

4.7 User Services Tools

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

- 4.7.1 Database Installation and Maintenance Scripts
- 4.7.2 Using the Spatial Subscription Server (NBSRV) GUI
- 4.7.3 Spatial Subscription Server Command Line Interface
- 4.7.4 Bulk Metadata Generation Tool (BMGT)
- 4.7.5 Bulk Metadata Generation Tool GUI
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- 4.7.20 DPL Checksum Server Utility
- 4.7.21 Duplicate Granule Repository Tool
- 4.7.22 Duplicate Granule Identification Utility

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4.7.1 Database Installation and Maintenance Scripts

A set of eleven standard database scripts have been created to facilitate database installation and database administration activities for the ECS databases (INGEST, OMS, SSS and AIM). These scripts are designed to be accessible from both the command line and the Stage Install function of ECS Assist. The scripts follow a standard naming convention across each subsystem consisting of a prefix, of the format *EcXXXX*, identifying the subsystem component and a root identifying the primary database command or purpose performed by the script. For example a script to define login IDs used by the Ingest subsystem would be called EcInDbLogin.

A description of each of the suggested standard scripts is given Table 4.7.1-1. The DbLogin, DbUser, DbBuild, and DbPatch scripts are available for each ECS database. Other scripts are available for some or all of the ECS databases. Details on the applicable scripts for each subsystem can be found in the corresponding subsystem-specific 311-database documentation.

Table 4.7.1-1. Common ECS Operator Functions Performed with Database Installation and Maintenance Scripts (1 of 2)

| Operating Function | Command | Description | When and Why to Use |
|--------------------|---------|---|---|
| Add Login | DbLogin | Add existing system login to the SQL server. | Use when installing an ECS custom application to add the pre-defined set of database user ids into the master tempdb table used by the application to the appropriate SQL server. |
| Add User | DbUser | Add user ID to a database. | Use when installing an ECS custom application to add the pre-defined set of User IDs used by the application to the appropriate database. |
| Create Database | DbBuild | Build a new empty database and load with initial start-up data. | Use when installing an upgraded Release/drop or an ECS custom application into a mode where there is no existing data that needs to be retained. |
| Upgrade Database | DbPatch | Upgrade tables to new schema while retaining existing data. | Use when installing an upgraded Release/Drop of an ECS custom application into a mode containing existing data that needs to be retained. |

Table 4.7.1-1. Common ECS Operator Functions Performed with Database Installation and Maintenance Scripts (2 of 2)

| Operating Function | Command | Description | When and Why to Use |
|--------------------|---------|---|--|
| Drop objects | DbDrop | Remove all database objects (tables, triggers, stored procedures, domains, rules, user-defined data types) from a database. | Should not be used independently by the Operator. Used by DbBuild script during installation to remove obsolete objects from the database. |
| Backup database | DbDump | Create a backup file for the database. | Use to create a backup of the database that can be used in the event of database corruption or disk failure. |
| Restore database | DbLoad | Restore a database from a backup file. | Use to recover from database corruption or disk failure. |

4.7.1.1 Quick Start Using Database Installation and Maintenance Scripts

The database installation and maintenance scripts are a custom developed utility and should be used only by database administration personnel.

To execute Database Installation and Maintenance Scripts from the command line prompt use:

Scriptname *<mode>* *<dbo_id>* *<sqlserver>* *<dbname>**<port>* where:

Scriptname specifies the name of the database script to be executed.

The *<mode>* parameter specifies the mode (e.g., OPS, TS1, or TS2) in which the database to be used is found.

The *<dbo_id>* parameter specifies the user ID of the database owner for the database to be used.

The *<sqlserver>* parameter specifies the name of the SQL server under which the database to be used is found.

The *<dbname>* parameter specifies the name of the database to be used.

The *<port>* parameter specifies the port number of the database instance used.

NOTE: Password entry will be prompted during script execution.

4.7.1.1.1 Invoking Database Installation and Maintenance Scripts using ECS Assist

Database Build, Patch, Migrate, Dump, Load, Drop and Valid scripts, can be invoked using the ECS Assist installation tool using the DATABASE command button. All other database utility scripts must be invoked from the command line. Further information on using ECS Assist can be found elsewhere in this document (see sub-section 4.1.5).

4.7.1.2 Required Operating Environment

The Database Installation and Maintenance Scripts can run on Linux 2.x platforms.

Table 4.7.1-2 identifies the supporting products this tool depends upon to function properly.

Table 4.7.1-2. Support Products for Database Installation and Maintenance Scripts

| Interface (facility) |
|----------------------|
| Postgres SQL Server |

4.7.1.2.1 Interfaces and Data Types

None

4.7.1.3 Databases

The Database Installation and Maintenance Scripts use the INGEST, OMS, SSS and/or AIM database as applicable. Descriptions of each of these databases are found in the following documents:

311-EED-001, *Release 8.2 INGEST (INS) Database Design and Schema Specifications for the EED Project*

311-EED-002, *Release 8.2 Order Manager Database Design and Schema Specifications for the EED Project*

311-EED-003, *Release 8.2 Spatial Subscription Server Database Design and Schema Specifications for the EED Project*

311-EED-005, *Release 8.2 Archive Inventory Management (AIM) Database Design and Schema Specifications for the EED Project*

4.7.1.4 Special Constraints

None

4.7.1.5 Outputs

Script outputs can be found in the “/usr/ecs/<MODE>/CUSTOM/logs” directory on the database server.

4.7.1.6 Event and Error Messages

The PostgreSQL Database Installation and Maintenance Scripts issue error messages, which are reported on the PostgreSQL error log. All custom code database utilities provide output reports to the “/usr/ecs/<MODE>/CUSTOM/logs” directory on the database server where the report name is (script/utility name).log.

4.7.1.7 Reports

None

4.7.2 Using the Spatial Subscription Server (NBSRV) GUI

The NBSRV GUI provides an operator interface to place a standing order (hereinafter called “subscription”) on an ECS event. Capabilities provided to an operator depend on the operator access level. A full capability operator has access to all NBSRV GUI features while a read only operator has access to all non-management features. Specifically, the capabilities of NBSRV GUI are as follows:

- List the types of subscribable events.
- Add a subscription with an action for distribution of standard ECS products from the ECS archive holding or email notification. The subscription can be qualified with spatial, temporal, integer, string and floating point qualifiers [⊖]
- Associate a Data Pool insert action with a subscription. [⊖]
- Associate a Data Pool theme with a Data Pool insert action (Available to only full capability Operator).
- List the subscriptions which have been previously entered.
- View an existing subscription.
- Update and Delete an existing subscription. [⊖]
- Suspend and Resume an existing subscription. [⊖]
- Suspend, resume, or delete the subscriptions associated with a Data Pool theme. ^{**}
- Add, update, or cancel a bundling order. [⊖]
- Associate a bundling order with a subscription. [⊖]
- List the bundling orders associated with a user.
- List the subscriptions associated with a bundling order.
- Determine the number of subscribed events left to dequeue.
- Determine the number of actions left to dequeue.
- List the status of email notification and distribution actions in the action queue. [⊖]
- List statistics relating to Spatial Subscription Server performance.

4.7.2.1 Starting the NBSRV GUI

Pre-conditions:

- Javascript must be enabled for the Web Browser.
- The designated size of the Web Browser cache should be at least 5000 kbytes for Disk and Memory cache.

Consult with your Web Administrator, if you have any problems verifying or setting these parameters.

Bring up a Web Browser and then access the URL for the NBSRV GUI web page.

For example: <http://yourserver.domain/NBSRV.html>

[⊖] Only available to full capability operators.

4.7.2.2 NBSRV Home Page

The NBSRV Home Page screen, shown in Figure 4.7.2.2-1 allows the operator to navigate to the List Events, Manage Subscriptions, Manage Bundling Orders, Monitor Queues and Help pages. See Table 4.7.2.2-1 for a brief description of the functions.

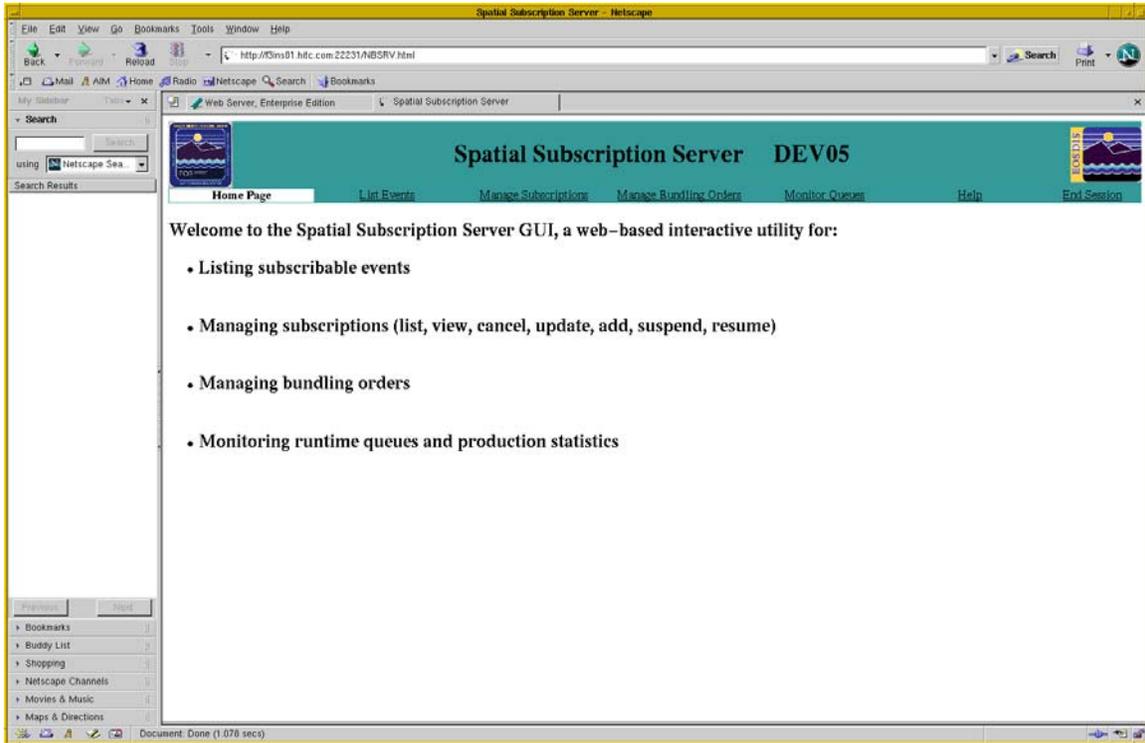


Figure 4.7.2.2-1. NBSRV Home Page

Table 4.7.2.2-1. Spatial Subscription Server (NBSRV) GUI Operator Functions (1 of 2)

| GUI/Command | Description | When and Why to Use |
|----------------------------|--|--|
| List Events tab | View the types of subscribable events. | If operator needs to view ECS events before entering a subscription. |
| Manage Subscriptions tab | List, view, add, cancel, update subscriptions. | If operator needs to view, add, change, suspend, resume or delete subscriptions. |
| Manage Bundling Orders tab | List, view, add, cancel, update bundling orders. | If operator needs to view, add, change, cancel bundling orders or list the subscriptions for a bundling order. |

Table 4.7.2.2-1. Spatial Subscription Server (NBSRV) GUI Operator Functions (2 of 2)

| GUI/Command | Description | When and Why to Use |
|--------------------|--|---|
| Monitor Queues tab | View action queue or statistics relating to Spatial Subscription Server performance. | If operator needs to view statistics or look at the action queue. |
| Help tab | Describes the NBSRV GUI functions. | If operator needs help in navigating through the NBSRV GUI. |
| End Session | Allows Operator to End a session. | Whenever an Operator wishes to end the current session. |

4.7.2.3 List Events Tab

The List Events screen shown in Figure 4.7.2.3-1 allows the operator to view the subscribable events in the ECS system. The operator can sort the list by Collection, EventType or Version by clicking on the **Collection**, **Version** or **Event Type** link. The operator can also filter the list by any combination of Collection, Version and EventType. After selecting the filtering criteria from the pull-down list(s), click on the **Filter** button.

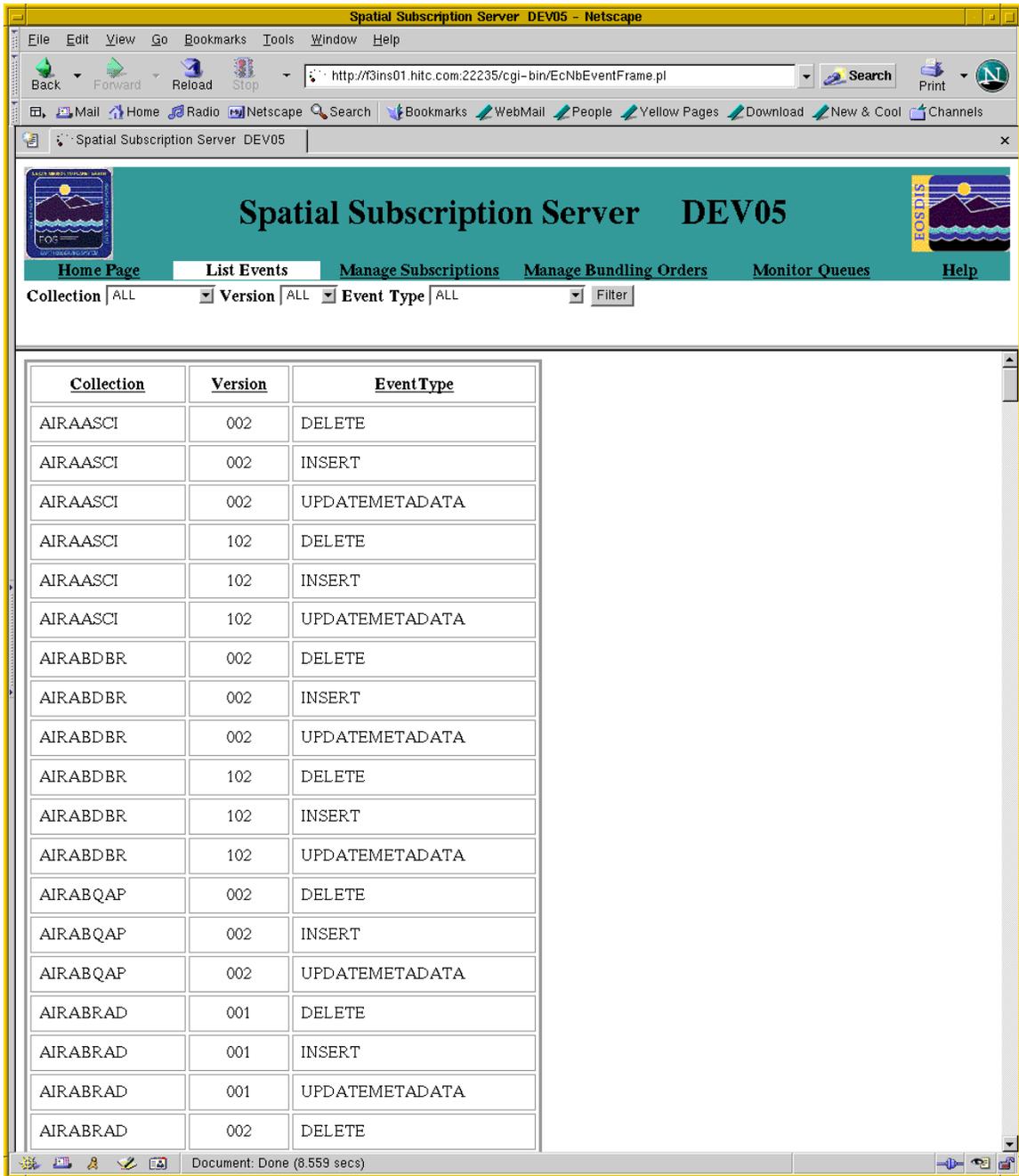


Figure 4.7.2.3-1. SSS – List Events

4.7.2.4 Manage Subscriptions Tab

The Manage Subscriptions screen shown in Figure 4.7.2.4-1 allows the operator to list the subscriptions in the NBSRV database. The list can be sorted by clicking on the **Subscription Id**, **User**, **Collection**, **Status**, **TimeLastUpdated** or **Expiration Date** link. The operator can also

filter the list by any combination of User, Collection and Status. After selecting the filtering criteria from the pull-down list(s), click on the **Filter** button.

The operator can view the contents of a subscription by clicking on the **View** button associated with that subscription and pressing the **Apply** button. This will take the operator to the screens shown in Figures 4.7.2.4-2a and 4.7.2.4-2b.

The operator can cancel a subscription by clicking on the **Cancel** button associated with that subscription and pressing the **Apply** button. This will take the operator to the deletion confirmation screen shown in Figure 4.7.2.4-3. If the operator clicks on the Yes button, the screen shown in Figure 4.7.2.4-4 will be displayed. If the operator clicks on the No button, the screen shown in Figure 4.7.2.4-1 will be displayed.

The operator can update a subscription by clicking on the **Update** button associated with the subscription and pressing the **Apply** button. This will take the operator to the screens in Figures 4.7.2.4-5a through 4.7.2.4-5d, followed by the screen in Figure 4.7.2.4-6a or 4.7.2.4-6b.

The operator can add a new subscription by clicking on the **Add Subscriptions** tab. This will take the operator to the screens in Figures 4.7.2.4-7 through 4.7.2.4-13. Tables 4.7.2.4-1 through 4.7.2.4-5 lists the field descriptions for the identified screens used in this activity.

Please note that **Cancel, Update and Add Subscriptions** functionality is accessible to only full capability Operators.

| Subscription Id | User | Collection | Version | Event Type | Status | DataPool | Start Date | Expiration Date | Time Last Updated | Choose Subscription Action |
|-----------------|----------|------------|---------|------------|--------|----------|---------------------|---------------------|---------------------|--|
| 62 | kencindc | AST_EXP | 001 | INSERT | Active | No | Jul 2 2003 12:00PM | Jul 2 2004 12:00PM | Jul 7 2003 10:30AM | <input type="button" value="View"/> <input type="button" value="Update"/> <input type="button" value="Cancel"/> <input type="button" value="Apply"/> |
| 69 | kencindc | MISL0DF | 001 | INSERT | Active | Yes | Jul 16 2003 12:00PM | Jul 16 2004 12:00PM | Nov 15 2003 12:20PM | <input type="button" value="View"/> <input type="button" value="Update"/> <input type="button" value="Cancel"/> <input type="button" value="Apply"/> |
| 78 | labuser | AST_04 | 001 | INSERT | Active | Yes | Jul 24 2003 12:00AM | Jul 24 2004 12:00AM | Not Updated | <input type="button" value="View"/> <input type="button" value="Update"/> <input type="button" value="Cancel"/> <input type="button" value="Apply"/> |
| 81 | kencindc | AST_04 | 002 | INSERT | Active | Yes | Sep 5 2003 12:00AM | Sep 5 2004 12:00AM | Not Updated | <input type="button" value="View"/> <input type="button" value="Update"/> <input type="button" value="Cancel"/> <input type="button" value="Apply"/> |
| 82 | kencindc | ECSMETU | 001 | INSERT | Active | No | Sep 15 2003 12:00PM | Sep 15 2004 12:00PM | Oct 3 2003 4:10PM | <input type="button" value="View"/> <input type="button" value="Update"/> <input type="button" value="Cancel"/> <input type="button" value="Apply"/> |
| 85 | kencindc | ECSMETC | 001 | INSERT | Active | No | Sep 15 2003 12:00PM | Sep 15 2004 12:00PM | Oct 1 2003 10:32AM | <input type="button" value="View"/> <input type="button" value="Update"/> <input type="button" value="Cancel"/> <input type="button" value="Apply"/> |
| 86 | kencindc | ECSMETV | 001 | INSERT | Active | No | Sep 15 2003 12:00PM | Sep 15 2004 12:00PM | Oct 1 2003 10:31AM | <input type="button" value="View"/> <input type="button" value="Update"/> <input type="button" value="Cancel"/> <input type="button" value="Apply"/> |

Figure 4.7.2.4-1. Manage Subscriptions: List of All the Subscriptions in the NBSRV Database. Note that Cancel, Update and Add Functionality are Accessible Only to Full Capability Operators.

Limited Capability Users

Limited Capability users cannot use **Cancel**, **Update** and **Add** functionality.

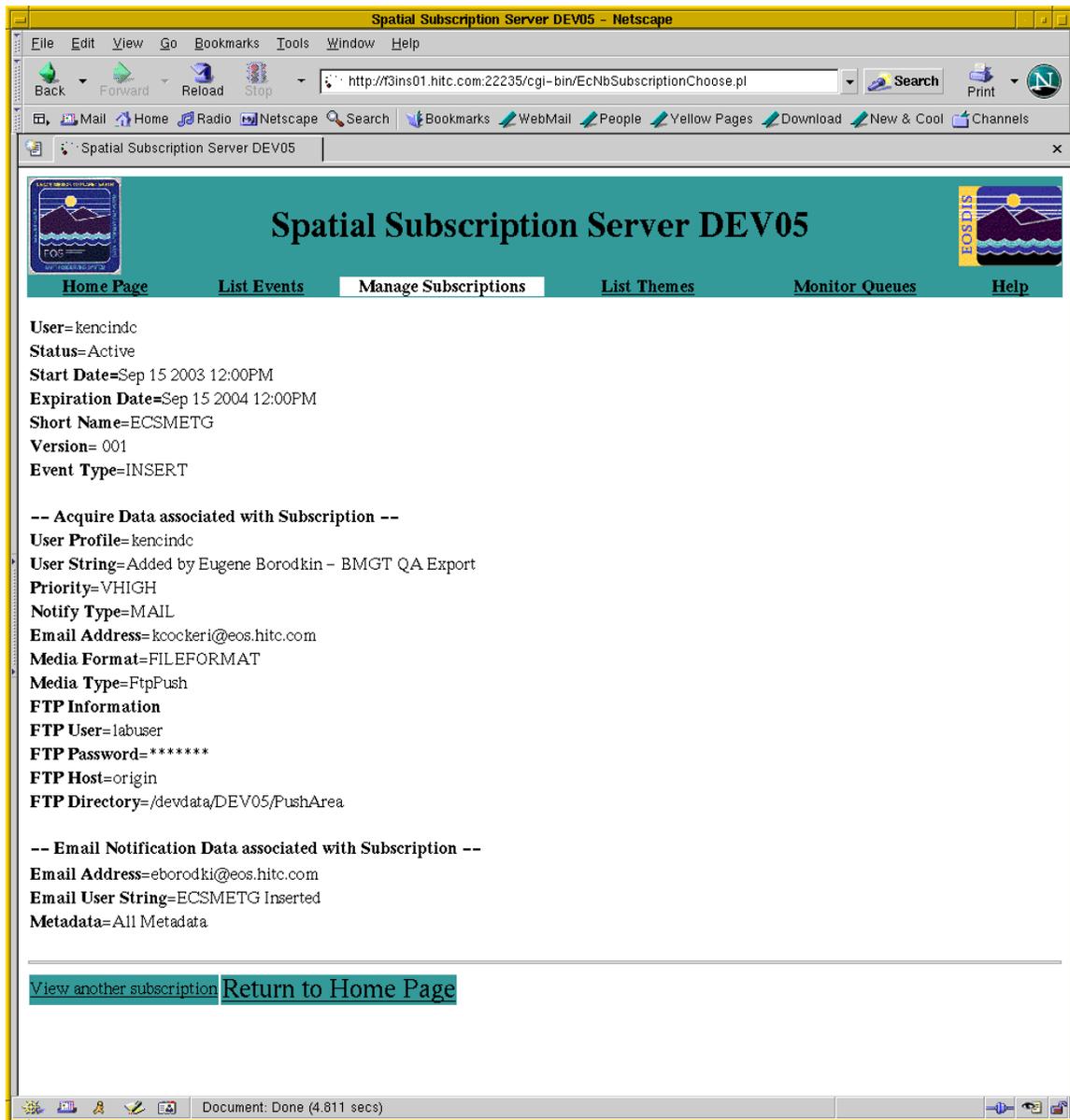


Figure 4.7.2.4-2a. View Contents of a Subscription in the NBSRV Database

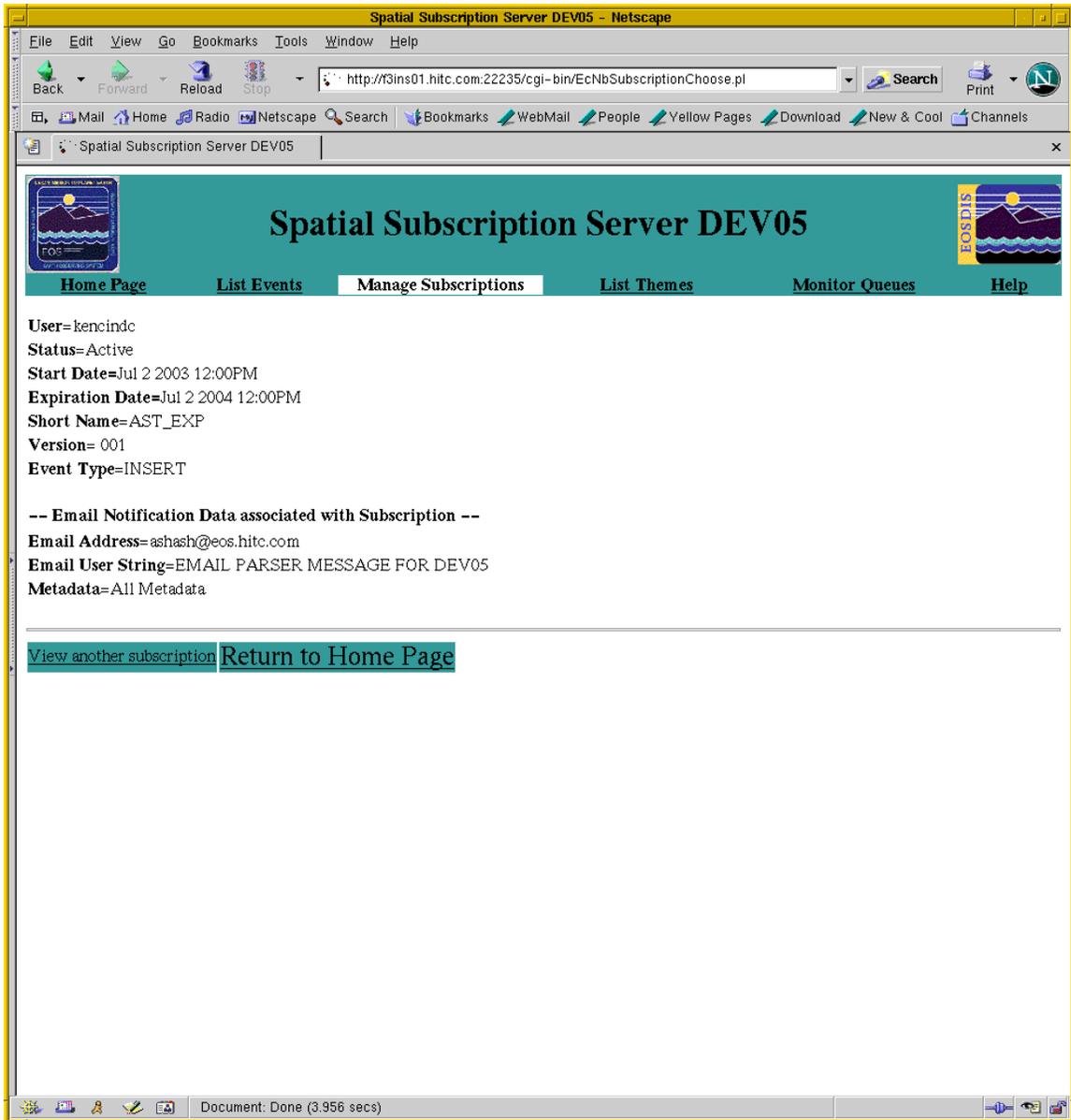


Figure 4.7.2.4-2b. View Contents of a Subscription with Associated Email Notification Action (Continuation)

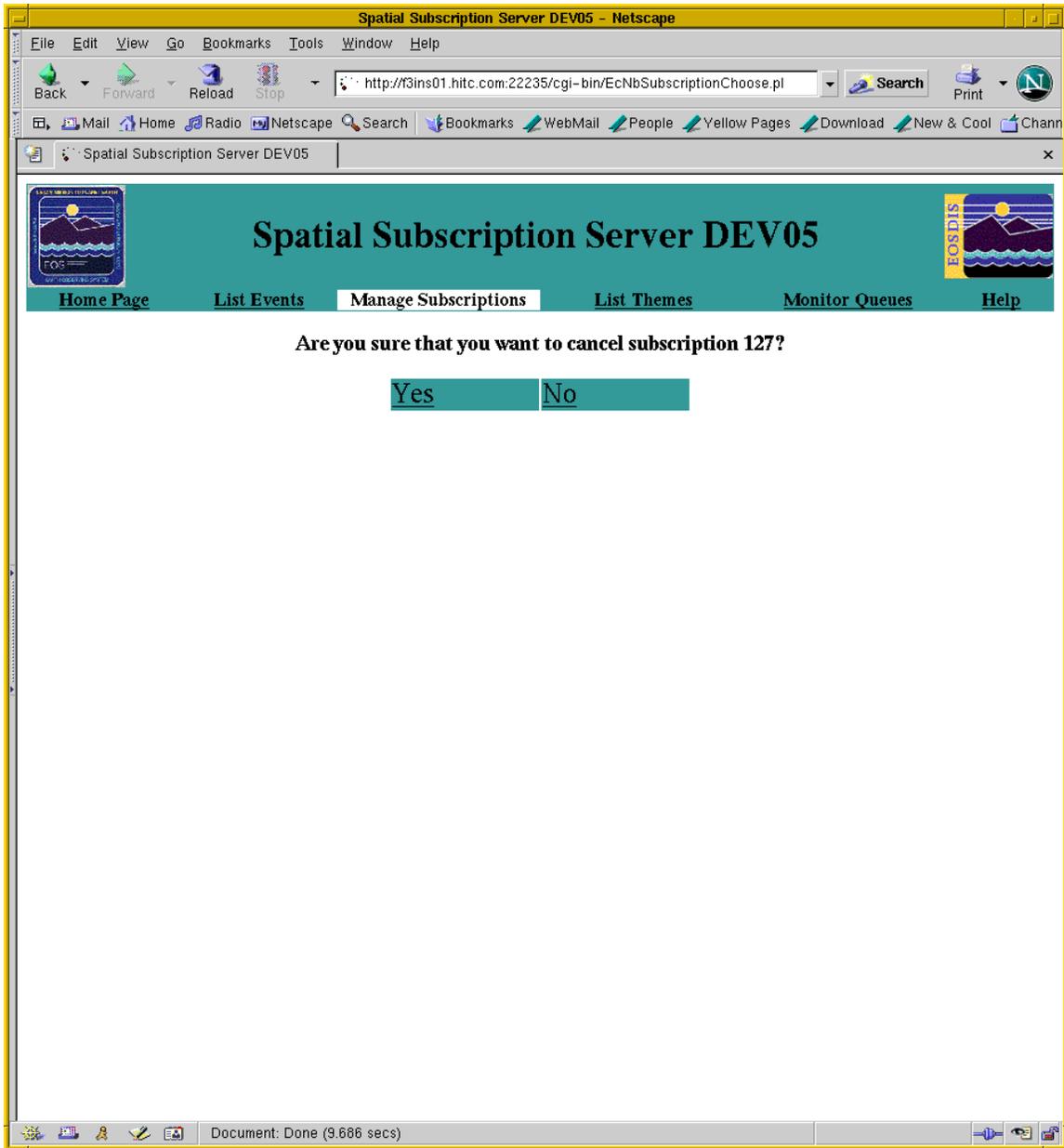


Figure 4.7.2.4-3. Cancel Subscription Confirmation Request. Note that Cancel Functionality is Accessible to Only Full Capability Operator.

Limited Capability Operators

Limited Capability operators cannot use/access this functionality.

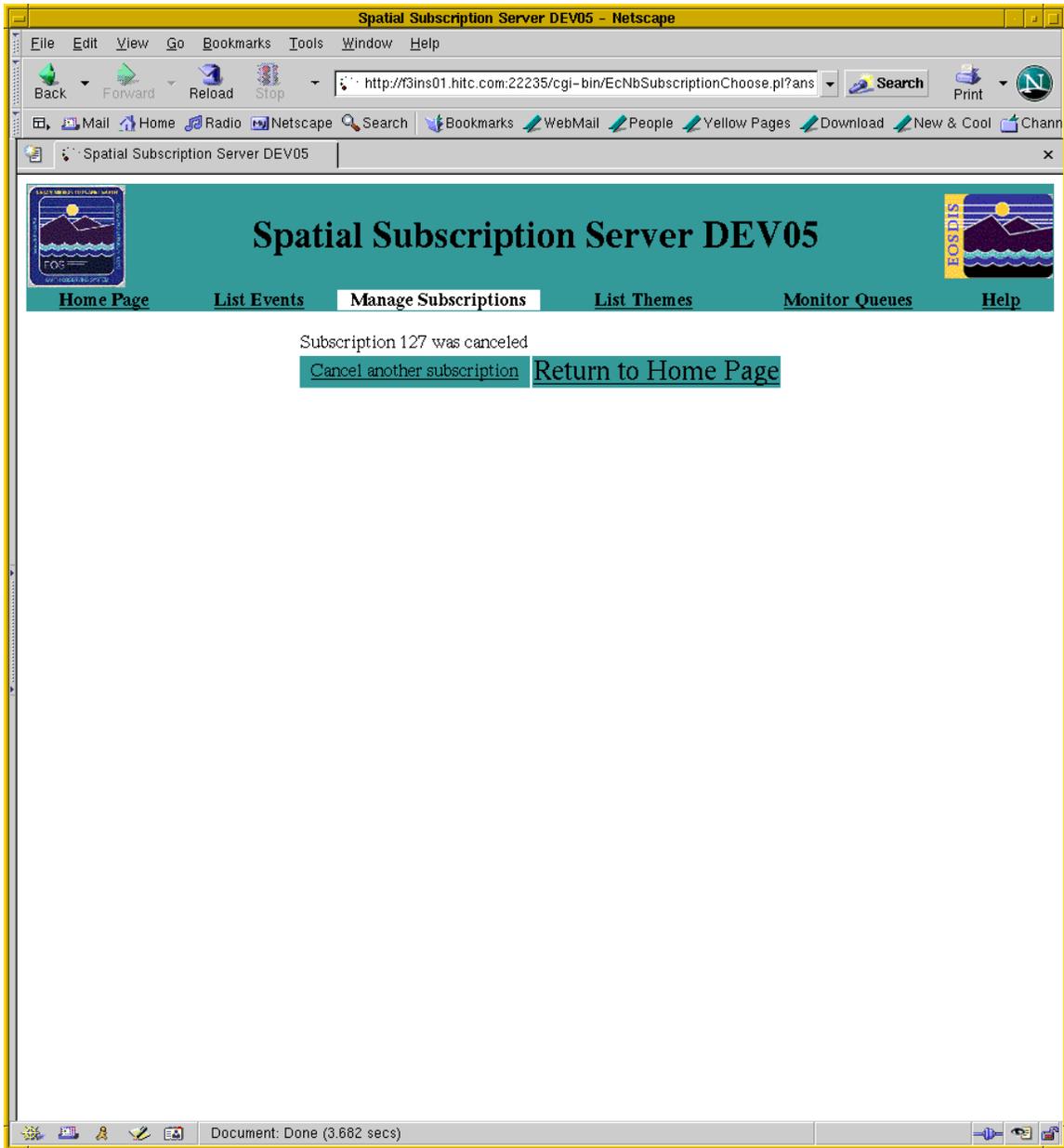


Figure 4.7.2.4-4. Cancel Subscription Confirmation Acknowledgement. Note that This Functionality is Accessible Only to Full Capability Operator.

Limited Capability Users

Limited Capability users cannot use this functionality.

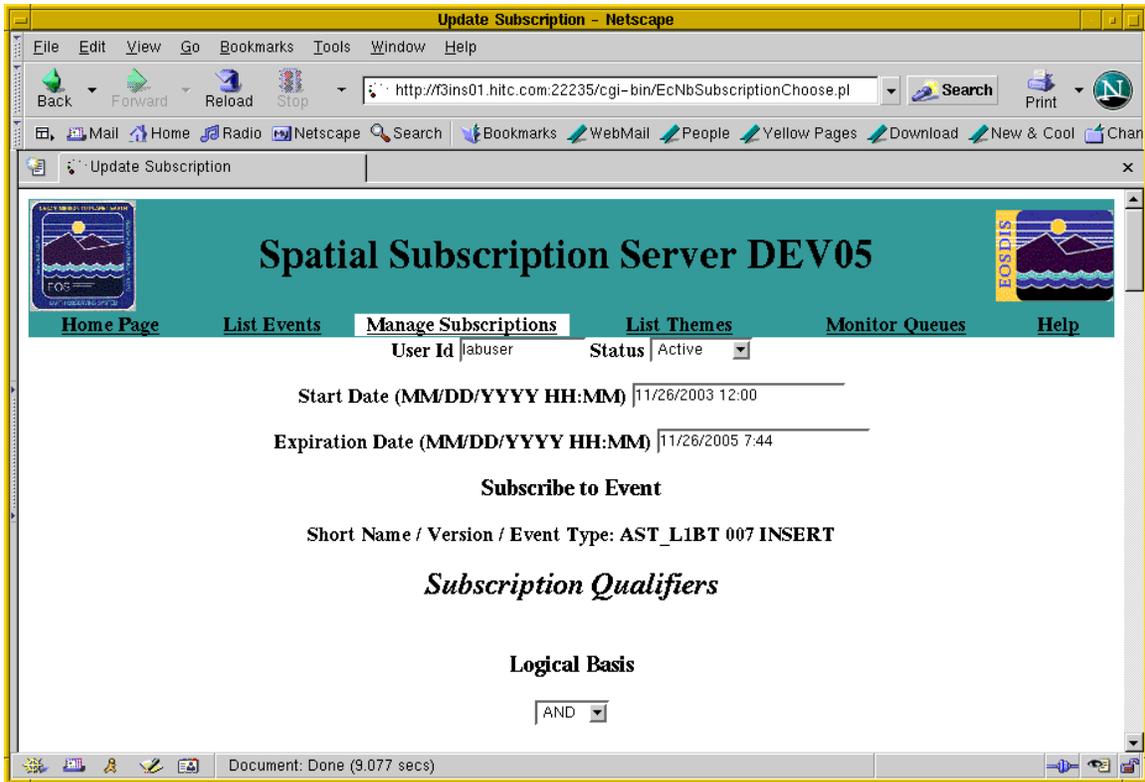


Figure 4.7.2.4-5a. Update a Subscription in the NBSRV Database. Note that This Functionality is Available Only to Full Capability Operator.

Limited Capability Users

Limited Capability users cannot use this functionality.

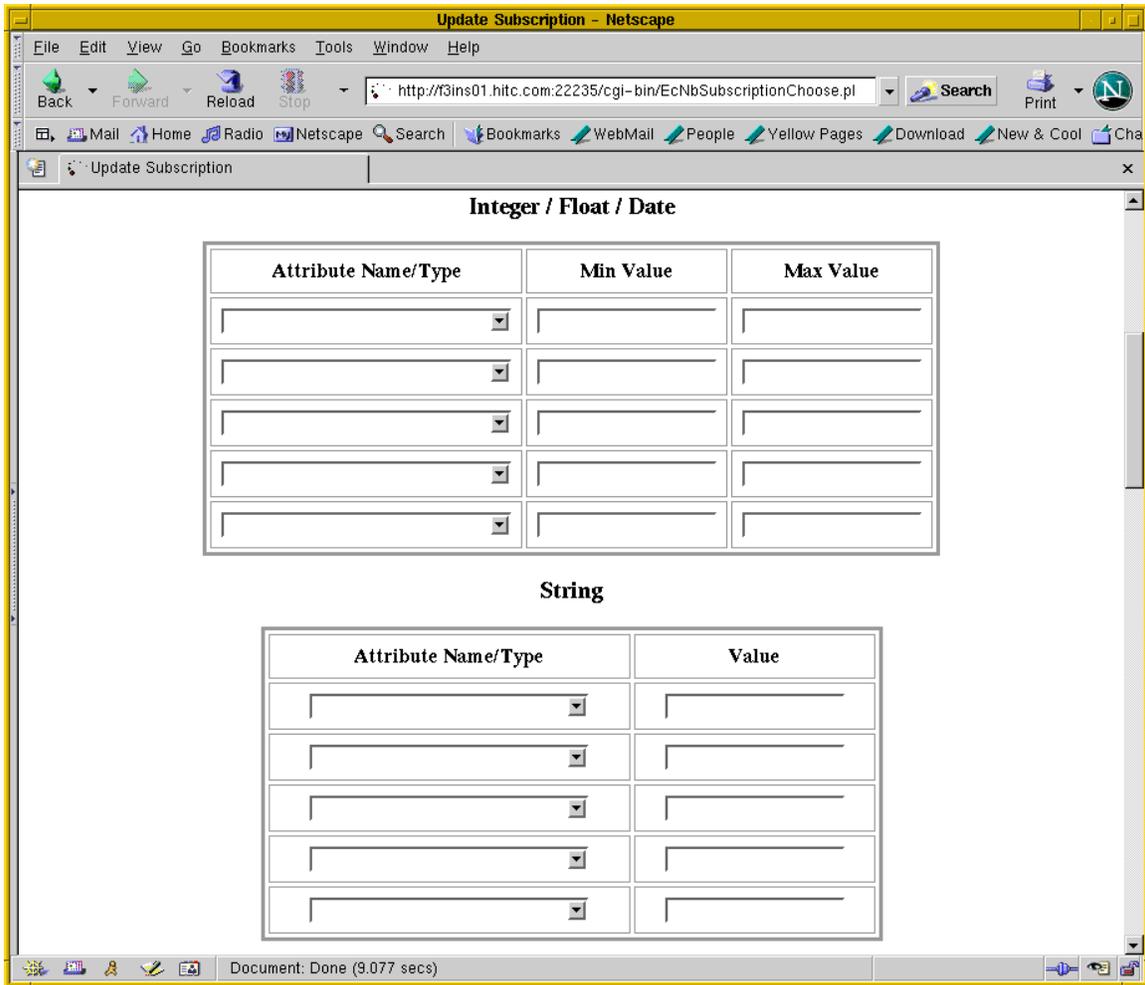


Figure 4.7.2.4-5b. Update a Subscription in the NBSRV Database. Note that This Functionality is Available Only to Full Capability Operator. (Continuation to Add or Modify String or Spatial Qualifiers Associated with an Existing Subscription)

Limited Capability Users

Limited Capability users cannot use this functionality.

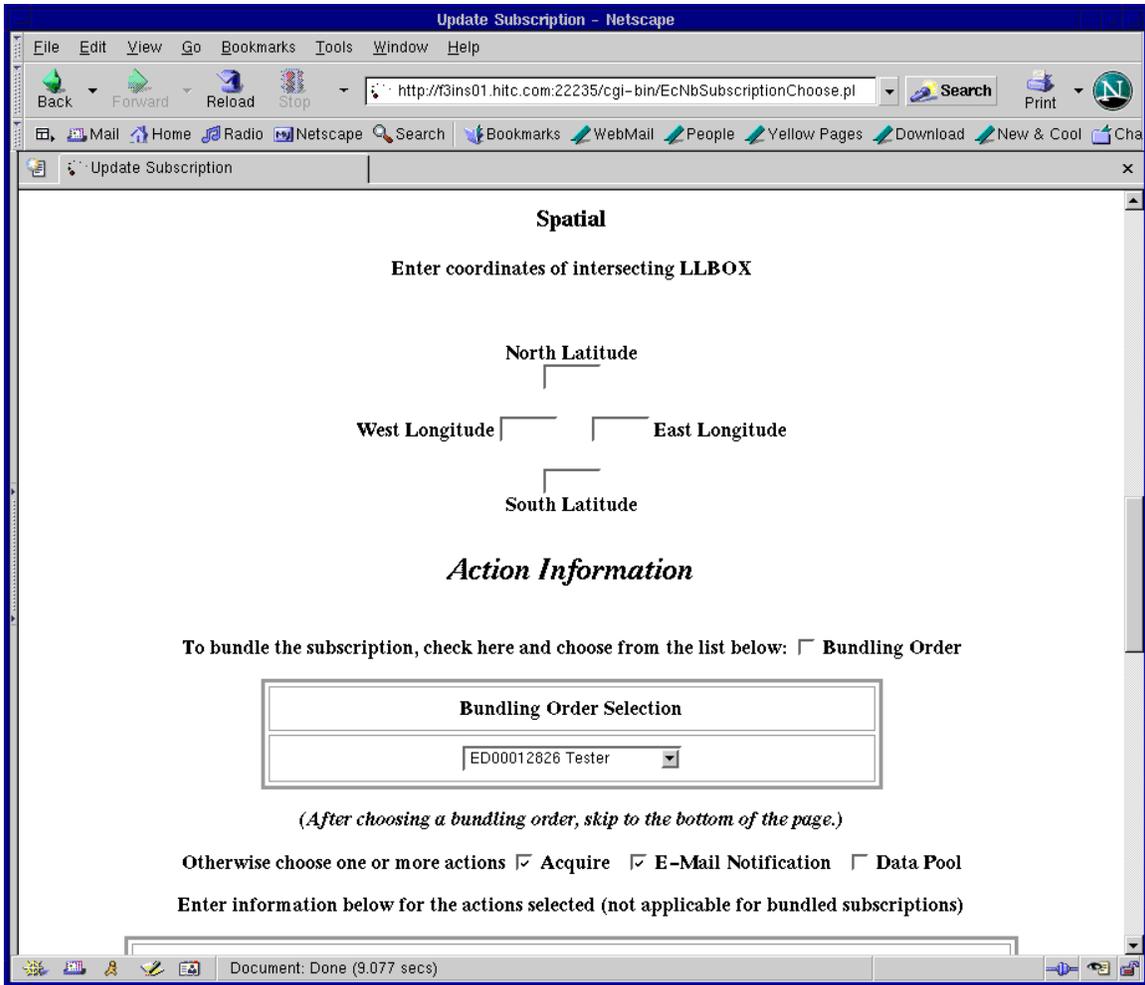


Figure 4.7.2.4-5c. Update a Subscription in the NBSRV Database. Note that This Functionality is Only Available to Full Capability Operators. (Continuation to Add or Update Action Information for an Existing Subscription)

Limited Capability Users

Limited Capability users cannot use this functionality.

Applications Actions | bender1 | Spatial Subscription Server DEV05 | bender1 | Thu Feb 14, 2:39 PM

file://home/labuser/Desktop/EcNbAddSubscription1B.pl.html

Functionality Lab Status | Spatial Subscription Server... | Spatial Subscription Serv...

Otherwise choose one or more actions Acquire E-Mail Notification Data Pool

Enter information below for the actions selected (not applicable for bundled subscriptions)

Acquire Information

User Profile | labuser

User String |

First Name | Lab M.I. | Last Name | User

Phone Number | 301-851-8300

Email Address | labuser@raytheon.com

Media Format FILEFORMAT

Media Type | FtpPull

Priority | VHIGH

Notify Type MAIL

Information for FtpPush or Secure Copy Distribution (scp) Only

User |

Password |

Enter password again for verification |

Host |

Directory |

E-Mail Notification Information

Action Address |

Done

Figure 4.7.2.4-5d. Update a Subscription in the NBSRV Database. Note that This Functionality is Available to Only Full Capability Operators. (Continuation to Update Ftp Action Information for an Existing Subscription.)

Limited Capability Users

Limited Capability users cannot use this functionality.

