may be used to scroll down the list.

8 Click on one of the listed parameters.

- The **Attribute Information** pop-up window for the selected parameter is displayed, showing detailed information concerning the parameter.
- If you are logged in with an account authorized with appropriate permissions, the **Attribute Information** window permits changing or deleting the parameter.

To exit from the Configuration Registry GUI, follow menu path **File→Exit**.

Abbreviations and Acronyms

Additional abbreviations and acronyms are listed in document 528-EMD-001, ACRONYMS for the EOSDIS Maintenance and Development (EMD) Project.

A_o	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
e-mail	Electronic Mail
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
EEB	EOSDIS Maintenance and Development Bridge 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 505)
ESDT	Earth Science Data Type
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
FORTRAN	FORmula TRANslation (computer language)
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
JPL	Jet Propulsion Laboratory (DAAC)
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 (10^6)
Mb	Megabit (10^6)
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
MSFC	Marshall Space Flight Center (DAAC)
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
NCS	Netscape Commerce Server
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^{15})
PC	Personal Computer 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
RID	Review Item Discrepancy
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
SGI	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^{12})
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