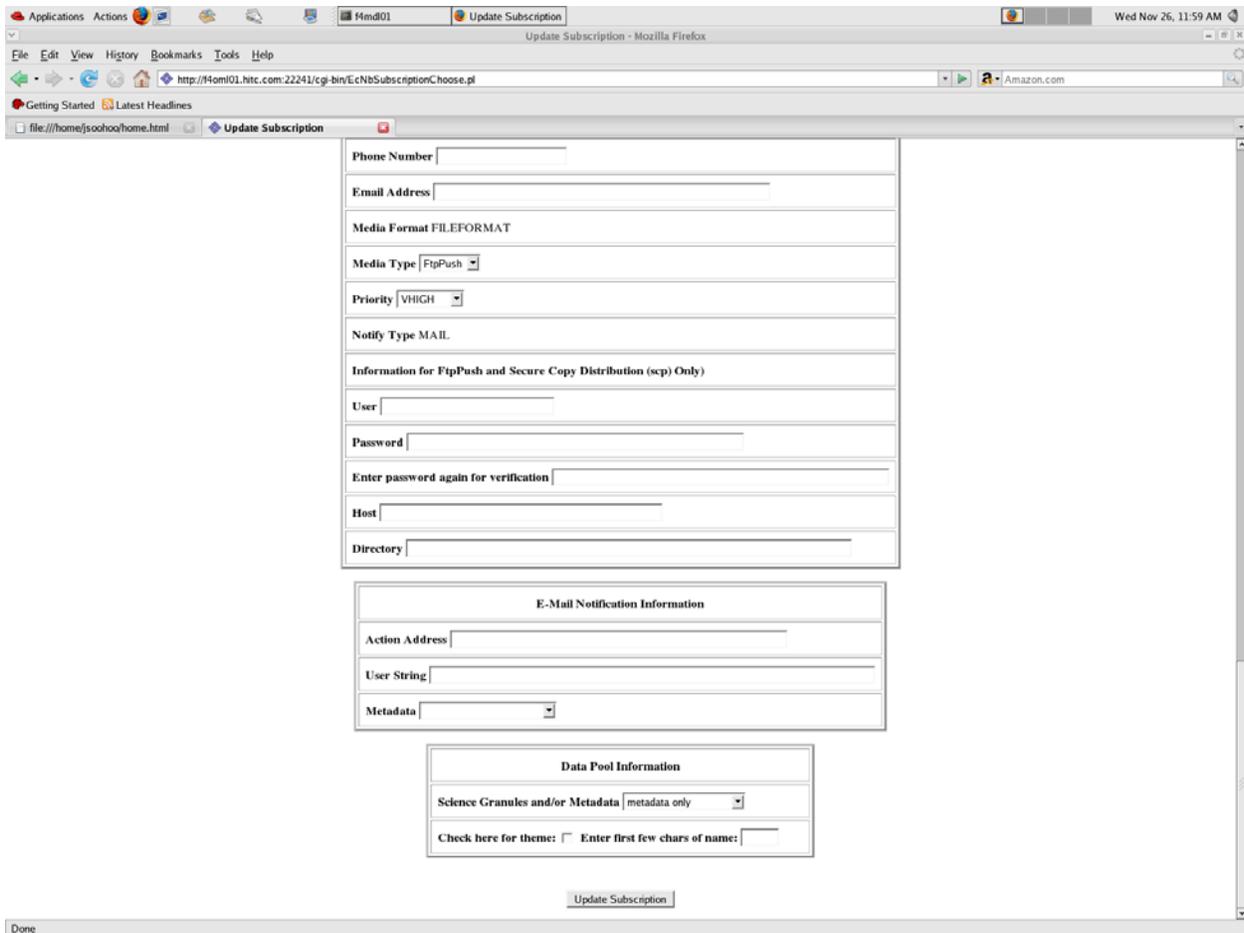


Figure 4.7.2.4-5e. Update a Subscription in the NBSRV Database (Continuation to Update E-Mail Action Information, Data Pool Information, or the Bundling Order Selection for an Existing Subscription)

Note: The operator must click on the Update Subscription button to initiate the updating of a subscription.

Limited Capability Users

Limited Capability users cannot use this functionality.

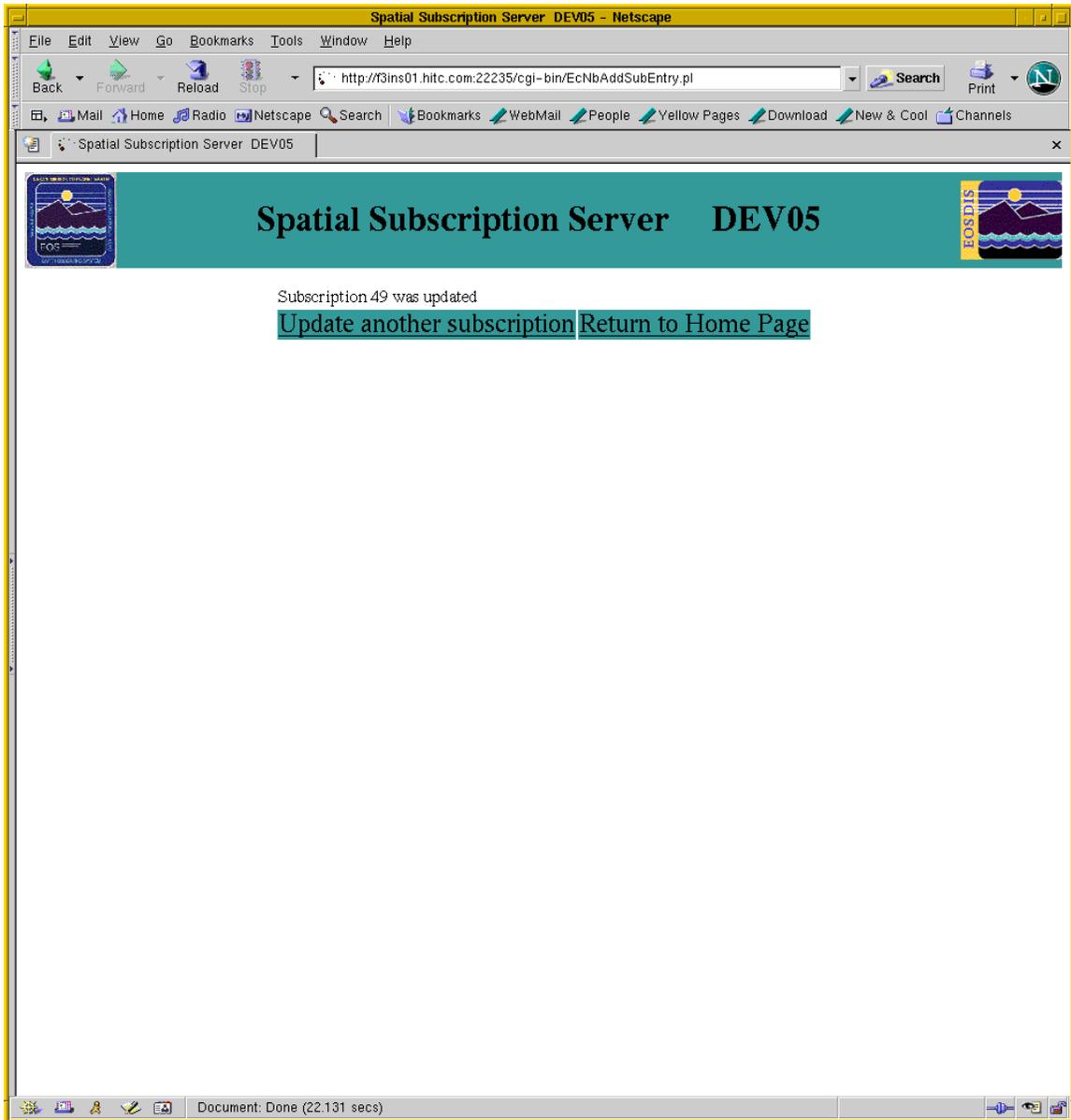


Figure 4.7.2.4-6a. Update Confirmation Screen. Note that This Screen is Seen by Only Full Capability Operator (Confirms Successful or Unsuccessful Updating of the Subscription)

Note: If invalid or missing data is detected for the subscription the errors will be displayed to the operator for correction. If a theme was to be associated with a data pool action, the screen will appear as in Figure 4.7.2.4-6b.

Limited Capability Users

Limited Capability users cannot use this functionality.

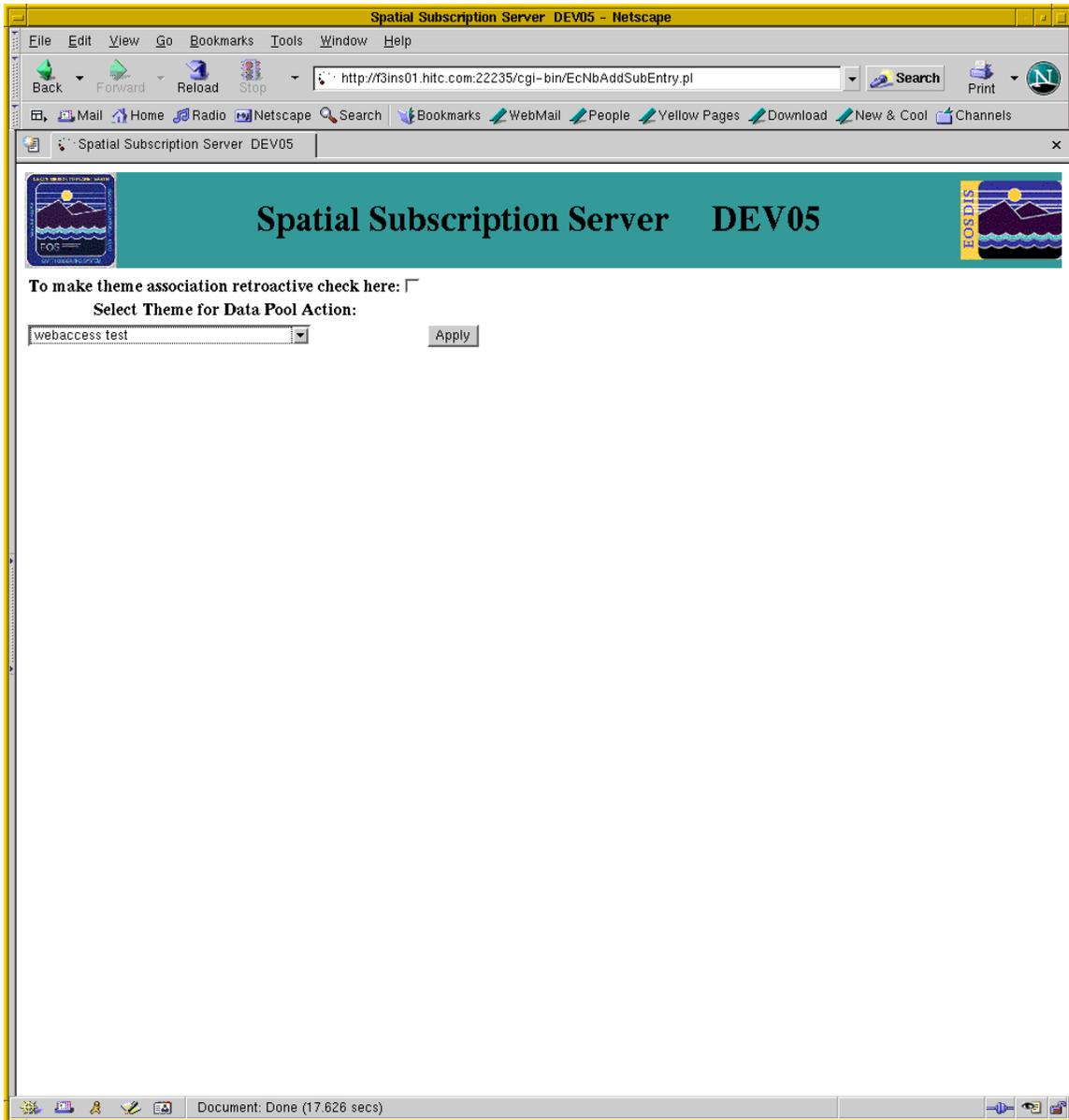


Figure 4.7.2.4-6b. Data Pool Action Associated with a Theme. Note that This Screen is Seen by Only Full Capability Operator. (Alternative to Update Confirmation Screen Figure 4.7.2.4-6a)

Note: The user first indicates whether the association is to be retroactive. Retroactive means that any granules already in the Data Pool due to the subscription being updated will be associated with the theme. The user then selects a theme from the pulldown list and clicks on Apply. The screen in Figure 4.7.2.4-6a will be displayed, signaling a successful update.

Limited Capability Users

Limited Capability users cannot use this functionality.

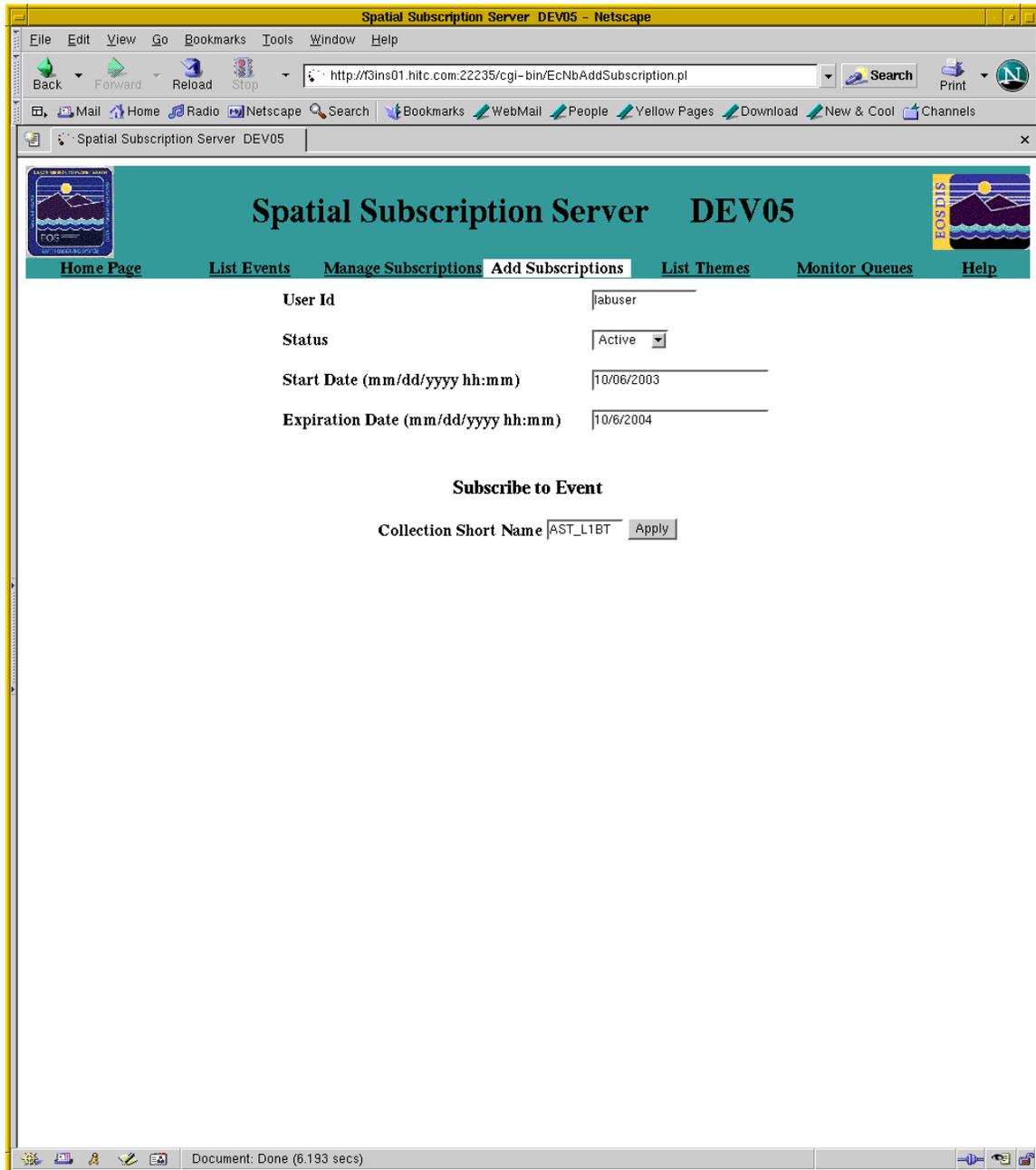


Figure 4.7.2.4-7. Add a New Subscription for a Valid ECS User. Note that This Functionality is Accessible to Only Full Capability Users.

Limited Capability Users

Limited Capability users cannot use this functionality.

Table 4.7.2.4-1. Add Subscriptions Screen Field Description

| Field Name | Data Type | Size | Entry | Description |
|-----------------------|-----------|------|--|---|
| User Id | character | 14 | required | Allows the operator to enter a valid ECS user. |
| Status | n/a | n/a | required, selection from dropdown list | Allows the operator to select 'Active', 'Inactive' or "Canceled". Normally, the operator will choose 'Active'. 'Inactive' means that the subscription exists but has been temporarily suspended. 'Canceled' means that the subscription has been planned for deletion and will be deleted by the Deletion Driver once a configurable amount of time has passed. The default value for the status field is 'Active'. |
| Expiration Date | dateTime | 12 | required | Allows the operator to enter the date on which the subscription will expire. The default is one year from the current date (although this is configurable). |
| Collection Short Name | character | 10 | optional | Allows the operator to enter the first few characters of the Collection for the event that will be subscribed to. If left blank all Collections will be retrieved. The operator must click on the APPLY button to obtain a pull-down list of collection, version, event type combinations. |

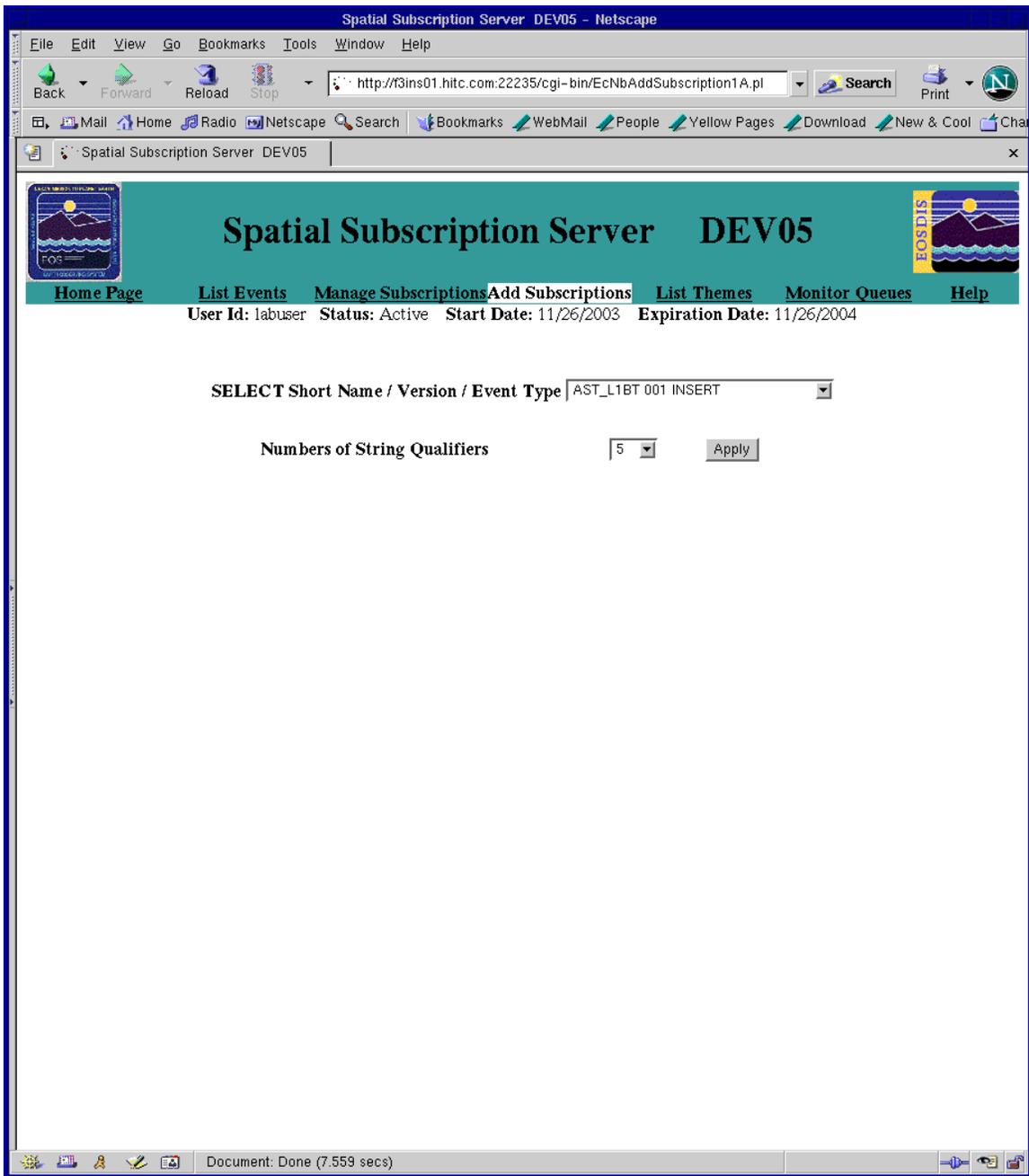


Figure 4.7.2.4-8. Event Selection (Continuation of Figure 4.7.2.4-7). Note that This Functionality is Accessible to Full Capability Operators.

Note: This screen depicts the operator selecting the ‘AST_L1BT 001 INSERT’ event from the pull-down list.

Limited Capability Users

Limited Capability users cannot use this functionality.

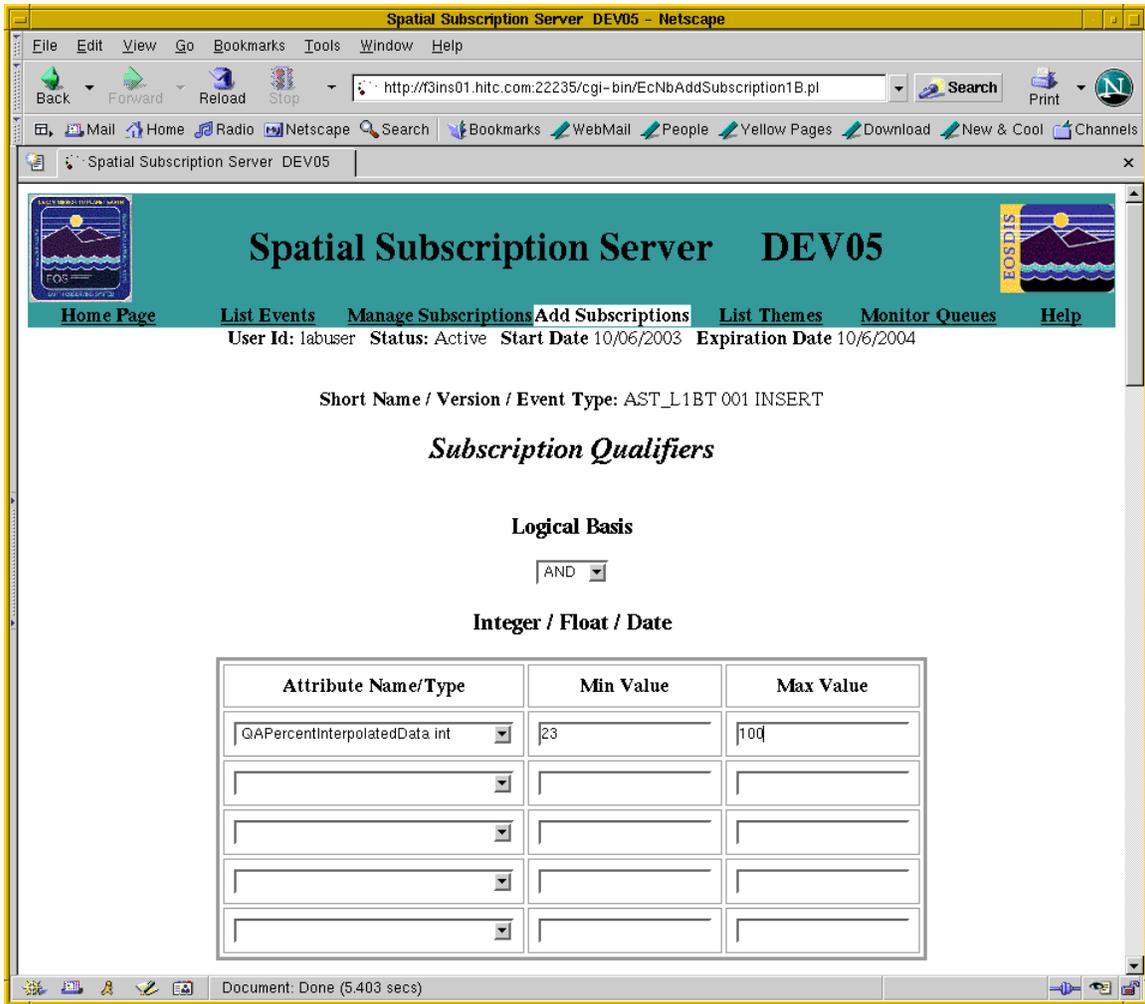


Figure 4.7.2.4-9. Add Subscription Continuation Information. Note that This Functionality is Accessible to Only Full Capability Operators.

Note: This screen is displayed after the operator clicks on the Apply button in Figure 4.7.2.4-8. It depicts the operator adding an integer qualifier to the new subscription.

Limited Capability Users

Limited Capability users cannot use this functionality.

Table 4.7.2.4-2. Add Subscriptions Screen Continuation Field Description

| Field Name | Data Type | Size | Entry | Description |
|-------------------------|-----------|------|--|--|
| Attribute Name/ Type | n/a | n/a | optional, selection from dropdown list | Allows the operator to select Integer, Float or date qualifier. Note that only attributes associated with the current collection will be displayed. If the measured Parameter QAPercentCloudCover is valid for the Collection and the operator elects to qualify on it as part of the subscription, a pop-up window will be displayed requesting that the operator enter a valid parameter name for the attribute. |
| Min Value | character | 20 | optional | Allows the operator to enter valid minimum value for the qualifier selected. |
| Max Value | character | 20 | optional | Allows the operator to enter valid maximum value for the qualifier selected. For exact matching, enter the same value for the minimum and maximum. |

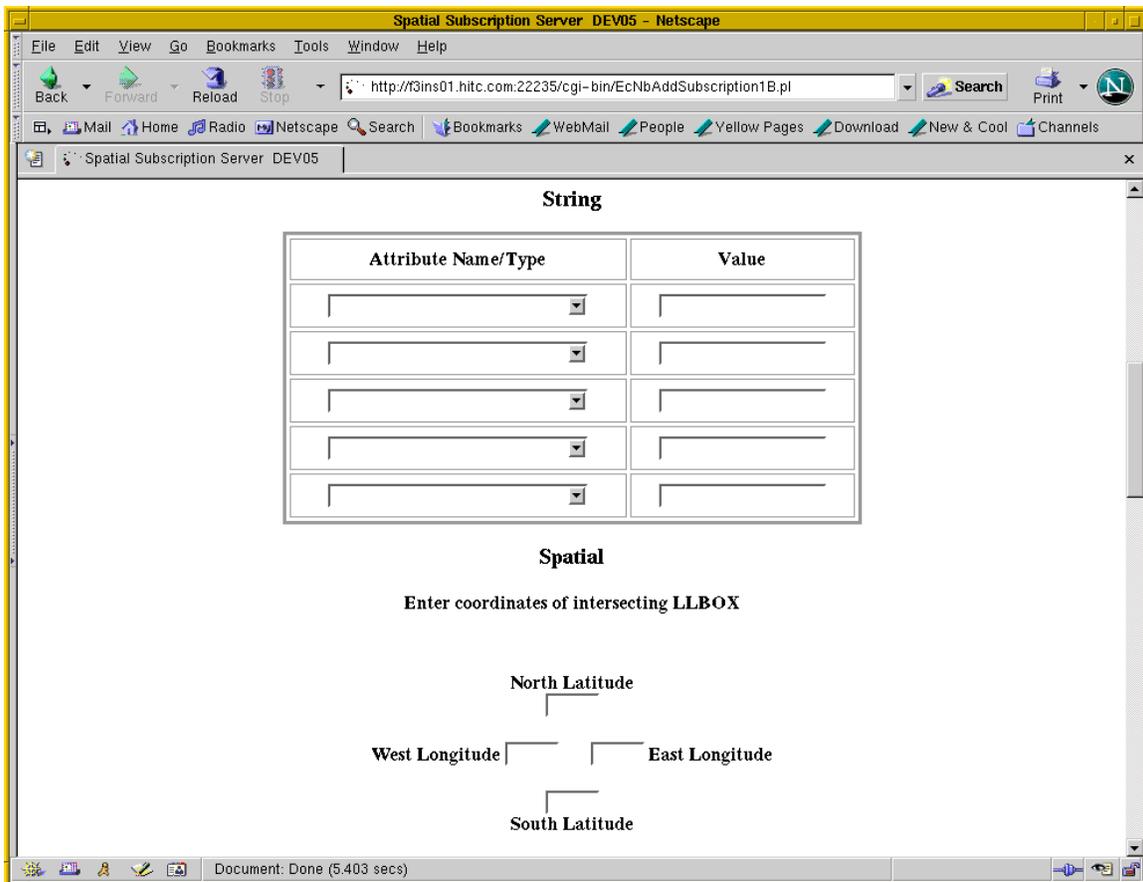


Figure 4.7.2.4-10. Add Subscription Screen Continuation (Adding String and Spatial Qualifiers)

Limited Capability Users

Limited Capability users cannot use this functionality.

Table 4.7.2.4-3. Add Subscriptions Continuation Field Description

| Field Name | Data Type | Size | Entry | Description |
|-----------------------|-----------|------|--|---|
| Attribute Name / Type | n/a | n/a | optional, selection from dropdown list | Allows the operator to select String qualifier. |
| Value | character | 20 | optional | Allows the operator to enter valid string value for qualifier selected. |
| Lat/Long Coordinates | character | 6 | optional | Allows the operator to define the latitude and longitude coordinates for an intersecting LLBOX. The coordinates are entered in degrees. |

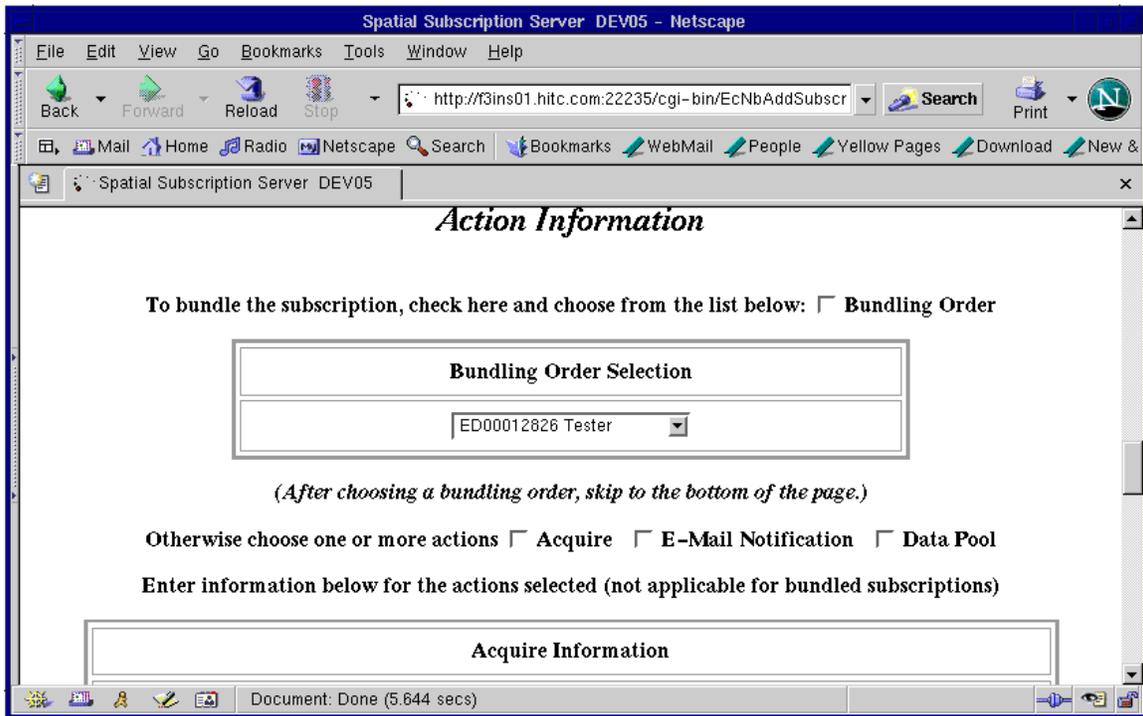


Figure 4.7.2.4-11. Add Subscription Screen Continuation (Bundling Order). Note that This Functionality is Accessible to Only Full Capability Operators.

Limited Capability Users

Limited Capability users cannot use this functionality.

Table 4.7.2.4-4. Add Subscriptions Continuation Field Description

| Field Name | Data Type | Size | Entry | Description |
|---------------------------|-----------|------|-----------------------|--|
| User Profile | character | 30 | required, for Acquire | This will default to the User Id from the Add Subscriptions form. |
| User String | character | 30 | optional, for Acquire | A secondary qualifier used to distinguish this request from others with the same user profile. The user string will appear in the distribution notice. |
| First Name | character | 20 | optional | First name of the user receiving the data. |
| Middle Initial | character | 1 | optional | Middle initial of user receiving the data. |
| Last Name | character | 20 | optional | Last name of the user receiving the data. |
| Phone Number | character | 22 | optional | Phone number of the user receiving the data. |
| Email Address | character | 50 | required, for Acquire | The e-mail address that is used by the Data Distribution to e-mail notification of the acquire. NOTE: a granule will be distributed at most once to a given email address, regardless of the number of matching subscriptions. |
| Media Format | n/a | n/a | required, for Acquire | The format of the Media. The only default value is FILEFORMAT. |
| Media Type | n/a | n/a | required, for Acquire | The type of the Media. The valid values are FtpPull, FtpPush and Secure Copy. The default value is FtpPush. |
| Priority | n/a | n/a | required, for Acquire | The distribution priority of the acquire. The valid values are VHIGH, HIGH, NORMAL, LOW, XPRESS. The default priority value is the distribution priority in the user profile of the userID associated with the subscription. |
| Notify Type | n/a | n/a | required, for Acquire | The method of notification for the acquire. The only default value is MAIL. (When the Media Type is scp, notifications are also sent via scp). |
| FTP User | character | 30 | optional, for Acquire | The Unix login ID of the FTP recipient. Required for FtpPush and SecureCopy. |
| FTP Password | character | 16 | optional, for Acquire | The Unix password for the FTP recipient. Required for FtpPush and SecureCopy. |
| FTP Password Verification | character | 16 | optional, for Acquire | The Unix password verification for the FTP recipient. Required for FtpPush and SecureCopy. |
| FTP Host | character | 80 | optional, for Acquire | The Unix hostname of the FTP recipient. Required for FtpPush and SecureCopy. |
| FTP Directory | character | 80 | optional, for Acquire | The pathname of the Unix directory where the acquired files are to be stored. Required for FtpPush and SecureCopy. |

Figure 4.7.2.4-12a and 4.7.2.4-12b show the Add Subscription Screen Continuation.

Otherwise choose one or more actions Acquire E-Mail Notification Data Pool

Enter information below for the actions selected (not applicable for bundled subscriptions)

| Acquire Information | |
|--|----------------------|
| User Profile | labuser |
| User String | fest one |
| First Name | Lab |
| M.I. | Q |
| Last Name | User |
| Phone Number | 301-851-8300 |
| Email Address | labuser@raytheon.com |
| Media Format | FILEFORMAT |
| Media Type | FtpPull |
| Priority | VHIGH |
| Notify Type | MAIL |
| Information for FtpPush or Secure Copy Distribution (scp) Only | |
| User | |
| Password | |
| Enter password again for verification | |
| Host | |
| Directory | |

Figure 4.7.2.4.-12a. Add Subscription Screen Continuation. Note that This Functionality is Accessible to Only Full Capability Operators. (Information for the E-Mail Notification or Data Pool Actions)

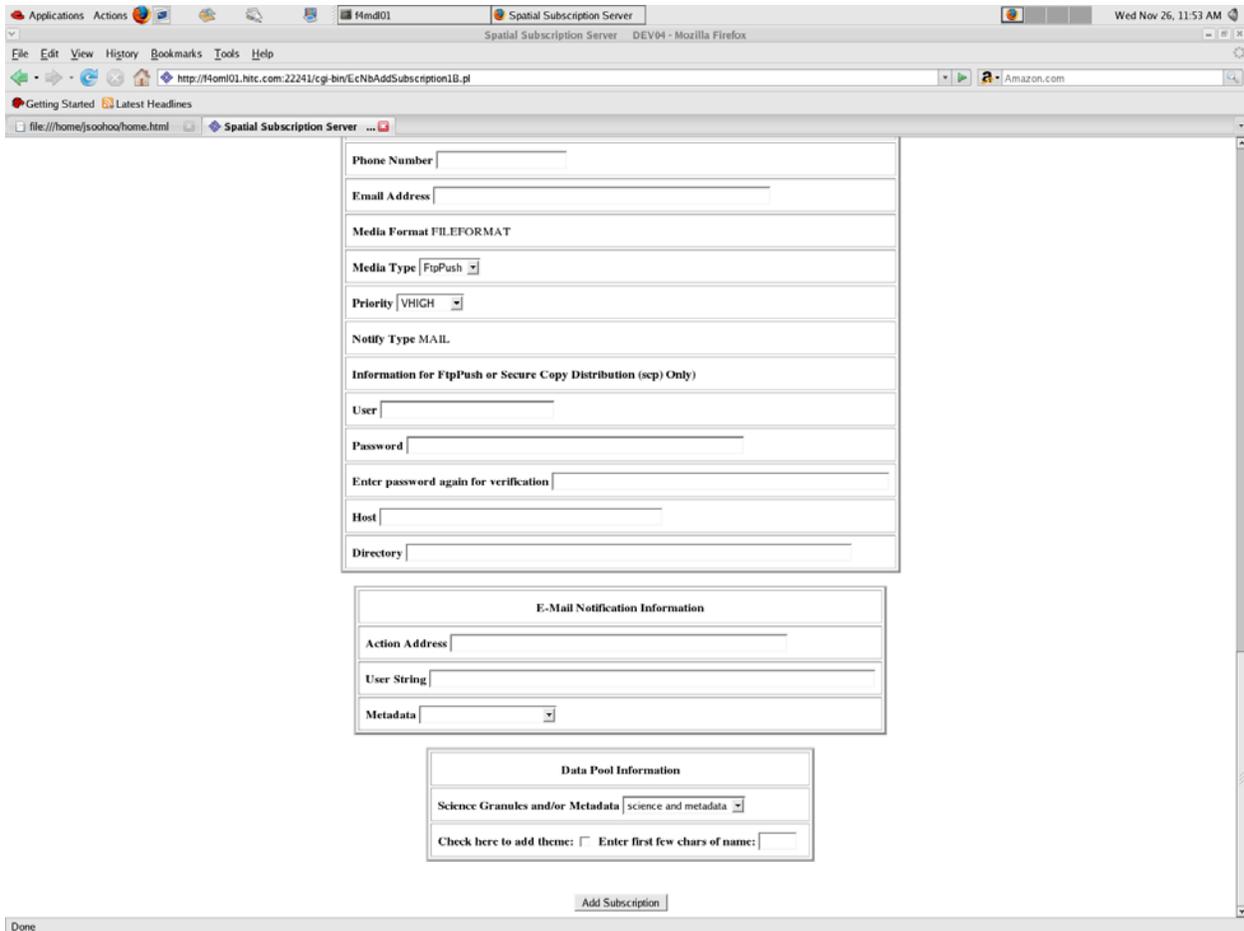


Figure 4.7.2.4-12b. Add Subscription Screen Continuation. Note that This Functionality is Accessible to Only Full Capability Operators. (Information for the E-Mail Notification or Data Pool Actions)

Limited Capability Users

Limited Capability users cannot use this functionality.

Note: A data pool action may be associated with a theme by clicking the theme box. The theme will be chosen in the next screen. The operator can optionally enter the first few characters of the theme name in order to shorten the list of possibilities. The operator must click on the Add Another Subscription button to initiate the addition of the subscription to the NBSRV database.

Table 4.7.2.4-5. Add Subscriptions Continuation Field Description

| Field Name | Data Type | Size | Entry | Description |
|----------------------------------|-------------|------|----------------------|--|
| Action Address | character | | required for Notify | The email address of the registered ECS user associated with the subscription. |
| User String | n/a | n/a | optional, for Notify | The user string to be included in the message text for each email notification. |
| Metadata | n/a | n/a | required, for Notify | Allows the operator to include names and values for all metadata attributes or only include names and values for the metadata attributes associated with the subscription qualifiers in the email notification text. The valid values are Qualifying Metadata Only and All Metadata. |
| Science Granules and/or Metadata | enumeration | | required | Indicates whether both the granule and its metadata are to be inserted into the Data Pool or just the metadata. |
| Associated Theme | character | 40 | optional | Theme associated with the subscription. |
| Bundling Order | character | 10 | optional | Associates the subscription with a previously defined bundling order. The pulldown list displays the bundling order ID followed by its user string, if defined. |
| Check Here To Add Theme | checkbox | n/a | optional | Add theme associated with the subscription. |
| Enter First Few Chars of Name | character | 5 | optional | The first few characters of the associated theme's name. |

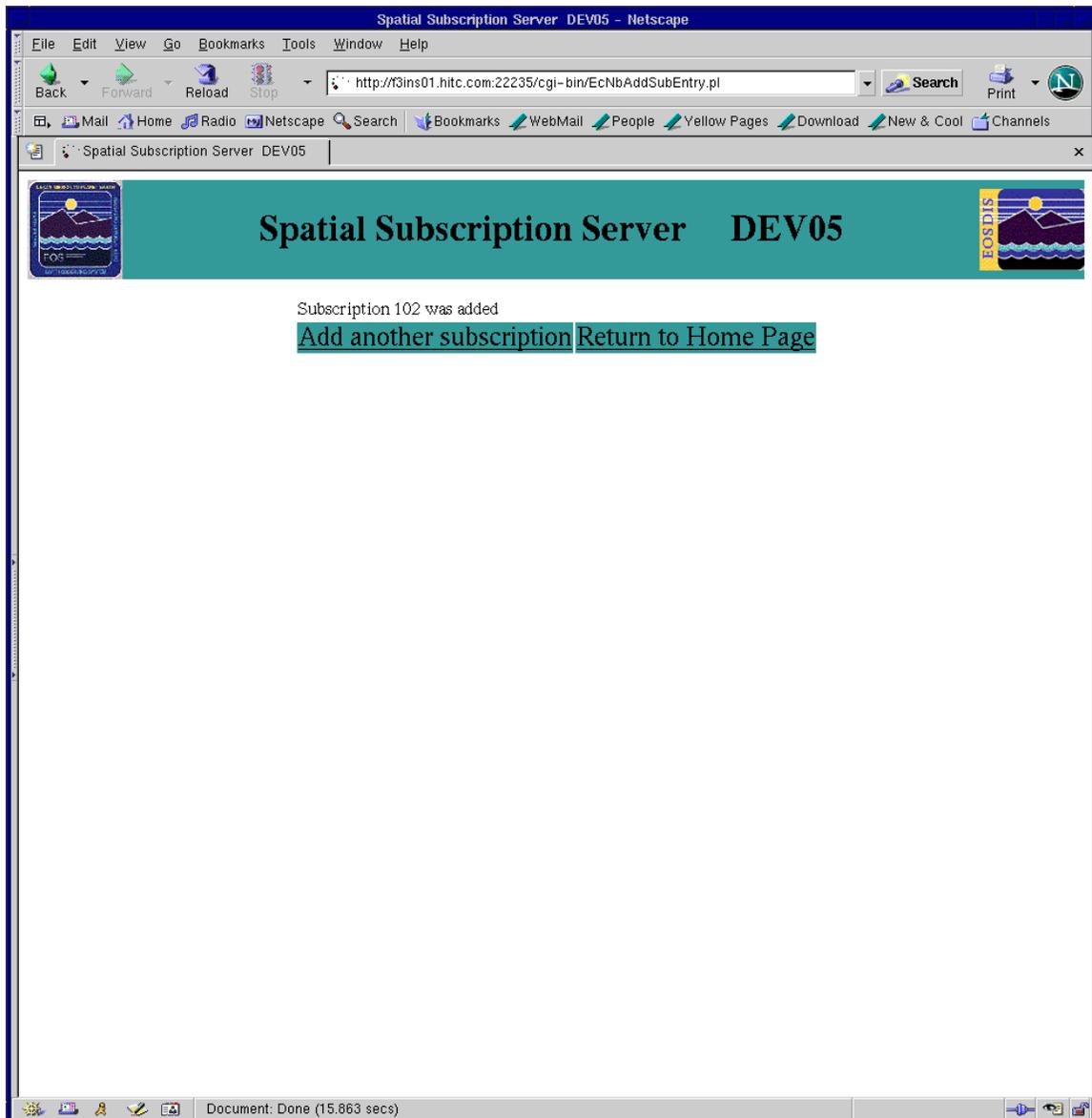


Figure 4.7.2.4-13a. Add Confirmation Screen. Note that This Functionality is Accessible to Only Full Capability Operators. (Confirms Successful or Unsuccessful Adding of the Subscription)

Limited Capability Users

Limited Capability users cannot use this functionality.

Note: If invalid or missing data is detected for the subscription, the errors will be displayed to the operator for correction.

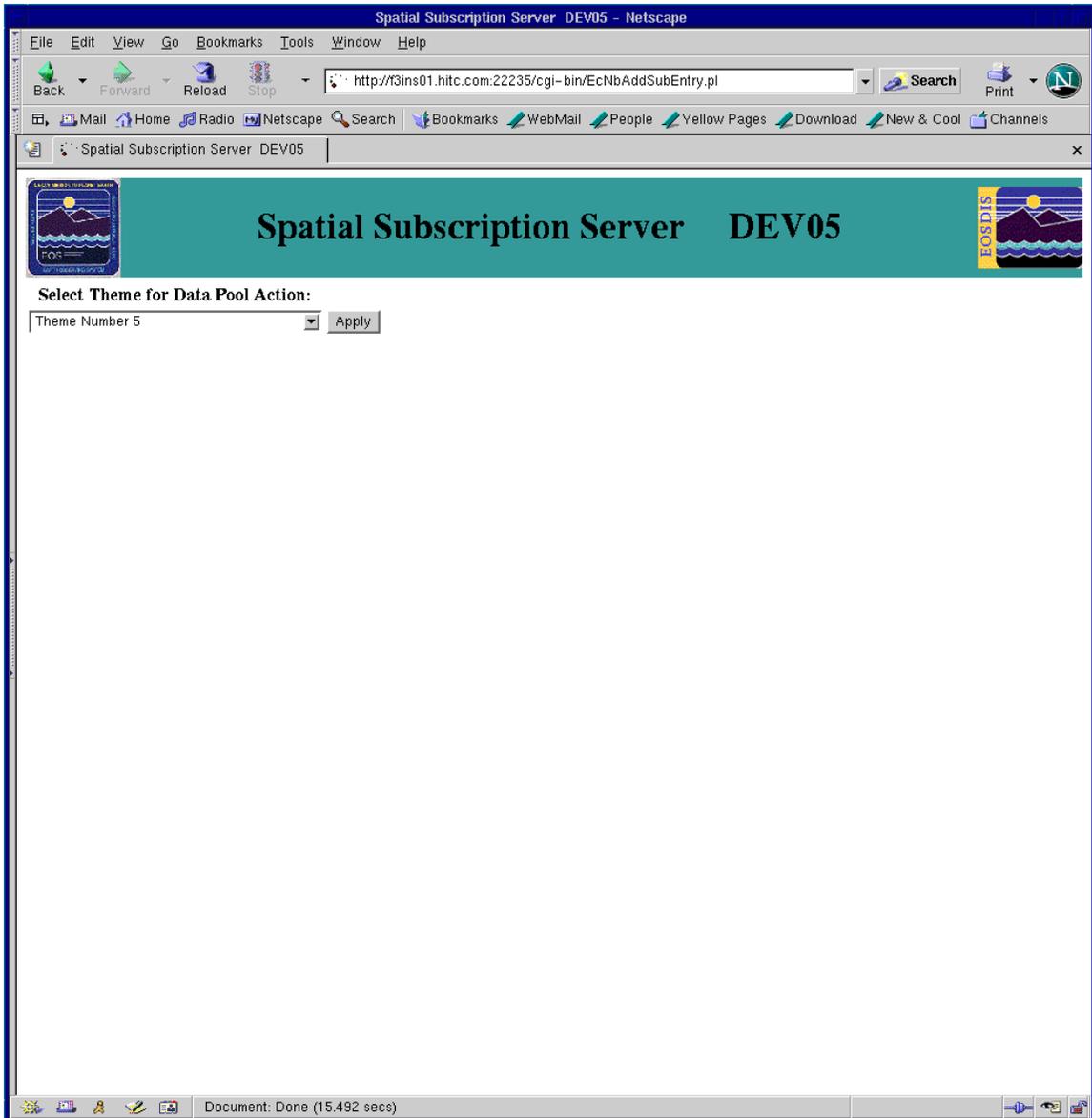


Figure 4.7.2.4-13b. Data Pool Action Associated with a Theme (Alternative to Add Confirmation Screen Figure 4.7.2.4-13a). Note that This Functionality is Accessible to Only Full Capability Operators.

Limited Capability Users

Limited Capability users cannot use this functionality.

Note: The operator selects a theme name from the pulldown list and clicks on the Apply button. Confirmation that the subscription was successfully added appears as in Figure 4.7.2.4-13a.

NOTE: The subscription is actually created prior to displaying this screen, and the association of the theme with the subscription is implemented as an update operation.

4.7.2.5 List Themes Tab

The List Themes screen, called from Monitor Subscriptions and shown in Figure 4.7.2.5-1 allows the operator to see a list of known themes which are enabled for insert. Table 4.7.2.5-1 lists the field descriptions for the List Themes Request screen.

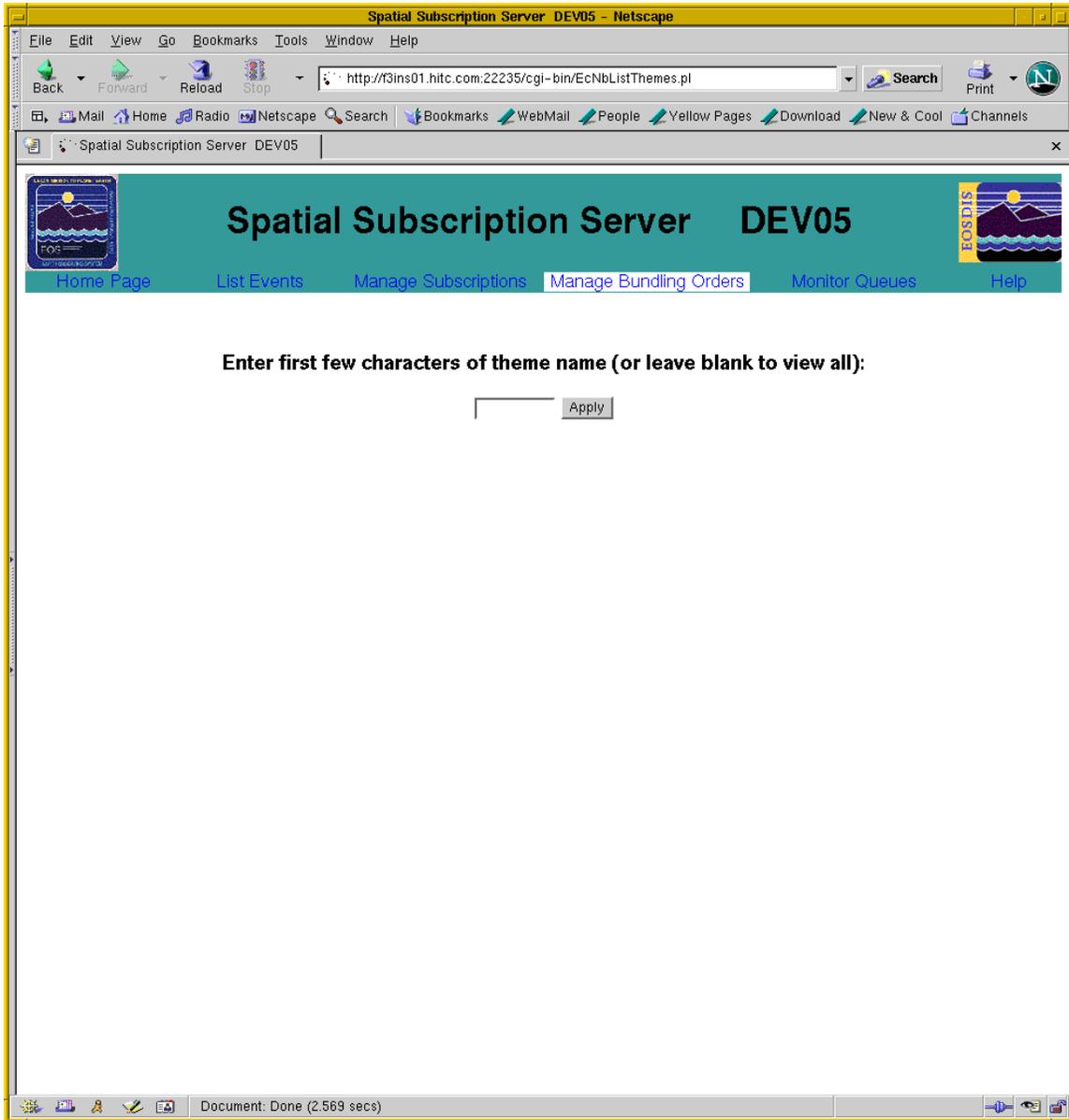


Figure 4.7.2.5-1. List Themes Screen Request

Note: The list may be filtered by entering the first few characters of the theme name.

Figure 4.7.2.5-2 below is the screen that is displayed after the operator enters information in the list themes screen (Figure 4.7.2.5-1).

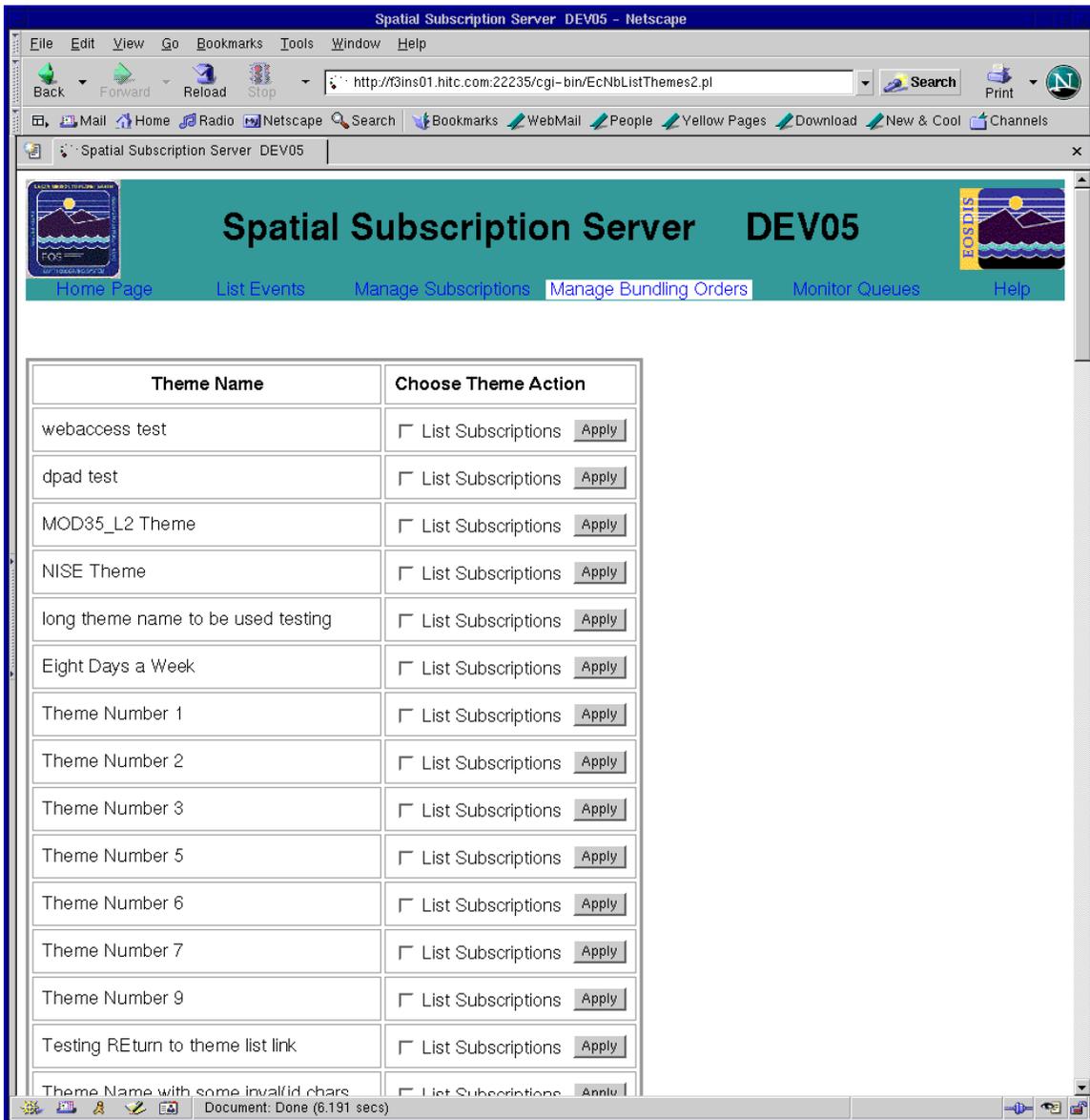


Figure 4.7.2.5-2. Theme List and Associated Action

Note: This screen allows the operator to see the list of themes enabled for insert and to view the list of subscriptions associated with a particular theme.

Table 4.7.2.5-1. Theme List Field Description

| Field Name | Data Type | Size | Entry | Description |
|---------------------|------------------|-------------|--------------|---|
| Choose Theme Action | checkbox | 1 | optional | To view the subscriptions associated with a particular theme, check the box and click on Apply. |
| Continue | link | n/a | optional | To continue viewing the list of theme names, click on the continue link. |

4.7.2.6 List Subscriptions box

The List Subscriptions for Theme screen, called from List Themes and shown in Figure 4.7.2.6-1 allows the operator to see a list of subscriptions associated with a particular theme.

Please note that **Update**, **Cancel**, **Suspend All**, **ResumeAll** and **Cancel All** functionality is accessible only to full capability Operators.

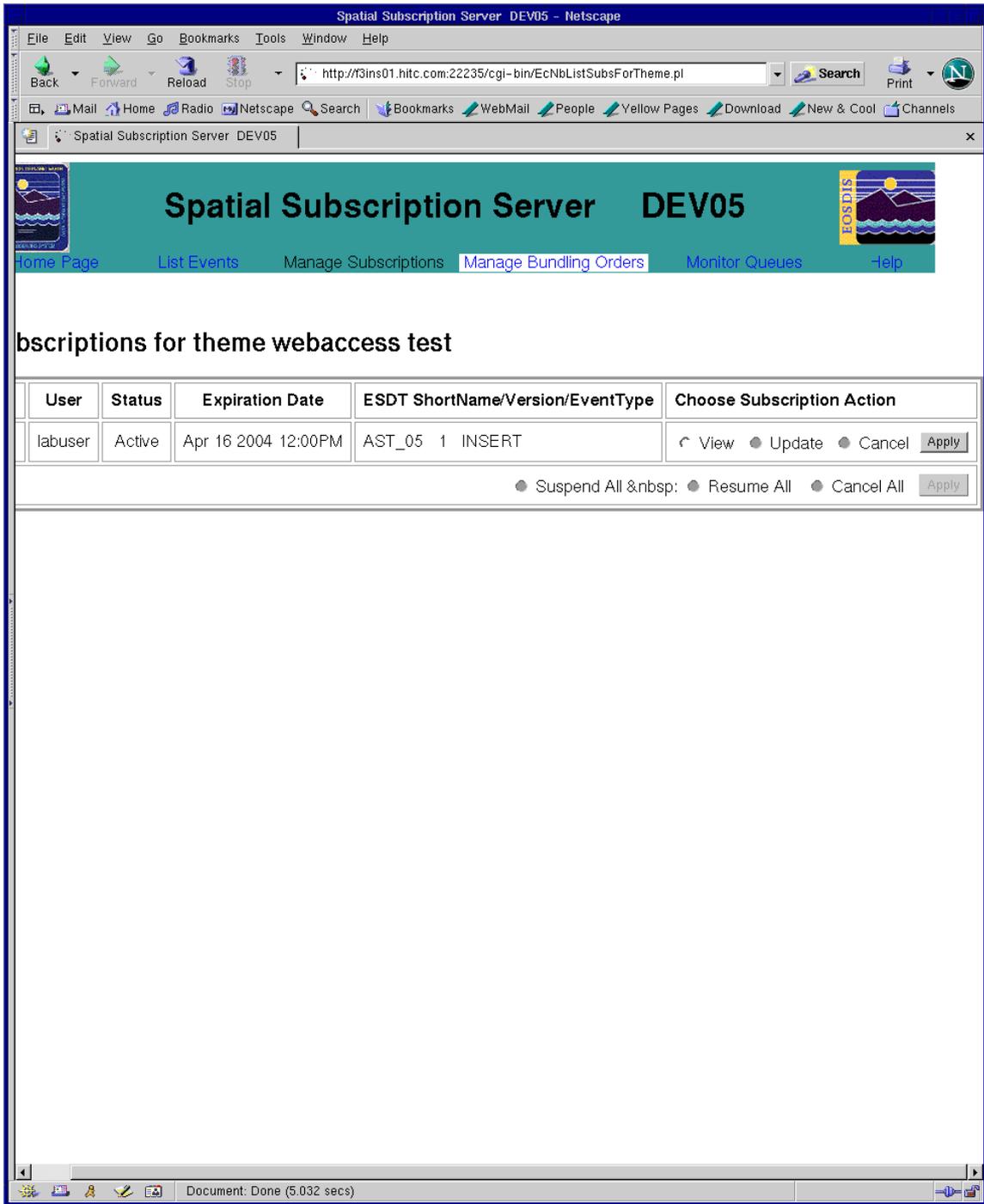


Figure 4.7.2.6-1. Theme and Associated Subscriptions

Note: This screen allows the operator to see the list of subscriptions associated with a particular theme and to select one of them for View, Update, or Cancel. The operator also has the option to suspend, resume, or cancel all subscriptions by clicking on the appropriate link.

4.7.2.7 Manage Bundling Orders tab

The Manage Bundling Orders screen shown in Figure 4.7.2.7-1 allows the operator to View, Update, or Cancel bundling orders or to create new bundling orders. The operator can also list the subscriptions associated with a particular bundling order.

Please note that **Update** and **Cancel** functionality can only be performed by an Operator with full capability access.

The screenshot shows a Netscape browser window displaying the 'Spatial Subscription Server DEV05' web application. The page title is 'Spatial Subscription Server DEV05'. The navigation menu includes: Home Page, List Events, Manage Subscriptions, Manage Bundling Orders (selected), Monitor Queues, and Help. Below the navigation menu, there are links for 'Bundling Order List', 'Add Bundling Order', and 'Configure Defaults'. There are also filter options: 'User' (labuser3), 'MediaType' (ALL), and 'Status' (ALL), followed by a 'Filter' button. The main content area displays a table of bundling orders.

| Bundling Order | User | Creation Date | Expiration Date | Media Type | Status | Choose Bundling Order Action |
|----------------|----------|---------------------|---------------------|------------|---------|------------------------------------|
| 0400007756 | labuser | Jul 7 2003 3:38PM | Jul 6 2004 12:00AM | DVD | ACTIVE | View Update Cancel List Subs Apply |
| 0400007757 | labuser | Jul 7 2003 3:46PM | Jul 8 2003 12:00AM | DLT | EXPIRED | View Update Cancel List Subs Apply |
| 0400011767 | labuser | Aug 4 2003 5:07PM | Aug 3 2004 12:00AM | FtpPush | ACTIVE | View Update Cancel List Subs Apply |
| 0400012034 | labuser3 | Sep 5 2003 10:15AM | Mar 3 2004 12:00AM | FtpPull | ACTIVE | View Update Cancel List Subs Apply |
| 0400012041 | labuser | Sep 16 2003 5:36PM | Sep 17 2003 12:00AM | CDROM | EXPIRED | View Update Cancel List Subs Apply |
| 0400012042 | labuser | Sep 16 2003 5:40PM | Mar 14 2004 12:00PM | DVD | ACTIVE | View Update Cancel List Subs Apply |
| 0400012043 | labuser | Sep 16 2003 5:43PM | Mar 14 2004 12:00AM | DLT | ACTIVE | View Update Cancel List Subs Apply |
| 0400012045 | labuser | Sep 25 2003 10:10AM | Mar 23 2004 12:00AM | DLT | ACTIVE | View Update Cancel List Subs Apply |
| 0400012056 | labuser | Sep 25 2003 1:50PM | Mar 23 2004 12:00AM | 8MM | ACTIVE | View Update Cancel List Subs Apply |
| 0400012084 | labuser | Sep 30 2003 9:40AM | Mar 28 2004 12:00AM | DLT | ACTIVE | View Update Cancel List Subs Apply |

Figure 4.7.2.7-1. Bundling Orders List

Limited Capability Users

Limited Capability users use **Update** and **Cancel** functionality.

Note: This screen allows the operator to view previously defined bundling orders; to view, update, or cancel a particular bundling order; or to list the subscriptions associated with a particular bundling order.

Figure 4.7.2.7-2 displays the configured defaults for a bundling order, which is accessible to full capability operators.

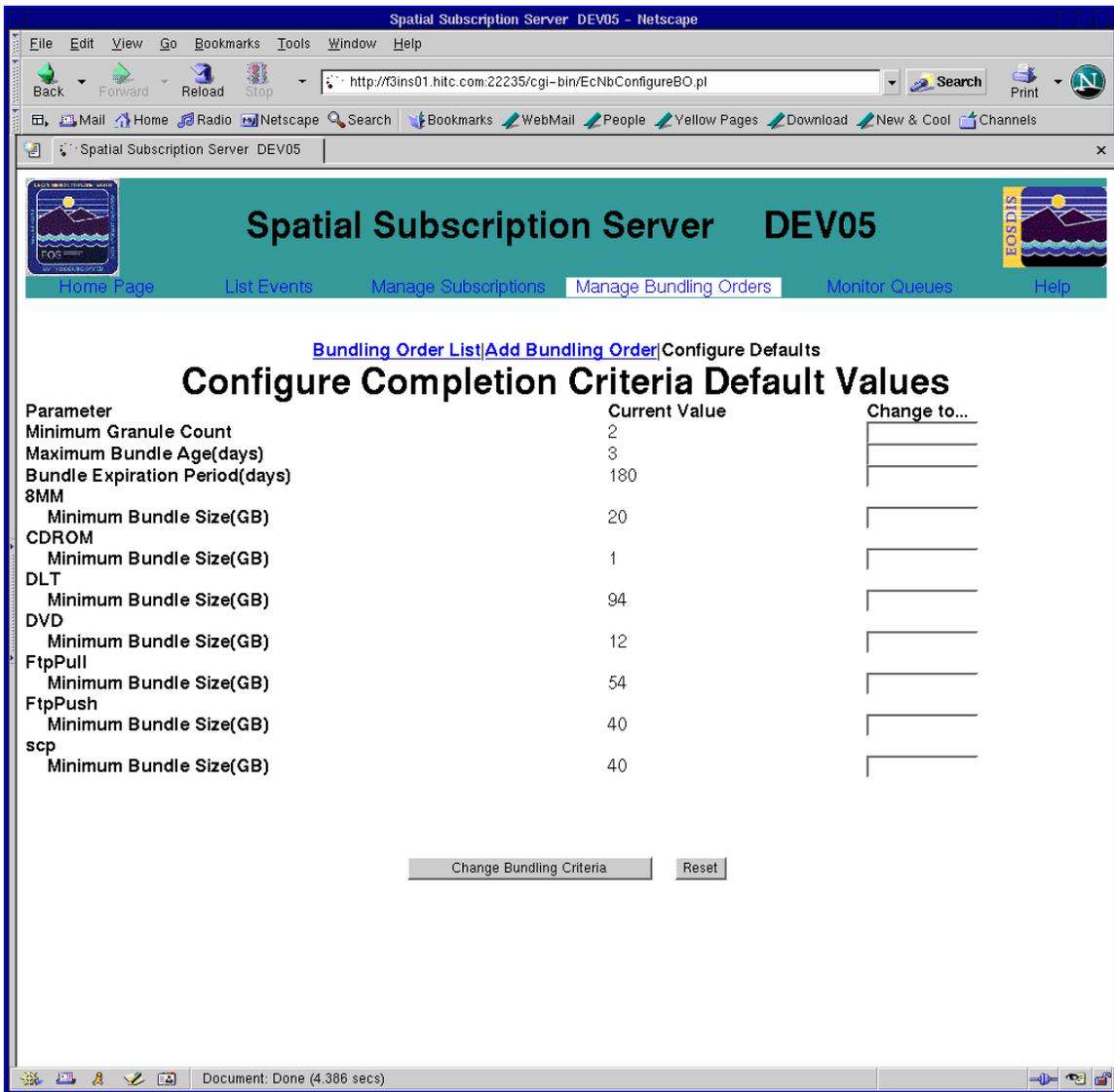


Figure 4.7.2.7-2. Configure Defaults for Bundling Order. This Screen is Only Accessible to Full Capability Operator.

Limited Capability Users

Limited Capability users cannot use this functionality.

Note: This screen is called from Figure 4.7.2.7-1 when the operator selects the Configure Defaults tab. It allows the operator to configure default values for bundling orders. The completion criteria values may vary among media types. To change a value the operator enters the new value in the Change to... column. When all changes have been made the operator clicks the Change Bundling Criteria button.

Figure 4.7.2.7-3 displays the bundling criteria change confirmation screen, which is accessible to full capability operators.

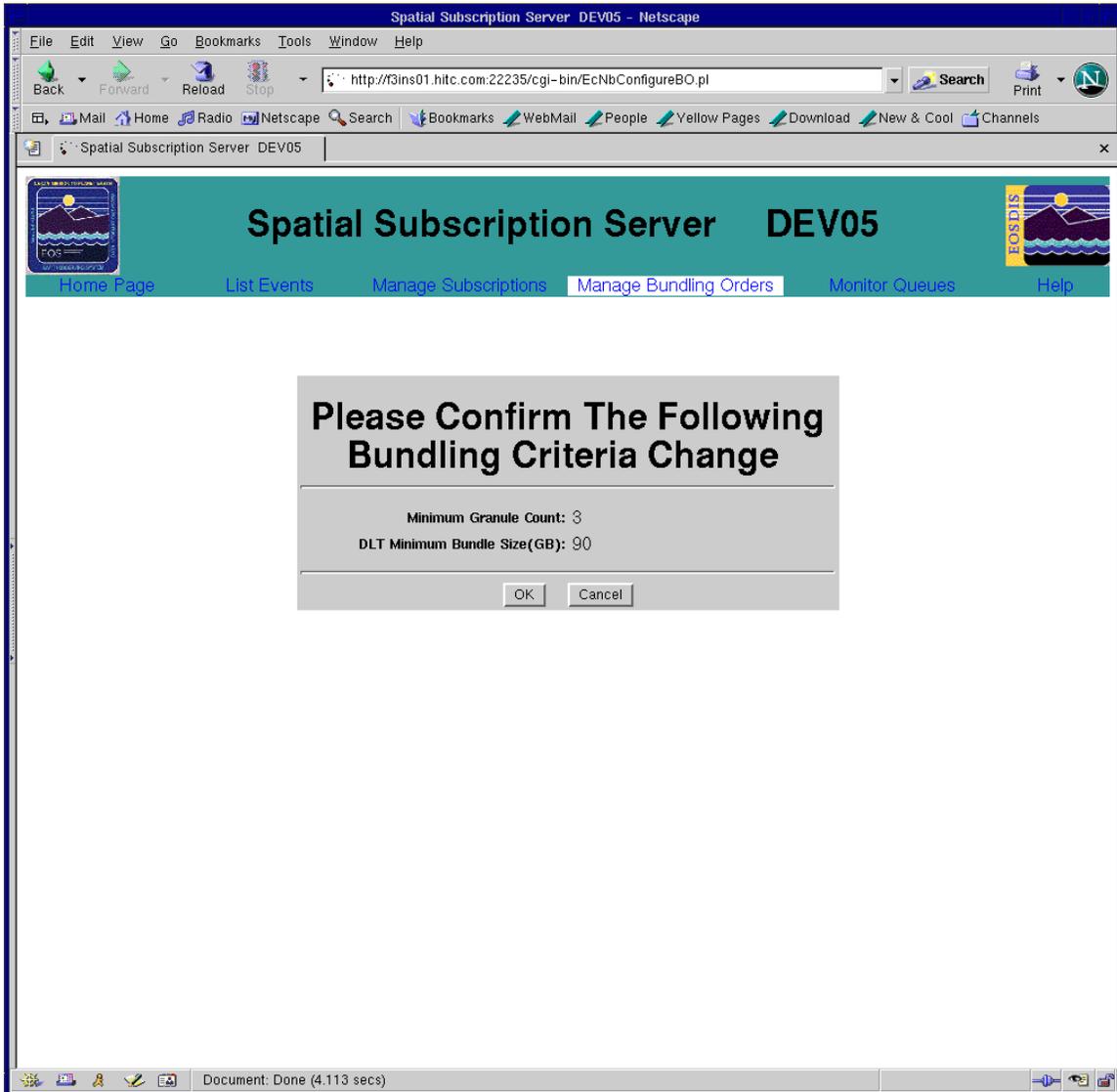


Figure 4.7.2.7-3. Bundling Criteria Change Confirmation Screen. This Screen is Only Accessible to Full Capability Operators.

Limited Capability Users

Limited Capability users cannot use this functionality.

Note: This screen asks for confirmation for the new configuration value(s). The operator would click OK to confirm. The configuration page will appear again after the parameter has been updated.

4.7.2.8 Add Bundling Order

The Add Bundling Order screen shown in Figure 4.7.2.8-1 allows the operator to create a new bundling order. There are two screens involved. In the first screen (Figure 4.7.2.8-1), the user enters name, an expiration date (a default is provided), and the physical media type. Based on this information, further information is requested in the second screen (Figure 4.7.2.8-2). Figures 4.7.2.8-3 and 4.7.2.8-4 show the screen provided when media types FTPPULL and FTPPUSH, respectively, are selected. Table 4.7.2.8-1 lists the description of the fields associated with the bundling order screens.

When the applicable bundling order information has been entered, the operator clicks the Add Bundling Order button. The screen in Figure 4.7.2.8-5 is displayed when the result is successful.

Please note that **Add Bundling Order** functionality is only accessible to full capability Operators.

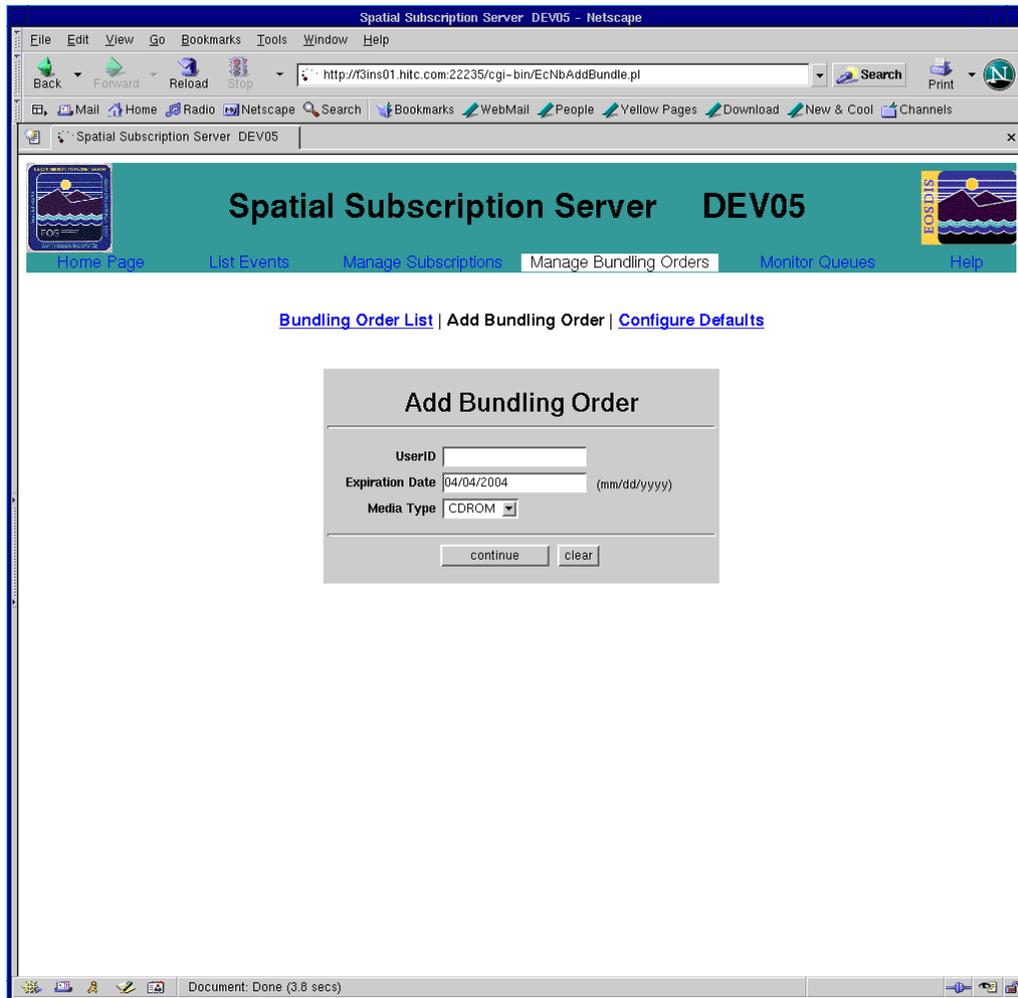


Figure 4.7.2.8-1. Add New Bundling Order Screen (Part 1). This Screen is Only Accessible to Full Capability Operators.

Limited Capability Users

Limited Capability users cannot use this functionality.

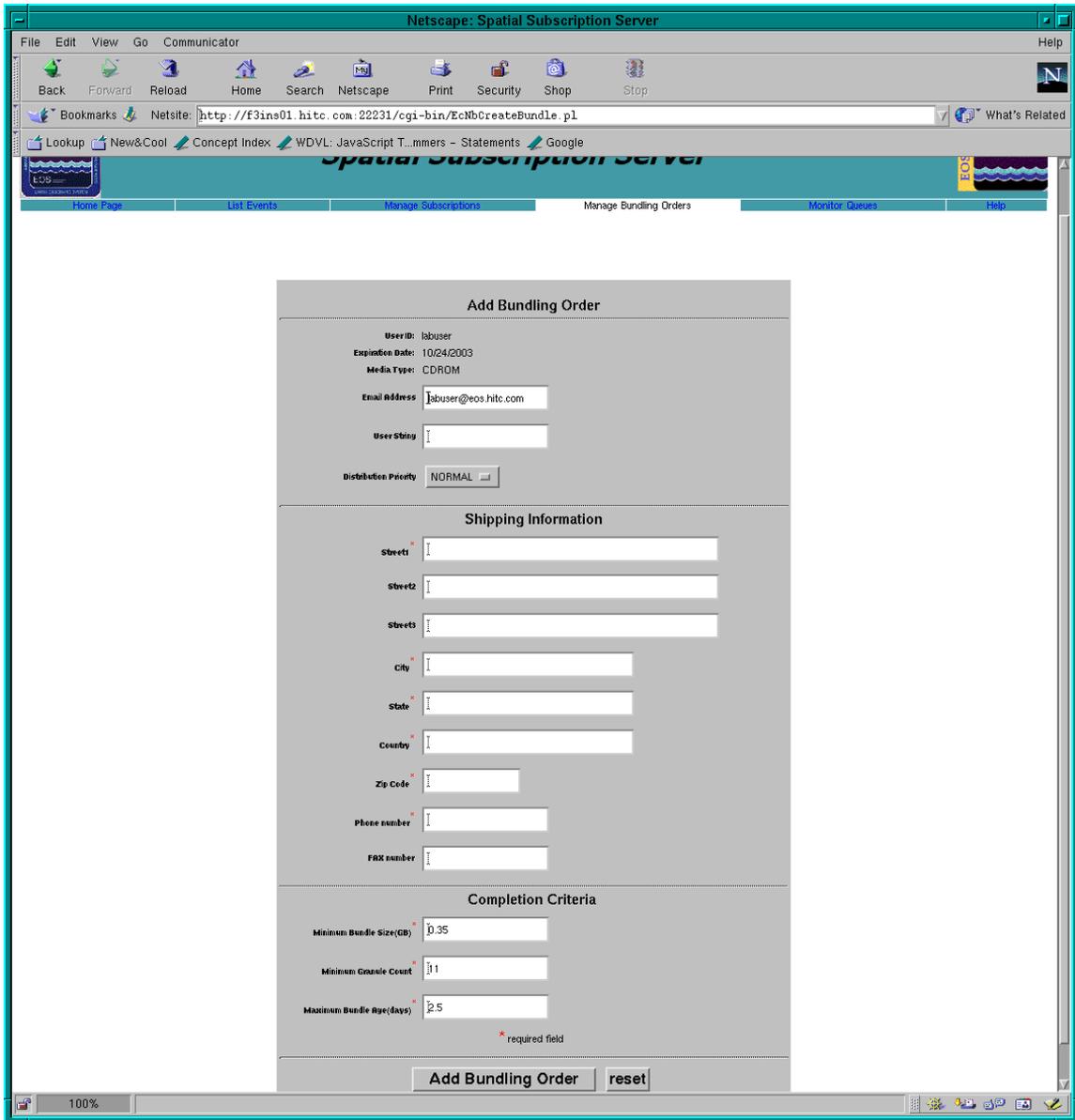


Figure 4.7.2.8-2. Add New Bundling Order Screen (Part 2). This Screen is Only Accessible to Full Capability Operators.

Limited Capability Users

Limited Capability users cannot use this functionality.

Note: Information entered in the previous screen is used to provide options in the current screen. For example, for a physical media type, shipping information will be displayed.

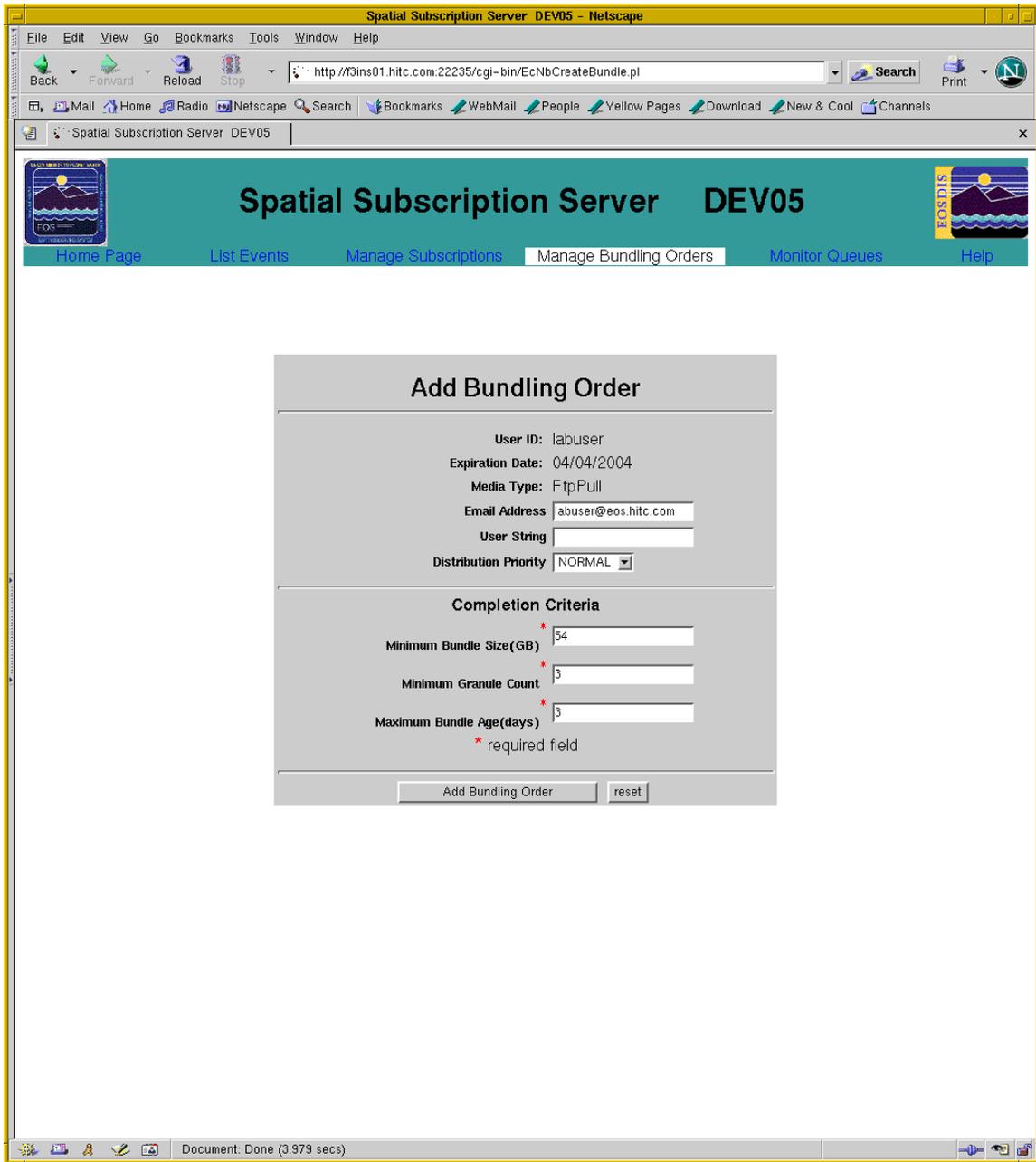


Figure 4.7.2.8-3. Add Bundling Order - Media Type Selected is FTPPULL. This Screen is Only Accessible to Full Capability Operators.

Limited Capability Users

Limited Capability users cannot use this functionality.

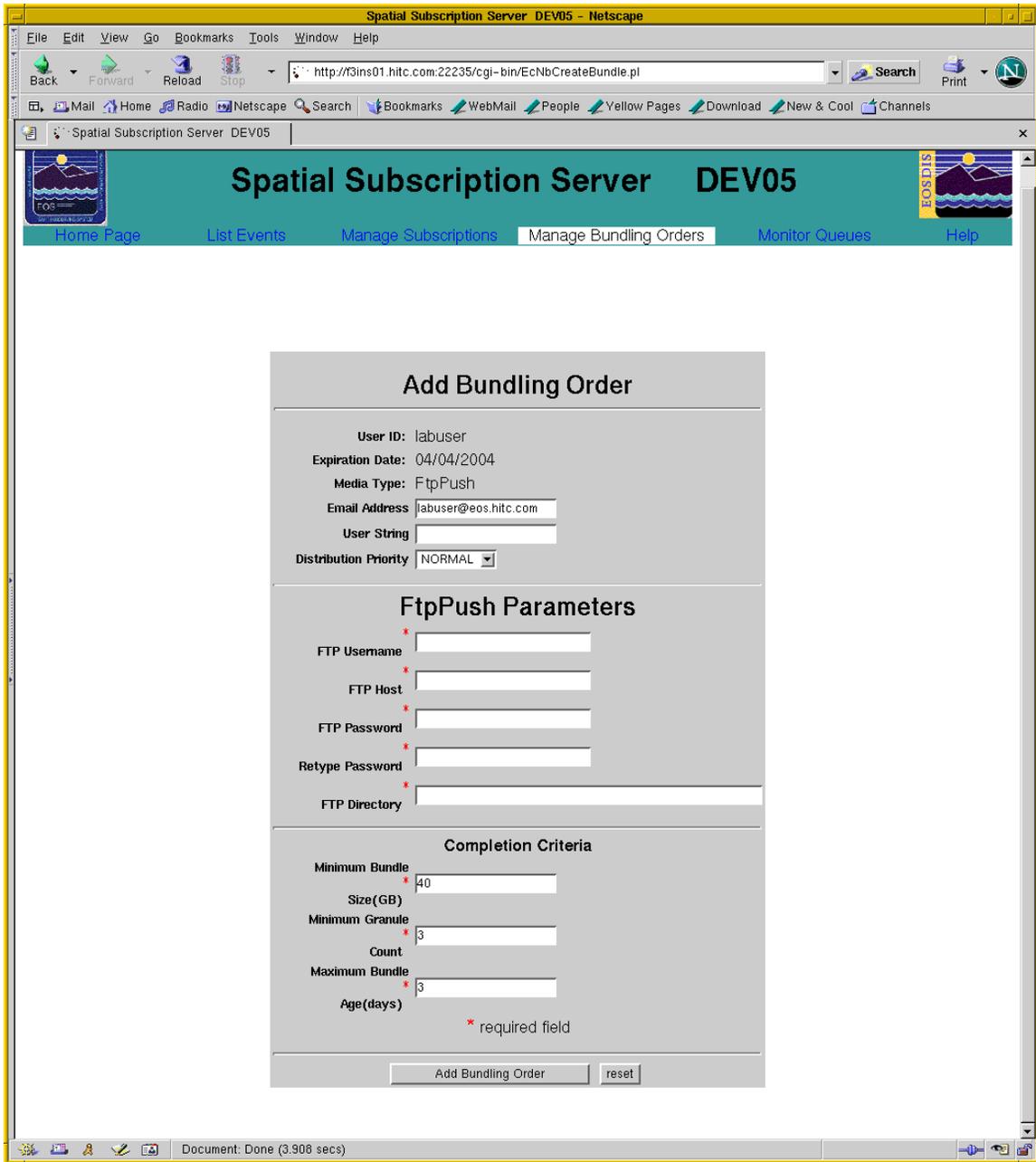


Figure 4.7.2.8-4. Add Bundling Order - Media Type Selected is FTPPUSH. This Screen is Only Accessible to Full Capability Operators.

Limited Capability Users

Limited Capability users cannot use this functionality.

Table 4.7.2.8-1. Field Descriptions for the Bundling Order Screens (1 of 2)

| Field Name | Description | When and Why to Use |
|-----------------------|---|--|
| User Id | Name of the owner of the bundling order | Required for creating a bundling order. |
| Expiration Date | Date of expiration for the bundling order. | The bundling order and any associated subscriptions will be canceled after this date. |
| Media Type | The type of media on which the granules will be stored. | The bundle of granules will be delivered in this format. |
| Email Address | User's email notification. | Notification will be sent to this address when the bundle is complete. |
| User String | An optional string associated with the bundling order. | This string will be included in the email notification. It is also used as a secondary identifier when listing bundling orders to associate with a subscription. |
| Distribution Priority | The priority level associated with the distribution of the order. | Defaults to the priority found in the user profile. |
| Street1 | Street address where media is to be shipped. | Shipping information is required for physical media distributions. |
| Street2 | A continuation of the Street1 field. | Shipping information is required for physical media distributions. |
| Street3 | A continuation of the Street2 field. | Shipping information is required for physical media distributions. |
| City | City where media is to be shipped. | Shipping information is required for physical media distributions. |
| State | State where media is to be shipped. | Shipping information is required for physical media distributions. |
| Country | Country where media is to be shipped. | Shipping information is required for physical media distributions. |
| Zip Code | The zip code for the shipping address. | Shipping information is required for physical media distributions. |
| Phone Number | Phone number of recipient. | Shipping information is required for physical media distributions. |
| FAX Number | FAX number of recipient. | Shipping information is required for physical media distributions. |
| FTP Username | For an FTP Push, the user login name to be used. | Required for FTP Push distributions. |
| FTP Host | For an FTP Push, the hostname to be used. | Required for FTP Push distributions |
| FTP Password | For an FTP Push, the password for the user/host. | Required for FTP Push distributions |
| Retype Password | Same as FTP password. | The password is typed twice for validation purposes. |

Table 4.7.2.8-1. Field Descriptions for the Bundling Order Screens (2 of 2)

| Field Name | Description | When and Why to Use |
|---------------------------|--|---|
| FTP Directory | For an FTP Push, the directory on the host where the data is to be pushed. | Required for FTP Push distributions |
| Minimum Bundle Size (GB) | The minimum total size of all granules before the bundle can be considered complete. | See the Order Manager design documentation for further details. |
| Minimum Granule Count | The minimum number of individual granules before the bundle can be considered complete. | See the Order Manager design documentation for further details |
| Maximum Bundle Age (days) | The maximum length of time that any granule can remain in the bundle before the bundle is considered complete. | See the Order Manager design documentation for further details |

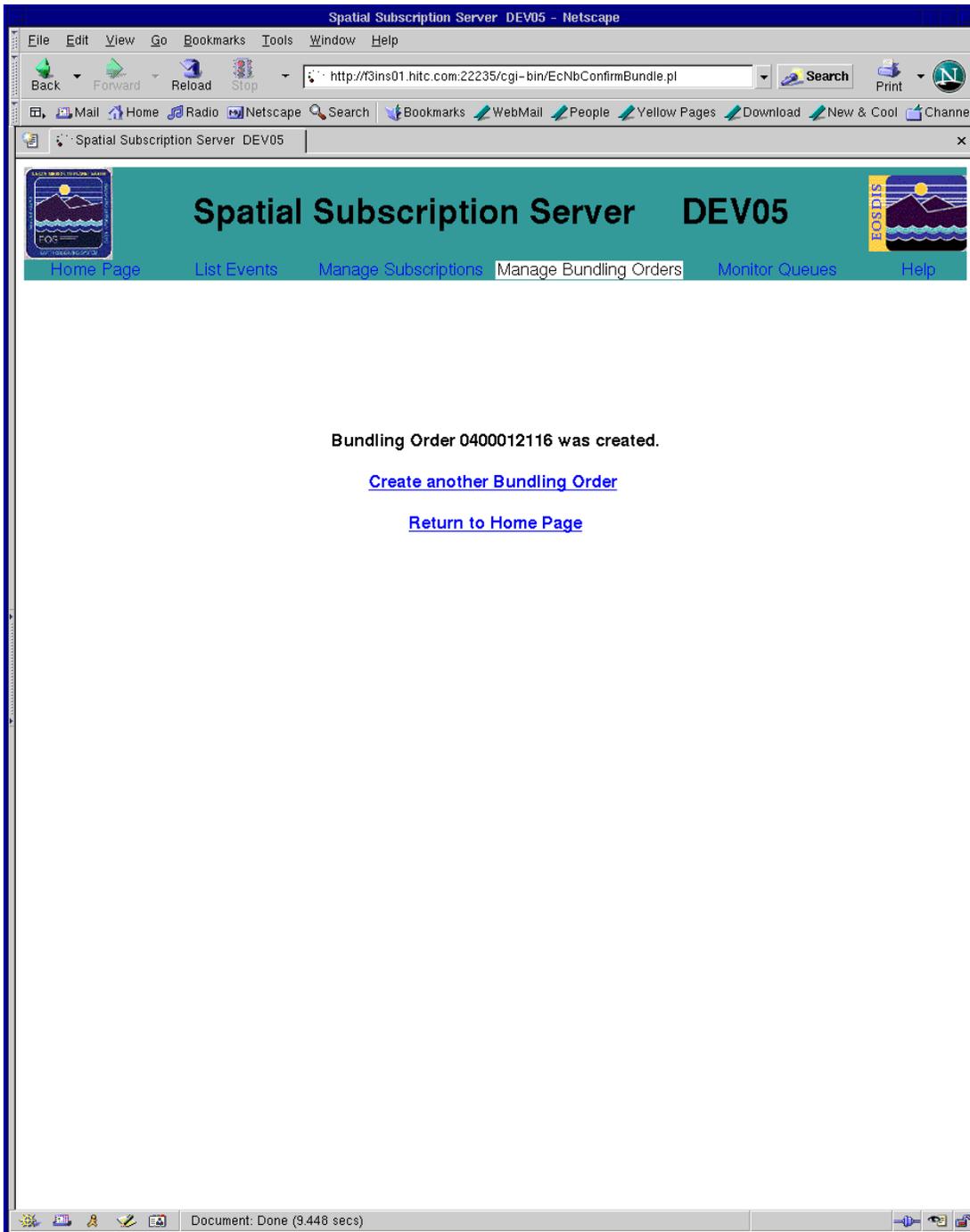


Figure 4.7.2.8-5. Successful Results for Bundling Order. This Screen is Only Accessible to Full Capability Operator.

Limited Capability Users

Limited Capability users cannot use this functionality.

4.7.2.9 View Bundling Order

The View Bundling Order screen shown in Figure 4.7.2.9-1 allows the operator to view the details of a particular bundling order.

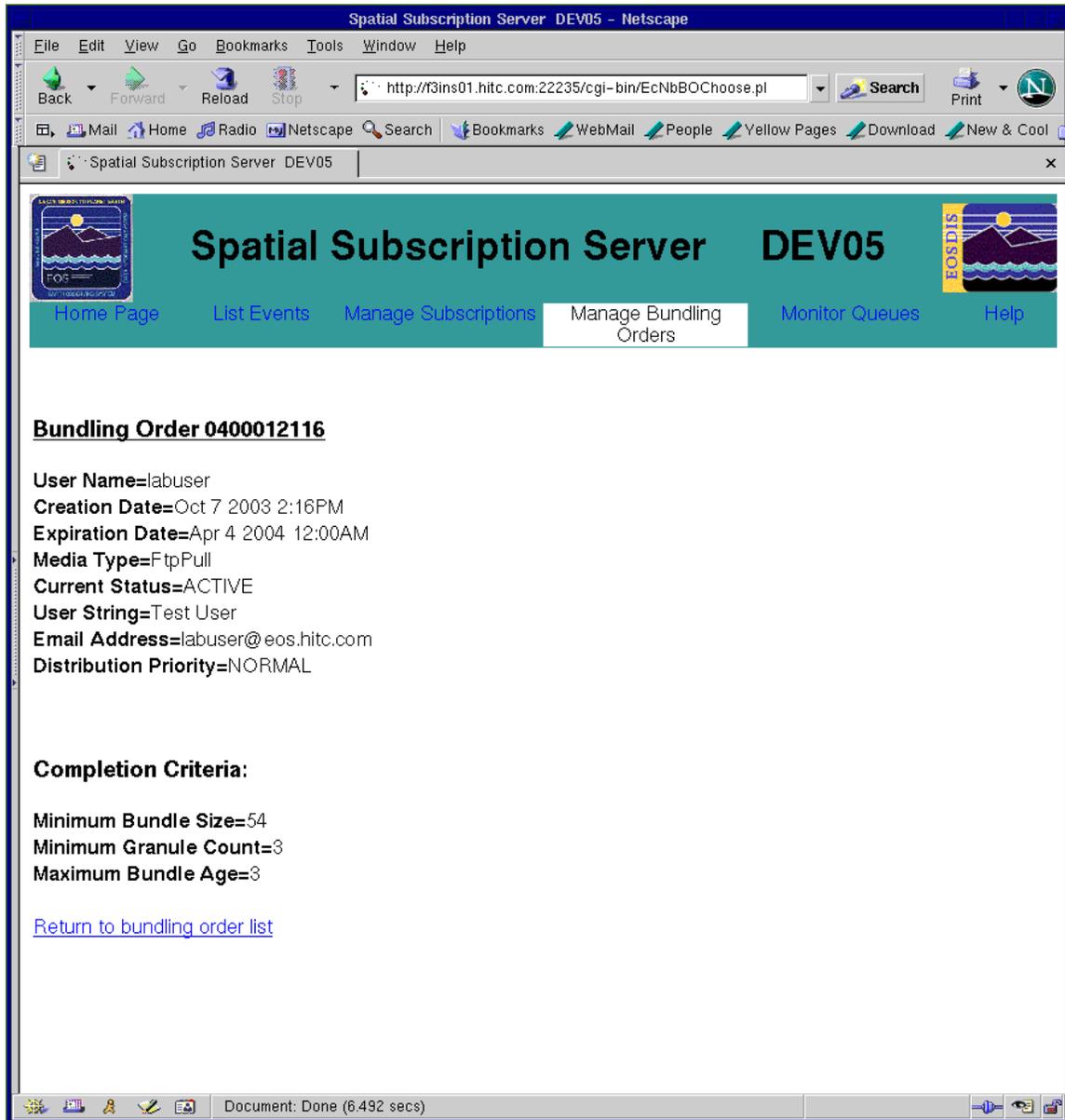


Figure 4.7.2.9-1. Bundling Order Detailed Information

Note: From this screen, the operator may choose to return to the list of bundling orders.

4.7.2.10 Update Bundling Order

The Update Bundling Order screen shown in Figure 4.7.2.10-1 allows the operator to update an existing bundling order. There are two screens involved. In the first screen (Figure 4.7.2.10-1), the user selects the physical media type for the order selected. Based on the media type, a second screen is displayed (Figure 4.7.2.10-2). Figures 4.7.2.10-3 and 4.7.2.10-4 show the specific screen provided when media types FТПPULL and FТПPUSH, respectively, are identified

When the applicable update bundling order information has been entered, the operator clicks the Update Bundling Order button. The screen in Figure 4.7.2.10-5 is displayed when the result is successful.

Please note that **Update Bundling Order** functionality is only available to full Capability Operators.

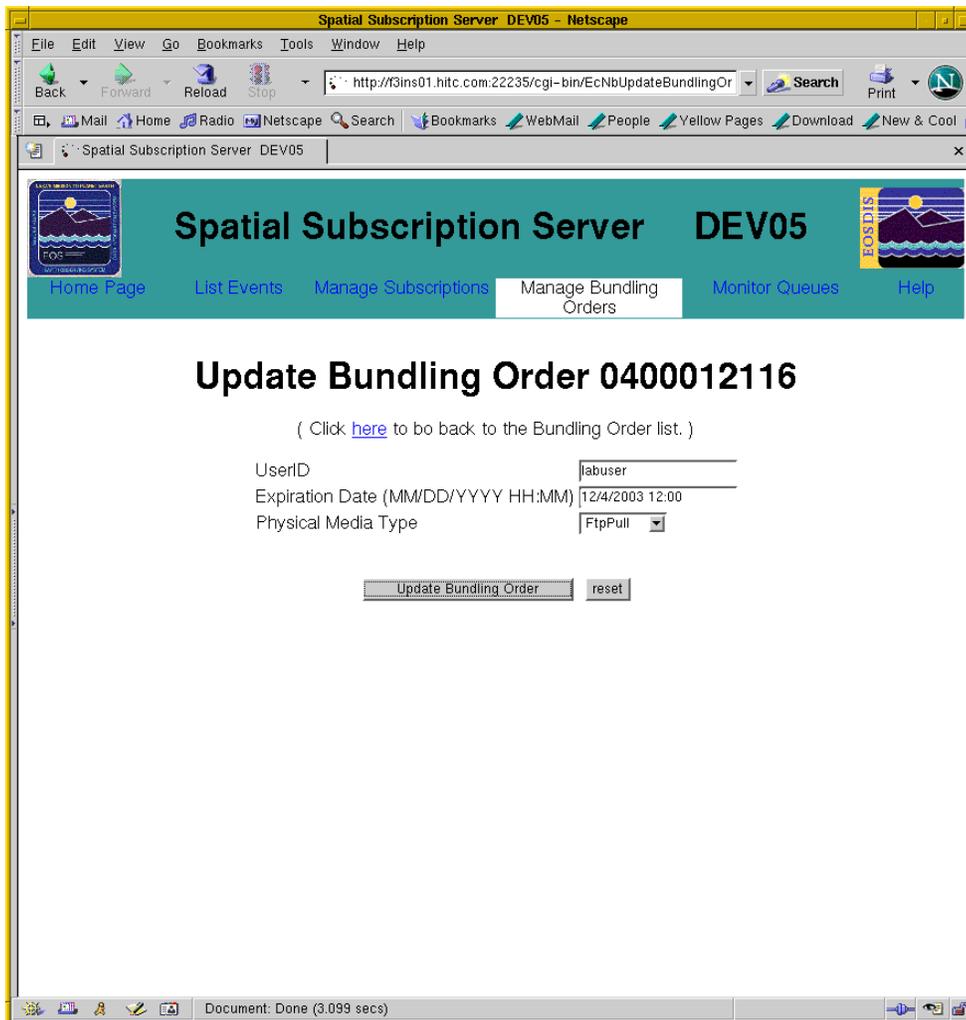


Figure 4.7.2.10-1. Update Existing Bundling Order (Part 1). This Screen is Only Accessible to Full Capability Operator.

Limited Capability Users

Limited Capability users cannot use this functionality.

The screenshot shows a Netscape browser window titled "Spatial Subscription Server DEV05 - Netscape". The address bar contains the URL "http://f3ins01.hitc.com:22235/cgi-bin/EcNbModBundlingOrder". The page content includes a navigation menu with links: Home Page, List Events, Manage Subscriptions, Manage Bundling Orders (highlighted), Monitor Queues, and Help. The main heading is "Update Bundling Order 0400012116". Below this, user information is displayed: UserID: labuser, Expiration Date: 12/4/2003 12:00, Media Type: FtpPull, Email Address: labuser@eos.hitc.com, User String: Test User, and Distribution Priority: NORMAL. A section for "Completion Criteria" contains three required fields: Minimum Bundle Size(GB) with value 54, Minimum Granule Count with value 3, and Maximum Bundle Age(days) with value 3. A legend indicates that fields with an asterisk are required. At the bottom, there are two buttons: "Update Bundling Order" and "reset". The browser status bar at the bottom shows "Document: Done (3.684 secs)".

Figure 4.7.2.10-2. Update Existing Bundling Order (Part 2). This Screen Is Only Accessible to Full Capability Operator.

Limited Capability Users

Limited Capability users cannot use this functionality.

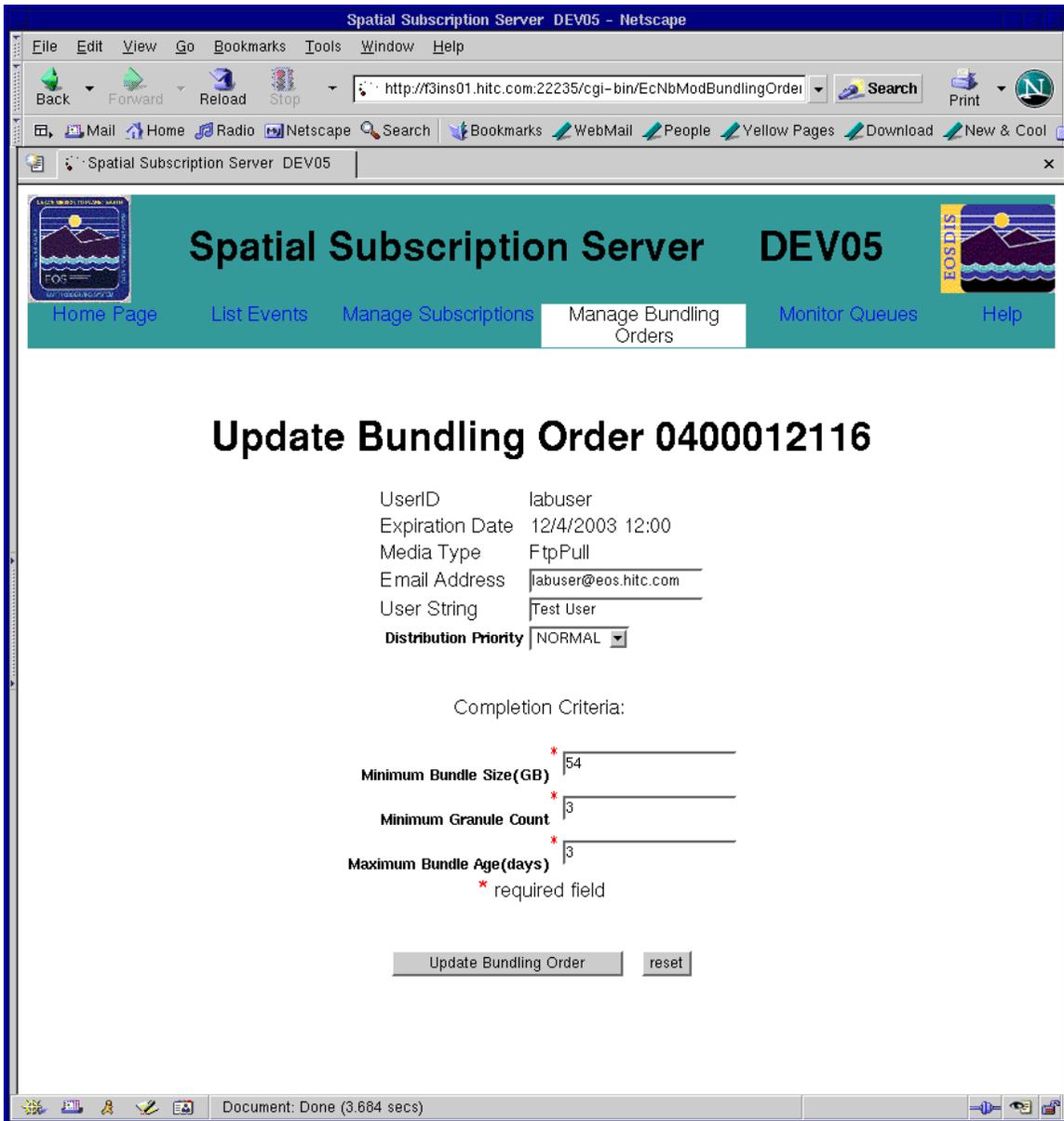


Figure 4.7.2.10-3. Update Existing Bundling Order (Media Type is FTP PULL). This Screen is Accessible to Only Full Capability Operator.

Limited Capability Users

Limited Capability users cannot use this functionality.

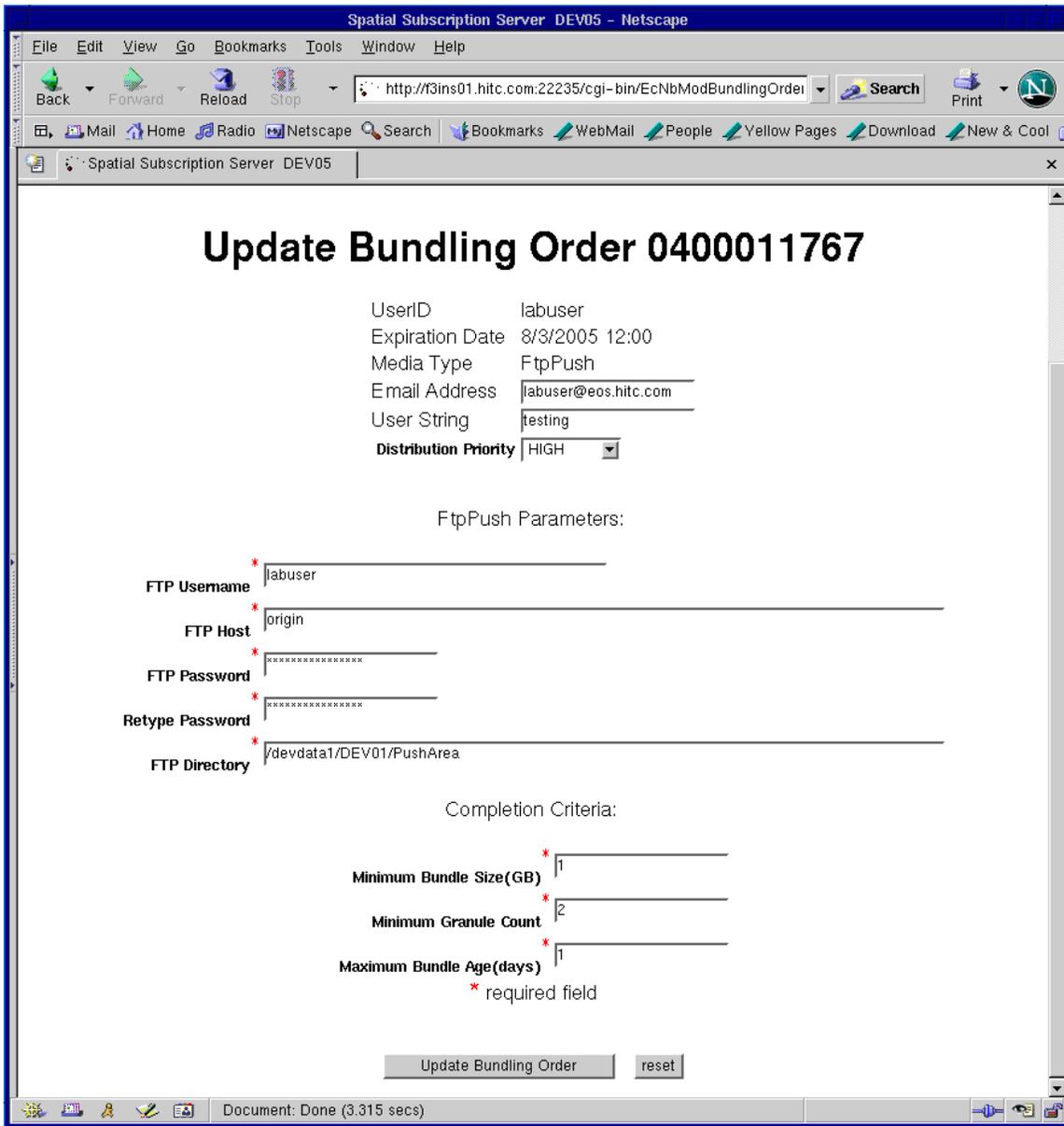


Figure 4.7.2.10-4. Update Existing Bundling Order (Media Type is FTP PUSH). This Screen is Accessible to Only Full Capability Operator.

Limited Capability Users

Limited Capability users cannot use this functionality.

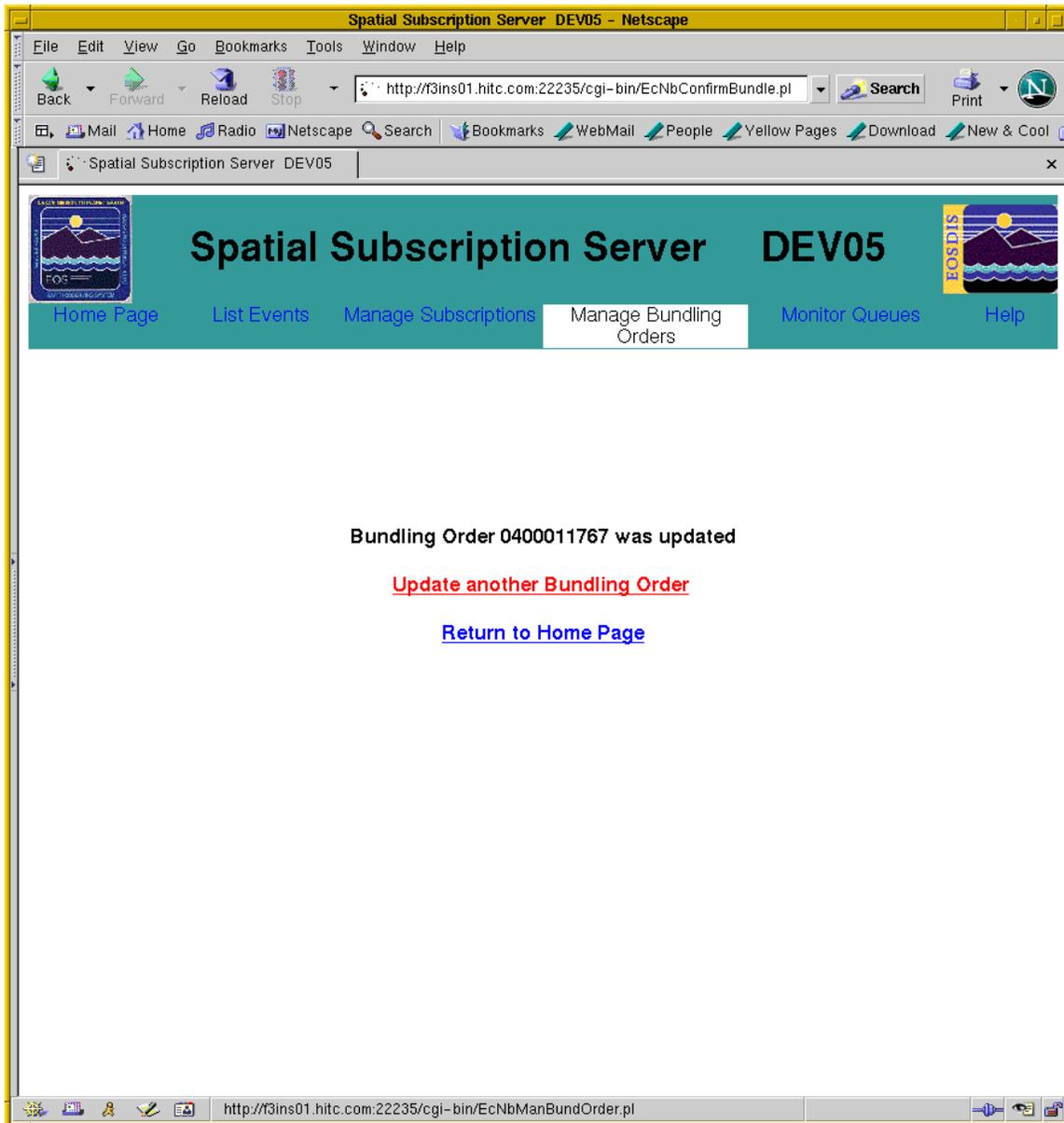


Figure 4.7.2.10-5. Update Existing Bundling Order (Successful Update). This Screen is Accessible to Only Full Capability Operator.

Limited Capability Users

Limited Capability users cannot use this functionality.

4.7.2.11 Cancel Bundling Order

The Cancel Bundling Order screen shown in Figure 4.7.2.11-1 requests confirmation from the operator when the cancel option has been selected. If the operator selects **Yes**, the screen in Figure 4.7.2.11-2 is displayed if the cancellation was successful.

Please note Cancel Bundling Order functionality is only available to full capability Operators.

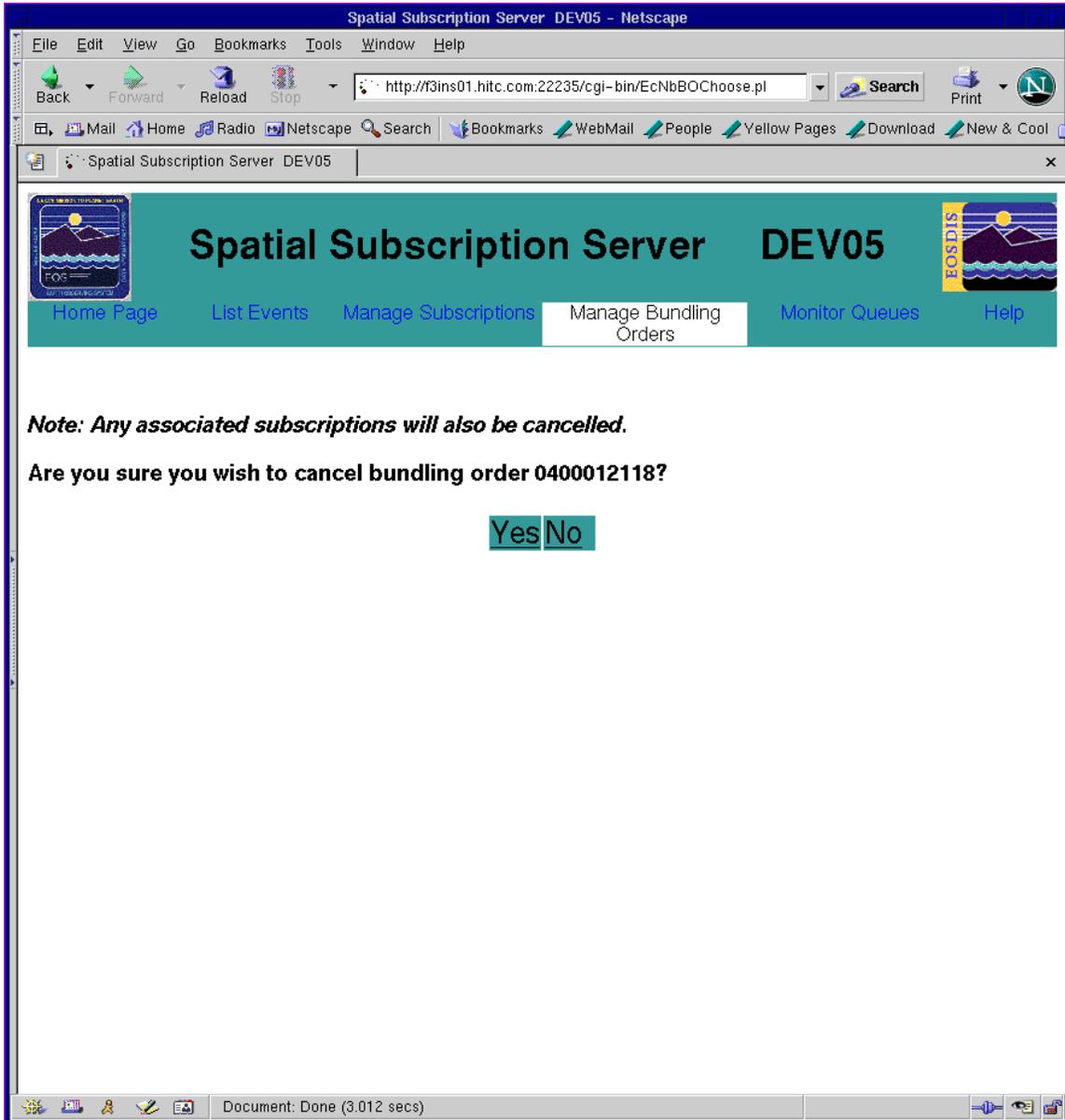


Figure 4.7.2.11-1. Cancel Bundling Order Request. This Screen is Accessible to Only Full Capability Operator.

Limited Capability Users

Limited Capability users cannot use this functionality.

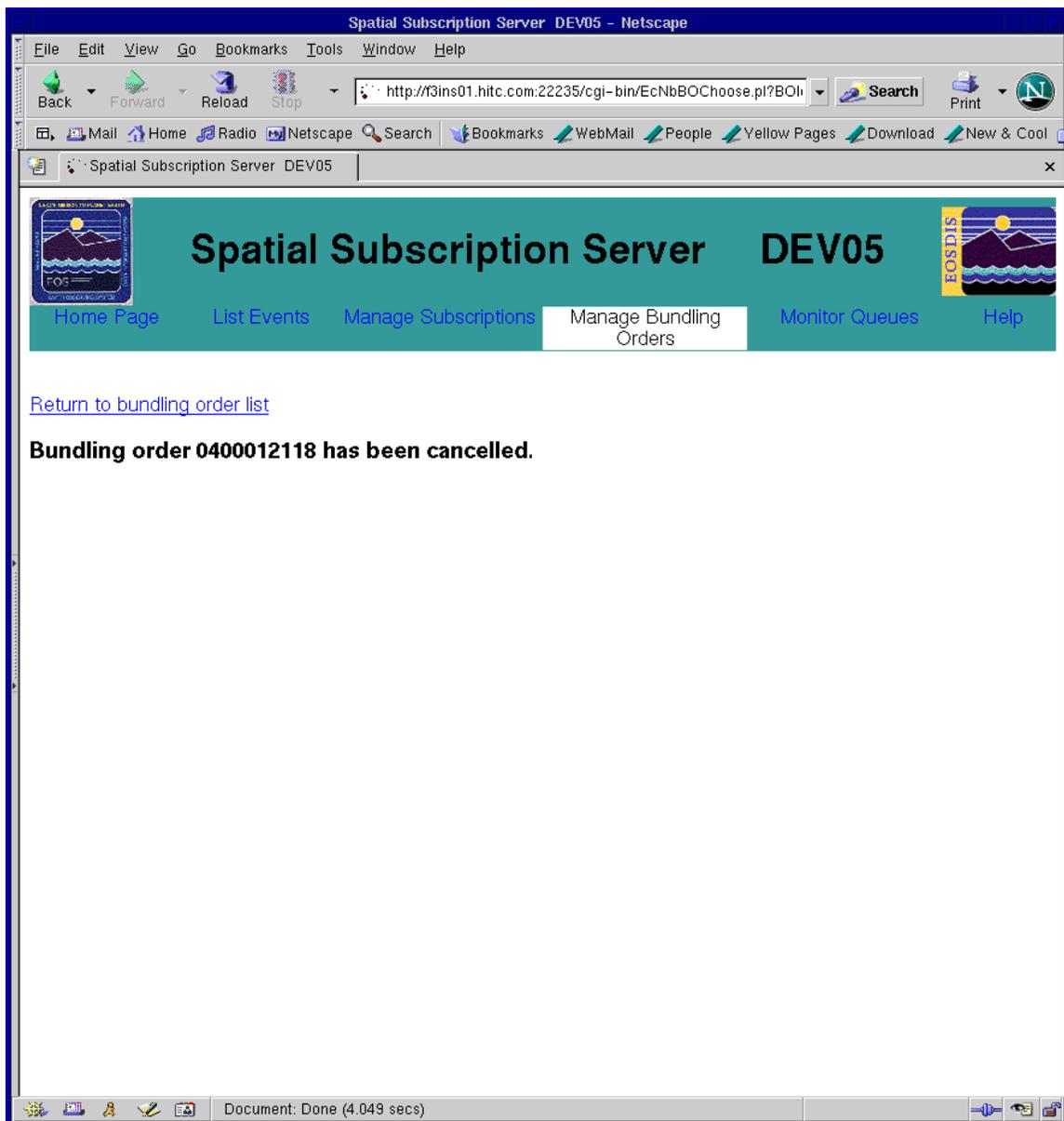


Figure 4.7.2.11-2. Cancel Bundling Order (Successful Cancellation). This Screen Is Accessible to Only Full Capability Operator.

4.7.2.12 List Subscriptions Associated with Bundling Order

The list subscriptions screen shown in Figure 4.7.2.12-1 Lists the subscriptions associated with a bundling Order. Note that selecting “View” or “Update” or “Cancel” button and clicking on “Apply” would provide similar functionality as in Section 4.7.2.4.

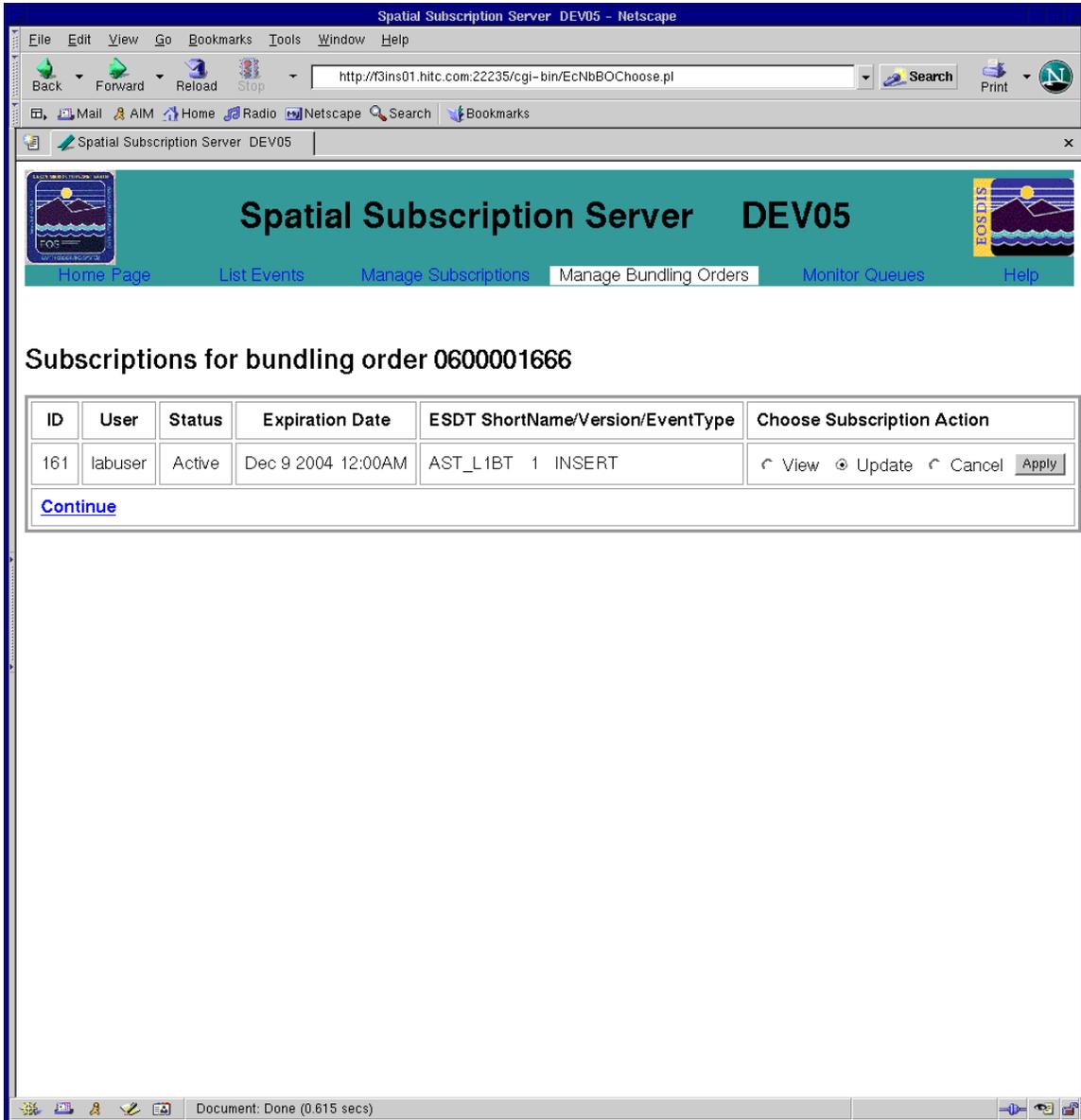


Figure 4.7.2.12-1. List Subscriptions Associated with a Bundling Order

4.7.2.13 Monitor Queues Tab

When the operator selects the Monitor Queues tab, the List Action Queue page (see Section 4.7.2.14) will be displayed by default. From this page, the operator can view production statistics by selecting the List Statistics tab.

4.7.2.14 List Action Queue tab

The List Action Queue screen shown in Figure 4.7.2.14-1 allows the operator to view the Acquire and E-Mail Notification actions that are being processed. The operator can sort the list by Action Type and Subscription Id by clicking on the **Action Type** or **Subscription Id** link. The operator can also filter the list by any combination of **Action Type**, **Subscription** and **Status**. After selecting the filtering criteria from the pull-down list(s), click on the **Filter** button.

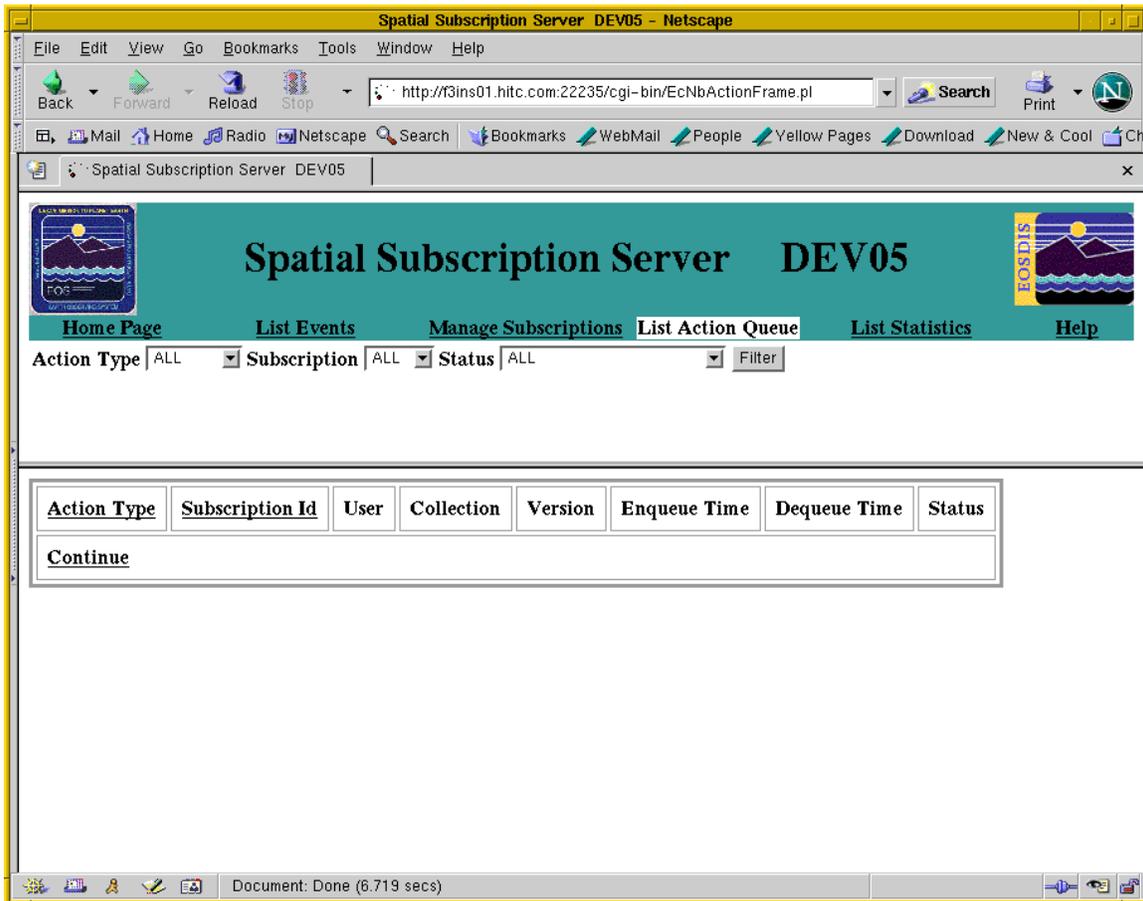


Figure 4.7.2.14-1. List Action Queue (Acquire and E-mail Notifications)

4.7.2.15 List Statistics tab

The List Statistics screen shown in Figure 4.7.2.15-1 allows the operator to view the statistics relating to subscribed events and matched subscriptions. Note that the statistics are based only on data in the NBSRV database at the time the GUI page is displayed. The subscription statistics

are retained in the NBSRV database only until they are cleaned up by the Deletion Driver. The Deletion Driver runs periodically at an interval specified in its configuration parameters.

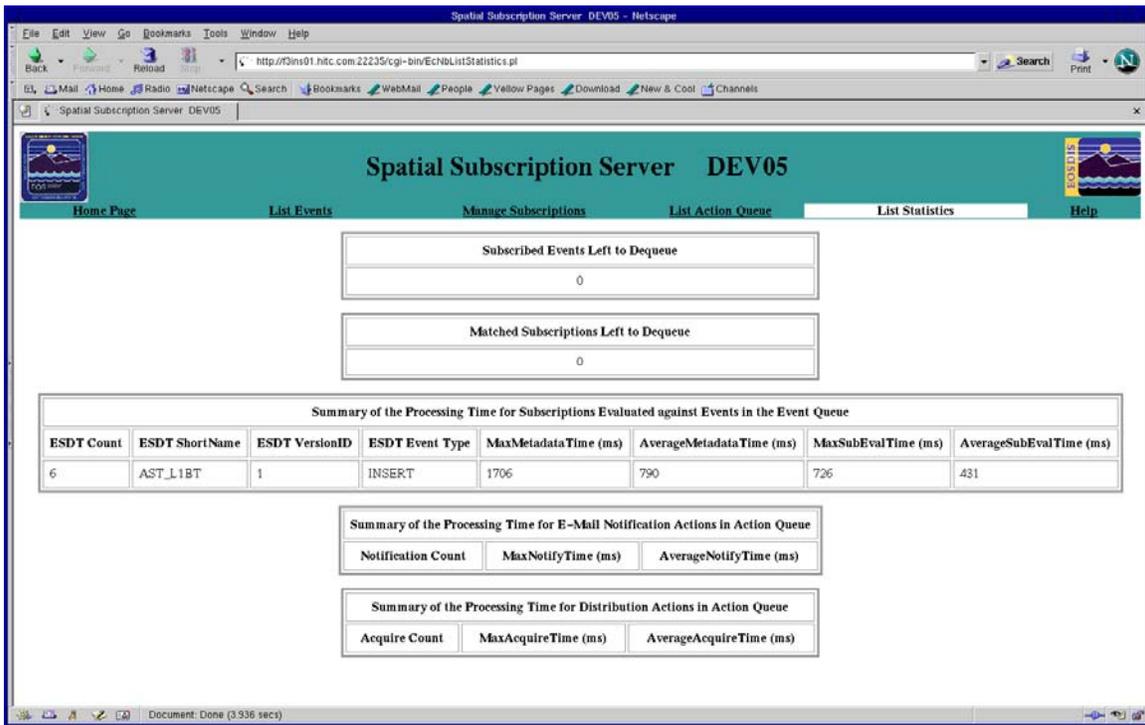


Figure 4.7.2.15-1. List Statistics Screen

Note: This screen will allow the operator to view statistics relating to subscribed events and matched subscriptions. The statistics will also reflect the processing time for e-mail notification and distribution actions.

4.7.2.16 List Failed Actions

Figure 4.7.2.16-1 displays failed actions present within the system. Figure 4.7.2.16-2 shows the screen displayed on clicking on “**Remove Action**”.

Spatial Subscription Server ??? DEV09 - Netscape

File Edit View Go Bookmarks Tools Window Help

Back Forward Reload Stop <http://f0dps01.hitc.com:22239/cgi-bin/EcNbListFailedAction.pl> Search Print

Spatial Subscription Server DE...

Spatial Subscription Server DEV09

Home Page List Events Manage Subscriptions List Action Queue List Statistics List Failed Action Help

| UserId | Priority | ActionId | ActionQueued | EventId | SubscriptionId | granUR | EnqueueTime | Remove Action |
|---------|----------|----------|--------------|---------|----------------|--|---------------------|---------------|
| labuser | 1 | 33 | 35 | 17 | 14 | UR:40.DISHESDTR:NR:15.DISHS:(Server)UR:41.[PNR.DSSDSLXV]20.SOC.AST_L1BT0014935 | Jun 14 2004 4:09PM | Remove Action |
| labuser | 1 | 37 | 40 | 22 | 14 | UR:40.DISHESDTR:NR:15.DISHS:(Server)UR:41.[PNR.DSSDSLXV]20.SOC.AST_L1BT0014951 | Jun 20 2004 12:40PM | Remove Action |
| labuser | 1 | 39 | 42 | 23 | 14 | UR:40.DISHESDTR:NR:15.DISHS:(Server)UR:41.[PNR.DSSDSLXV]20.SOC.AST_L1BT0014952 | Jun 20 2004 1:05PM | Remove Action |
| labuser | 1 | 43 | 47 | 24 | 14 | UR:40.DISHESDTR:NR:15.DISHS:(Server)UR:41.[PNR.DSSDSLXV]20.SOC.AST_L1BT0014956 | Jun 20 2004 2:40PM | Remove Action |
| labuser | 1 | 45 | 50 | 25 | 14 | UR:40.DISHESDTR:NR:15.DISHS:(Server)UR:41.[PNR.DSSDSLXV]20.SOC.AST_L1BT0014957 | Jun 20 2004 2:05PM | Remove Action |
| labuser | 1 | 46 | 51 | 26 | 14 | UR:40.DISHESDTR:NR:15.DISHS:(Server)UR:41.[PNR.DSSDSLXV]20.SOC.AST_L1BT0014958 | Jun 21 2004 10:24AM | Remove Action |
| labuser | 1 | 52 | 60 | 27 | 14 | UR:40.DISHESDTR:NR:15.DISHS:(Server)UR:41.[PNR.DSSDSLXV]20.SOC.AST_L1BT0014970 | Jun 21 2004 5:26PM | Remove Action |
| labuser | 1 | 53 | 61 | 28 | 14 | UR:40.DISHESDTR:NR:15.DISHS:(Server)UR:41.[PNR.DSSDSLXV]20.SOC.AST_L1BT0014973 | Jun 21 2004 5:41PM | Remove Action |
| labuser | 1 | 54 | 62 | 29 | 14 | UR:40.DISHESDTR:NR:15.DISHS:(Server)UR:41.[PNR.DSSDSLXV]20.SOC.AST_L1BT0014974 | Jun 21 2004 5:41PM | Remove Action |

Document: Done (1.802 secs)

Figure 4.7.2.16-1. List of Failed Actions

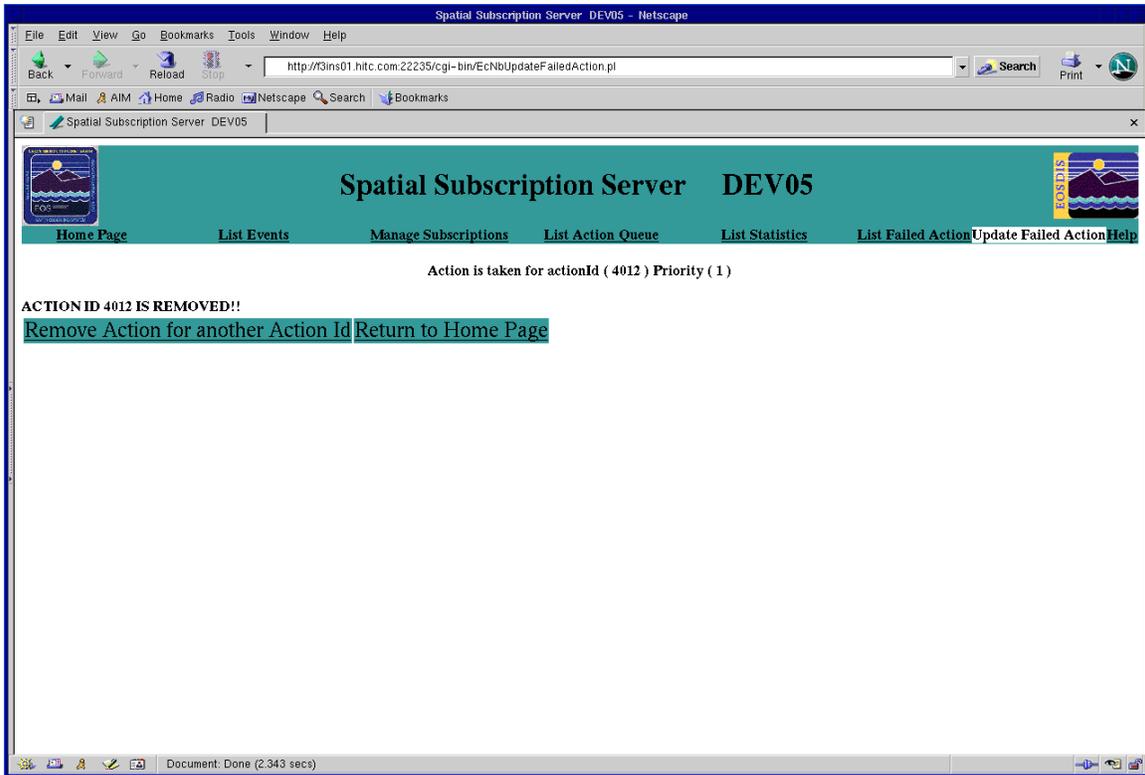


Figure 4.7.2.16-2. Removing a Failed Action

4.7.2.17 Security Considerations.

With Security Enabled, Figure 4.7.2.17-1 is displayed anytime a user logs in for the first time. On selecting the End Session tab on NBSRV.html page, Figure 4.7.2.17-2 is displayed. Clicking on the ShutDown button in Figure 4.7.2.17-2 closes the Browser.

The session time out page shown in Figure 4.7.2.17-3 is displayed anytime a user session times out. Note that session time out is part of the security feature.

After a session times out and an invalid password is entered by the Operator, page shown in Figure 4.7.2.17-4 is displayed.

For a user attempting to access SSS GUI using a non certified browser, the page shown in Figure 4.7.2.17-5 is displayed.

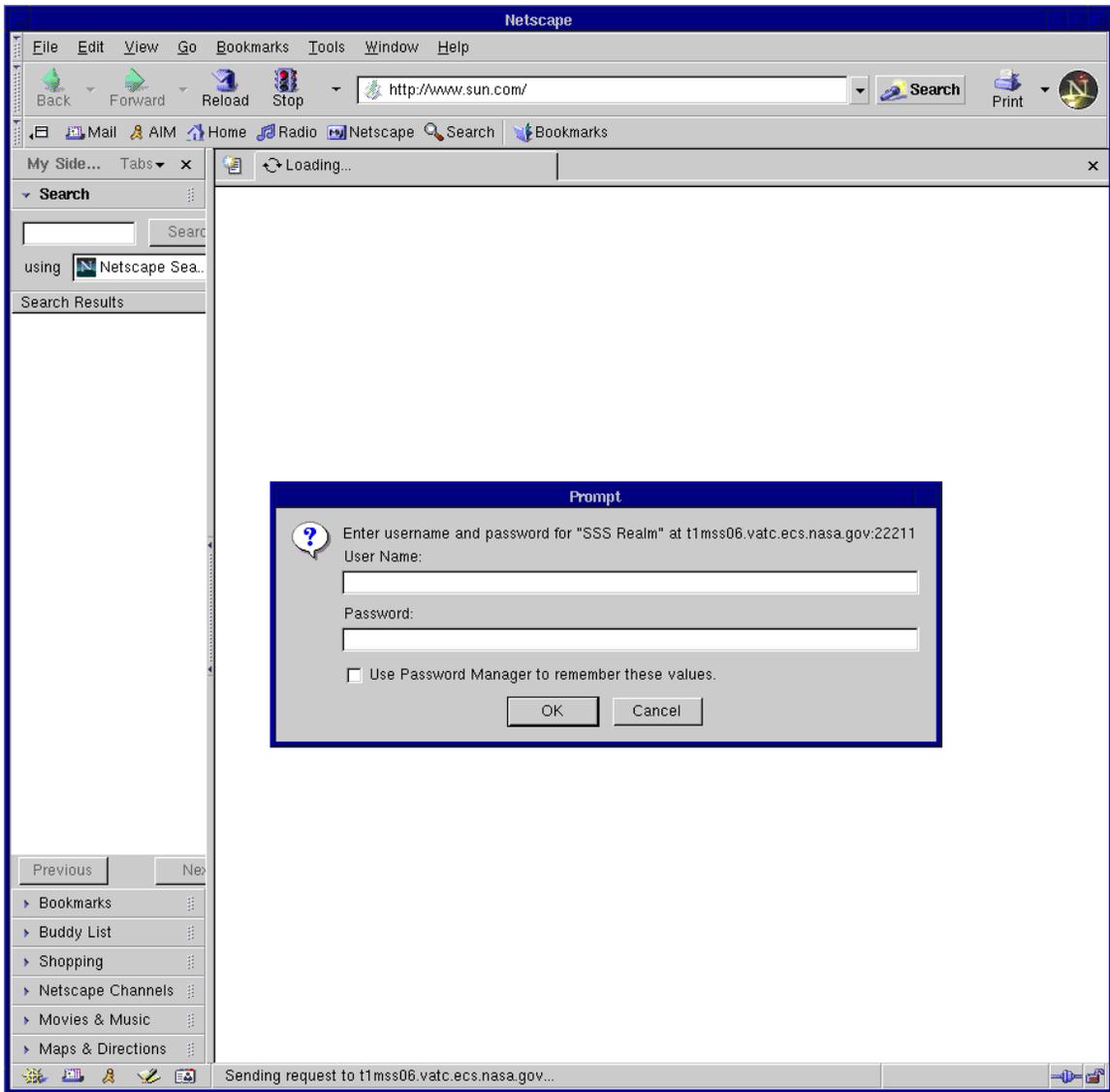


Figure 4.7.2.17-1. Login Dialog Box

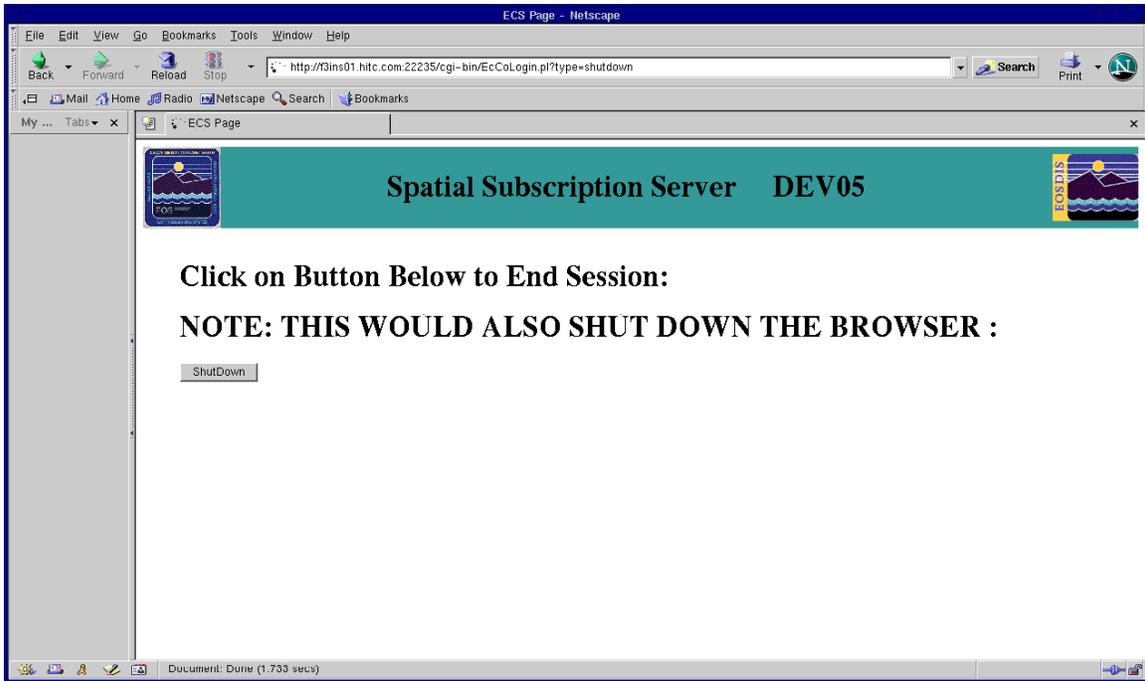


Figure 4.7.2.17-2. Shut Down Page

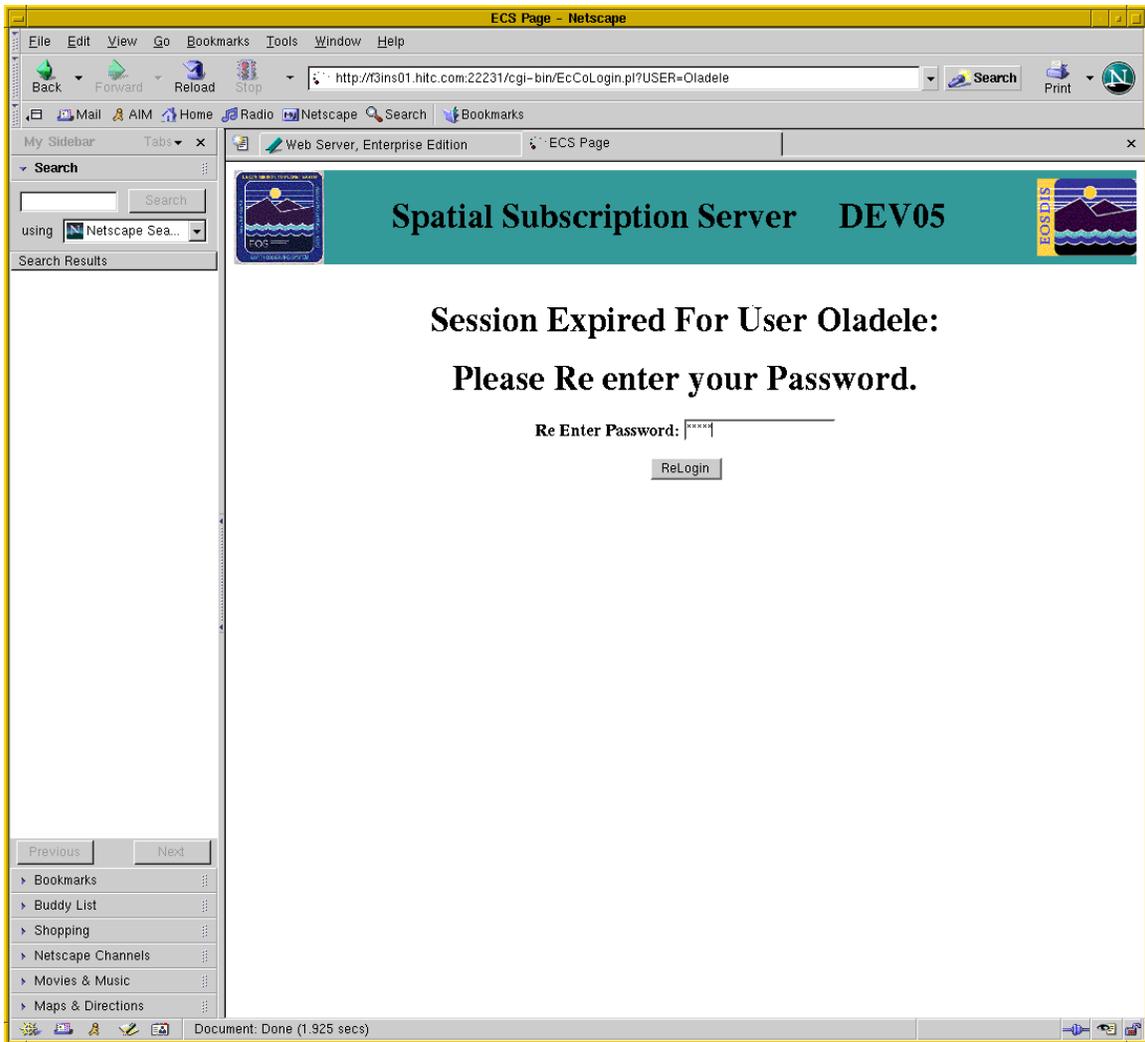


Figure 4.7.2.17-3. Session Timed-Out Page

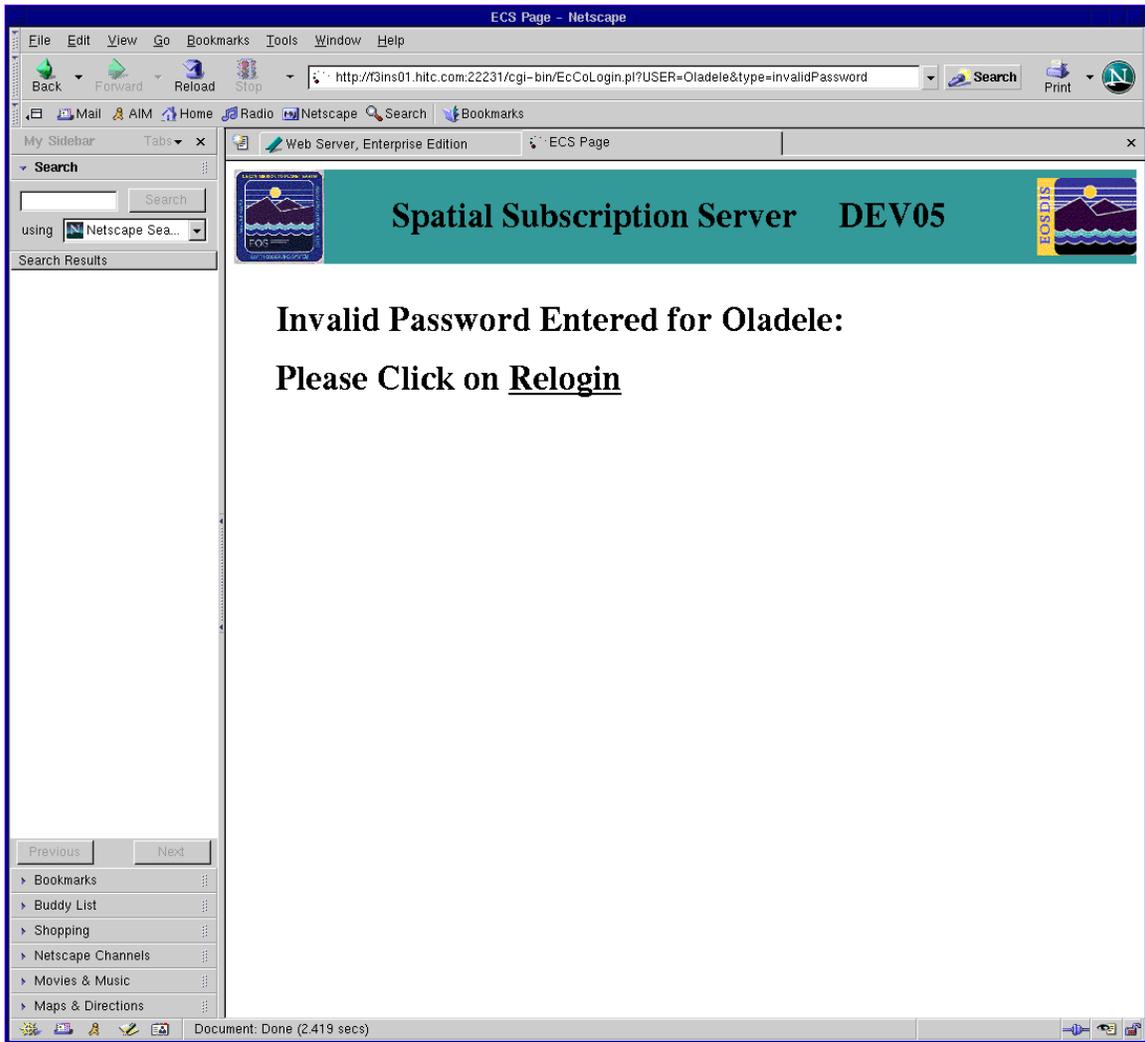


Figure 4.7.2.17-4. Invalid Password Entered by Operator

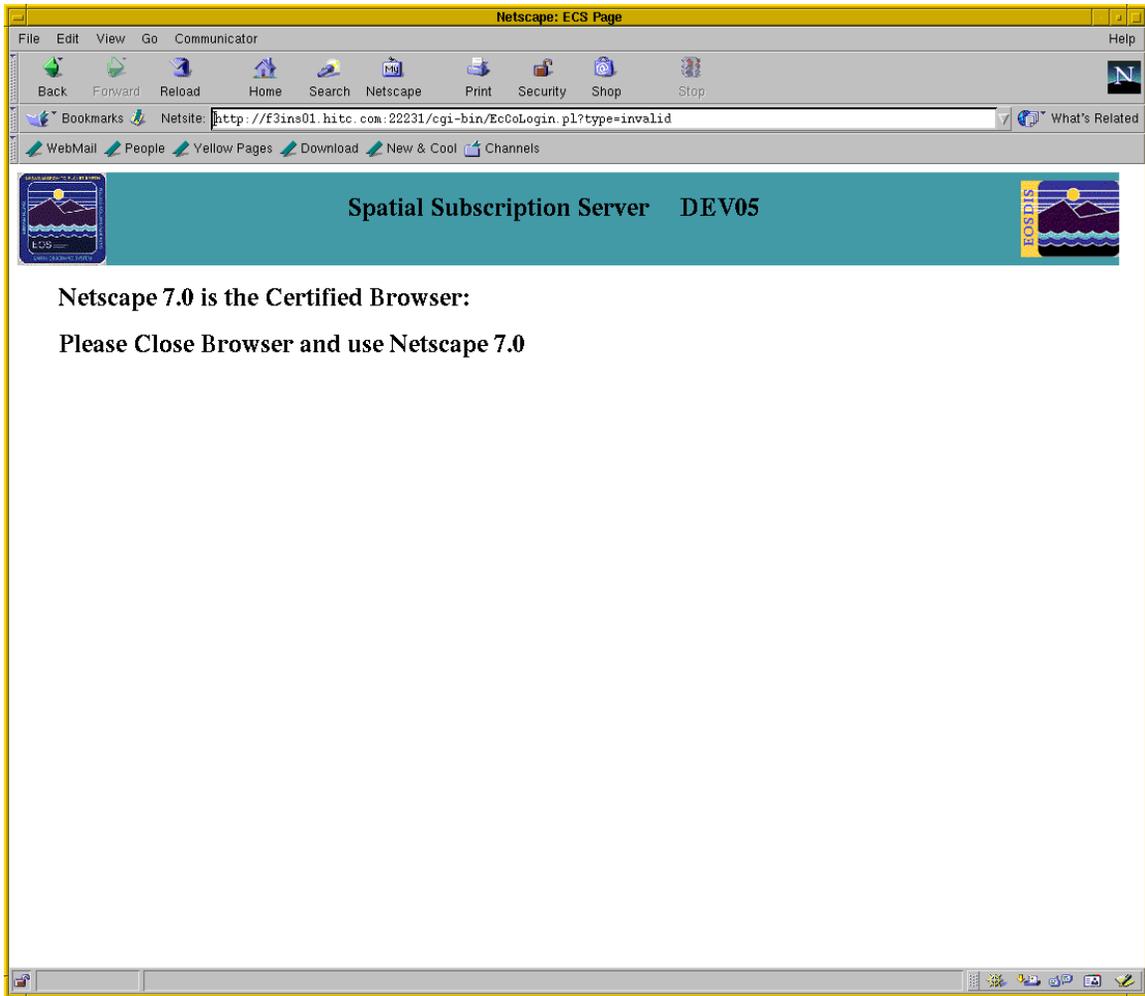


Figure 4.7.2.17-5. Invalid Client Browser

4.7.2.18 Required Operating Environment

This following environment is required for the NBSRV GUI to work properly.

- O/S requirements are Linux 2.x.

4.7.2.19 Interfaces and Data types

The NBSRV GUI exchanges data between the Web Browser and PostgreSQL using Perl CGI and DBI Modules for the interface.

4.7.2.20 Databases

The NBSRV GUI accesses the NBSRV, Inventory, DataPool, OMS, and MSS databases.

4.7.2.21 Special Constraints

There are no special constraints to running the NBSRV GUI.

4.7.2.22 Outputs

There are no outputs from the NBSRV GUI except for status and error messages.

4.7.2.23 Events and Messages

The NBSRV GUI issues client side validation errors when adding or modifying a subscription. If the operator does not correct the validation errors the subscription will be rejected when the operator attempts to add or update the subscription. The NBSRV GUI writes status and error messages to the EcNbGUI.log file in the directory /usr/ecs/<MODE>/CUSTOM/logs.

4.7.2.24 Reports

The NBSRV GUI does not generate reports.

4.7.3 Spatial Subscription Server Command Line Interface

The Spatial Subscription Server (SSS) Command Line Interface (CLI) allows the user to add a new subscription, delete a subscription, update a subscription, view a subscription, or batch update subscriptions without using a GUI. The details of the subscription are contained in a text file.

The CLI is installed in the utilities directory for each mode. You must go to the appropriate mode directory to access the correct database for a particular mode.

4.7.3.1 Quick Start Using Spatial Subscription Server Command Line Interface

To execute the CLI, run the script EcNbSubscriptionCLIStart.

For Add, Delete, Update and View, this script takes three parameters: (1) the mode, (2) the function (Add, Delete, Update and View), and (3) a third parameter, which depends on the function in (2).

If the function selected was Delete or View, the third parameter must be the subscription number to be deleted or viewed. If the function selected was Add or Update, the third parameter must be the name of the text file containing the subscription information. This file is assumed to reside in the current directory unless expressed as a qualified pathname.

For BatchUpdate, this script takes four parameters: (1) the mode, (2) the function (BatchUpdate), (3) the match file, which contains "NAME=value" pair(s) that define the search criteria for subscriptions to be updated (this is an "AND" relationship), and (4) the update file, which contains "NAME=value" pair(s) that will replace the existing values associated with matching subscriptions.

4.7.3.1.1 Invoking Spatial Subscription Server from the Command Line Interface

The Spatial Subscription Server Command Line Interface (CLI) allows the user to add a new subscription, delete a subscription, update a subscription, view a subscription, or batch update a set of subscriptions without using a GUI.

To execute the Spatial Subscription Server from the command line interface (Add, Delete, Update, View):

```
EcNbSubscriptionCLIStart <mode> <function> <function dependent parameter>
```

Examples:

```
EcNbSubscriptionCLIStart OPS Add MyNewSubscription.txt
EcNbSubscriptionCLIStart TS1 Delete 5199
EcNbSubscriptionCLIStart TS2 Update/home/daacUser/MyOldSubscription.txt
EcNbSubscriptionCLIStart OPS View 2355
```

To execute the Spatial Subscription Server from the command line interface (BatchUpdate):

```
EcNbSubscriptionCLIStart <mode> <function> <matchfile> <updatefile>
```

Example:

```
EcNbSubscriptionCLIStart OPS BatchUpdate matchFile updateFile
```

Notes:

- (1) When adding a subscription, a new subscription number is assigned and returned as output to stdout.
- (2) When deleting a subscription, the user is prompted to confirm the delete.
- (3) When updating a subscription, the number of the subscription to be updated must appear within the text file containing the subscription data.
- (4) When viewing a subscription, the output appears in a new file called *sub.nnn.txt*, where *nnn* refers to the subscription number. This file is created in the current directory.
- (5) To save on typing when adding a subscription, it is helpful to start by viewing a subscription similar to the one being added, edit the resulting text file, and then submit that file as input to the Add command.
- (6) Prior to updating a subscription, always view the subscription first and then make your changes in the resulting text file, submitting it as input to the Update command.
- (7) Physical media distributions for subscriptions are now 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 (see table below). Alternatively, if a bundling order ID is not specified for a physical media distribution, a bundling order is automatically 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.
- (8) If the user updates a bundled subscription without altering the bundling order ID, the bundling order is updated along with the subscription.
- (9) When batch updating a set of subscriptions, all matching subscription IDs will be displayed on the screen. After viewing all the subscription ids, the user is prompted to confirm whether or not to save the details of the matched subscriptions into a file. The user can choose his own output file name. If the user does not enter anything, then the default file name “matchSub.txt” will be used. Using the saved output file (matchSub.txt) as a reference, the user can always change the values back if any subscriptions are mistakenly updated.
- (10) When batch updating subscriptions, the user is prompted to confirm or abort the batch update after reviewing the set of matched subscriptions retrieved.
- (11) The user can batch update granule collections by batch updating the granule version ID.
- (12) The user can batch delete granules by batch updating the status to “Canceled”. The Spatial Subscription Server deletion driver will remove all the canceled subscriptions from the database after a configured amount of time.

- (13) For batch updating subscriptions, the name and value pairs of the form “NAME=value” (one per line both in matchfile and updatefile) must be chosen from the list in Table 4.7.3-2 TextFile Contents (BatchUpdate List). Otherwise, an error will be raised and the match/update parameter function will not work for the unsupported “NAME”s.
- (14) For batch update, the granule start date and granule end date, if used, must always appear together in the match file or update file. If either is used without the other, the SSS CLI will raise an error and will not process the batch update.

There is a log file called EcNbSubscriptionCLI.log in the logs directory for each mode. If your command did not appear to succeed, be sure to check the log file to see what went wrong.

The text file generated by the View command, or used as input to the Add or Update commands, consists of several lines of name and values pairs of the form “NAME=value”, one per line. If you wish to introduce comments into your text file, you may do so by starting the line for the comment with the “#” character.

Table 4.7.3-1 shows all possibilities for rows in the text file. This table is intended for reference only. If you have never entered a subscription before, it is recommended that you start by entering a few subscriptions using the GUI. Then use the View command of the CLI to generate text files for these subscriptions. Modify these text files to serve as input for adding or updating subscriptions.

Table 4.7.3-2 shows all possibilities for rows in the match file or update file when batch updating a set of subscriptions.

Table 4.7.3-1. Text File Contents (1 of 5)

| Name | Type | Mandatory | Description |
|--------------|--------------------|--|--|
| SUBSCRIPTION | Integer | Yes for Update or View; ignored by Add | The subscription number. |
| USERNAME | Variable Character | Yes | The name of the owner of the subscription. |
| STATUS | Variable Character | Yes | The subscription status: Active, Inactive or Canceled. |
| EXPIRATION | Date/Time | No (defaults to one year from the current date if not specified) | The expiration date for the subscription. |

Table 4.7.3-1. Text File Contents (2 of 5)

| Name | Type | Mandatory | Description |
|---|------------------------------|-----------|--|
| ESDT_SHORT_NAME | Variable Character | Yes | The short name for the ESDT being subscribed to. |
| ESDT_VERSION | Integer | Yes | The version for the ESDT being subscribed to (e.g., 1, if version ID is 001). |
| EVENT_TYPE | Variable Character | Yes | The type of event being subscribed to: INSERT, DELETE, or UPDATEMETADATA. |
| NOTE: The next four lines should appear as a block in the text file. Up to five such blocks may be used. | | | |
| ATTRIBUTE_NAME | Variable Character | No | The name of a qualifying numeric attribute. Use this only for attributes of type Integer, Float, or Date/Time. |
| ATTRIBUTE_TYPE | Variable Character | No | The type of a qualifying attribute: Integer, Float, or Date/Time. |
| ATTRIBUTE_MIN_VALUE | Integer, Float, or Date/Time | No | The smallest acceptable value for this attribute. |
| ATTRIBUTE_MAX_VALUE | Integer, Float, or Date/Time | No | The largest acceptable value for this attribute. |
| NOTE: The next three lines should appear as a block in the text file. Up to five such blocks may be used. | | | |
| STRING_ATTRIBUTE_NAME | Variable Character | No | The name of a qualifying string attribute. |
| STRING_ATTRIBUTE_TYPE | Variable Character | No | This is always 'varchar'. |
| STRING_ATTRIBUTE_VALUE | Variable Character | No | The value that this attribute must have in order to qualify. |
| NOTE: The next six lines should appear as a block in the text file. Only one such block may be used. | | | |
| SPATIAL_ATTRIBUTE_NAME | Variable Character | No | The name of a qualifying spatial attribute: GPolygonContainer, BoundingRectangle, or Nose. |
| SPATIAL_ATTRIBUTE_TYPE | Variable Character | No | The type of a qualifying spatial attribute: gpolygon, lbox, or PathBlock, respectively. |
| SPATIAL_VALUE_SOUTH | Float | No | The lower latitude value for the qualifying rectangle. |
| SPATIAL_VALUE_WEST | Float | No | The lower longitude value for the qualifying rectangle. |
| SPATIAL_VALUE_NORTH | Float | No | The upper latitude value for the qualifying rectangle. |

Table 4.7.3-1. Text File Contents (3 of 5)

| Name | Type | Mandatory | Description |
|---------------------------------|--------------------|-------------------------------------|---|
| SPATIAL_VALUE_EAST | Float | No | The upper longitude value for the qualifying rectangle. |
| NOTIFY_EMAIL_ADDRESS | Variable Character | No | The email address of the recipient if email notification is desired. |
| NOTIFY_USER_STRING | Variable Character | No | An optional user string to be included in the email. |
| NOTIFY_METADATA | Character | No | Indicates whether the email should include all metadata (Y) or just metadata associated with the subscription qualifiers (N). |
| ACQUIRE_USERNAME | Variable Character | No | The name of the user requesting an acquire. |
| ACQUIRE_USERSTRING | Variable Character | No | An optional string to be included in the distribution notice. |
| ACQUIRE_USER_FIRST_NAME | Variable Character | No | First name of user receiving the data. |
| ACQUIRE_USER_MIDDLE_INIT | Fixed Character | No | Middle initial of user receiving the data. |
| ACQUIRE_USER_LAST_NAME | Variable Character | No | Last name of user receiving the data. |
| ACQUIRE_USER_MAIL_ADDRESS_PHONE | Variable Character | No | Phone number of user receiving the data. |
| ACQUIRE_EMAIL_ADDRESS | Variable Character | No | The email address for "acquire" notification. |
| ACQUIRE_MEDIA_FORMAT | Variable Character | No | At present, this value should always be FILEFORMAT, |
| ACQUIRE_MEDIA_TYPE | Variable Character | No | The type of acquire: FtpPush or FtpPull. |
| ACQUIRE_PRIORITY | Variable Character | No | The distribution priority: VHIGH, HIGH, NORMAL, LOW, or XPRESS. |
| ACQUIRE_NOTIFY_TYPE | Variable Character | No | At present, this should always be MAIL. |
| ACQUIRE_FTP_USER | Variable Character | No | The FTP login name for an FTP push operation. |
| ACQUIRE_FTP_PASSWORD | Variable Character | No | The password for an FTP push operation. |
| ACQUIRE_FTP_HOST | Variable Character | No | The destination hostname for an FTP push operation. |
| ACQUIRE_FTP_DIR | Variable Character | No | The destination directory for an FTP push operation. |
| BUND_USER_NAME | Variable Character | Yes, if adding a new bundling order | If present, it must be the same as USERNAME. |

Table 4.7.3-1. Text File Contents (4 of 5)

| Name | Type | Mandatory | Description |
|-------------------------------|--------------------|-------------------------------------|--|
| BUND_ORDER_ID | Variable Character | No | The ID of the bundling order to be associated with this subscription. If present, a new subscription is associated with the existing bundling order. If absent, a new order in EcAcOrder is created using the information in BUND_MEDIA_TYPE, BUND_SHIP_PHONE, BUND_SHIP_CTRY, BUND_SHIP_STATE, BUND_SHIP_CITY, BUND_SHIP_FAX, BUND_SHIP_STREET_1, BUND_SHIP_STREET_2, BUND_SHIP_STREET_3, BUND_SHIP_ZIP, BUND_DIST_PRIOR. A new request in EcAcRequest is created using the above and some or all of BUND_FTP_HOST, BUND_FTP_PASSWORD, BUND_FTP_DIR, and BUND_FTP_USER. |
| BUND_MAX_BUND_AGE | Float | No | The number of hours which a bundle can have requests incorporated before it is expired. |
| BUND_MEDIA_TYPE | Variable Character | Yes, if adding a new bundling order | The media type for bundled requests. |
| BUND_MIN_GRAN_COUNT | Integer | No | The minimum number of granules a bundle can contain before it is distributed. |
| BUND_MIN_BUND_SIZE | Float | No | The minimum size in MB a bundle must attain before it is distributed. |
| BUND_EMAIL_NOTIFICATION_ADD_R | Variable Character | No | Free text field to record the optional distribution parameter NOTIFY. |
| BUND_USER_STRING | Variable Character | No | Optional distribution option, which identifies a request. |
| BUND_DIST_PRIORITY | Variable Character | No | Distribution priority of the bundling order. |
| BUND_FTP_HOST | Variable Character | No | The destination hostname for an FTP push operation. |
| BUND_FTP_PASSWORD | Variable Character | No | The FTP password for an FTP push operation. |
| BUND_FTP_DIR | Variable Character | No | The destination directory for an FTP push operation. |
| BUND_FTP_USER | Variable Character | No | The FTP login name for an FTP push operation. |
| BUND_SHIP_PHONE | Variable Character | No | The phone number for the user requesting the order. |

Table 4.7.3-1. Text File Contents (5 of 5)

| Name | Type | Mandatory | Description |
|--------------------|--------------------|------------------|---|
| BUND_SHIP_CTRY | Variable Character | No | The country the order should be shipped to. |
| BUND_SHIP_STATE | Variable Character | No | The state the order should be shipped to. |
| BUND_SHIP_CITY | Variable Character | No | The city the order should be shipped to. |
| BUND_SHIP_FAX | Variable Character | No | The fax number for the user requesting the order. |
| BUND_SHIP_STREET_1 | Variable Character | No | The street address to which the order should shipped. |
| BUND_SHIP_STREET_2 | Variable Character | No | The street address to which the order should shipped. |
| BUND_SHIP_STREET_3 | Variable Character | No | The street address to which the order should shipped. |
| BUND_SHIP_ZIP | Variable Character | No | The zip code of address to which the order should be shipped. |

Table 4.7.3-2. Text File Contents (BatchUpdate List) (1 of 2)

| Name | Type | Description |
|-------------------------|--------------------|---|
| USERNAME | Variable Character | The name of the subscription owner. |
| STATUS | Variable Character | The subscription status: Active, Inactive or Canceled. |
| START_DATE | Date/Time | The start date for the subscription |
| EXPIRATION | Date/Time | The expiration date for the subscription. |
| ESDT_SHORT_NAME | Variable Character | The short name for the ESDT being subscribed to. A wildcard can be used in the matchfile by including a subset of the ShortName for the value instead of full ShortName. Any ESDT ShortNames that include this subset as a string are considered a match. |
| ESDT_VERSION | Integer | The version for the ESDT being subscribed to (e.g., 1, if version ID is 001). |
| EVENT_TYPE | Variable Character | The type of event being subscribed to: INSERT, DELETE, or UPDATEMETADATA. |
| ACQUIRE_USERNAME | Variable Character | The name of the user requesting an acquire. |
| ACQUIRE_EMAIL_ADDRESSES | Variable Character | The email address for "acquire" notification. |
| ACQUIRE_MEDIA_TYPE | Variable Character | The type of acquire: FtpPush, FtpPull or scp. |

Table 4.7.3-2. Text File Contents (BatchUpdate List) (2 of 2)

| Name | Type | Description |
|----------------------|--------------------|--|
| ACQUIRE_PRIORITY | Variable Character | The distribution priority: VHIGH, HIGH, NORMAL, LOW, or XPRESS. |
| ACQUIRE_FTP_USER | Variable Character | The FTP login name for an FTP push operation. |
| ACQUIRE_FTP_HOST | Variable Character | The destination hostname for an FTP push operation. |
| ACQUIRE_FTP_DIR | Variable Character | The destination directory for an FTP push operation. |
| NOTIFY_EMAIL_ADDRESS | Variable Character | The email address of the recipient if email notification is desired. |
| GRANULE_START_DATE | Date/Time | The start date of the granule. |
| GRANULE_END_DATE | Date/Time | The end date of the granule. |

4.7.3.2 Spatial Subscription Server Command Line Interface Main Screen

The Spatial Subscription Server (NBSRV) Command Line Interface does not have a main screen. It is a command line interface only.

4.7.3.3 Required Operating Environment

O/S requirements are Linux 2.x platforms.

4.7.3.4 Databases

The Spatial Subscription Server CLI accesses the Spatial Subscription Server, Inventory, and OMS schema within the “ecs” database.

4.7.3.5 Special Constraints

There are no special constraints to running the Spatial Subscription CLI.

4.7.3.6 Outputs

In addition to status and error messages, there will be an output file called sub.*nnn*.txt (where *nnn* refers to the subscription number) when viewing a subscription.

There also will be an output file for matched subscriptions when using “BatchUpdate” function if the user chooses to save the information.

4.7.3.7 Event and Error Messages

The Spatial Subscription Server CLI issues validation errors when adding or updating a subscription. If the operator does not correct the validation errors, the subscription is rejected when the operator attempts to add or update the subscription. The SSS CLI writes status and error messages to the EcNbSubscriptionCLI.log file in the directory /usr/ecs/<MODE>/CUSTOM/logs.

4.7.3.8 Reports

The SSS CLI does not generate reports.

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4.7.4 Bulk Metadata Generation Tool

The Bulk Metadata Generation Tool (BMGT) is a utility which exports metadata for granules and collections in the ECS archive to the EOS ClearingHouse (ECHO). This metadata is utilized by ECHO to allow users to search for and order data from the ECS archive. BMGT is used to keep ECHO in sync with ECS archive holdings. BMGT can be run in four different ways, “AUTOMATIC”, “MANUAL”, “CORRECTIVE”, and “VERIFICATION” which are covered in this section. “VERIFICATION” actually covers three export types itself, “VER_LONG”, “VER_SHORT”, and “VER_INC”. In any of its modes of use, BMGT exports metadata individually to ECHO (instead of in packages or zip files).

4.7.4.1 BMGT Automatic Driver

The BMGT Automatic Driver is used by a DAAC to export changes to the holdings of the ECS inventory almost in real time. BAPP is a server process (a timer task) that creates Export requests at regular intervals, configurable via the "BMGT.AutoDriver.PollingFrequency" parameter in the Bg_Configuration_Property table. The Automatic Driver executes a stored procedure that picks up qualified BMGT events from the DsMdGrEventHistory table and creates Export Requests (Bg_Export_Request table) for the Dispatcher to process and export metadata to ECHO.

4.7.4.1.1 BMGT Automatic Driver Usage

| |
|---------------------------------------|
| EcBmBMGTAutoStart <MODE> |
|---------------------------------------|

BMGT Automatic Driver usage

4.7.4.2 BMGT Manual Driver

The BMGT Manual Driver provides another interface through which the operator can initiate an export of ECS metadata through BMGT. Unlike an ‘AUTOMATIC’ instantiation of BMGT, which exports metadata in response to changes or ‘events’, a ‘MANUAL’ BMGT run will export the current metadata for an operator-provided set of granules and/or collections. An operator is able to specify which metadata products are desired, or can request the generation of all of them. An operator is also able to use the Manual Driver to re-run a previous AUTOMATIC export which has failed, or to export the contents of the Corrective Queue. The operator is also able to use the manual Driver to initiate one of three types of “Verification” exports which will re-export metadata which has already been exported to verify that there are no discrepancies between ECS and ECHO holdings. Once the Manual Driver is run (in any of its modes of operation), the desired products will be created by the BMGT Generator server and are exported to ECHO similarly to automatic exports. The Manual Driver is meant primarily for use when errors occur in the normal automatic processing flow, or when DAAC Operations would like to verify the consistency of ECS and ECHO holdings either routinely or due to some known issue. It can also be used for any other situation in which the normal, automatic export of BMGT metadata is not sufficient, such as exporting historical metadata. The Manual Driver does not prevent multiple exports of the same metadata like Automatic BMGT does. For this reason, DAAC Operations

Staff should inform ECHO Staff before using the Manual Driver for export to ECHO, and exercise discretion as to what is exported in a manual run.

4.7.4.2.1 Using the BMGT Manual Driver

The BMGT Manual Driver is executed via a start script (EcBmBMGTManualStart, located in the /usr/ecs/<mode>/CUSTOM/utilities directory), which takes one or more parameters. Tables 4.7.4-1 through 4.7.4-11 provide descriptions of these parameters.

4.7.4.2.2 Manual Driver Guidelines:

- All parameters are optional except --mode, but at least one additional parameter must be specified.
- If another BMGT process is currently running, the operator will be prompted as to whether they would like to continue, or try again later if another Verification(long form, shortform or incremental) run is initiated.
- Except when using --help, --corrective, --incremental, at least one option from SELECTION CRITERIA must be specified.

Table 4.7.4-1. General Options

| Option | Notes | Description |
|---------------|-----------------------------|-------------------------------|
| --help -h | Overrides all other options | Display a detailed help page. |
| --mode <MODE> | Required | Run in ECS mode <MODE>. |

Table 4.7.4-2. Generated Product Options

| Option | Notes | Description |
|--------|--|--|
| --metg | Requires one or more selection criteria options groups, groupfile collections, collectionfile, granules, granulefile or start and end dates. | Creates requests for generating granule metadata. |
| --metc | Requires one or more selection criteria options --groups, groupfile collections, collectionfile, or start and end dates. | Creates requests for generating collection metadata. |

Table 4.7.4-3. Run Type Options

| Option | Notes | Description |
|------------------------------|---|---|
| --del --deleteonly | requires one or more SELECTION CRITERIA options | Generate deletion metadata. Granules and collections being processed with delete option must be either physically or logically deleted. If a granule is logically or physically deleted from the archive, it must be explicitly specified (with the --granules or --granulefile option) by geoid rather than dbid. |
| --ins --insertonly | | Option for generating InsertOnly metadata. This option enables only exporting existing granules and collections (not physically or logically deleted). Any granules marked for deletion are ignored by this option. |
| --fd --forcedelete | | Option for generating Deletes for collection metadata that still currently exists in ECS inventory. This option is used in rare cases where the user wishes to delete specific collections from ECHO that still exist in ECS. |
| --collupd | | Option for generating full collection update. This option exports the entire collection metadata followed by exporting all granules for the collection that are not logically or physically deleted. |
| --vs --short | | A short form run is used for performing existence checks with ECHO. Only collections and collectionfile options are supported by short verification. If collections/collectionfile are specified all the granules for those collections will be checked for their existence in ECHO. If the aboveoptions are missing there will only be a check for existence of the entire collections. Creates requests for either collections or granules based on comparison results between data items between SDPS and ECHO. |
| --vl --long | | A long form verification request generates the full metadata for selected collections/granules, and is used for performing full metadata comparison with ECHO. --metg and/or --metc may be specified with -long . Options supported for metc and metg can be provided for generating long form verification requests. -delete option is not supported for long form verification. |
| --inc --incremental | | Initiate an incremental verification export, in which the granules to be exported as long form metadata are selected automatically based on an algorithm that exports granule verification in batches for eventual total coverage. An optional list of collections to consider for verification using this algorithm may be specified. |
| --corrective | | A corrective export is used to generate reports, re-enable or Cancel BLOCKED requests. Collections or GranuleIds can be used with -c , -cf , -g , -gf options to refine the selection of BLOCKED requests. One of the 4 corrective run options in table 1-5 can be used optionally. |

The following options can be used to specify the collections and/or granules for which metadata export is desired. At least one of these options must be specified, except when **--corrective** or **--incremental** option is being used. No metadata will be generated unless the associated

collection is defined in the groups configuration table (Bg_Collection_Configuration), and has CollectionExportFlag set to 'Y'. No granule level metadata will be generated unless the collection also has GranuleExportFlag set to Y.

The options below allow specifying granules by dbid or geoid, and also specifying collections by shortname/versionid or group name. Each of these options can take a comma separated (with no spaces) list on the command line, or a file containing one or more values (one value per line). Using an input file is strongly recommended if the list contains more than 2 or 3 items. If one or more collections are specified (by shortname/versionid or group), a start and/or end date may be specified to limit granules in those collections for which granule metadata (if any) is generated by insert or lastupdate time (depending on whether **--lastupdate** is specified).

Table 4.7.4-4. Item Selection Options (1 of 2)

| Option | Notes | Description |
|--|---|---|
| --collections -c <shortname.version ID>[,<shortname.version ID>,...] | | Generate metadata for collection <shortname.versionID>. Multiple collections can be specified, separated by a comma and no space. |
| --collectionfile --cf <filename> | | Same as --collections , but specifies a file which contains one or more collections. The collections can be on one or multiple lines and must be separated either by newlines or whitespace. |
| --granules -g <ID>[,<ID>,...] | | Where <ID> is either a dbid or a geoid in the form: <SC/BR>:<SHORTNAME>.<VERSIONID>:<DBID> Generate metadata for the listed granules. Multiple granules can be specified, separated by a comma and no space. |
| --granulefile --gf <filename> | | Same as --granules , but specifies a file which contains one or more dbids and/or geoids. The ids can be on one or more lines and must be separated either by newlines or whitespace. |
| --p --group <groupName>[,<groupName>,...] | | Generate metadata for the collections and/or granules in the specified group(s). |
| --pf --groupfile <filename> | | Generate metadata for the collections and/or granules in the group(s) listed in the specified file. |
| --st --starttime <datetime> | requires – groups, groupsfile, collectionfile or --collections | Defines the starting time (inclusive) of a datetime range for which to generate granule metadata. This parameter is used only if --groups, --groupsfile, --collection, or collectionfile is specified. It will be used to select a subset of granules from the specified collection(s) for which metadata will be generated. <datetime> should be in the format "YYYY-MM-DD HH:MM:SS" [quotes are required]. |

Table 4.7.4-4. Item Selection Options(2 of 2)

| Option | Notes | Description |
|---------------------------------------|--|--|
| --et --endtime <datetime> | requires – groups, groupsfile, collectionfile or --collections | Defines the end time (non-inclusive) of a datetime range for which to generate granule metadata. This parameter is used only if --groups, --groupsfile, --collection, or --collectionfile is specified. It will be used to select a subset of granules from the specified collection(s) for which metadata will be generated. <datetime> should be in the format "YYYY-MM-DD HH:MM:SS" [quotes are required]. Current time is used as endTime if only --st is provided as an option for the run. |
| --lastupdate | requires -- endtime and/or -- starttime | Causes the --starttime and --endtime values to be used to select granules based on lastupdate rather than insert time. |

Table 4.7.4-5. Corrective run Options

Only one of the following four options is supported for a given corrective run. If none of the options is provided, the default behavior (moving a BLOCKED request to PENDING state) for corrective run is applied.

| Option | Notes | Description |
|----------------------------------|-------|--|
| --cancel | | Additional option supported by a corrective export run. This option is used to CANCEL a BLOCKED request instead of moving it to a state to be retried by the dispatcher. |
| --report | | Additional option supported by a corrective export run. This option prints a report of the existing BLOCKED requests in the export request table to the console. |
| --statistics | | Additional option supported by a corrective run. This options prints collectionId and the number of blocked requests for that collection in the export request table. |
| --cr --correctivereport | | Additional option supported by a corrective export run. This option first generates a corrective report followed by the actual corrective run by moving all the BLOCKED requests to PENDING state for re processing. |

4.7.4.2.3 Examples

Request a manual BMGT export containing all relevant granules and collection metadata for all granules in all collections in the file './collections':

```
EcBmBMGTManualStart –mode <MODE> --metg --metc –collectionfile ./collections
```

Request the generation of a BMGT manual export containing the METG and METC for the granules and collections specified in the command options. In addition, METG metadata will be generated for the granules that belong to the specified collections and were inserted into the inventory between the specified start and end dates:
EcBmBMGTManualStart --mode <MODE> --metg --metc--collections AST_L1A.001,MOD29P1N.001,MOD29P1D.002 --granules 213388,213400,213402,212100,213395 --starttime "2006-02-21 14:07:00" --endtime "2008-01-18 09:54:22"

Request the export of a listing of all granules in the specified collections to be compared against the ECHO holdings for the collections:

```
EcBmBMGTManualStart --mode <MODE> --short --metg -c MOD29P1D.001, MYD29P1N.001
```

Request the export of full granule and collection metadata for all collections in the group 'MOLT' and all of the granules in those collections which have a lastUpdate value within the provided boundaries. This metadata will be compared against that which ECHO already has to find and repair any discrepancies:

```
EcBmBMGTManualStart --mode <MODE> --long --metg --metc --p MOLT --starttime "2006-02-21 14:07:00" --endtime "2008-01-18 09:54:22" --lastupdate
```

Request the export of full granule metadata for a set of granules determined by the BMGT based on a configured time interval, max number of granules per instance (both configured via the BMGT GUI), and the lastUpdate of the granules:

```
EcBmBMGTManualStart --mode <MODE> --incremental
```

NOTE: it is recommended that incremental mode be set up as a cron job to run on a regular interval.

Request a full report of the 'BLOCKED' requests by running a corrective export run. All the information will be printed to the users' console:

```
EcBmBMGTManualStart --mode <MODE> --corrective -report
```

A corrective export can be used to cancel BLOCKED requests for a particular collection:

```
EcBmBMGTManualStart --mode <MODE> --corrective --cancel -c <shortname.vid>
```

4.7.4.3 BMGT Configuration

Configuration of the BMGT is stored in a text file and a database table that are shared by all of the BMGT components. The following file is used to store properties related to database connection: /usr/ecs/<MODE>/CUSTOM/cfg/EcBmBMGT.properties. The fields in this file are automatically populated by mkcfg and should not need to be modified.

All other properties are stored in the bg_configuration_property database table. The values in this table are initially populated using mkcfg. Mkcfcg calls EcBgPopulateConfigurationTable.ksh to load static default values. This script will NOT overwrite existing values in the table. Dynamic values are prompted for via Ecs Assist. Changes made in Ecs Assist will overwrite current database values.

The following values are prompted for in Ecs Assist.

Table 4.7.4-6. BMGT Configuration Parameters

| Property Name (EcsAssist Name) | Description |
|---|--|
| BMGT.EmailLogger.SMTPHost (EMAIL_SMTP_HOST) | SMTP host used for sending email alerts. |
| BMGT.EmailLogger.From (EMAIL_FROM_ADDRESS) | Fully qualified email address from which alert emails should be sent. |
| BMGT.EmailLogger.To (EMAIL_TO_ADDRESS) | Email address(es) to which alerts should be sent. Multiple addresses must be separated by a comma |
| BMGT.Common.CollectionMetadataFilePathPrefix (COLL_METPATH_PRE) | Path to directory under which collection descriptors are found |
| BMGT.Exporter.TokenClient.URL (ECHO_TKN_CLIENT_URL) | URL to the ECHO token REST endpoint (depends on whether Partner Test or Operations) |
| BMGT.Exporter.TokenClient.Username (ECHO_TKN_CLIENT_USERNAME) | ECHO/URS user who will perform ingest requests |
| BMGT.Exporter.TokenClient.ProviderID (ECHO_TKN_CLIENT_PRVDRID) | Name of the provider to ingest on behalf of |
| BMGT.Exporter.IngestClient.URL (ECHO_ING_CLIENT_URL) | URL to the ECHO ingest REST endpoint (depends on whether Partner Test or Operations) |
| BMGT.Generator.DataCenterId (DATA_CENTER_ID) | The name of the data center. Used to override the value in native metadata if BMGT.Generator.ReplaceDataCenterId = 'Y' |

Passwords, such as the ECHO password (BMGT.Exporter.TokenClient.Password) must be set manually in BMGT GUI and will be automatically encrypted.

Additional information on changing configuration parameters via the GUI can be found in the BMGT GUI section of this document.

4.7.4.3.1 Component Configuration

The table below describes the various BMGT component configurations that can be modified from the GUI. Additional information on changing configuration parameters via the GUI can be found in the BMGT GUI section of this document.

Table 4.7.4-7. BMGT Configuration Parameters (1 of 3)

| Property Name | Default Value | Description |
|---|---------------|---|
| BMGT.Dispatcher.QueueSize | 250 | Max number of requests to read into memory for each queue at any given time |
| BMGT.Dispatcher.BucketSize | 300 | Max number of requests per queue read per polling cycle |
| BMGT.Dispatcher.NConsumers | 5 | Number of threads to work on each queue. Note that when a queue is empty, its threads can be pulled and used for other queues |
| BMGT.Dispatcher.RetryRequestWait | 300000-5min | Interval in milliseconds on which to retry a request which failed with a retrieable error |
| BMGT.Dispatcher.Monitor.pollingFrequency | 180000-3min | Frequency in milliseconds on which to poll for configuration changes |
| BMGT.Dispatcher.Producer.PollingFrequency | 30000-30sec | Frequency in milliseconds on which dispatcher polls for new requests |
| BMGT.Dispatcher.MaxAutoResumeRetries | 6 | Maximum number of times to auto resume the dispatcher after an pausing due to an export error |
| BMGT.Dispatcher.AutoResumeWait | 600000-10min | Time in milliseconds after which to auto resume the dispatcher when paused due to an export error |
| BMGT.Dispatcher.StopTimeOut | 15000-15sec | Amount of time to wait for in process requests to complete before shutting down |
| BMGT.GUI.DefaultTimeRange | 1d | Default time range for GUI request and activity display |
| BMGT.GUI.WriteAccessPassword | | Password for full access to GUI. Must be set in GUI to be properly encrypted |
| BMGT.AutoDriver.PollingFrequency | 30000-30sec | Frequency in milliseconds to poll for new events in DsMdGrEventHistory |
| BMGT.AutoDriver.MaxEvents | 5000 | Maximum number of events to pull from DsMdGrEventHistory per polling cycle |
| BMGT.ResponseHandler.Monitor.PollingFrequency | 180000-3min | Polling frequency in milliseconds on which to check whether error thresholds are exceeded and an alert email should be sent |
| BMGT.ResponseHandler.Monitor.MaxErrorCount | 50 | Number of errors allowed before processing is paused and an alert email is sent |

Table 4.7.4-7. BMGT Configuration Parameters (2 of 3)

| Property Name | Default Value | Description |
|--|-----------------------|--|
| BMGT.ResponseHandler.Monitor.MaxBlockCount | 50 | Number of blocked requests allowed before processing is paused and an alert email is sent |
| BMGT.ResponseHandler.Monitor.MaxSkipCount | 50 | Number of skipped requests allowed before processing is paused and an alert email is sent |
| BMGT.ResponseHandler.MaxRetryCount | 10 | Number of retries before a request is blocked |
| BMGT.ResponseHandler.BlockCorrectiveExports | true | True to block |
| BMGT.ResponseHandler.Monitor.EmailTimeOut | 86400000 -24hr | Number of seconds after which any alert messages will be sent regardless of whether threshold counts are met |
| BMGT.EmailLogger.DefaultSubject | | Subject for error alert emails |
| BMGT.Monitor.pollingFrequency | 21600000 -6hr | Polling interval in milliseconds on which to look for requests which are stale or can be cleaned up |
| BMGT.Monitor.purgeOlderThan | 25920000 00-30days | Age in milliseconds after which a terminal request is eligible for cleanup |
| BMGT.Monitor.staleAfter | 86400000 0-10days | Age in milliseconds after which an alert will be sent of a request has not been processed to a terminal state |
| BMGT.Monitor.batchMonitorPollingFrequency | 180000- 3min | Polling interval in milliseconds on which to check the status of batched requests for the purpose of assembling batch statistics once the batch completes. |
| bmgt.granule.url.base | http://f4ftl0 1/ | Base host and port for all datapool URLs |
| BMGT.Common.CoordinateSystemDefault | CARTESI AN | default value to use when bg_collection_configuration.collectioncoordinatesystem is not set |
| BMGT.Generator.IOError.NumRetries | 10 | number of tiems the generator will retry after an IO error |
| BMGT.Generator.IOError.RetryInterval | 6000-1min | Interval in milliseconds on which generator will retry after an IO error |
| BMGT.Exporter.IngestClient.Compression | false | true to compress ingest requests |
| BMGT.Exporter.IngestClient.UsePersistence | true | true to re use HTTP connections between export requests |
| BMGT.Exporter.IngestClient.RetryRequestCount | 10 | number of times to retry an HTTP error before failing an export activity |
| BMGT.Exporter.IngestClient.RetryRequestWait | 6000-6sec | retry time in milliseconds for HTTP errors |
| BMGT.Exporter.IngestClient.UseSemanticDiff | true | true to use more lenient comparison for long form/incremental verification |
| BMGT.ResponseHandler.Ignoreable* | | regular expressions matching verification errors which should be ignored |

Table 4.7.4-7. BMGT Configuration Parameters (3 of 3)

| Property Name | Default Value | Description |
|---|---------------|---|
| BMGT.ResponseHandler.IgnoreableMillisecondDelta | 1000-1sec | number of milliseconds difference to ignore when receiving verification mismatches |
| BMGT.Verification.MaxGranules | 50000 | maximum number of granules per incremental batch |
| BMGT.Incremental.Duration | 10 | maximum number of days worth of updates to include in an incremental batch |
| BMGT.Manual.ShortVer.ReqStatus | PENDING | status of new export requests enqueued as a result of short form verification. "PENDING" will cause such requests to be immediately eligible for export. "BLOCKED" will require operator approval before being eligible for export. |
| BMGT.Manual.ShortVer.Tolerance | 1 | number of seconds difference to allow in lastupdate times without flagging an error |

4.7.4.3.2 Collection Configuration

Collection configurations are stored in the database and initially populated with known collections. The configurations are configurable via a script or the GUI. The script can be run as follows:

```
EcBmConfigureCollection.pl [-u] mode csv_file_path
```

In this example, the `csv_file_path` points to a file with one row per collection in the format:

```
shortname, versionid, granuleexportflag, collectionexportflag, orbitgroup,
granulespatialrepresentation, collectioncoordinatesystem, twodcoordinatesystem, difid,
maxgranulestoverify
```

And `-u` is specified to update existing records.

Null values should be indicated either by the literal value 'null' or no value between the commas.

The individual collection configurations are described in detail in the BMGT GUI section of this document.

4.7.4.4 Required Operating Environment

BMGT runs on a Linux platform.

4.7.4.5 Interfaces and Data Types

Table 4.7.4-12 lists the supporting products that this tool depends upon in order to function properly.

Table 4.7.4-8. Interface Protocols

| Product Dependency | Protocols Used | Comments |
|---------------------------|-------------------|-------------------------|
| Inventory database | SQL | Via SQL server machines |
| Java JRE version 1.7.0_21 | Linux system call | |
| ECHO | REST | Via Webservice calls |

4.7.4.6 Outputs

The Manual and Automatic Drivers enqueues requests which will cause XML documents to be output to ECHO following the HTTP protocol. The following provides additional details on the output metadata sent to ECHO.

4.7.4.6.1 BMGT Generator Workflow

The workflow for processing metadata in the Generator depends on the type of item (Granule or Collection) and the metadata Type (ECS or ISO). This work flow is shown below:

Collection

- Both ECS and ISO:
 1. Get metadata file path from database.
 2. **ECS Only** – Convert ODL descriptor file to ECS XML metadata.
 3. Translate XML to ECHO 10 schema via a stylesheet.
 4. Perform programmatic insertions/conversions described below.

Granule

- Both ECS and ISO:
 1. Get metadata file path from database.
 2. Translate XML to ECHO 10 schema via a stylesheet.
 3. Perform programmatic insertions/conversions described below.

The following sections describe the items in the native granule and collection metadata which must be modified prior to export to ECHO, as well as those elements which must be inserted.

4.7.4.6.2 Generator Server Metadata Additions – All Metadata Types

InsertTime & lastUpdate (Granule & Collection)

Insert and last update times (lastUpdate and insertTime from AmGranule and AmCollection) shall be converted to UTC format (e.g. '2003-04-06T03:39:33.241Z') and write it to the proper location in the XML file. In order to be consistent with some legacy design decisions, these times must be treated as if they are in Greenwich Mean Time. In other words, 10:15:00 AM Eastern Standard Time on 1/22/2013 becomes '2013-01-22T10:15:00Z' even though this is the incorrect timezone identifier and therefore is technically a number of hours off from the actual intended time. All scientific datetimes (such as RangeBeginning/Ending time) are already in UTC format, so this will only apply to local datetimes and internal consistency between these times will be maintained.

Datapool URLs (Granule)

The datapool URLs provide public anonymous FTP or HTTP access to the science granule and its associated metadata, browse, QA, PH, and HDF Maps, for public granules. The URLs are constructed by obtaining the file path in the datapool filesystem for each of the above listed files, and appending it to a prefix (which contains the protocol[http or ftp.], hostname, and filesystem root). The science granule URL is inserted in the metadata as an OnlineAccessURL element, and all other URLs are inserted as OnlineResource elements. Each OnlineResource has an associated Type element which contains one of the following values ("METADATA", "BROWSE", "Quality Assurance", "Production History", "HDF MAP") depending on what type of file it is. In addition, it contains a MimeType element which specifies the mime type of the file (which comes from the database). Note that browse linkages will now be handled through this URL mechanism as well, and therefore browse URLs will be inserted for non-public granules.

For SMAP, all URLs are added as gmd:MD_DigitalTransferOptions

Browse Links (Granule)

An additional OnlineResource URL, which is obtained from the database slightly differently than above. This URL will be added for any granule, public or hidden, which has a browse link

4.7.4.6.3 Generator Server Metadata Additions – ECS Metadata

Visible and Orderable flags (Granule & Collection)

BMGT will insert into all Collection metadata the Visible flag value of 'true' and the Orderable flag value of 'false'. For all Granule metadata, the Orderable flag will be set to 'true' and the Visible flag set to 'true' unless the granule is DFA'ed (i.e. GranuleRestrictionFlag == 255).

Granule UR (Granule)

This is the primary identifier for a granule in ECHO. It is calculated as “SC:<shortname>.<versionid>:<granuleid>” where shortname, versionid, and granuleid are obtained from the database. Versionid is padded with leading zeroes so that it contains 3 characters.

DataSetId (Granule & Collection)

The DataSetId is the primary key for a collection, and also used to link a granule to its associated collection. It is constructed as “<Collection Long Name> V<VersionId – zero padded>” where long name and version id come from the database.

RestrictionFlag (Granule)

The RestrictionFlag element is used to indicate that a granule is restricted to access from only adequately authenticated users. This is a decimal value between 0 and 255, and comes from the DsMdGranuleRestriction database. 255 is a special reserved value, which will be automatically inserted in the metadata for any granule which has DeleteFromArchive set to Y.

GranuleSpatialRepresentation (Collection)

This element specifies the spatial representation of granules in a collection (and the spatial metadata defined for each granule must match the representation defined for its collection). This value must be one of the following: CARTESIAN, GEODETIC, ORBIT, NO_SPATIAL.

This value can be automatically populated from the value of AmCollection.SpatialSearchType as follows:

| <u>SpatialSearchType</u> | <u>=></u> | <u>GranuleSpatialRepresentation</u> |
|--------------------------|--------------|-------------------------------------|
| GPolygon | => | GEODETIC |
| Orbit | => | ORBIT |
| Point | => | GEODETIC |
| Rectangle | => | CARTESIAN |
| NotSupported | => | NO_SPATIAL |

There are a small number of known cases where this mapping is not correct. Therefore, BMGT must allow the operator to configure an override to this mapping for a given collection.

BMGT will read the proper value for GranuleSpatialRepresentation from bg_collection_configuration.granulespatialrepresentation. If the value of this column is null, the

default value as derived from AmCollection.spatialSearchType will be used. Otherwise, the specified value will be used.

Coordinate System (Collection)

This element specifies the Coordinate System of the collection. This value must be one of the following: CARTESIAN, GEODETIC. Currently, all collections have a value of CARTESIAN. BMGT shall have a default value, which at least initially will be set to “CARTESIAN”, as well as a mechanism to override the default for a particular collection.

The default value is defined by the configuration property BMGT.Common.CoordinateSystemDefault.

A collection specific override can be specified by setting bg_collection_configuration.CollectionCoordinateSystem. If this value is null, the default will be used.

See the XML snippet below for the placement of CoordinateSystem and GranuleSpatialRepresentation in the ECHO XML schema:

```
<CollectionMetaDataFile xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="http://www.echo.nasa.gov/ingest/schemas/testbed/Collection.xsd">
  <DataCenter>EDF</DataCenter>
  <Collections>
    <Collection>
      ...
      <Spatial>
        ...
        <HorizontalSpatialDomain>
          ...
          <Geometry>
            <CoordinateSystem>CARTESIAN</CoordinateSystem>
            ...
          </Geometry>
        </HorizontalSpatialDomain>
      </Spatial>
    </Collection>
  </Collections>
</CollectionMetaDataFile>
<GranuleSpatialRepresentation>CARTESIAN</GranuleSpatialRepresentation>
  </Spatial>
</Collection>
</Collections>
</CollectionMetaDataFile>
```

4.7.4.6.4 Backtrack orbit metadata (Granule & Collection)

ECHO provides the ability to perform backtrack orbit searches, provided that the proper metadata is given for granules. This metadata is mostly contained in ECS granule and collection metadata, but is not in the proper format. It is either contained in the OrbitCalculatedSpatialDomain hierarchy, PSA values, or must be calculated from these values using standard rules and/or ancillary files. A number of classes or groups of orbit processing have been established, each with different rules for generating granule and collection backtrack metadata. Each collection may be associated with one of these groups via the Collection Configuration database table.

Backtrack orbit metadata is not required. This metadata will be generated for collections which have a non null value in bg_collection_configuration.orbit group. If this value is null, then no backtrack metadata will be generated.

Valid values for BackTrack Orbit Group are (values in parenthesis refer to alternative names used in legacy code):

- GLAS Quarter Orbit (AKA GLAS1)
- GLAS Two Orbit (AKA GLAS2)
- GLAS 14 Orbit (AKA GLAS3)
- AMSR-E (AKA AMSR1)
- AMSR-A (AKA AMSR2)
- MISR (LARC)
- AQUARIUS

The rules for each group are defined below, but first is a list of the variables that the rules reference, and where they are obtained from.

Values obtained from OrbitCalculatedSpatialDomainContainer

FIRST_ASC_CROSS = the EquatorCrossingLongitude value of the OrbitCalculatedSpatialDomainContainer enclosure with the earliest EquatorCrossingTime.

SECOND_ASC_CROSS = the EquatorCrossingLongitude value of the OrbitCalculatedSpatialDomainContainer enclosure with the second earliest EquatorCrossingTime.

Values obtained from PSAs

TRACK_SEGMENT = The value of the 'Track_Segment' PSA.

START_BLOCK = The value of the 'SP_AM_MISR_StartBlock' PSA.

END_BLOCK = The value of the 'SP_AM_MISR_EndBlock' PSA.

ASC_DESC_FLAG = The value of the 'AscendingDescendingFlg' PSA.

Values obtained from separate MISRBlockLat.xml file

Format:

```
<properties>
  <property>
    <Block>180</Block>
    <FirstEdge>-66.695034</FirstEdge>
    <LastEdge>-65.502984</LastEdge>
  </property>
  ...
</properties>
```

FIRST_EDGE = The FirstEdge value of the property with Block = START_BLOCK

LAST_EDGE = The LastEdge value of the property with Block = END_BLOCK

Group Rules:

GLAS Quarter Orbit

Collection:

```
<OrbitParameters>
  <SwathWidth>2.0</SwathWidth>
  <Period>96.7</Period>
  <InclinationAngle>94.0</InclinationAngle>
  <NumberOfOrbits>0.25</NumberOfOrbits>
  <StartCircularLatitude>-50.0</StartCircularLatitude>
</OrbitParameters>
```

Granule:

TRACK_SEGMENT = 1

```
<Orbit>
  <AscendingCrossing>FIRST_ASC_CROSS</AscendingCrossing>
  <StartLat>50.0</StartLat>
  <StartDirection>A</StartDirection>
  <EndLat>50.0</EndLat>
  <EndDirection>D</EndDirection>
</Orbit>
```

TRACK_SEGMENT = 2

```
<Orbit>
  <AscendingCrossing>FIRST_ASC_CROSS</AscendingCrossing>
  <StartLat>50.0</StartLat>
  <StartDirection>D</StartDirection>
  <EndLat>-50.0</EndLat>
  <EndDirection>D</EndDirection>
</Orbit>
```

TRACK_SEGMENT = 3

```
<Orbit>
  <AscendingCrossing>FIRST_ASC_CROSS</AscendingCrossing>
  <StartLat>-50.0</StartLat>
  <StartDirection>D</StartDirection>
</Orbit>
```

```
<EndLat>-50.0</EndLat>
<EndDirection>A</EndDirection>
</Orbit>
TRACK_SEGMENT = 4
<Orbit>
  <AscendingCrossing>SECOND_ASC_CROSS</AscendingCrossing>
  <StartLat>-50.0</StartLat>
  <StartDirection>A</StartDirection>
  <EndLat>50.0</EndLat>
  <EndDirection>A</EndDirection>
</Orbit>
```

GLAS Two Orbit

Collection:

```
<OrbitParameters>
  <SwathWidth>2.0</SwathWidth>
  <Period>96.7</Period>
  <InclinationAngle>94.0</InclinationAngle>
  <NumberOfOrbits>2.0</NumberOfOrbits>
  <StartCircularLatitude>50.0</StartCircularLatitude>
</OrbitParameters>
```

Granule:

```
<Orbit>
  <AscendingCrossing>FIRST_ASC_CROSS</AscendingCrossing>
  <StartLat>50.0</StartLat>
  <StartDirection>A</StartDirection>
  <EndLat>50.0</EndLat>
  <EndDirection>A</EndDirection>
</Orbit>
```

GLAS 14 Orbit

Collection:

```
<OrbitParameters>
  <SwathWidth>2.0</SwathWidth>
  <Period>96.7</Period>
  <InclinationAngle>94.0</InclinationAngle>
  <NumberOfOrbits>14.0</NumberOfOrbits>
  <StartCircularLatitude>50.0</StartCircularLatitude>
</OrbitParameters>
```

Granule:

```
<Orbit>
  <AscendingCrossing>FIRST_ASC_CROSS</AscendingCrossing>
  <StartLat>50.0</StartLat>
  <StartDirection>A</StartDirection>
  <EndLat>50.0</EndLat>
  <EndDirection>A</EndDirection>
</Orbit>
```

AMSR-E

Collection:

```
<OrbitParameters>
  <SwathWidth>1450.0</SwathWidth>
  <Period>98.88</Period>
  <InclinationAngle>98.15</InclinationAngle>
  <NumberOfOrbits>0.5</NumberOfOrbits>
  <StartCircularLatitude>-90.0</StartCircularLatitude>
</OrbitParameters>
```

Granule:

ASC_DESC_FLAG = 'Ascending' or 'ASCENDING'

```
<Orbit>
  <AscendingCrossing>FIRST_ASC_CROSS</AscendingCrossing>
  <StartLat>-81.8</StartLat>
  <StartDirection>A</StartDirection>
  <EndLat>81.8</EndLat>
  <EndDirection>A</EndDirection>
</Orbit>
```

ASC_DESC_FLAG = 'Descending'

```
<Orbit>
  <AscendingCrossing>FIRST_ASC_CROSS - 167.64</AscendingCrossing>
  <StartLat>81.8</StartLat>
  <StartDirection>D</StartDirection>
  <EndLat>-81.8</EndLat>
  <EndDirection>D</EndDirection>
</Orbit>
```

AMSR-A

Collection:

```
<OrbitParameters>
  <SwathWidth>1600.0</SwathWidth>
  <Period>101.0</Period>
  <InclinationAngle>98.62</InclinationAngle>
  <NumberOfOrbits>0.5</NumberOfOrbits>
  <StartCircularLatitude>-90.0</StartCircularLatitude>
</OrbitParameters>
```

Granule:

ASC_DESC_FLAG = 'Ascending' or 'ASCENDING'

```
<Orbit>
  <AscendingCrossing>FIRST_ASC_CROSS</AscendingCrossing>
  <StartLat>-81.8</StartLat>
  <StartDirection>A</StartDirection>
  <EndLat>81.8</EndLat>
  <EndDirection>A</EndDirection>
</Orbit>
```

ASC_DESC_FLAG = 'Descending' or 'DESCENDING'

```
<Orbit>
  <AscendingCrossing>FIRST_ASC_CROSS - 167.375</AscendingCrossing>
  <StartLat>81.8</StartLat>
  <StartDirection>D</StartDirection>
  <EndLat>-81.8</EndLat>
  <EndDirection>D</EndDirection>
</Orbit>
```

MISR

Collection:

```
<OrbitParameters>
  <SwathWidth>400.0</SwathWidth>
  <Period>98.88</Period>
  <InclinationAngle>98.3</InclinationAngle>
  <NumberOfOrbits>1.0</NumberOfOrbits>
</OrbitParameters>
```

Granule:

FIRST_ASC_CROSS > 347.65

```
<Orbit>
  <AscendingCrossing>FIRST_ASC_CROSS - 527.65</AscendingCrossing>
```

```

    <StartLat>FIRST_EDGE</StartLat>
    <StartDirection>D if START_BLOCK between 19 and 162.  A
otherwise</StartDirection>
    <EndLat>LAST_EDGE</EndLat>
    <EndDirection> D if END_BLOCK between 19 and 162.  A otherwise
</EndDirection>
</Orbit>
FIRST_ASC_CROSS < -12.35
<Orbit>
    <AscendingCrossing>FIRST_ASC_CROSS + 192.35</AscendingCrossing>
    <StartLat>FIRST_EDGE</StartLat>
    <StartDirection>D if START_BLOCK between 19 and 162.  A
otherwise</StartDirection>
    <EndLat>LAST_EDGE</EndLat>
    <EndDirection> D if END_BLOCK between 19 and 162.  A otherwise
</EndDirection>
</Orbit>
FIRST_ASC_CROSS between -12.35 and 347.65
<Orbit>
    <AscendingCrossing>FIRST_ASC_CROSS - 167.65</AscendingCrossing>
    <StartLat>FIRST_EDGE</StartLat>
    <StartDirection>D if START_BLOCK between 19 and 162.  A
otherwise</StartDirection>
    <EndLat>LAST_EDGE</EndLat>
    <EndDirection> D if END_BLOCK between 19 and 162.  A otherwise
</EndDirection>
</Orbit>

```

AQUARIUS

Collection:

```

<OrbitParameters>
    <SwathWidth>390.0</SwathWidth>
    <Period>97.87</Period>
    <InclinationAngle>98.00</InclinationAngle>
    <NumberOfOrbits>1.0</NumberOfOrbits>
    <StartCircularLatitude>-90.0</StartCircularLatitude>
</OrbitParameters>

```

Granule:

```

<Orbit>
    <AscendingCrossing>FIRST_ASC_CROSS</AscendingCrossing>
    <StartLat>-90.0</StartLat>
    <StartDirection>A</StartDirection>
    <EndLat>-90.0</EndLat>
    <EndDirection>A</EndDirection>
</Orbit>

```

4.7.4.6.5 TwoDCoordinateSystems (Granule & Collection)

TwoCoordinateSystem metadata facilitates searching for data using alternative coordinate systems besides the traditional geographic system. This includes MISR Path and Block, or MODIS grid. Valid TwoDCoordinateSystems are defined in an external file, EcBmBmgfTwoDCoords.xml. This file defines the name of each system, min and max x and y coordinates, and the ProductSpecificAttributes (PSAs) in the native ECS metadata from which the x and y start and end values for a given granule in this coordinate system should be obtained.

Collections are mapped to a TwoDCoordinateSystem using the bg_collection_configuration.TwoDCoordinateSystem column. If this column is null, then no TwoDCoordinateSystem metadata will be generated. Below is the definition of valid TwoD coordinate systems (as defined in the file /usr/ecs/<MODE>/CUSTOM/data/BMGT/EcBmBmgTTwoDCoords.xml):

```

<TwoDCoordinateSystems>
<!-- MISR Coordinate System -->
  <TwoDCoordinateSystemDefinition>
    <TwoDCoordinateSystem>
      <TwoDCoordinateSystemName>MISR</TwoDCoordinateSystemName>
      <Coordinate1>
        <MinimumValue>1</MinimumValue>
        <MaximumValue>233</MaximumValue>
      </Coordinate1>
      <Coordinate2>
        <MinimumValue>1</MinimumValue>
        <MaximumValue>180</MaximumValue>
      </Coordinate2>
    </TwoDCoordinateSystem>
    <XBeginName>SP_AM_PATH_NO</XBeginName>
    <YBeginName>SP_AM_MISR_StartBlock</YBeginName>
    <YEndName>SP_AM_MISR_EndBlock</YEndName>
  </TwoDCoordinateSystemDefinition>
<!-- MODIS Tile EASE Coordinate System -->
  <TwoDCoordinateSystemDefinition>
    <TwoDCoordinateSystem>
      <TwoDCoordinateSystemName>MODIS Tile
EASE</TwoDCoordinateSystemName>
      <Coordinate1>
        <MinimumValue>0</MinimumValue>
        <MaximumValue>18</MaximumValue>
      </Coordinate1>
      <Coordinate2>
        <MinimumValue>0</MinimumValue>
        <MaximumValue>38</MaximumValue>
      </Coordinate2>
    </TwoDCoordinateSystem>
    <XBeginName>HORIZONTALTILENUMBER</XBeginName>
    <YBeginName>VERTICALTILENUMBER</YBeginName>
  </TwoDCoordinateSystemDefinition>
<!-- MODIS Tile SIN Coordinate System -->
  <TwoDCoordinateSystemDefinition>
    <TwoDCoordinateSystem>
      <TwoDCoordinateSystemName>MODIS Tile
SIN</TwoDCoordinateSystemName>
      <Coordinate1>
        <MinimumValue>0</MinimumValue>
        <MaximumValue>35</MaximumValue>
      </Coordinate1>
      <Coordinate2>
        <MinimumValue>0</MinimumValue>
        <MaximumValue>17</MaximumValue>
      </Coordinate2>
    </TwoDCoordinateSystem>
  </TwoDCoordinateSystemDefinition>

```

```

    </TwoDCoordinateSystem>
    <XBeginName>HORIZONTALTILENUMBER</XBeginName>
    <YBeginName>VERTICALTILENUMBER</YBeginName>
</TwoDCoordinateSystemDefinition>

<TwoDCoordinateSystemMappings>
  <TwoDCoordinateSystemMapping>
    <!-- Note: Mapping of collections to 2D coord systems will now be done
in DB -->
    <TargetCollection>
      <ShortName>MIBTRPEP</ShortName>
      <VersionId>1</VersionId>
    </TargetCollection>
    ...
    <TwoDCoordinateSystem>
      <TwoDCoordinateSystemName>MISR</TwoDCoordinateSystemName>
      <Coordinate1>
        <MinimumValue>1</MinimumValue>
        <MaximumValue>233</MaximumValue>
      </Coordinate1>
      <Coordinate2>
        <MinimumValue>1</MinimumValue>
        <MaximumValue>180</MaximumValue>
      </Coordinate2>
    </TwoDCoordinateSystem>
    <XBeginName>SP_AM_PATH_NO</XBeginName>
    <YBeginName>SP_AM_MISR_StartBlock</YBeginName>
    <YEndName>SP_AM_MISR_EndBlock</YEndName>
    <XEndName>SP_AM_PATH_NO</XEndName>
  </TwoDCoordinateSystemMapping>
</TwoDCoordinateSystemMappings>

```

Valid values for `bg_collection_configuration.TwoDCoordinateSystem` `TwoDCoordinateSystems`, are defined in `EcBmBmgfTwoDCoords.xml`, and are as follows:

- MISR
- MODIS TILE EASE
- MODIS TILE SIN

The `TwoDCoordinateSystem` configuration is used in both granule and collection metadata. The contents of the `<TwoDCoordinateSystem>` element will be copied verbatim to the collection metadata for all collections mapped to that coordinate system.

For granules contained in the mapped collections, the values from the mapping file are used to populate the <TwoDCoordinateSystem> element of the granule metadata file as follows

Values populated based on the mapping file:

NAME = Value of <TwoDCoordinateSystemName> from mapping file.

X_START=Value of the PSA specified by <XBeginName>

X_END=Value of the PSA specified by <XEndName>

Y_START=Value of the PSA specified by <YBeginName>

Y_END=Value of the PSA specified by <YEndName>

Resultant granule metadata content:

```
<TwoDCoordinateSystem>
  <TwoDCoordinateSystemName>NAME</TwoDCoordinateSystemName>
  <StartCoordinate1>X_START</StartCoordinate1>
  <EndCoordinate1>X_END</EndCoordinate1>
  <StartCoordinate2>Y_START</StartCoordinate2>
  <EndCoordinate2>Y_END</EndCoordinate2>
</TwoDCoordinateSystem>
```

4.7.4.6.6 AdditionalAttributes (Granule & Collection)

The ECHO schema contains 'AdditionalAttributes' which are equivalent to ECS PSAs. PSA to AdditionalAttribute translation is mostly a one to one conversion, however, Collection AdditionalAttribute metadata must have datatype information, against which granule AdditionalAttribute values will be validated on ECHO ingest. This is all handled in the XML stylesheets.

ECS Collection Descriptor (converted from ODL to XML)

```
<AdditionalAttributesContainer CLASS="1" DATA_LOCATION="NONE"
MANDATORY="FALSE">
  <AdditionalAttributeDatatype CLASS="1" DATA_LOCATION="MCF"
MANDATORY="FALSE" NUM_VAL="1">
    int
  </AdditionalAttributeDatatype>
  <AdditionalAttributeDescription CLASS="1" DATA_LOCATION="MCF"
MANDATORY="FALSE" NUM_VAL="1">
    Horizontal tile number of a grid, which increases from left to
    right.
  </AdditionalAttributeDescription>
  <AdditionalAttributeName CLASS="1" DATA_LOCATION="MCF"
MANDATORY="FALSE" NUM_VAL="1">
    HORIZONTALTILENUMBER
  </AdditionalAttributeName>
</AdditionalAttributesContainer>
```

Collection:

```
<AdditionalAttributes>
  <AdditionalAttribute>
    <Name>HORIZONTALTILENUMBER</Name>
    <DataType>INT</DataType>
    <Description>Horizontal tile number of a grid, which increases from
left to right.</Description>
  </AdditionalAttribute>
</AdditionalAttributes>
```

Granule

```
<AdditionalAttributes>
  <AdditionalAttribute>
    <Name>HORIZONTALTILENUMBER</Name>
    <Values>
      <Value>06</Value>
    </Values>
  </AdditionalAttribute>
</AdditionalAttributes>
```

ECS PSA datatypes map to ECHO AdditionalAttribute types as follows:

| <u>ECS</u> | => | <u>ECHO</u> |
|------------|----|---------------------------------|
| VARCHAR | => | STRING |
| FLOAT | => | FLOAT |
| INT | => | INT |
| DATETIME | => | DATETIME_STRING |
| TIME | => | TIME_STRING |
| DATE | => | DATETIME_STRING |
| DATE | => | DATE_STRING (for NISDC and EDF) |

4.7.4.6.6 CloudCover (Granule)

The ECHO schema contains a single configuration parameter for the location of granule cloud cover percent metadata, while in the ECS schema, this percentage may be contained in one of many locations (core metadata, PSA, etc). Sometimes, there may be multiple cloud cover percentage values in the metadata of a given granule, and which one is most reliable depends on the collection. BMGT will use the cloudSourceId column in AmCollection to determine the correct location for cloud cover metadata for each collection. Each CloudCoverSourceId maps to a record in DICloudCoverSource. Each configured cloudcover source has a sourceType(C or P) and a sourceName. If the sourceType is C, then the CloudCover is inserted into the granule metadata as the result of the following xpath(in the ECS schema):

MeasuredParameter/MeasuredParameterContainer/QAStats/QAPercentCloudCover (use the largest value if multiple are present)

If the sourceType is P, then the CloudCover is inserted into the granule metadata as the value of the following XPath(in the ECS schema):

```
PSAs/PSA[PSAName=$sourceName]/PSAValue
```

Where \$sourceName is the value of the sourceName column. If there is no value at the specified location, or if the value of sourceType is neither C or P, then no CloudCover element is inserted.

4.7.4.6.7 DIF ID (Collection)

A DIF ID is used to map a collection in ECHO to a collection in the Global Change Master Directory (<http://gcmd.nasa.gov>). This ID is usually, but not always, equivalent to “<ShortName><VersionID>”. Since the rule does not apply universally, the DIF ID for a collection will be obtained from the difid column in the bg_collection_configuration table. All collections should have a value specified, but if they do not, then the DIF ID will be omitted from the xml metadata. An example of the DIF ID metadata is shown below.

```
<AssociatedDIFs>
  <DIF>
    <EntryId>MIL2ASAE2</EntryId>
  </DIF>
</AssociatedDIFs>
```

4.7.4.6.8 Convert ECS to ECHO10 schema (Granule & Collection)

In addition to adding metadata fields, and making specific conversions as outlined above, there are many simple one to one translations which are made to BMGT products in order to conform to the ECHO 10 schema. These conversions are primarily done in the GranTransform.xsl and CollTransform.xsl stylesheets which convert from ECS metadata schema into ECHO 10 schema. The exact mapping between ECS and ECHO schemas is not contained here, as it exists in the stylesheets referenced above.

Part of the conversion process is to convert all datetimes in the ECS metadata to UTC compliant datetimes. In general, this involves simply adding a ‘T’ between date and time, and adding a ‘Z’ at the end of the datetime string. Unlike insert and last update times as discussed above, the remaining datetimes are science datetimes and already in GMT time, so the addition of the T and Z does not modify the time, only puts it in the correct syntax and does not modify the logical values of these datetimes at all. Whereas in previous versions, BMGT truncated or padded datetimes to contain 3 decimal digits for milliseconds, BMGT will now preserve the precision from the native metadata where possible.

Table 4.7.4-9. XPaths ECS Metadata Insertion XPaths

| Item | ECHO 10 Path |
|------------------------------|---|
| Collection: | CollectionMetadataFile/Collections/Collection |
| InsertTime | InsertTime |
| LastUpdate | LastUpdate |
| Visible | Visible |
| Orderable | Orderable |
| DatasetId | DataSetId |
| GranuleSpatialRepresentation | Spatial/GranuleSpatialRepresentation |
| CoordinateSystem | Spatial/HorizontalSpatialDomain/Geometry/CoordinateSystem |
| BacktrackOrbitMetadata | Spatial/OrbitParameters |
| TwoDCoordinateSystem | TwoDCoordinateSystems/TwoDCoordinateSystem/* |
| AdditionalAttributes | AdditionalAttributes/AdditionalAttribute/* |
| DIF ID | AssociatedDIFs/DIF |
| | |
| Granule: | GranuleMetadataFile/Granules/Granule/ |
| InsertTime | InsertTime |
| LastUpdate | LastUpdate |
| OnlineAccessURL | OnlineAccessURLs/OnlineAccessURL/URL |
| OnlineAccessURL/MIMEType | OnlineAccessURLs/OnlineAccessURL/MimeType |
| OnlineResource | OnlineResources/OnlineResource/URL |
| OnlineResource/MIME | OnlineResources/OnlineResource/MimeType |
| OnlineResource/Type | OnlineResources/OnlineResource/Type |
| Visible | Visible |
| Orderable | Orderable |
| GranuleUR | GranuleUR |
| DatsetId | Collection/DataSetId |
| RestrictionFlag | RestrictionFlag |
| BacktrackOrbitMetadata | Spatial/HorizontalSpatialDomain/Orbit/* |
| TwoDCoordinateSystem | TwoDCoordinateSystem/* |
| AdditionalAttribute Name | AdditionalAttributes/AdditionalAttribute/Name |
| AdditionalAttribute Value | AdditionalAttributes/AdditionalAttribute/Values/Value |
| CloudCover | CloudCover |

Table 4.7.4-10. SMAP Metadata Insertion XPaths (1 of 4)

| Item | Source | ISO Path |
|---|--------|---|
| Collection: | | |
| Relative to: //gmi:MI_Metadata/gmd:identificationInfo/ | | |
| DataSetId | BMGT | gmd:MD_DataIdentification[gmd:citation/gmd:CI_Citation/gmd:title/gco:CharacterString='DataSetId']/gmd:aggregationInfo/gmd:MD_AggregateInformation/gmd:aggregateDataSetIdentifier/gmd:MD_Identifier/gmd:code/gco:CharacterString |
| LastUpdate | BMGT | gmd:MD_DataIdentification/gmd:citation/gmd:CI_Citation[gmd:title/gco:CharacterString='UpdateTime']/gmd:date/gmd:CI_Date/gmd:date/gco:DateTime |
| InsertTime | BMGT | gmd:MD_DataIdentification/gmd:citation/gmd:CI_Citation[gmd:title/gco:CharacterString='InsertTime']/gmd:date/gmd:CI_Date/gmd:date/gco:DateTime |
| DIF | BMGT | gmd:MD_DataIdentification/gmd:citation/gmd:CI_Citation[gmd:title/gco:CharacterString='DIFID']/gmd:identifier/gmd:MD_Identifier/gmd:code/gco:CharacterString |
| ShortName | Native | gmd:MD_DataIdentification/gmd:citation/gmd:CI_Citation/gmd:identifier/gmd:MD_Identifier[gmd:description/gco:CharacterString='The ECS Short Name']/gmd:code/gco:CharacterString |
| VersionId | Native | gmd:MD_DataIdentification/gmd:citation/gmd:CI_Citation[gmd:identifier/gmd:MD_Identifier/gmd:description/gco:CharacterString='The ECS Short Name']/gmd:edition/gco:CharacterString |
| LongName | Native | gmd:MD_DataIdentification/gmd:citation/gmd:CI_Citation[gmd:identifier/gmd:MD_Identifier/gmd:description/gco:CharacterString='The ECS Short Name']/gmd:title/gco:CharacterString |
| Description | Native | gmd:MD_DataIdentification[gmd:citation/gmd:CI_Citation/gmd:identifier/gmd:MD_Identifier/gmd:description/gco:CharacterString='The ECS Short Name']/gmd:abstract/gco:CharacterString |
| RevisionDate | Native | gmd:MD_DataIdentification/gmd:citation/gmd:CI_Citation[gmd:identifier/gmd:MD_Identifier/gmd:description/gco:CharacterString='The ECS Short Name']/gmd:date/gmd:CI_Date/gmd:date/gco:Date |
| BoundingRectangle | Native | gmd:MD_DataIdentification/gmd:extent/gmd:EX_Extent/gmd:geographicElement/gmd:EX_GeographicBoundingBox/gmd:northBoundLatitude/gco:Decimal |
| | Native | gmd:MD_DataIdentification/gmd:extent/gmd:EX_Extent/gmd:geographicElement/gmd:EX_GeographicBoundingBox/gmd:southBoundLatitude/gco:Decimal |

Table 4.7.4-10. SMAP Metadata Insertion XPath (2 of 4)

| Item | Source | ISO Path |
|--|--------|---|
| Collection: | | |
| | Native | <code>gmd:MD_DataIdentification/gmd:extent/gmd:EX_Extent/gmd:geographicElement/gmd:EX_GeographicBoundingBox/gmd:westBoundLongitude/gco:Decimal</code> |
| | Native | <code>gmd:MD_DataIdentification/gmd:extent/gmd:EX_Extent/gmd:geographicElement/gmd:EX_GeographicBoundingBox/gmd:eastBoundLongitude/gco:Decimal</code> |
| ArchiveCenter | Native | <code>gmd:MD_DataIdentification/gmd:pointOfContact/gmd:CI_ResponsibleParty[gmd:role/gmd:CI_RoleCode='distributor']/gmd:organisationName/gco:CharacterString</code> |
| ProcessingCenter | Native | <code>gmd:MD_DataIdentification/gmd:citation/gmd:CI_Citation/gmd:citedResponsibleParty/gmd:CI_ResponsibleParty[gmd:role/gmd:CI_RoleCode='originator']/gmd:organisationName/gco:CharacterString</code> |
| VersionDescription | Native | <code>gmd:MD_DataIdentification/gmd:citation/gmd:CI_Citation/gmd:otherCitationDetails/gco:CharacterString</code> |
| BeginningDateTime | Native | <code>gmd:MD_DataIdentification/gmd:extent/gmd:EX_Extent/gmd:temporalElement/gmd:EX_TemporalExtent/gmd:extent/gml:TimePeriod/gml:beginPosition</code> |
| EndingDateTime | Native | <code>gmd:MD_DataIdentification/gmd:extent/gmd:EX_Extent/gmd:temporalElement/gmd:EX_TemporalExtent/gmd:extent/gml:TimePeriod/gml:endPosition</code> |
| | | |
| Granule: | | |
| Relative to //gmi:MI_Metadata/gmd:identificationInfo/ | | |
| GranuleUR | BMGT | <code>gmd:MD_DataIdentification/gmd:citation/gmd:CI_Citation[gmd:abstract/gco:CharacterString='GranuleUR']/gmd:title/gco:CharacterString</code> |
| ShortName | Native | <code>gmd:MD_DataIdentification/gmd:citation/gmd:CI_Citation/gmd:identifier/gmd:MD_Identifier[gmd:description/gco:CharacterString='The ECS Short Name']/gmd:code/gco:CharacterString</code> |
| VersionID | Native | <code>gmd:MD_DataIdentification/gmd:citation/gmd:CI_Citation[gmd:identifier/gmd:MD_Identifier/gmd:description/gco:CharacterString='The ECS Short Name']/gmd:edition/gco:CharacterString</code> |
| BoundingRectangle | Native | <code>gmd:MD_DataIdentification/gmd:extent/gmd:EX_Extent/gmd:geographicElement/gmd:EX_GeographicBoundingBox/gmd:northBoundLatitude/gco:Decimal</code> |
| | Native | <code>gmd:MD_DataIdentification/gmd:extent/gmd:EX_Extent/gmd:geographicElement/gmd:EX_GeographicBoundingBox/gmd:southBoundLatitude/gco:Decimal</code> |

Table 4.7.4-10. SMAP Metadata Insertion XPathS (3 of 4)

| Item | Source | ISO Path |
|---|--------|---|
| Collection: | | |
| | Native | gmd:MD_DataIdentification/gmd:extent/gmd:EX_Extent/gmd:geographicElement/gmd:EX_GeographicBoundingBox/gmd:westBoundLongitude/gco:Decimal |
| | Native | gmd:MD_DataIdentification/gmd:extent/gmd:EX_Extent/gmd:geographicElement/gmd:EX_GeographicBoundingBox/gmd:eastBoundLongitude/gco:Decimal |
| BeginningDateTime | Native | gmd:MD_DataIdentification/gmd:extent/gmd:EX_Extent/gmd:temporalElement/gmd:EX_TemporalExtent/gmd:extent/gml:TimePeriod/gml:beginPosition |
| EndingDateTime | Native | gmd:MD_DataIdentification/gmd:extent/gmd:EX_Extent/gmd:temporalElement/gmd:EX_TemporalExtent/gmd:extent/gml:TimePeriod/gml:endPosition |
| DataSetId | BMGT | gmd:MD_DataIdentification[gmd:citation/gmd:CI_Citation/gmd:title/gco:CharacterString='DataSetId']/gmd:aggregationInfo/gmd:MD_AggregateInformation/gmd:aggregateDataSetIdentifier/gmd:MD_Identifier/gmd:code/gco:CharacterString |
| LastUpdate | BMGT | gmd:MD_DataIdentification/gmd:citation/gmd:CI_Citation[gmd:title/gco:CharacterString='UpdateTime']/gmd:date/gmd:CI_Date/gmd:date/gco:DateTime |
| InsertTime | BMGT | gmd:MD_DataIdentification/gmd:citation/gmd:CI_Citation[gmd:title/gco:CharacterString='InsertTime']/gmd:date/gmd:CI_Date/gmd:date/gco:DateTime |
| RestrictionFlag | BMGT | gmd:MD_DataIdentification[gmd:citation/gmd:CI_Citation/gmd:title/gco:CharacterString='RestrictionFlag']/gmd:resourceConstraints/gmd:MD_LegalConstraints/gmd:otherConstraints/gco:CharacterString |
| Relative to //gmi:MI_Metadata/gmd:distributionInfo/gmd:MD_Distribution/gmd:distributor/gmd:MD_Distributor/gmd:distributorTransferOptions/gmd:MD_DigitalTransferOptions/: | | |
| OnlineResource | BMGT | gmd:onLine/gmd:CI_OnlineResource[string-length(gmd:name/gco:CharacterString) != 0] |
| >URL | BMGT | gmd:onLine/gmd:CI_OnlineResource[string-length(gmd:name/gco:CharacterString) != 0]/gmd:linkage/gmd:URL |
| >MIME | BMGT | gmd:onLine/gmd:CI_OnlineResource[string-length(gmd:name/gco:CharacterString) != 0]/gmd:applicationProfile/gco:CharacterString |
| >Type | BMGT | gmd:onLine/gmd:CI_OnlineResource[string-length(gmd:name/gco:CharacterString) != 0]/gmd:name/gco:CharacterString |
| OnlineAccessURL | BMGT | gmd:onLine/gmd:CI_OnlineResource[string-length(gmd:name/gco:CharacterString) = 0] |

Table 4.7.4-10. SMAP Metadata Insertion XPathS (4 of 4)

| Item | Source | ISO Path |
|--|--------|--|
| Collection: | | |
| >URL | BMGT | gmd: onLine/gmd: CI_OnlineResource[string-length(gmd: name/gco: CharacterString) = 0]/gmd: linkage/gmd: URL |
| >MIME | BMGT | gmd: onLine/gmd: CI_OnlineResource[string-length(gmd: name/gco: CharacterString) = 0]/gmd: applicationProfile/gco: CharacterString |
| Relative to //gmi:MI_Metadata / | | |
| LocalGranuleID | Native | gmd: fileIdentifier/gmx: FileName |
| ProductionDateTime | Native | gmd: dataQualityInfo/gmd: DQ_DataQuality/gmd: lineage/gmd: LI_Lineage/gmd: processStep/gmi: LE_ProcessStep/gmd: dateTime/gco: DateTime |

4.7.4.7 Event and Error Messages

Error messages will be displayed to either the log file or the User Interface, depending on at what point during execution they occur.

4.7.4.8 Logs

Logging for all parts of the BMGT system will be handled by a uniform logging interface which is built on top of the log4j framework. All logs are written to /usr/ecs/<mode>/CUSTOM/logs directory unless configured differently via a properties file. Log files are recognizable as they contain the name of the component writing the log. For example, EcBmBMGTManualDriver.log is the log file written by the Manual Driver.

Logging parameters are initially configured via mkconfig, but are re-configurable at run-time. Configuration files are located at: /usr/ecs/mode/CUSTOM/data/BMGT/config/*/log4j.properties. Each top level component has its own log and configuration file: Monitor, Manual Driver, Auto Driver, and Gui. The Dispatcher has a log and configuration file for each subcomponent: Dispatcher, Generator, Exporter, etc.

An example of the properties found in a log4j configuration file are as follows:

Table 4.7.4-11. Logging Configurations

| Property | Description | Value |
|---|--|--|
| log4j.rootLogger | Root logger with appender manualLog, with log level | INFO,manualLog |
| log4j.appender.manualLog | Defines manual log appender. | org.apache.log4j.RollingFileAppender |
| log4j.appender.exceptionLog.MaxBackupIndex | Maximum number backups. | 50 |
| log4j.appender.exceptionLog.MaxFileSize | Maximum size for exception log. | 200 |
| log4j.appender.manualLog.File | The absolute location of the log file | /usr/ecs/<MODE>/CUSTOM/logs/EcBmBMGTManualDriver.log |
| log4j.appender.manualLog.ImmediateFlush | This flag is by default set to true, which means the output stream to the file being flushed with each append operation. | TRUE |
| log4j.appender.manualLog.layout | Layout for file appender. | org.apache.log4j.PatternLayout |
| log4j.appender.manualLog.Layout.ConversionPattern | Pattern of elements that will be written to the appender using the gathered data | %d{ISO8601} %5p [THREAD %t] %c{1} - %m%n |
| log4j.additivity.manualLog | Parameter to override the default behavior of appender accumulation | false |
| log4j.appender.notifier | Sends an e-mail when a specific logging event occurs, typically on errors or fatal errors | org.apache.log4j.net.SMTPAppender |
| log4j.appender.notifier.layout | Layout for messages in emails. | org.apache.log4j.PatternLayout |
| log4j.appender.notifier.layout.ConversionPattern | Pattern of elements that will be written to the appender using the gathered data | %m%n |
| log4j.logger.emailLogger | Email logger with appender notifier, with log level | info,notifier |
| log4j.additivity.emailLogger | Parameter to override the default behavior of appender accumulation | false |
| log4j.logger.org.hibernate | Log level of hibernate messages. | ERROR |
| log4j.logger.org.hibernate.sql | Log level for logging hibernate sql. | INFO |
| log4j.logger.org.hibernate.cfg.HbmBinder | Logging level for which java class is bound to which DB table | ERROR |

See <http://logging.apache.org/log4j/1.2/manual.html> for more info on log4j configuration.

4.7.4.9 Recovery

4.7.4.9.1 Manual Driver

There is no manual recovery required for the Manual Driver. If it is killed by a user interrupt, or encounters a fatal error, the operator is free to try the same command again once the cause of the failure is corrected, but there is no need, or ability, to recover the failed initial request.

4.7.4.9.2 Automatic Driver

If the Automatic Driver fails to complete while in the middle of querying the database or enqueueing requests, recovery is as simple as rerunning it. It is transactional and will not change the state of any requests until they have completed, so therefore a subsequent run will retrieve the same request and do all of the necessary processing as if it had not been done before.

4.7.4.9.3 Dispatcher

If the Dispatcher fails, recovery is as simple as rerunning it. If it dies ungracefully, it will move any in-process requests back to the Pending state. These requests will then be picked up again and restarted. No operator interaction is required prior to the restart, other than fixing whatever problem may have caused the server to die.

4.7.4.10 Postgres Error Handling

All BMGT components will attempt to deal with Postgres errors gracefully, usually by retrying the query. Much of this database interaction logic is handled via a framework called Hibernate. If a request resulted in a query of invalid SQL, the error would be logged to the log file and the request could move to the BLOCKED state. If there is a invalid SQL error while the Dispatcher is starting up, this could potentially result in Dispatcher being paused and would need to be resumed once the invalid data is fixed. Analysis would be required to determine what caused this issue. All Postgres errors will be reported to the log of the BMGT component in which the error occurred.

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4.7.5 Bulk Metadata Generation Tool GUI

The Bulk Metadata Generation Tool (BMGT) GUI is a web-based interface that allows the operator to monitor the export of metadata via BMGT (in Automatic, Manual, Corrective, or Verification mode). The primary purpose of the GUI is to provide the operator with a list of recent exports and their status as well as overall statistics. In addition, the operator can use it to configure various BMGT tuning parameters, such as ECHO connection properties. The GUI also displays the status of all BMGT components and will reflect any errors which arise during processing and export of requests.

The BMGT GUI splits its content across a number of tabs.

4.7.5.1 Content Tabs



Figure 4.7.5-1. Home Page and Navigation Panel

On first access to the GUI, the user is presented tabs at the top of the page. These tabs allow the user to switch between the various content pages of the GUI:

- Welcome/Login
- System Status
- Export Requests
- Export Activity/Activity-Errors
- Collection Configuration
- BMGT Configuration

The tab selections are displayed on each of the GUI pages to provide the user the ability to switch between the GUI content pages. The System Status tab provides the system statistics and process control. Here the user can view the state of the BMGT queues, pause queues and request processing, and view the status of incremental verification. The Export Requests tab provides a list of all export requests, with the ability to filter the list of the items of interest. In addition, a table showing aggregate request statistics is displayed. The Export Activity tab provides a list of all export activities performed on behalf of export requests, as well as any errors encountered. This tab also provides aggregate statistics for all activities in the system. The Collection Configuration tab allows the user to view and modify the collections enabled for BMGT export. The BMGT configuration tab allows the user to view and update the BMGT configuration parameters.

4.7.5.3 Login page

Welcome to the BMGT GUI
2013-09-05 T 12:58:47 PM

Currently in Mode: TS3
Current access privileges: Read-Only

Enter Password for Read/Write access:

Messages:

Figure 4.7.5-2. Login Page

The first page which the operator will see when accessing the BMGT GUI is the login page. This page allows the operator to log-in if desired. By default, the operator is not logged in and therefore has read-only access. The operator can view the various tabs of the GUI in read-only access mode. Upon entering the password and clicking the login button, the operator is given read-write access. An operator must be logged-in in order to modify process status, modify queue status (pause/resume), reset incremental verification, release or cancel a blocked request, or modify the values in the Collection or BMGT Configuration tabs.

4.7.5.4 System Status

The System Status tab provides a top level view of the current status of BMGT and allows control of BMGT processing. The tab is broken in to three main sections – Process status, Request Queue status and Incremental Verification status.

Welcome/Login **System Status** Export Requests Export Activity/Errors Collection Configuration BMGT Configuration

Dispatcher Error Message:

| Process | Status | Run-Halt | Pause-Resume |
|------------|--------|----------|--------------------------------------|
| Dispatcher | ok | | <input type="button" value="Pause"/> |

Read-Only mode, pause/resume disabled

| Queue | Status | Pause/Resume | Total Requests | In-Work (Blocked / Pending) | Success | Other (Error / Warning) | Requests Retried | Total Retries |
|-------|--------|---------------------------------------|----------------|-----------------------------------|---------------------------------|----------------------------------|-----------------------------------|---------------|
| CORR | ok | <input type="button" value="Pause"/> | 2042 | <input type="text" value="2041"/> | ... | <input type="text" value="1"/> | ... | 0 |
| EVENT | ok | <input type="button" value="Pause"/> | 31 | <input type="text" value="5"/> | <input type="text" value="19"/> | <input type="text" value="7"/> | <input type="text" value="4"/> | 4 |
| INCR | paused | <input type="button" value="Resume"/> | 2123 | <input type="text" value="2123"/> | ... | ... | ... | 0 |
| MAN | ok | <input type="button" value="Pause"/> | 38 | <input type="text" value="21"/> | <input type="text" value="13"/> | <input type="text" value="4"/> | <input type="text" value="2"/> | 2 |
| NEW | ok | <input type="button" value="Pause"/> | 1953 | <input type="text" value="1827"/> | <input type="text" value="7"/> | <input type="text" value="119"/> | <input type="text" value="1830"/> | 1827 |
| VER | ok | <input type="button" value="Pause"/> | 19 | ... | <input type="text" value="13"/> | <input type="text" value="6"/> | <input type="text" value="1"/> | 0 |

Group/Collection Name

| Group/Collection | Last Verified TimeStamp | Last Verified Granule Id | Total Collection Granules | Number Verified | Percent Complete | Reset | - |
|------------------|-------------------------|--------------------------|---------------------------|-----------------|----------------------------------|--------------------------------------|-----|
| >>AllGroups | | | 30306 | 7595 | <input type="text" value="25%"/> | <input type="button" value="Reset"/> | ... |
| >ACRM | | | 1833 | 0 | <input type="text" value="0%"/> | <input type="button" value="Reset"/> | ... |
| ACR3L0.001 | 2007-07-25 01:53:41 PM | 0 | 0 | 0 | <input type="text" value="0%"/> | <input type="button" value="Reset"/> | ... |
| ACR3L2DM.001 | 2013-05-14 03:20:36 PM | 0 | 1831 | 0 | <input type="text" value="0%"/> | <input type="button" value="Reset"/> | ... |
| ACR3L2SC.001 | 2013-05-14 03:20:36 PM | 0 | 2 | 0 | <input type="text" value="0%"/> | <input type="button" value="Reset"/> | ... |
| >AMSA | | | 2838 | 2218 | <input type="text" value="78%"/> | <input type="button" value="Reset"/> | ... |

Figure 4.7.5-3. System Status Tab

Process Status and Control

The first section lists the main BMGT processes and their current state, and also allows control of those processes. The BMGT GUI currently has one controllable process:

Dispatcher – The main BMGT application which processes enqueued export requests for ingest into ECHO. Processing can be halted, paused and resumed within the system status tab.

A display box at the top of the process-status panel shows any messages from the dispatcher. A timer-based monitor function checks for any such messages. When found, the system-status tab will turn red and the message box will display the message.

Also visible to the right of the Process Status table are the refresh-all button and an indicator of read-only status. If the radio indicator is filled, the GUI is in read-only mode and certain features are disabled, such as the resume/pause button for the dispatcher process. The Refresh-All button activates a refresh of all data on this tab. All three panels will be updated.

Note the small dashes between sections. Clicking on these dashes allows the relative size of each panel to grow and shrink, allowing one section to fill more of the screen as desired.

| Queue | Status | Pause/Resume | Total Requests | In-Work (Blocked / Pending) | Success | Other (Error / Warning) | Requests Retried | Total Retries |
|-------|--------|--------------|----------------|-----------------------------|---------|-------------------------|------------------|---------------|
| CORR | ok | Pause | 2042 | 2041 | ... | 1 | ... | 0 |
| EVENT | ok | Pause | 31 | 5 | 19 | 7 | 4 | 4 |
| INCR | paused | Resume | 2123 | 2123 | ... | ... | ... | 0 |
| MAN | ok | Pause | 38 | 21 | 13 | 4 | 2 | 2 |
| NEW | ok | Pause | 1953 | 1827 | 7 | 119 | 1830 | 1827 |
| VER | ok | Pause | 19 | ... | 13 | 6 | 1 | 0 |

Figure 4.7.5-4. System-Status, Request Queue Status Panel

Queue Status and Control

The second section lists the BMGT export queues, their status, statistics on the contents of each queue, and the ability to pause or resume each queue.

CORR – (Corrective Queue) Contains export requests which have been enqueued automatically in order to repair an error. Two significant examples include the export of a collection metadata in response to an error when exporting the granule metadata, and export of collection or granule metadata in response to a discrepancy found by short form verification.

EVENT – (Catalog Event, aka Auto Queue) Contains any export requests that are enqueued in response to events in DsMdGrEventHistory. Usually these events are the result of a database trigger being fired due to an insert, delete, or update.

INCR – (Incremental Verification Queue) Contains requests enqueued for incremental verification.

MAN – (Manual Export Queue) Contains manually enqueued export requests.

NEW – (New Collection Export Queue) Contains export requests for newly enabled collections and their granules. This queue is separate from the EVENT queue so that the large volume of exports triggered by enabling a new collection for granule export does not drown out other types of export requests.

VER – (Verification Queue) Contains export requests for long form verification.

Each queue is processed independently. When multiple queues have requests to be processed, no one queue will be able to use all of the processing resources. However, resources are dynamically allocated and when only one queue is active, it will be able to use all of the resources.

| Group/Collection | Last Verified TimeStamp | Last Verified Granule Id | Total Collection Granules | Number Verified | Percent Complete | Reset | - |
|------------------|-------------------------|--------------------------|---------------------------|-----------------|----------------------------------|--------------------------------------|-----|
| >>AllGroups | | | 30306 | 7595 | <input type="text" value="25%"/> | <input type="button" value="Reset"/> | ... |
| >ACRM | | | 1833 | 0 | <input type="text" value="0%"/> | <input type="button" value="Reset"/> | ... |
| ACR3L0.001 | 2007-07-25 01:53:41 PM | 0 | 0 | 0 | <input type="text" value="0%"/> | <input type="button" value="Reset"/> | ... |
| ACR3L2DM.001 | 2013-05-14 03:20:36 PM | 0 | 1831 | 0 | <input type="text" value="0%"/> | <input type="button" value="Reset"/> | ... |
| ACR3L2SC.001 | 2013-05-14 03:20:36 PM | 0 | 2 | 0 | <input type="text" value="0%"/> | <input type="button" value="Reset"/> | ... |
| >AMSA | | | 2838 | 2218 | <input type="text" value="78%"/> | <input type="button" value="Reset"/> | ... |

Figure 4.7.5-5. System Status, Incremental Verification Status Panel

Incremental Verification Status and Control

The third section displays the current incremental verification status for the entire system, as well as for each group and each collection. For each row, the total and verified number of granules is listed, as well as the percent verified. Each collection is listed with the lastUpdate time-stamp and granule ID of the most recently verified granule. Incremental verification can also be reset for each collection.

A filter specification setup is available at the top of this panel, allowing the choice of data-column, comparison operator and comparison value to be applied as a filter to the verification status table. Filtering by Group Id applies to a hidden column defining the group of the collection. Filtering by Group/Collection Name applies to the Group/Collection column as displayed, i.e., including any > or >> and the group id or “AllGroups”. Note only one column/criteria can be defined at a time, and all filtering is cleared by clearing the comparison value field.

The table is also sortable by clicking on the column heading for Group/Collection (sorting is only allowed for this column). The sort can be undone by clicking on the “-“ column heading on the right side, a sort of “dummy” column present specifically to allow undoing the sort selection on the Group/Collection column.

4.7.5.3 Export Requests Tab

The screenshot displays the 'Export Requests' tab in a web-based management interface. At the top, there is a navigation menu with tabs for 'Welcome/Login', 'System Status', 'Export Requests', 'Export Activity/Errors', 'Collection Configuration', and 'BMGT Configuration'. Below the navigation, a filter panel allows users to specify a 'Date/Time Range' (currently set to '2013-07-22 01:24:05PM - (Now)') and an 'Enqueue DateTime' range. Buttons for 'Update Filter', 'Filter Table', 'Clear Filter', and 'Refresh Tables' are provided. A 'Selected Request Actions' section includes 'Release' and 'Cancel' buttons. Below this, there are radio buttons for different modes: 'Read-Only mode, selections disabled' (selected), 'non-Blocked Request selected, Release disabled', and 'no In-Process Request selected, Release & Cancel disabled'. A 'Message:' field is also present.

The main data table lists individual export requests with the following columns: Request ID, Batch ID, Enqueue DateTime, Start DateTime, Completion DateTime, Group/Collection, Item Type/Id, Export Type, Export Queue, Re try, Status, and Activity Link. The table shows four pending requests with IDs 50768, 50767, 50766, and 50765, all with a status of 'PENDING' and an 'Activity Link'.

Below the main table is the 'Export-Request Queue Summary' section, which includes sub-tabs for 'Export-Request Queue Summary', 'Batch Job Summary', and 'Batch Per Collection Summary'. It features a checkbox 'Use above Time-Range and Filters' and a summary table with columns: Queue, nRequest, Blocked, Pending, Started, Success, Warning, Skipped, and Canceled. The summary table provides a high-level view of the number of requests in various states for different queues.

| Queue | nRequest | Blocked | Pending | Started | Success | Warning | Skipped | Canceled |
|-------|----------|---------|---------|---------|---------|---------|---------|----------|
| CORR | 61 | ... | ... | ... | 31 | ... | 30 | ... |
| EVENT | 6620 | ... | 92 | ... | 6373 | 112 | 22 | 21 |
| INCR | 23191 | ... | ... | ... | 17872 | 1370 | 265 | 3684 |
| MAN | 2714 | 1 | ... | ... | 2668 | 28 | 14 | 3 |
| NEW | 2636 | ... | ... | ... | 2619 | 3 | 11 | 3 |
| SHORT | 2963 | ... | ... | ... | 2746 | 1814 | 1091 | ... |
| VER | 938 | ... | ... | ... | 935 | 2 | ... | 1 |

Figure 4.7.5-6. Export Requests Tab

The Export Requests tab lists all enqueued requests for metadata export. Requests can be added as a result of automatic database triggers, manual invocation, and as part of a verification invocation. Export requests are the driver of BMGT exports. These requests are placed on one of BMGT's 6 queues, each of which are worked off independently by the Dispatcher. Since the number of active and complete export requests can be quite large at any given time, the Export Request tab provides a filtering capability so that the operator can easily view only the requests they are interested in. The Export Requests tab also displays summary statistic for the export queues.

Export Request Filter

At the top of the Export Requests tab is a panel of filter controls which allow the operator to select the requests which they would like to view. The filter applies to the main export request listing, and when enabled, to the per-queue summary. The filter also applies to the per-batch summary listing, when this summary is activated – it cannot be disabled for this summary.

The first filter control allows selection by enqueue date-time range and is applied by default when the tab is first opened. The user can select a date/time range or time-window (e.g. 1h = 1 hour, 1d = 1 day) to view at a time. With a time-range defined, the user can press the buttons marked '<' and '>' to slide the time-window forward or backwards. For instance, if the time-range is set to '1h' (1 hour) the '<' and '>' buttons allow the operator to move the time-window by one hour increments and view the requests enqueued during that time. Note that in general, the date-time filter is applied before any other filters, and the remaining filters will be applied to the results of date-time filtering. For requests, the date-time filter applies to the enqueue-time. (The date-time filter is not applied if a user explicitly defines a separate filter constraint against enqueue-time).

When first opened, the more-recent time boundary is set the marker (now), and the least-recent time boundary is set to (now) minus the time window. Pressing '<' will set the more-recent boundary to its current setting (or now) minus the time range value, and the least-recent time boundary will be set to establish the time-range (more-recent time boundary minus time range). Pressing the '>' button will move the time range closer to (now) but cannot exceed this value. Reaching this limit, the more-recent time boundary is set to (now).

(Now) is distinctive in that as the display data is refreshed for whatever reason, (now) will refer to the moment when the expression is evaluated. In any other case, the more-recent time boundary value will have the specified value during data refresh. The time range can be pegged to (now) at any time by pressing the "(Now)" button.

In addition to filtering based on a sliding date time window, the Export Request tab allows the user to filter based on many other criteria. A drop down is included to allow the user to select a table-column to filter on. The table-column in this case refers to BMGT database table columns, not specifically to the columns display, but all of the data displayed is contained in one of the table columns listed. Next, a drop down allows selection of the operator to use on the selected attribute (e.g. '=', '!=', '<', 'contains' etc). Finally, a text box is provided to specify the value (or values) to compare against. Multiple values, e.g. for between operator, are provided in a comma separated list.

Once a filter criteria is specified, pressing the 'Update Filter' button will add this filter to the filter list. Pressing the 'Filter Table' button will apply this filter. A 'Clear Filters' button is provided to remove any filters (besides the date-time window) and a 'Refresh Tables' button is provided to refresh the contents of the table to get any recent status changes or new requests.

Note that the current filter specification cannot itself be edited. To make changes, selecting any existing table-column from the filter specification will preset the current operator and comparison value for editing. Make any changes, including clearing the comparison value to remove this criterion, and press 'Update Filter'.

The date-time filter applies before any other filter criteria except if the request criteria itself contains a date-time constraint, or if the request criteria contains the request-id. The later exception, in particular, allows the Activity-to-Request link to be implemented by means of an activity-id criteria and remain independent of the date-time filter.

Below the filter criteria are a series of radio indicators and a message box. The radio indicators call out three specific status-conditions of the tab that affect the GUI behavior. Read-Only mode implies that selections are disabled (and a warning message will be displayed if request-selection

is attempted). If Read-Only is cleared (read-write mode), the Release and Cancel buttons remain disabled until a selection is made. There is a radio indicator indicating this case, if no in-progress selection is made. Note that only in-progress requests can be selected for further action, and a warning message is displayed if non-in-progress request selection is attempted. Finally, the release button is disabled if any requests are selected with status other than BLOCKED, and a radio indicator indicates this condition.

Export Request List

The next section of the Export Requests tab is a grid displaying the current contents of the `bg_export_request` table. This grid shows information about each request. The contents of the grid are dependent on the filters and date time window constraints described above. In addition, the request list uses a ‘dynamic paging’ approach, meaning that as the user scrolls through the list, items are pulled from the database on demand.

| <input type="checkbox"/> | Request ID | Batch ID | Enqueue DateTime | Start DateTime | Completion DateTime | Group:Collection | Item Type:Id | Export Type | Export Queue | Re try | Status | Activity Link |
|--------------------------|------------|----------|------------------------|----------------|---------------------|--------------------|--------------|-------------|--------------|--------|---------|--------------------------------|
| <input type="checkbox"/> | 50768 | | 2013-07-23 11:27:26 AM | | | MOST :MOD29P1N.005 | SC:378872 | OPEN | EVENT | | PENDING | Activity -> |
| <input type="checkbox"/> | 50767 | | 2013-07-23 07:02:56 AM | | | MOST :MOD10A1.005 | SC:377843 | OPEN | EVENT | | PENDING | Activity -> |
| <input type="checkbox"/> | 50766 | | 2013-07-23 07:02:56 AM | | | MOST :MOD10A1.005 | SC:377910 | OPEN | EVENT | | PENDING | Activity -> |
| <input type="checkbox"/> | 50765 | | 2013-07-23 07:02:56 AM | | | MOST :MOD10A1.005 | SC:377919 | OPEN | EVENT | | PENDING | Activity -> |

Figure 4.7.5-7. Export-Requests Tab, Requests Listing Table

The columns of the table are as follows:

RequestId – Unique and sequential identifier of the request.

Batch ID – ID given to export requests enqueued by the manual/verification driver. This batch ID is shared between all requests enqueued by the same invocation and allows tracking of the progress of that invocation.

Enqueue DateTime – The date and time at which the request was added to the queue.

Start DateTime – The date and time that the request was picked up for processing. Note that this timestamp will be updated if the request is retried.

Completion DateTime – The date and time that the request was completed.

Group:Collection – The Collection Group and Collection SNVI (Shortname/VersionID).

Item Type:ID – The item type (CL – collection, SC – granule) of the item whose metadata is requested, followed by the identifier of that item CollectionUR or GranuleUR).

Export Type – The type of export being requested. This is one of:

- OPEN – Export the current state of the item.
- ADD – Export an insert of the item (i.e. its full metadata). If the item is logically or physically deleted, export nothing.

- DEL – Export a deletion of the item. If the item is not logically or physically deleted, export nothing.
- VER – Export a verification request for the item (i.e. its full metadata with a verification flag). If the item is logically or physically deleted, export nothing.
- FORCE_DEL – Export a deletion for the item (only supported for collections). The current state of the item is not checked and therefore this export may introduce an inconsistency with ECHO. Such a request will delete all granules in the collection from ECHO and it should be used only when absolutely necessary to repair incorrect collection metadata which can only be repaired by deleting and re exporting the metadata.
- COLL_UPDATE – Export a full collection update. This will result in a deletion export activity followed by the enqueueing of a COLL_ADD_ALL export after the initial deletion succeeds. Such a request will delete all granules in the collection from ECHO and it should be used only when absolutely necessary to repair incorrect collection metadata which can only be repaired with a full update.
- COLL_ADD_ALL – Export the collection and all of its granules. This will result in an export activity for adding the collection metadata, followed by the automatic enqueueing of requests for all of its granules (ADD) after the initial collection export succeeds. This export type is used when enabling a new collection for granule export. Note that in order to prevent drowning out other export types with a huge number of export requests, COLL_ADD_ALL requests, and the subsequent granule ADD requests will be placed on the NEW queue.

Export Queue – The queue which the request resides on. See discussion of queues in the System Status Tab section above.

Status – The current status of the request:

- PENDING – Initial state of a most requests. Request has been enqueued, but not yet picked up for processing.
- STARTED – Request has been picked up for processing and a corresponding Export Activity has been created.
- SUCCESS – Request has completed and has not encountered any errors.
- BLOCKED – Request is blocked awaiting release by the operator. This occurs when a corrective export request is added to the queue in response to an error, OR when a request encounters an ECHO ingest error which requires operator attention before the request can be processed.
- CANCELED – Request has been canceled. This is a terminal state and the request will not be retried or considered for processing.
- SKIPPED – Request was skipped due to a data related error during verification. The error must be fixed and an export or verification of the item re requested.
- ERROR – Request encountered an error. Currently all errors map to SKIPPED or BLOCKED status, but this status is reserved for future use.

- **WARNING** – The request has encountered a warning during ingest into ECHO. The associated metadata has been ingested, but the operator may want to investigate the error.

Retry – shows ‘*’ when the request has been retried at least once, and blank otherwise.

Activity Link – Button which links to a list of any export activities (i.e. export attempts) associated with the request.

To the left of each export request is a check box. This checkbox may be selected (for Pending or Blocked requests), and then the user may click the ‘Release’ (Blocked only) or ‘Cancel’ buttons to either release the request(s) for processing or cancel the request(s).

Summary Statistics Table

| Queue | nRequest | Blocked | Pending | Started | Success | Warning | Skipped | Canceled |
|-------|----------|---------|---------|---------|---------|---------|---------|----------|
| CORR | 1761 | 513 | 379 | 300 | 525 | 19 | 25 | ... |
| EVENT | 449 | 98 | 1 | ... | 203 | 147 | ... | ... |
| INCR | 7 | 1 | ... | ... | ... | ... | 6 | ... |
| MAN | 12557 | 45 | ... | ... | 12504 | ... | 6 | 2 |
| NEW | 18 | 12 | ... | 1 | 2 | ... | 3 | ... |
| SHORT | 2564 | ... | ... | ... | 625 | 1942 | 1 | ... |
| VER | 4179 | 3 | 6 | ... | 3671 | 497 | ... | 2 |

Figure 4.7.5-8. Export-Requests – Requests Queue Summary

The final section of the Export Requests tab provides various types of summary statistics. This section itself has three separate tabs, providing different views of the requests currently shown in the Export Request List.

The Export-Request Queue Summary sub tab provides a count of the requests in each state in each queue. The counts are shown as a bar graph representing the portion of the total count on that queue. If the Apply-Filters checkbox is checked, the counts shown here are dependent on the filters and date-time window specified above.

| Batch Id | Queue | Start Date/Time | End Date/Time | nRequest | Blocked | Success | Warning | Skipped | Canceled | Collections-Link |
|----------|-------|------------------------|------------------------|----------|---------|---------|---------|---------|----------|----------------------|
| 498 | SHORT | 2013-05-06 09:39:28 PM | 2013-05-06 09:39:37 PM | 11 | ... | 10 | 649 | 648 | ... | Per-Collections View |
| 499 | SHORT | 2013-05-06 09:48:46 PM | 2013-05-06 09:48:59 PM | 43 | ... | 42 | 3 | ... | ... | Per-Collections View |
| 500 | CORR | 2013-05-06 09:39:28 PM | 2013-05-07 12:01:50 AM | 4 | ... | 4 | ... | ... | ... | Per-Collections View |

Figure 4.7.5-9. Export-Requests – Export Batch Summary

The Batch Job Summary sub tab shows statistics for each batch (matching the above filter settings). Batches are logical groupings of export requests that were invoked together in a single manual or verification export. This sub tab shows the start and end time as well as counts for different statuses within each batch. A 'Per-Collections View' button is provided which jumps to the Batch Per Collection Summary tab for that batch.

| Batch Id | Queue | Start Date/Time | End Date/Time | nRequest | Blocked | Success | Warning | Skipped | Canceled |
|-----------------|-------|---------------------------|---------------------------|----------|---------|---------|---------|---------|----------|
| 478 | INCR | 2013-05-01 04:39:19 PM | 2013-05-01 04:44:54 PM | 6 | ... | 1 | 5 | ... | ... |
| Collection SNVI | Queue | Start Date/Time | End Date/Time | nRequest | Blocked | Success | Warning | Skipped | Canceled |
| MOD10A1.005 | INCR | 2013-05-01 04:39:20 PM | 2013-05-01 04:44:54 PM | 2 | ... | ... | 2 | ... | ... |
| MYD10A2.005 | INCR | 2013-05-01 04:39:19 PM | 2013-05-01 04:44:52 PM | 2 | ... | ... | 2 | ... | ... |
| MOD29P1D.005 | INCR | 2013-05-01 04:39:50 PM | 2013-05-01 04:39:54 PM | 2 | ... | 1 | 1 | ... | ... |

Figure 4.7.5-10. Export-Requests – Batch per Collection Summary

The Batch Per Collection Summary sub tab shows the statistics for a single batch, broken down by collection.

4.7.5.3 Export Activity /Activity-Errors

Welcome/Login System Status Export Requests **Export Activity/Errors** Collection Configuration BMGT Configuration

Date/Time Range: 1y < > 2012-09-05 01:26:12PM - (Now) (Now)

Start Time = Update Filter

Filter Table Clear Filters Refresh Tables

| Activity ID | Start Date/Time | Export Date/Time | Completion Date/Time | Group SNVI | Item Type/Id | Export Type | Export Queue | Status | Export Request |
|---|------------------------|------------------------|------------------------|-----------------|--------------|-------------|--------------|---------|----------------|
| 599 | 2013-08-20 04:28:54 PM | 2013-08-20 04:28:54 PM | 2013-08-20 04:28:55 PM | SAG3:g3alsp.003 | SC:198660 | ADD(OPEN) | MAN | RETRY | 465 |
| 598 | 2013-08-20 04:25:24 PM | 2013-08-20 04:25:24 PM | 2013-08-20 04:25:24 PM | SAG3:g3alsp.003 | SC:198660 | ADD(OPEN) | EVENT | SUCCESS | 464 |
| 597 | 2013-08-20 04:24:54 PM | 2013-08-20 04:24:54 PM | 2013-08-20 04:24:54 PM | SAG3:g3alsp.003 | SC:198660 | ADD(OPEN) | EVENT | SUCCESS | 463 |
| 596 | 2013-08-20 04:12:24 PM | 2013-08-20 04:12:24 PM | 2013-08-20 04:12:31 PM | SAG3:g3acl.003 | SC:198659 | ADD(OPEN) | MAN | SUCCESS | 461 |
| 595 | 2013-08-20 04:07:54 PM | 2013-08-20 04:07:54 PM | 2013-08-20 04:07:54 PM | SAG3:g3acl.003 | CL:198657 | ADD(ADD) | CORR | SUCCESS | 462 |
| <input checked="" type="checkbox"/> 594 | 2013-08-20 04:07:24 PM | 2013-08-20 04:07:24 PM | 2013-08-20 04:07:25 PM | SAG3:g3acl.003 | SC:198659 | ADD(OPEN) | MAN | RETRY | 461 |
| 593 | 2013-08-20 03:56:23 PM | 2013-08-20 03:56:24 PM | 2013-08-20 03:56:24 PM | SAG3:g3acl.003 | CL:198657 | ADD(ADD) | CORR | SUCCESS | 460 |

Error Message

| ID | Activity Associated-Content | Policy Id |
|-----|--|-----------|
| 594 | Dataset with DatasetId [SAGE III Meteor-3M L2 Monthly Cloud Presence Data (HDF-EOS) V003] is not defined | 104 |

Use above Time-Range and Filters

| Queue | nActivity | In-Work | Success | Retry | Warning | Corrected | Error | Canceled |
|-------|-----------|---------|---------|-------|---------|-----------|-------|----------|
| CORR | 7 | ... | 7 | ... | ... | ... | ... | ... |
| EVENT | 245 | ... | 209 | 10 | 2 | ... | 24 | ... |
| MAN | 12 | ... | 5 | 4 | ... | ... | 3 | ... |
| NEW | 12 | ... | 6 | 5 | ... | ... | 1 | ... |
| VER | 85 | ... | 6 | 13 | ... | 66 | ... | ... |
| INCR | ... | ... | ... | ... | ... | ... | ... | ... |
| SHORT | ... | ... | ... | ... | ... | ... | ... | ... |

Figure 4.7.5-11. Export Activity / Errors

The Export Activity tab displays information on export activities (i.e. data-preparation and export to Echo). Each export request that has been processed by the dispatcher has one or more export activities associated with it, each representing a distinct attempt to process and export the associated metadata. If an export activity encounters an error, it will have associated error message(s) linked to it.

Export Activity Filter

The Export Activity tab contains the same filtering mechanism as the Export Request tab. See the filter description in that section above. For Activities, the date-time filter applies to Activity Start-Time.

Export Activity List

| <input type="checkbox"/> | Activity ID | Start DateTime | Export DateTime | Completion DateTime | Group SNVI | Item Type/Id | Export Type | Export Queue | Status | Export Request |
|-------------------------------------|-------------|------------------------|------------------------|------------------------|-----------------|--------------|-------------|--------------|---------|----------------|
| <input type="checkbox"/> | 599 | 2013-08-20 04:28:54 PM | 2013-08-20 04:28:54 PM | 2013-08-20 04:28:55 PM | SAG3:g3alsp.003 | SC:198660 | ADD(OPEN) | MAN | RETRY | 465 |
| <input type="checkbox"/> | 598 | 2013-08-20 04:25:24 PM | 2013-08-20 04:25:24 PM | 2013-08-20 04:25:24 PM | SAG3:g3alsp.003 | SC:198660 | ADD(OPEN) | EVENT | SUCCESS | 464 |
| <input type="checkbox"/> | 597 | 2013-08-20 04:24:54 PM | 2013-08-20 04:24:54 PM | 2013-08-20 04:24:54 PM | SAG3:g3alsp.003 | SC:198660 | ADD(OPEN) | EVENT | SUCCESS | 463 |
| <input type="checkbox"/> | 596 | 2013-08-20 04:12:24 PM | 2013-08-20 04:12:24 PM | 2013-08-20 04:12:31 PM | SAG3:g3acl.003 | SC:198659 | ADD(OPEN) | MAN | SUCCESS | 461 |
| <input type="checkbox"/> | 595 | 2013-08-20 04:07:54 PM | 2013-08-20 04:07:54 PM | 2013-08-20 04:07:54 PM | SAG3:g3acl.003 | CL:198657 | ADD(ADD) | CORR | SUCCESS | 462 |
| <input checked="" type="checkbox"/> | 594 | 2013-08-20 04:07:24 PM | 2013-08-20 04:07:24 PM | 2013-08-20 04:07:25 PM | SAG3:g3acl.003 | SC:198659 | ADD(OPEN) | MAN | RETRY | 461 |

Figure 4.7.5-12. Export Activity / Errors – Export Activity List

The next section of the Export Activity tab is a grid displaying the current contents of the `bg_export_activity` table. This grid shows information about each activity. The contents of the grid are dependent on the filters and date time window constraints described above. In addition, the request list uses a ‘dynamic paging’ approach, meaning that as the user scrolls through the list, items are pulled from the database on demand.

The columns of the table are as follows:

ActivityId – Unique and sequential identifier of the activity.

Start DateTime – The date and time that the export activity was picked up for processing.

Export DateTime – The data and time that the export to ECHO occurred.

Completion DateTime – The date and time that the export activity completed processing.

Group:Collection – The Collection Group and Collection SNVI (Shortname/VersionID).

Item Type:ID – The item type (CL – collection, SC – granule) of the item whose metadata is requested, followed by the identifier of that item (CollectionUR or GranuleUR).

Export Type – The type of export being requested. This is a combination of the export type of the export request and of the export activity in the format:

“activity_export_type(request_export_type)”.

The export request type and export activity type may be different. For instance, an OPEN export request will export the current state of a granule or collection. The type of the export activity (ADD or DEL) will reflect what the actual exported state is. The possible export request types are listed above in the Export Request tab description. The valid Export Activity types are as follows:

- **ADD** – Export an insert of the item (i.e. its full metadata). If the item is logically or physically deleted, export nothing.

- DEL – Export a deletion of the item. If the item is not logically or physically deleted, export nothing.
- VER – Export a verification request for the item (i.e. its full metadata with a verification flag). If the item is logically or physically deleted, export nothing.

Export Queue – The queue which the request resides on. See discussion of queues in the System Status Tab section above.

Status – The current status of the request:

- NEW – Initial State of an Export Activity.
- GENERATING – Metadata is being generated (NOTE: this is a transient state and not persisted to the database, so will not be visible in the GUI).
- EXPORTING – Metadata is in process of being exported to ECHO.
- EVALUATING – BMGT is evaluating the response received from ECHO (NOTE: this is a transient state and not persisted to the database, so will not be visible in the GUI).
- SUCCESS – Export Activity has been successfully exported and encountered no errors.
- WARNING – Export Activity has been successfully exported to ECHO but encountered a warning. A warning indicates that the metadata was ingested successfully, but some unexpected state was found along the way. For instance a collection or granule delete could get a warning if the item has already been deleted (DEL) or was never exported to ECHO (ADD).
- CORRECTED_BY_ECHO – Verification exports only. ECHO was found to have incorrect metadata. The discrepancy has been automatically repaired, but an operator should look into why it occurred.
- RETRY – Export Activity has failed. The associated Export Request will be returned to the queue and will usually and eventually result in a new Export Activity being created and processed.
- CANCELED – The associated Export Request has been cancelled.
- ERROR – The Export Activity has failed and will not be retried (Verification only). This occurs when a data error is encountered (by BMGT or Echo) leading to the export request being skipped.

Request Link – Button which links to the associated Export Request.

Error Messages

| Error Message | | |
|---------------|--|-----------|
| ID | Activity Associated-Content | Policy Id |
| 594 | Dataset with DatasetId [SAGE III Meteor-3M L2 Monthly Cloud Presence Data (HDF-EOS) V003] is not defined | 104 |

Figure 4.7.5-13. Export Activity / Errors – Error Messages

The section below the Export Activity List will display any error messages associated with the currently selected Activity. There may be multiple error messages for a given Activity if that activity encountered multiple ingest errors from ECHO. Multiple error messages are displayed with errors having a Policy Id in red and preceding all others. This highlights the critical errors needing to be addressed vs. other errors found but which can be ignored.

Summary Statistics Table

Use above Time-Range and Filters

| Queue | nActivity | In-Work | Success | Retry | Warning | Corrected | Error | Canceled |
|-------|-----------|---------|---------|-------|---------|-----------|-------|----------|
| CORR | 7 | ... | 7 | ... | ... | ... | ... | ... |
| EVENT | 245 | ... | 209 | 10 | 2 | ... | 24 | ... |
| MAN | 12 | ... | 5 | 4 | ... | ... | 3 | ... |
| NEW | 12 | ... | 6 | 5 | ... | ... | 1 | ... |
| VER | 85 | ... | 6 | 13 | ... | 66 | ... | ... |
| INCR | | ... | ... | ... | ... | ... | ... | ... |
| SHORT | | ... | ... | ... | ... | ... | ... | ... |

Figure 4.7.5-14. Export Activity / Errors – Summary Statistics

The final section of the Export Activity tab provides a count of the Activities in each state in each queue. The counts are shown as a bar graph representing the portion of the total count on that queue. If the Apply-Filters checkbox is checked, the counts shown here are dependent on the filters and date-time window specified above.

There is a filter specification feature at the top of the tab that will allow the user to limit the collections displayed. This includes a drop-down selection of the column – Group name or Collection name, a drop-down selection for the comparison operator, and a comparison value(s) box. The filter behaves very similarly to the filters for Export Requests and Export Activity, but here only one column/criteria can be defined at a time, and all filtering is cleared by clearing the comparison value field.

The properties displayed for each collection are as follows (properties which can be edited are indicated with a ‘*’):

Group – The datapool group associated with the collection.

Collection – The Shortname and Version ID (SNVI) of the collection.

Export Collection Flag* - Indicates whether collection metadata shall be exported for this collection. Note that a collection could be disabled for export, but ECHO may still have its metadata, if it had been previously exported. BMGT will not automatically delete any metadata upon disabling of a collection. If the Export Collection Flag is cleared, the Export Granules Flag will be cleared (if it was previously set).

Export Granules Flag* - Indicates whether granule metadata shall be exported for this collection. Note that a collection cannot be enabled for granule export if it is not already enabled for collection export.

Max Granules to Verify* – The maximum number of granules from this collection to include in each incremental verification export batch.

Collection Coordinate System – The Coordinate System of the collection. This is usually set to a configurable default value, but can be overridden in the database (but not by the GUI). If the default value is used, it is prefixed by ‘=>’, otherwise it has no prefix. See the document BE_82_01_AdditionalMetadataDescription.doc for more details on Collection Coordinate System.

Granule Spatial Representation – The spatial representation of the granules in this collection. This is usually derived from the spatialSearchType of the collection (in amCollection), but can also be manually specified in the database (but not by the GUI). If the value is automatically derived from spatialSearchType, it is prefixed with ‘=>’. If it is explicitly set, it has no prefix. See the document BE_82_01_AdditionalMetadataDescription.doc for more details on collection GranuleSpatialRepresentation.

Orbit Group – The “Backtrack” Orbit Group, if any associated with the collection. See the document BE_82_01_AdditionalMetadataDescription.doc for more details on Orbit Groups.

2D Coordinate System – The TwoDCoordinateSystem to use for this collection. See the document BE_82_01_AdditionalMetadataDescription.doc for more details on TwoDCoordinateSystems.

DIF Id* – The DIF ID for the collection, as defined in the Global Change Master Directory (<http://gcmd.nasa.gov>).

4.7.5.3 BMGT Configuration Tab

| Property - Name | Value (double-click to edit) | Dyn amic | Description |
|--|-------------------------------------|-------------|---|
| BMGT.AutoDriver.MaxEvents | 100 | | Maximum number of events picked up for creating requests by the event driver per polling cycle. |
| BMGT.AutoDriver.PollingFrequency | 30000 | | Frequency at which to poll for events in DsMdGREventHistory to add to the BMGT EVENT queue. Specified in milliseconds. |
| BMGT.Common.CollectionMetadataFilePathPrefix | /stornext/smallfiles/TS3/descriptor | | Path to the root directory under which collection descriptor files are found. |
| BMGT.Common.CoordinateSystemDefault | CARTESIAN | | Default value for Collections CoordinateSystem element. Will be used when a value is not specified in bg_collection_configuration for the collection. |
| BMGT.Dispatcher.AutoResumeWait | 600000 | * | The duration in milliseconds that Dispatcher will remain paused due to a failed Export attempt before resuming and trying again. |
| BMGT.Dispatcher.BucketSize | 300 | * | The number of Export Requests which are read from each of the logical database queues into the corresponding in-memory blocking queues in a single query. |
| BMGT.Dispatcher.ConsumerThrd.KeepAliveTime | 1800000 | | The maximum time in milliseconds that the consumer threads will remain idle before terminating. This corresponds to keepAliveTime in the ThreadPoolExecutor service. |
| BMGT.Dispatcher.MaxAutoResumeRetries | 6 | * | The maximum number of times Dispatcher will resume after being paused due to failed Export attempts to ECHO. The count will be reset if the operator resumes Dispatcher manually. |
| BMGT.Dispatcher.Monitor.pollingFrequency | 6000 | * | The polling frequency in milliseconds at which monitor checks for changes to dynamic configuration properties in the database. |
| BMGT.Dispatcher.NConsumers.Corr | 5 | | The minimum number of consumer threads which are assigned to (in-memory) Corrective queue when the queue has non-empty Export Requests. |
| BMGT.Dispatcher.NConsumers.Event | 5 | | The minimum number of consumer threads which are assigned to (in-memory) Event queue when the queue has non-empty pending Export Requests. |
| BMGT.Dispatcher.NConsumers.Incr | 5 | | The minimum number of consumer threads which are assigned to (in-memory) Incremental queue when the queue has non-empty Export Requests. |
| BMGT.Dispatcher.NConsumers.Man | 5 | | The minimum number of consumer threads which are assigned to (in-memory) Manual queue when the queue has non-empty Export Requests. |
| BMGT.Dispatcher.NConsumers.New | 5 | | The minimum number of consumer threads which are assigned to (in-memory) New queue when the queue has non-empty Export Requests. |
| BMGT.Dispatcher.NConsumers.Ver | 5 | | The minimum number of consumer threads which are assigned to (in-memory) Verification queue when the queue has non-empty Export Requests. |
| BMGT.Dispatcher.Producer.PollingFrequency | 30000 | * | The frequency in milliseconds at which Dispatcher polls the database queues for pending requests |
| BMGT.Dispatcher.OueueSize | 250 | | The size of the in-memory blocking queues into which Export Requests are read from the corresponding logical database queues. i.e. how |

Figure 4.7.5-16. BMGT Configuration

The Bmgt Configuration Tab allows the viewing, and if logged in, the modification of BMGT configuration properties. Most BMGT properties, besides those required for connection to the database, and those require to set up logging (which are defined in EcBmBMGT.properties and log4j.properties respectively), are configured through this tab. The columns displayed on this tab for each property are as follows:

Property-Name – The name of the property.

Value – The value of the property. All properties are treated as strings. See the description to determine whether a numeric or textual value is expected.

Dynamic – A star indicates a configuration setting is dynamic if the configuration change will take effect with no server restarts being required. If it is not dynamic (not starred), then a restart of the associated server would need to be performed prior to the configuration change taking effect.

Description – A detailed description of the property.

A property can be modified by clicking on the value. If a property contains a password, a button is shown, rather than the value. Clicking the button will pop-up a new window where the value is hidden but can be edited. Upon saving the value, it will be encrypted before being saved to the database.

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4.7.6 Data Pool Maintenance GUI

The Data Pool Maintenance (DPM) GUI provides an operator interface to monitor the current status of Data Pool Inserts and to maintain specific Data Pool parameters. This GUI manages ECS and Non-ECS data collections. Specifically, the DPM GUI provides the following capabilities:

- Monitor the active insert processes
- Monitor the Data Pool Insert Queue
- Manage existing Data Pool Collection Groups
- Add new Data Pool Collection Groups (includes ECS and Non-ECS)
- Manage existing Data Pool Collection Themes
- Add new Data Pool Collection Themes
- Suspend and Resume Data Pool Inserts
- Turn the NoFreeSpace Flag on or off
- Configure parameters used by the Data Pool Action Driver (DPAD) and the Data Pool Insert Utility (DPIU)

4.7.6.1 Quick Start Using the Data Pool Maintenance GUI

Bring up the Web Browser and then access the URL for the DPM GUI web page. The operator may be prompted by a dialogue box similar to that shown in Figure 4.7.6-1. The requested information must be entered to continue.

For example, <http://<host name location>:22111/DataPool.html>

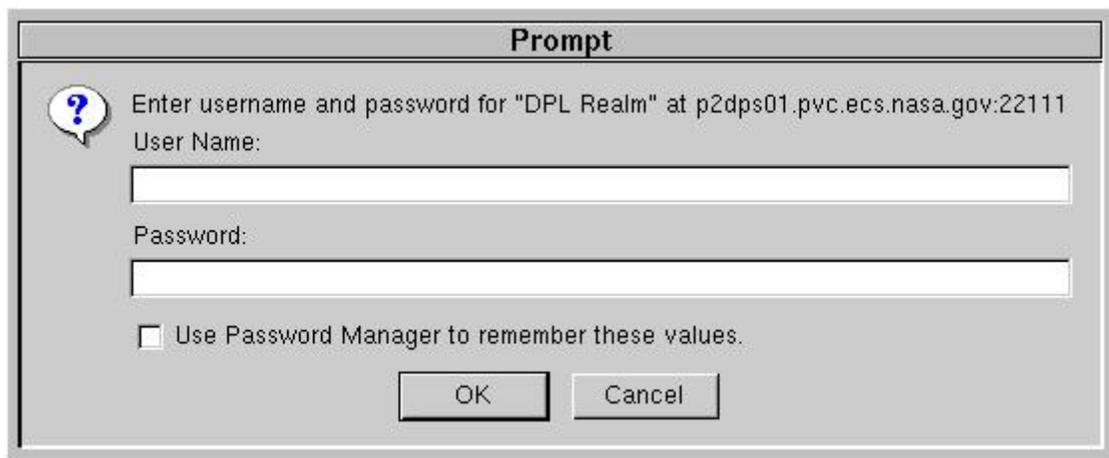


Figure 4.7.6-1. Login Prompt

4.7.6.1.1 DPM Home Page

The DPM Home Page screen shown in Figure 4.7.6-2 gives the operator current status of Data Pool Inserts. The screen is refreshed automatically. The operator is shown the current screen

refresh rate, the current chunk size for the list of active insert processes. Minimum values for screen refresh rate is 60 seconds and Active Insert Process List row size is 1. Maximum value for Active Insert Process List row size is 100. The operator must click on the adjacent **Apply** button to initiate changes. Summary of Data Pool File System table displays current status of the FreeSpace Flag, Availability Flag, and amount of desired free space in megabytes for each file system. Summary of Active Processes table displays configured number of Maximum Allowed Processes, the Maximum Allowed Processes from ARCHIVE cache, the Maximum Allowed Processes from ARCHIVE tape, the total number of active insert processes running, the number of active insert processes using ARCHIVE cache, the number of active insert processes using ARCHIVE tape. The list of Active Insert Processes table displays the current status of the active insert processes. The screen can be immediately refreshed by clicking on the **Refresh Home Page** link. Use the tab buttons at the top to navigate to the Home Page, Batch Summary, List Insert Queue, Collection Groups, Themes, Data Pool File System, Cloud Cover, Configuration Parameters, Aging Parameters, and End Session screens. See Table 4.7.6-1 for descriptions of the Home Page elements.

The screenshot shows the 'Data Pool Maintenance' GUI in a Mozilla Firefox browser window. The page title is 'Data Pool Maintenance GUI - DEV05 MODE - Mozilla Firefox'. The address bar shows 'http://f4hel01.hitc.com:22151/DataPool.html'. The page has a teal header with navigation tabs: Home Page, Batch Summary, List Insert Queue, Collection Groups, Themes, and Data Pool File System. Below the header, there are several controls: 'Screen Refresh Rate' (set to 60 seconds), 'Active Insert Processes' (set to 100 rows), and 'Active Insert Status Filter' (with checkboxes for Pending, Validated, Copied, Checked, and Extracted). The main content area contains three tables:

Summary of Data Pool File System(s)

| File System Path | Insert Status | DPL Insert Status | Free Space | Used Space (Total) | Free Space Flag | Availability | Min Freed Space in MB |
|-------------------------------------|-------------------------|-------------------|------------|--------------------|--|--|-----------------------|
| DEFAULT (datapool.DEV05\dataPFS1) | active | active | 87 GB | 76% | State : Y Last Changed: Jun 13 2007 11:08:58M | State : Y Last changed: Jun 13 2007 11:08:58M | 30 |
| FBI (datapool.DEV05\dataPFS1) | active | active | 87 GB | 76% | State : Y Last Changed: Mar 9 2007 10:09:58M | State : Y Last changed: Mar 9 2007 10:09:58M | 3 |
| FSD (datapool.DEV05\dataPFS2) | active | active | 210 GB | 42% | State : Y Last Changed: Jun 13 2007 2:24:54M | State : Y Last changed: Jun 13 2007 2:24:54M | 30 |
| Unsegment (datapool.DEV05\dataPFS1) | responsibility operator | active | 0 GB | % | State : N Last Changed: | State : N Last changed: | 1 |

Summary of Active Processes

| | |
|---|-------|
| Maximum allowed processes | 50000 |
| Maximum allowed processes from archive cache | 50 |
| Maximum allowed processes from archive tape | 450 |
| Total number of active insert processes running | 0 |
| Total number of validated active insert processes running | 0 |
| Total number of pending active insert processes running | 0 |
| Number of active insert processes using archive cache | 0 |
| Number of active insert processes using archive tape | 0 |

List of Active Insert Processes (Rows 0)

| Emb ProcessID | ccID | Collection | Version | Start Time | Status | Archive Cache | Retries |
|---------------|------|------------|---------|------------|--------|---------------|---------|
| | | | | | | | |

Figure 4.7.6-2. Data Pool Maintenance Home Page

Table 4.7.6-1. DPM Home Page Field Descriptions (1 of 2)

| Field Name | Data Type | Size | Entry | Description |
|---|-----------|------|------------------|--|
| Screen Refresh Rate | Integer | 4 | Optional | Allows the operator to adjust the Screen Refresh Rate in seconds. |
| Active Insert Processes | Integer | 4 | Optional | Chunk size to set for the list of active insert processes. Default is 100 |
| Active Insert Process Filter | Check box | 5 | Optional | Filters Active Insert Processes based on process status |
| File System Label | char | 10 | Required | File System Label. Limited to 10 characters. |
| Free Space Flag | char | 1 | Optional | Indicates if space is available for Data Pool insert. 'ON' value indicates that space is available. Default is 'ON'. |
| Ingest Status | Int | 1 | Derived | Indicates if the file system is enabled for DPL ingest processes. |
| DPL Insert Status | Int | 1 | Derived | Indicates if the file system is enabled for public datapool insert processes. |
| Free Space | Int | 5 | Derived | Indicates the space available on this file system (in GB) |
| Used Space | Int | 2 | Derived | Indicated the percentage of the file system used and the date this statistic was last updated. |
| Availability | char | 1 | Optional | File system available for insert. Value 'YES' indicate it is available and value 'NO' it is not available. The default value is 'YES'. |
| Min Freed Space in MB | int | 4 | Optional | Amount space must be freed in order to make the file system available |
| Maximum allowed processes | int | 4 | System Generated | Maximum allowed processes for Data Pool |
| Maximum allowed processes from ARCHIVE cache | int | 4 | System Generated | Maximum allowed processes from ARCHIVE cache |
| Maximum allowed processes from ARCHIVE tape | int | 4 | System Generated | Maximum allowed processes from ARCHIVE tape |
| Total number of active insert processes running | int | 4 | System Generated | Total number of active insert processes running |
| Number of active insert processes using ARCHIVE cache | int | 4 | System Generated | Number of active insert processes using ARCHIVE cache |
| Number of active insert processes using ARCHIVE tape | int | 4 | System Generated | Number of active insert processes using ARCHIVE tape |
| Unix Process ID | char | 10 | System Generated | Unix Process ID |

Table 4.7.6-1. DPM Home Page Field Descriptions (2 of 2)

| Field Name | Data Type | Size | Entry | Description |
|---------------|-----------|------|------------------|--|
| ECS ID | char | 10 | System Generated | ECS ID number |
| Collection | char | 20 | System Generated | Name of collection |
| Version | int | 4 | System Generated | Version number |
| Start Time | char | 10 | System Generated | Process start time |
| Status Time | char | 10 | System | Process status time |
| Status | char | 10 | System Generated | Status of the process |
| ARCHIVE Cache | char | 1 | System Generated | Indicates if the process belongs to ARCHIVE cache or not |
| Retries | int | 4 | System Generated | Number of retries in case of failures |

4.7.6.1.2 Batch Summary Tab

The Batch Summary Screen shown in Figure 4.7.6-3 displays a summary of the status of Data Pool inserts for each batch label. Status includes new, completed, failed, retried, and cancelled inserts. Minimum refresh rate is 1 minute. The **Apply Refresh Rate** button will refresh the screen with any updated information in the fields within a specified amount of time. See Table 4.7.6-2 for a description of the Batch Summary's entries.

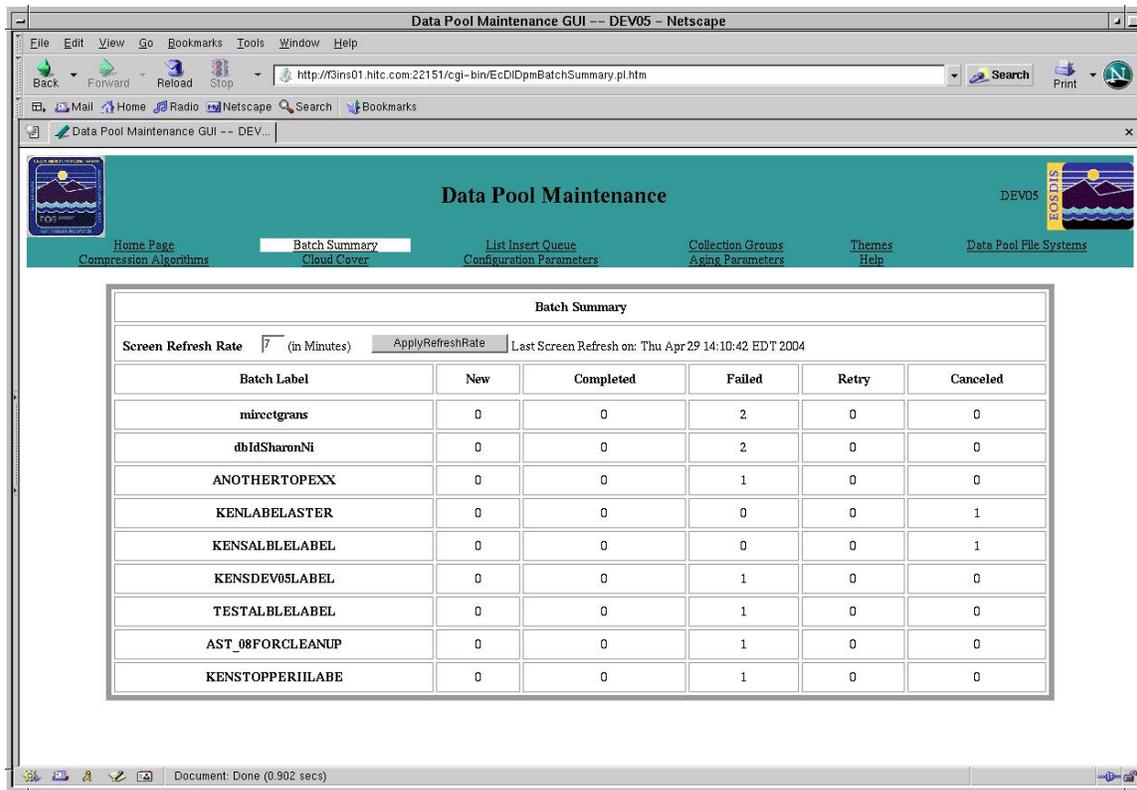


Figure 4.7.6-3. Batch Summary Screen

Table 4.7.6-2. Batch Summary Screen Field Descriptions

| Field Name | Data Type | Size | Entry | Description |
|-------------|-----------|------|------------------|--|
| Batch Label | int | 4 | System Generated | Name of the batch label |
| New | int | 4 | System Generated | Number of batch inserts in NEW state |
| Completed | int | 4 | System Generated | Number of batch inserts in COMPLETED state |
| Failed | int | 4 | System Generated | Number of batch inserts in FAILED state |
| Retry | int | 4 | System Generated | Number of batch inserts in RETRY state |
| Cancelled | int | 4 | System Generated | Number of batch inserts in CANCELLED state |

4.7.6.1.3 List Insert Queue Tab

The List Insert Queue Screen shown in Figure 4.7.6-4 allows the operator to monitor the Data Pool Inserts that still need to be processed or retried. The operator can cancel Inserts that are in the Insert Queue by clicking on the checkbox adjacent to the Status column. After selecting all desired inserts, click on the **Apply Change** button to initiate changes. The Inserts will be marked as “CANCELED” in the Data Pool database. The List Insert Queue screen will be refreshed with only inserts left to be processed. The DPAD driver will cleanup all canceled inserts at a configured interval. The List Insert Queue Screen can be filtered using the File System Label drop down list, Batch Label drop down list and Status drop down list. Clicking on the **File System** Label drop down list will display all the File System Labels in database. The operator can choose ‘ALL’ from the **File System** Label drop down list and choose one label from **Batch Label** drop down list and choose ‘ALL’ from Status drop down list to view all insert statuses for that label in all File Systems. The operator can also narrow down the list by choosing one batch label from the **Batch Labels** drop-down list, a specific status from the **Status** drop down list and a specific file system from the **File System** Label drop down list. After selecting the filter options, click on the **Apply Filter** button to display a filtered list. The XML file and path name for a Non-ECS granule insert action can be viewed by clicking on "NONECS" from the Data Source column. XML file path is displayed in Figure 4.7.6-5. The content of the XML file can be viewed by clicking on the file path. This will display the text of the file as shown in Figure 4.7.6-6.

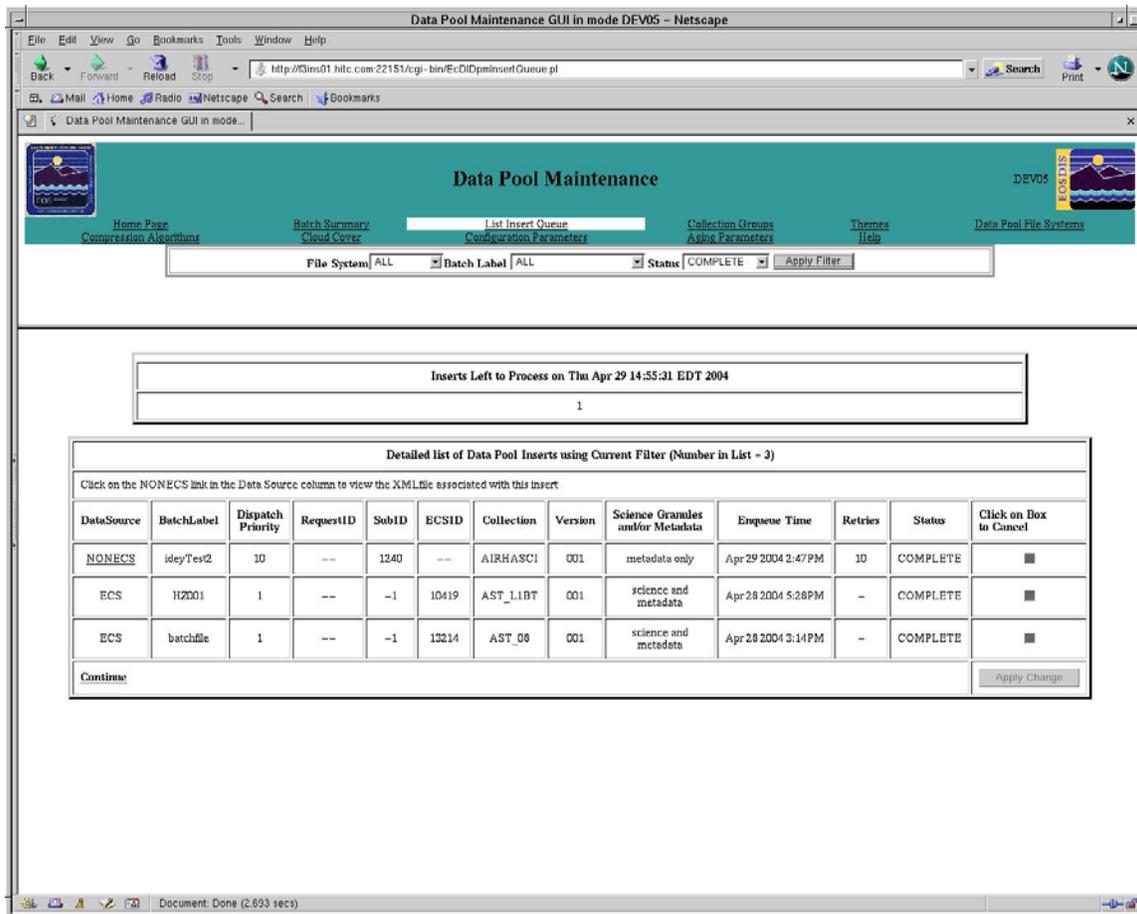


Figure 4.7.6-4. List Insert Queue Screen

See Table 4.7.6-3 for a description of the List Insert Queue's field descriptors.

Table 4.7.6-3. List Insert Queue Screen Field Descriptions (1 of 2)

| Field Name | Data Type | Size | Entry | Description |
|-------------------|-----------|------|------------------|---|
| Data Source | char | 6 | Required | To describe the source of the data whether ECS or NONECS. |
| Batch Label | char | 20 | System Generated | Name of batch |
| Dispatch Priority | int | 4 | System Generated | Number of priority by which requests will be processed |
| RequestID | char | 10 | System Generated | Request ID of the order |
| SubID | char | 10 | System Generated | Submission ID number |

Table 4.7.6-3. List Insert Queue Screen Field Descriptions (2 of 2)

| Field Name | Data Type | Size | Entry | Description |
|----------------------------------|-----------|------|------------------|---|
| ESCID | char | 10 | System Generated | ECS ID number |
| Collection Version | int | 4 | System Generated | Version number of collection. |
| Science Granules and/or Metadata | char | n/a | Optional | Indicate whether collection whether collection is Science Granules and/or Metadata. |
| Enqueue Time | char | 10 | System Generated | Time in queue |
| Retries | int | 4 | System Generated | Number of retries |
| Status | char | 10 | System Generated | Status of the input process |
| Click on Box to Cancel | checkbox | 1 | Optional | Select when cancellation of request is needed |

Note: This screen depicts the total number of Data Pool Inserts left to process and retry. It also displays a detailed list of Data Pool Inserts using the current filter and total number of rows in the database. Default filter is set to ignore for Batch Label and NEW/RETRY for Status. Full capability users can cancel an insert.

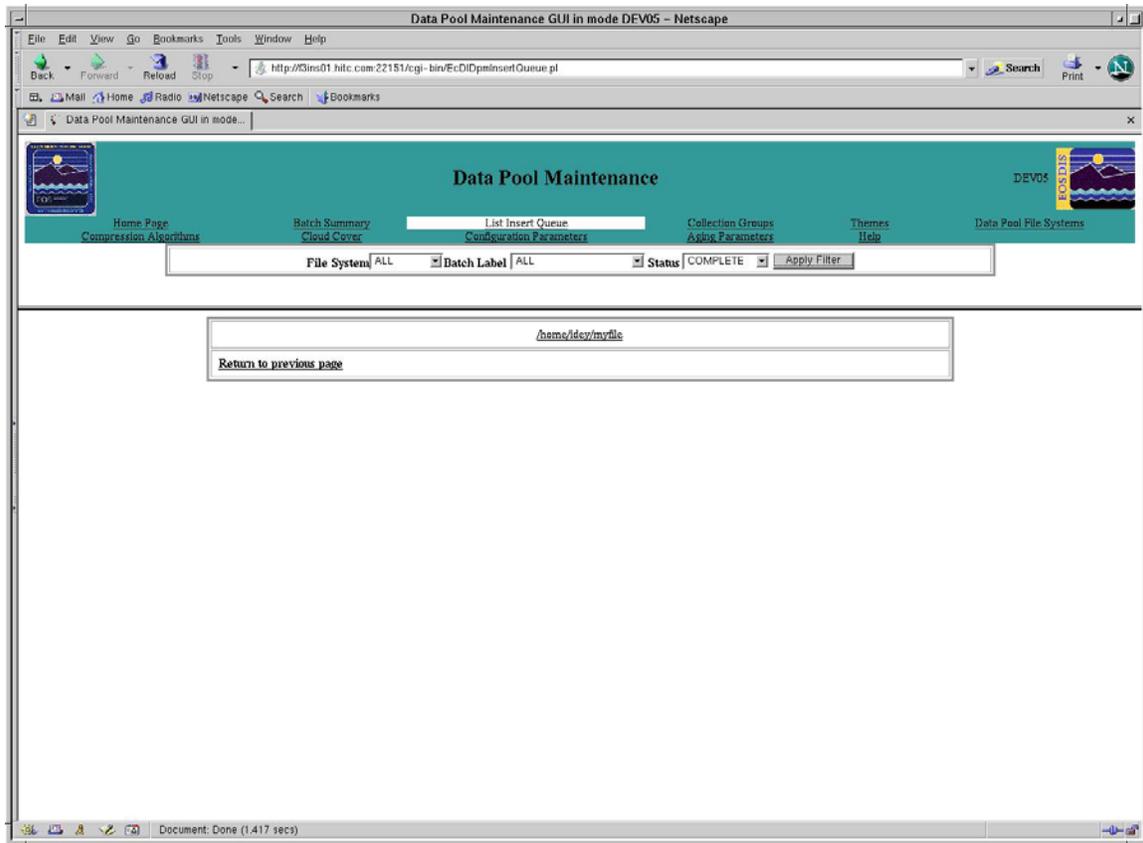


Figure 4.7.6-5. List Insert Queue Screen - Absolute xml File Path

The screen in Figure 4.7.6-5 depicts the absolute XML file path for Non-ECS Data Pool inserts.

Note: Limited capability users cannot cancel any inserts.

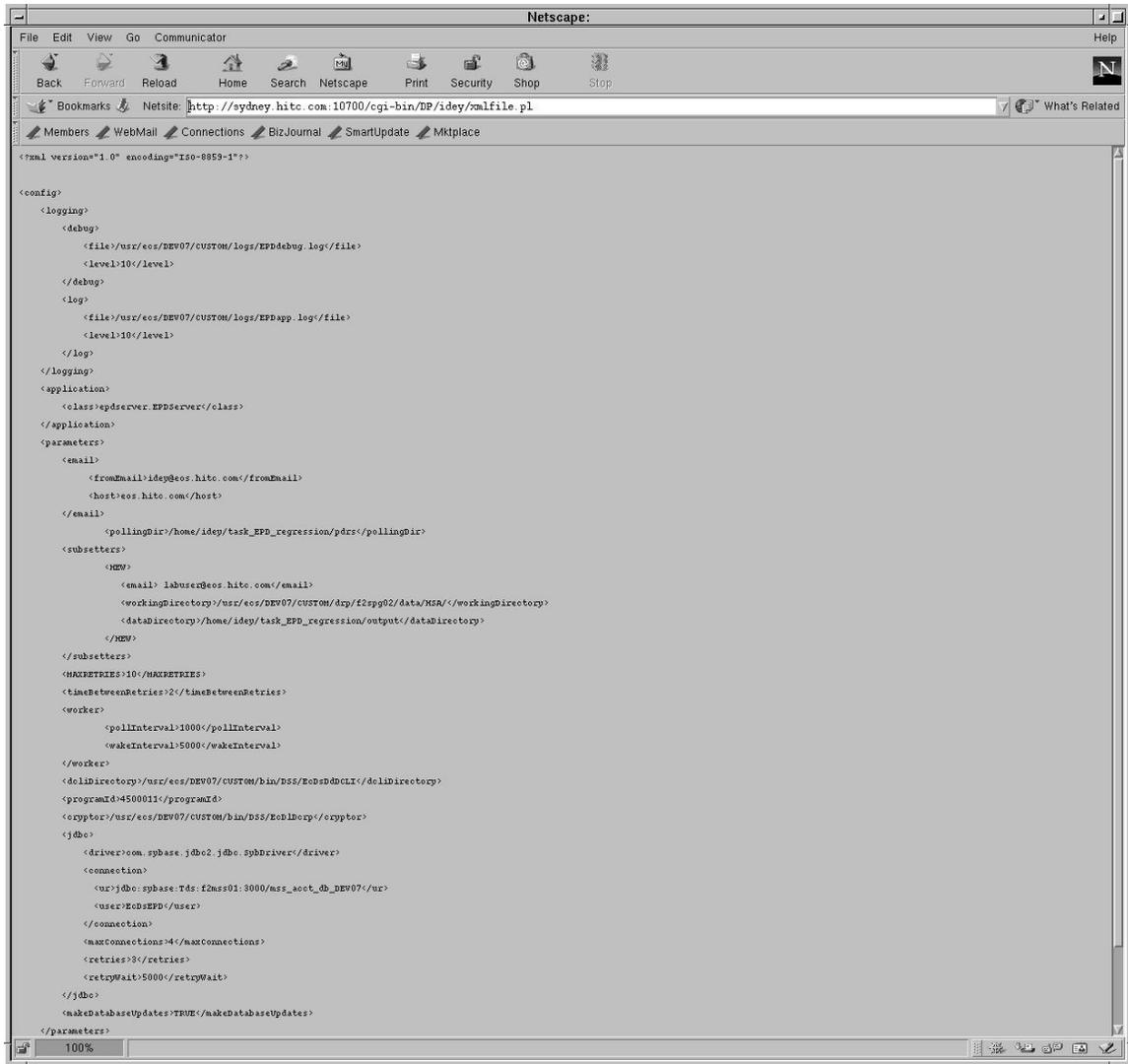


Figure 4.7.6-6. List Insert Queue Screen - XML File Content

4.7.6.1.4 Configuration Parameters Tab

The Configuration Parameters Screen shown in Figure 4.7.6-7 allows all operators to display the current values for the Data Pool Configuration Parameters. Full-capability operators can adjust the values for the parameters by entering new values in the input box. After making all changes, click on the **Click on Box to Modify Parameter** checkbox adjacent to the configuration parameters. Click on the **Apply Change** button to initiate the changes. See Table 4.7.6-4 for a description of the configuration parameters.

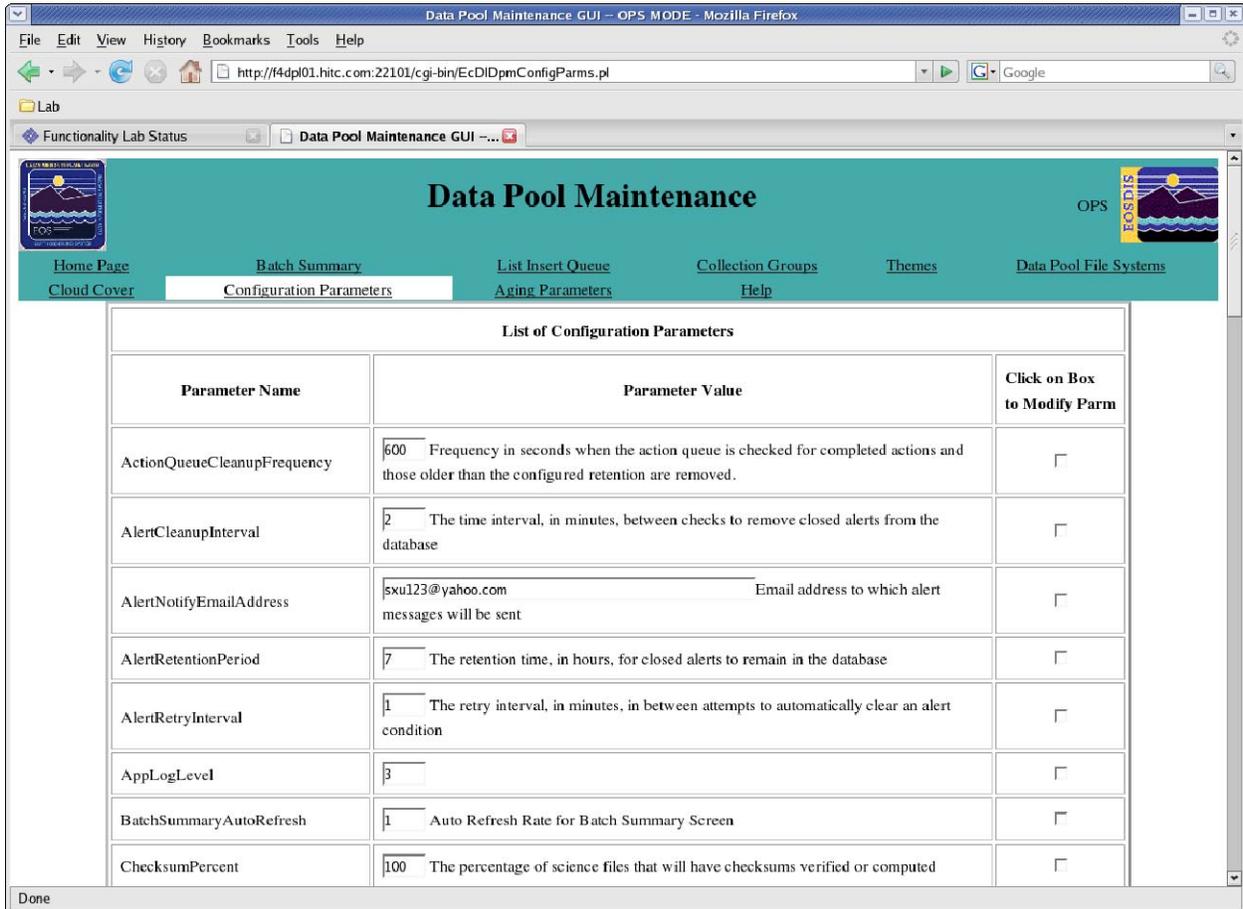


Figure 4.7.6-7. Configuration Parameters Screen

The screen in Figure 4.7.6-7 depicts the Data Pool configuration parameters. The full capacity operator can update the parameters.

Note: Limited Capability users cannot update any parameters. Check boxes and button are non clickable

Table 4.7.6-4. Manage Configuration Parameters Field Description (1 of 5)

| Field Name | Data Type | Size | Entry | Description |
|-----------------------------|-----------|------|----------|--|
| ActionQueueCleanUpFrequency | Integer | 4 | Optional | Frequency in seconds when the action queue is checked for completed actions and those older than the configured retention are removed. |
| AlertCleanupInterval | Integer | 2 | Optional | The time interval, in minutes, between checks to remove closed alerts from the database. |
| AlertNotifyEmailAddress | Char | 2 | Optional | Email address to which alert messages will be sent. |
| AlertRetentionPeriod | Integer | 2 | Optional | The retention time, in hours, for closed alerts to remain in the database. |
| AlertRetryInterval | Integer | 2 | Optional | The retry interval, in minutes, in between attempts to automatically clear an alert condition. |
| BatchSummaryAutoRefresh | Integer | 4 | Optional | The frequency in minutes when the batch summary front is refreshed. |
| ChecksumPercent | Integer | 2 | Optional | The percentage of science files that will have checksums verified or computed. |
| Clean703Orders | Char | 1 | Optional | Flag indicating whether DPL should clean up order only granules: Y or N |
| DPLRetentionPatchInstalled | Char | 1 | Optional | The existence of this configuration parameter means that the DPL Retention patch has been installed and granules will not expire from the Data Pool. |
| DatabaseRetryCount | Integer | 2 | Optional | The number of times a retryable database error may be retried before being considered failed. |
| DatabaseRetryInterval | Integer | 2 | Optional | The number of seconds to wait between retries of a retryable database error. |
| DefaultRetentionPeriod | Integer | 4 | Optional | The default retention period in days for all Data Pool Insert Actions. |

Table 4.7.6-4. Manage Configuration Parameters Field Description (2 of 5)

| Field Name | Data Type | Size | Entry | Description |
|----------------------------|-----------|------|-----------|---|
| DefaultRetentionPriority | Integer | 4 | Optional | The default retention priority for all Data Pool Insert actions. The valid range is 1 – 255. |
| DeleteCompleteActionsAfter | Integer | 4 | Optional | The time in minutes that operators let completed actions stay in the insert action queue before making them eligible for removal. This is intended to provide the operator with some ability to check on past actions. The time period should not be configured too long. |
| DisplayAIPChunkSize | Integer | 4 | Optional | Number of rows return per chunk for the Active Insert Processes List. |
| FileSystemCheckInterval | Integer | 2 | Optional | The time interval, from 1 to 10 minutes, in between attempts to automatically clear a Data Pool file system alert condition. |
| FileSystemRefreshRate | Integer | 2 | Mandatory | Time in minutes before the File Systems Page Refreshes. Values: Never, 1,5,10,15,30 mins |
| FilterChecksumAIP | Char | 1 | Mandatory | Show Checksummed Active Insert Processes on the Data Pool Maint. GUI page. Values: YES, NO |
| FilterCopiedAIP | Char | 1 | Mandatory | Show Copied Active Insert Processes on the Data Pool Maint. GUI page. Values: YES, NO |
| FilterExtractedAIP | Char | 1 | Mandatory | Show Extracted Active Insert Processes on the Data Pool Maint. GUI page. Values: YES, NO |
| FilterPendingAIP | Char | 1 | Mandatory | Show Pending Active Insert Processes on the Data Pool Maint. GUI page. Values: YES. NO |
| FilterValidAIP | Char | 1 | Mandatory | Show Validated Active Insert Processes on the Data Pool Maint. GUI page. Values: YES. NO |

Table 4.7.6-4. Manage Configuration Parameters Field Description (3 of 5)

| Field Name | Data Type | Size | Entry | Description |
|------------------------------|-----------|------|-----------|---|
| FreeSpaceResumePercent | Integer | 2 | Mandatory | The percentage of free space required before a Data Pool file system full condition may be cleared. |
| GranuleLockRetentionPeriod | Integer | 2 | Optional | The age in hours that determines when a granule lock should be considered stale. |
| GranuleOmLockRetentionPeriod | Integer | 2 | Optional | The age in minutes that determines when a granule lock by OMS should be considered stale. |
| HEGCleanupAge | Integer | 4 | Optional | HEG cleanup age in days |
| IdleSleep | Integer | 4 | Optional | The number of seconds when there is nothing to do. Obsolete in 7.20 |
| InCacheTimeLimit | Integer | 4 | Optional | The max time in minutes that operators are willing to wait for a DPIU process to complete whose files are in cache. After the time, DPAD kills the process and retries the action. Obsolete in 7.20 |
| InsertRetryWait | Integer | 4 | Optional | The number of seconds to wait before an insert that failed should be resubmitted. |
| MAX_READ_DRIVES_<ARCHIVE> | Integer | | Optional | One parameter per archive, Max number of simultaneous tape drives in used for the archive <ARCHIVE>. |
| MFSONInsert | Char | 1 | Optional | Availability of multiple file system on insert. Actual value set to Y(YES) / N(NO). Default is N (NO). Obsolete in 7.20 |
| MaxConcurrentBandExtract | Integer | 2 | Optional | The maximum number of concurrent Band Extraction operations. |
| MaxConcurrentDPIUThreads | Integer | 2 | Optional | The concurrency limit for the DPIU processing queue. |
| MaxConcurrentEventThreads | Integer | 2 | Optional | The concurrency limit for the DPAD event processing queue. |

Table 4.7.6-4. Manage Configuration Parameters Field Description (4 of 5)

| Field Name | Data Type | Size | Entry | Description |
|-------------------------------|-----------|------|----------|--|
| MaxConcurrentPublish | Integer | 2 | Optional | The maximum number of concurrent Data Pool publication operations. |
| MaxConcurrentReadsPerTape | Integer | 2 | Optional | The maximum number of concurrent tape read (stage) operations for a single tape. |
| MaxConcurrentRegister | Integer | 2 | Optional | The maximum number of concurrent Data Pool registration operations. |
| MaxConcurrentRegister | Integer | 2 | Optional | The maximum number of concurrent Data Pool registration operations. |
| MaxConcurrentValidate | Integer | 2 | Optional | The maximum number of concurrent request validation operations. |
| MaxConsecutiveErrors | Integer | 2 | Optional | The maximum number of consecutive errors or timeout conditions for a service before an alert will be raised. |
| MaxInsertRetries | Integer | 4 | Optional | The maximum number of times an insert should be tried again (-1 means forever). |
| MaxReadDrivesPerRequest | Integer | 2 | Optional | Max number of simultaneous tape drives in used. |
| MaxTapeMountPerRequest | Integer | 4 | Optional | Maximum number of tape mount allow per request. |
| NewActionCheckFrequency | Integer | 4 | Optional | The frequency in seconds for checking for new actions. DPAD always checks if we are out of actions that can be dispatched, so unless getting things queued up in memory is urgent, this could be a time interval of minutes. |
| NumOfAllowedCacheProcesses | Integer | 4 | Optional | The maximum number of insert processes that require ARCHIVE access to cache. |
| NumOfAllowedInsertProcesses | Integer | 4 | Optional | The maximum number of insert processes running at any time. |
| NumOfAllowedNonCacheProcesses | Integer | 4 | Optional | The maximum number of insert processes that require ARCHIVE access to tape. |

Table 4.7.6-4. Manage Configuration Parameters Field Description (5 of 5)

| Field Name | Data Type | Size | Entry | Description |
|-----------------------|-----------|------|----------|--|
| OnTapeTimeLimit | Integer | 4 | Optional | The maximum time in hours operators are willing to wait for a DPIU process to complete whose files are not in cache. After that time, DPAD kills the process and retries the action. |
| OrderOnlyFSLabel | Char | 1 | Optional | Order only file system label. |
| RefreshRate | Integer | 4 | Optional | The DPM Home Page refresh rate in seconds. |
| PerfLogLevel | Integer | 1 | Optional | Level for perf logging, 1-3. |
| RunAwayCheckFrequency | Integer | 4 | Optional | The frequency in seconds for checking for runaway processes. Recommend not making it much smaller than InCacheTimeLimit. Obsolete in 7.20. |
| RunawayDuration | Integer | 4 | Optional | Max period of time to wait for an insert to complete. Obsolete in 7.20. |
| SizeOfInsertQueueList | Integer | 4 | Optional | The number of Data Pool Insert Queue entries that can be displayed at any one time by the DPM GUI. |
| StartUpWait | Integer | 4 | Optional | The number of seconds to delay start-up while trying to clean out left over DPIU processes. Obsolete in 7.20. |

The Collection Groups Screen shown in Figure 4.7.6-8 allows the operator to view collection groups in the Data Pool database and navigate to the functions described in the following sections. See Table 4.7.6-5 for descriptors of the Collection Group screen.

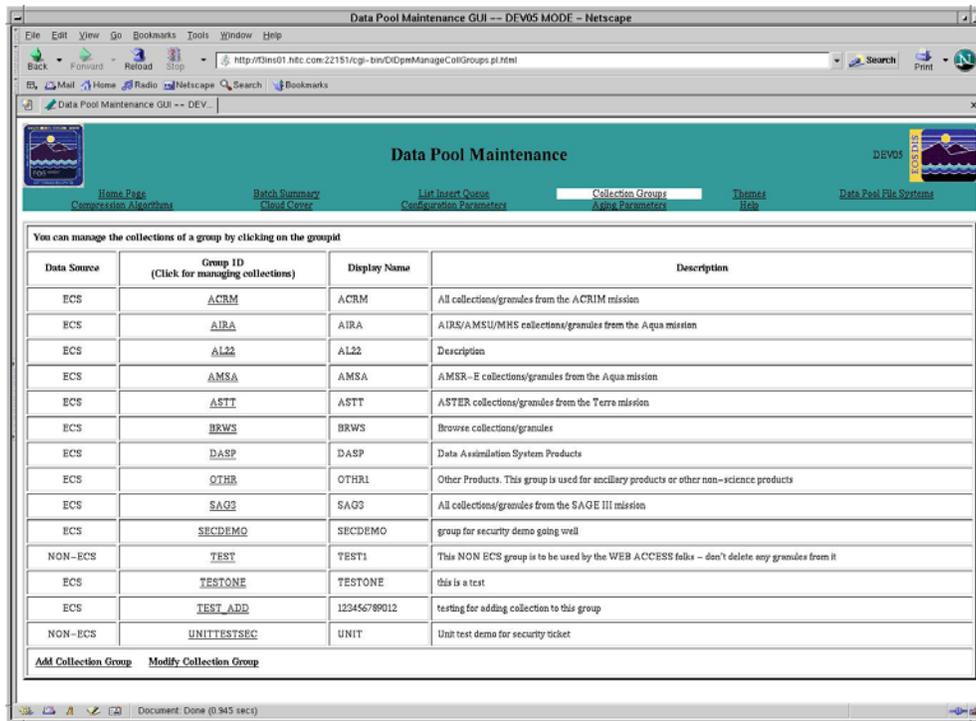


Figure 4.7.6-8. Collection Groups Screen Currently in the Data Pool

Table 4.7.6-5. Collection Group Field Descriptions

| Field Name | Data Type | Size | Entry | Description |
|--------------|-----------|------|----------|--|
| Data Source | Character | 6 | Required | To describe the source of the data whether ECS or NONECS. |
| Group ID | Character | 12 | Required | An up-to twelve letter identifier ([A-Z],[0-9] or underscore) of the group. |
| Display Name | Character | 12 | Optional | A twelve letter identifier of the display name (if left blank defaults to Group ID). (possible characters are [A-Z],[0-9], underscore or blank). |
| Description | Character | 255 | Required | A description for the collection group. It is scrollable up to 255 characters. |

The **Add Collection Group** link will allow the user to add a new collection to the collection group and the **Modify Collection Group** link allows any changes to be made to the collection group.

Note: Limited capability users cannot click ‘Add Collection Group’ or ‘Modify Collection Group’ links.

4.7.6.1.5.1 Add New Collection Group

The full-capability operator can add a new ECS or Non-ECS collection group by clicking on the **Add Collection Group** link shown in Figure 4.7.6-8. This link will take the operator to the screen shown in Figure 4.7.6-9. To create a new group, the operator is required to enter the Group ID and Description, the Display Name is optional, and will default to the Group ID if nothing is entered. The Display Name is used for Web Drill Down. After entering the new collection group, click on the **Apply Change** button. The new collection group will be added to the Data Pool database and the List of Collection Groups screen will be refreshed. See Table 4.7.6-6 for Add Collection Group parameters.

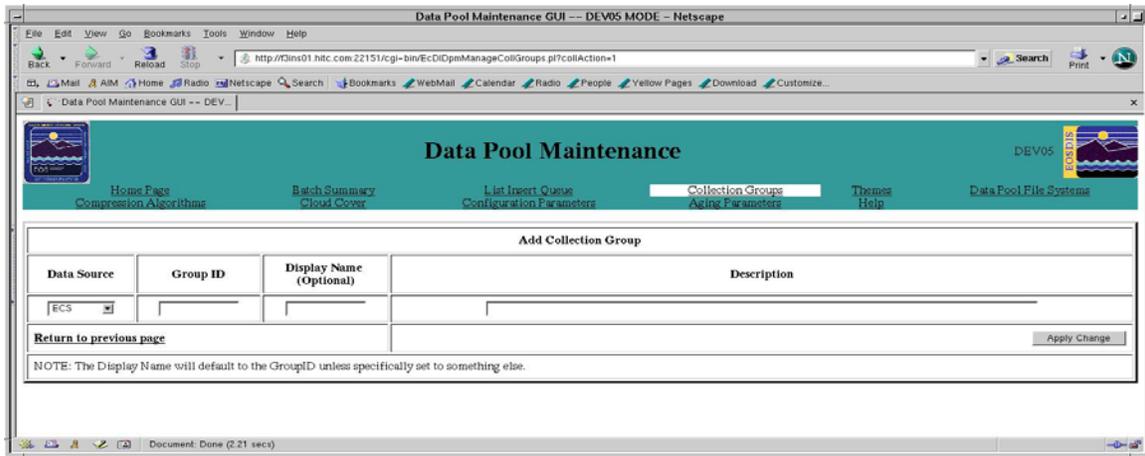


Figure 4.7.6-9. Add Collection Group Screen

Note: Limited Capability users cannot use this functionality.

Table 4.7.6-6. Add Collection Group Field Description

| Field Name | Data Type | Size | Entry | Description |
|--------------|-----------|------|----------|---|
| Data Source | Character | 6 | Required | To describe the source of the data whether ECS or NONECS. |
| Group ID | Character | 12 | Required | An up-to twelve letter identifier ([A-Z], [0-9] or underscore) of the group. |
| Display Name | Character | 12 | Optional | A twelve letter identifier of the display name (if left blank defaults to Group ID). (Possible characters are [A-Z], [0-9], underscore or blank). |
| Description | Character | 255 | Required | A description for the collection group. It is scrollable up to 255 characters. |

4.7.6.1.5.2 Modify Collection Group Description

The full-capability operator can modify the description and display name for a collection group by clicking on the **Modify Collection Group** link shown in Figure 4.7.6-8. This link will take the operator to the screen shown in Figure 4.7.6-10. The operator can modify the description and display name for a collection group. After making a change, click on the **Check Box To Modify** checkbox, adjacent to the collection group description. After making all changes, click on the **Apply Change** button. The changes will be applied to the Data Pool database and the **List of Collection Groups** screen will be refreshed. See Table 4.7.6-7 for a description of the Modify Collection Group parameters.

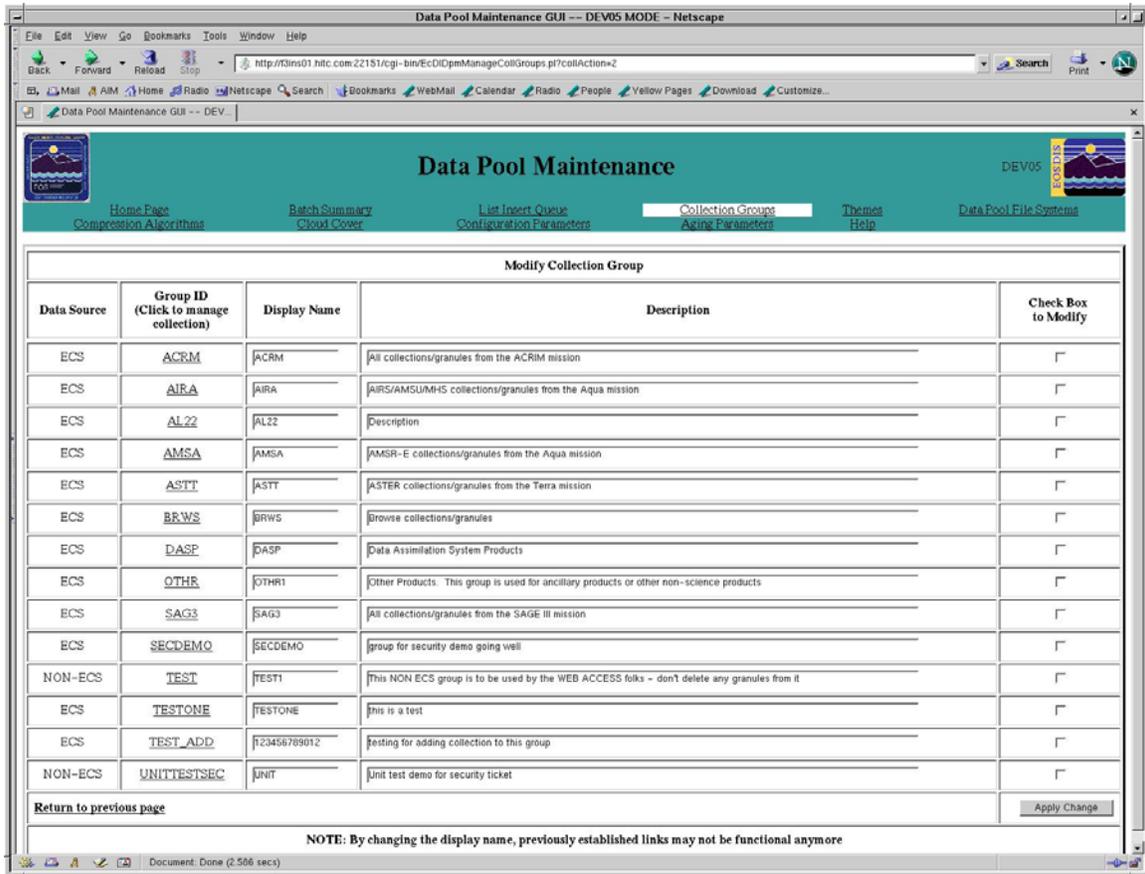


Figure 4.7.6-10. Modify Collection Group Screen

The screen in Figure 4.7.6-10 is called from Figure 4.7.6-8 and allows the full capacity operator to modify the collection group.

Note: Limited Capability users cannot use this functionality.

Table 4.7.6-7. Modify Collection Group Field Description

| Field Name | Data Type | Size | Entry | Description |
|--------------|-----------|------|----------|---|
| Data Source | Character | 6 | Required | To describe the source of the data whether ECS or NONECS. |
| Group ID | Character | 12 | Required | An up-to twelve letter identifier ([A-Z],[0-9] or underscore) of the group. |
| Display Name | Char | 12 | Optional | Display name for the collection group. |
| Description | Char | 100 | Optional | A description for the collection group. |

4.7.6.1.5.3 View Collections

The operator can view the collections associated with a collection group by clicking on the **GroupId** link shown in Figure 4.7.6-8. This link will take the operator to the Collections Associated with an ECS and Non-ECS Collection Group screen shown in Figure 4.7.6-11. **File System** 1 indicates a particular Data Pool file system. The default is to show all the collections from all Data Pool file system for a group. A drop down list will provide the operator the labels of all available file systems. The operator can use this list to filter the display of collections. The **Data Source** and **Group ID** are presented at the top of the table as a reference for which group is currently being viewed. See Table 4.7.6-8 for descriptions of the View Collection page entries.

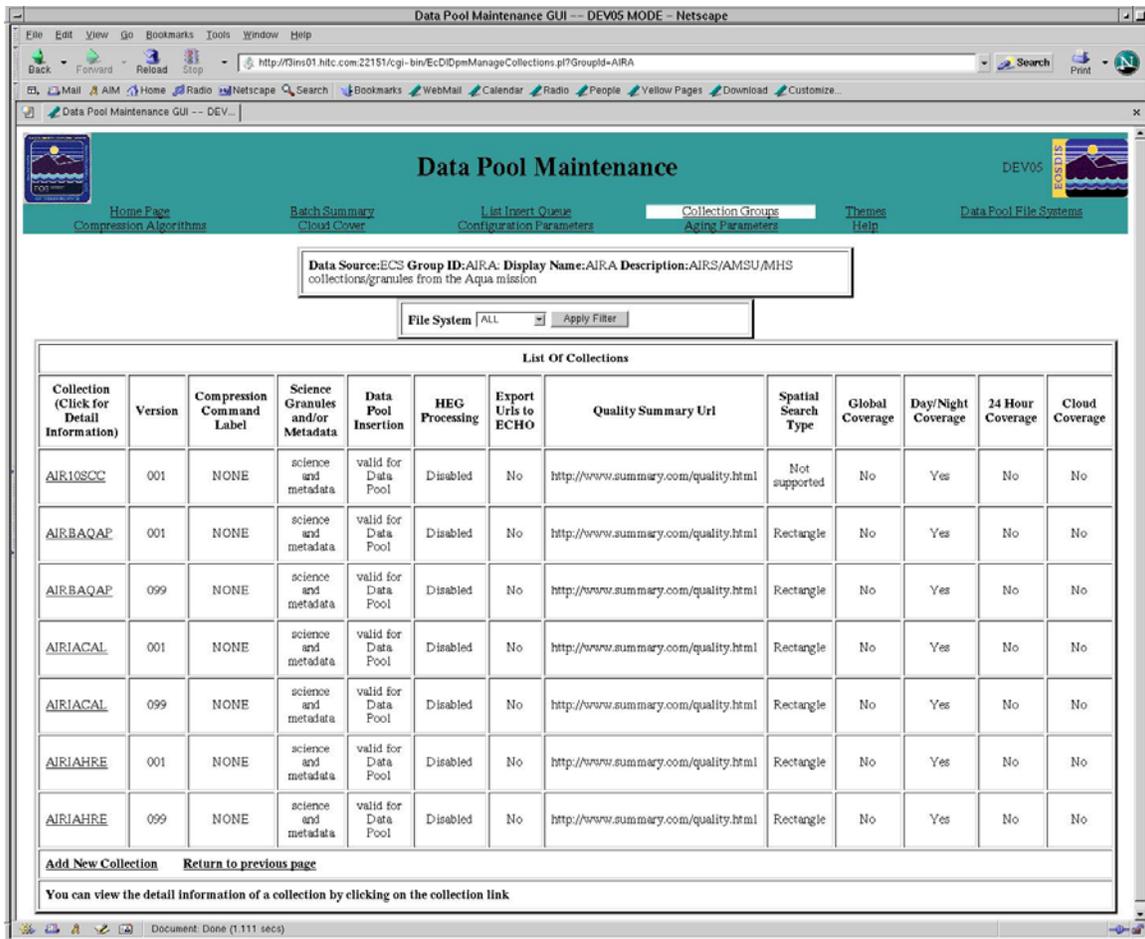


Figure 4.7.6-11. Collections Associated with Collection Groups

Note: Limited Capability users cannot click ‘Add Collection’ link.

Table 4.7.6-8. View Collection Group Field Description

| Field Name | Data Type | Size | Entry | Description |
|----------------------------------|-----------|------|------------------|---|
| Data Source | Character | 6 | Required | To describe the source of the data whether ECS or NONECS. |
| Group ID | Character | 12 | Required | An up-to twelve letter identifier ([A-Z], [0-9] or underscore) of the group. |
| Display Name | Char | 12 | Optional | Display name for the collection group. |
| Description | Char | 100 | Optional | A description for the collection group. |
| Collection | Char | 8 | System Generated | Name of a collection. |
| Version | Integer | 1 | System Generated | Version number of collection. |
| Science Granules and/or Metadata | Char | n/a | Optional | Indicate whether collection whether collection is Science Granules and/or Metadata. |
| Data Pool Insertion | Char | n/a | Optional | Indicates if the collection is eligible for insertion into Data Pool. |
| HEG Processing | Char | n/a | System Generated | Indicates if HEG processing is available or not |
| Export Urls to ECHO | Char | n/a | System Generated | Indicates in URL need to be exported or not |
| Quality Summary Url | Char | 80 | Optional | URL that describes the quality summary of a collection. Scrollable up to 255 characters |
| Spatial Search Type | Char | n/a | System Generated | Indicates if Spatial Search is required/needed. |
| Global Coverage | Char | 1 | Optional | Indicated if global coverage is needed. |
| Day/Night Coverage | Char | 1 | Optional | Indicate if day or night coverage is needed. |
| 24 Hour Coverage | Char | 1 | Optional | Indicate if 24-hour coverage is needed. |
| Cloud Coverage | Char | 1 | Optional | Indicate if cloud coverage is needed. |

The **Add Collection Group** link will allow the user to add a new collection to the collection group and the **Return to previous page** link will take the user to the page prior.

4.7.6.1.5.4 View Collection Description

The operator can view the detail description for a collection by clicking on the Collection link shown in Figure 4.7.6-11. This link will take the operator to the Description of a Collection screen shown in Figure 4.7.6-12. This page will give detail information about an ECS or Non-ECS collection. Modify Collection will display the modify collection page for full capability operators. The operator can return to the previous page by clicking on the 'Return to previous page' link.

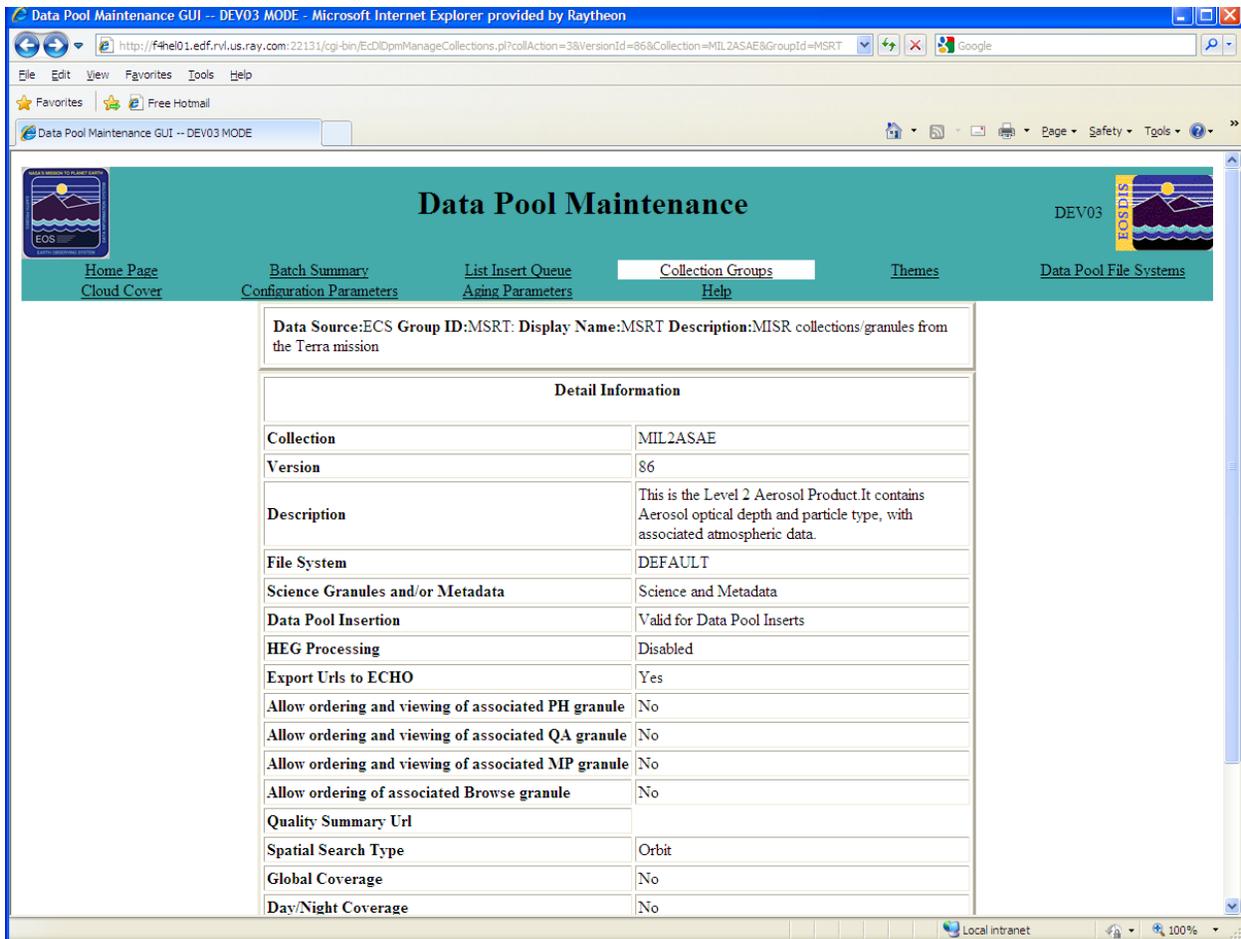


Figure 4.7.6-12. Description of a Collection

Field descriptions for the screen can be found in Table 4.7.6-9.

Note: Limited Capability users cannot click 'Modify Collection' link.

4.7.6.1.5.5 Add New Collection to Existing Collection Group

The full-capability operator can add an ECS collection by clicking on the **Add New Collection** link shown in Figure 4.7.6-11. An ECS collection can be added to an ECS Collection Group and a Non-ECS collection can be added to a Non-ECS group. The procedure for adding collections for ECS and Non-ECS groups are different. The operator can add a collection by clicking on the **Add New Collection** link in Figure 4.7.6-11. For ECS Group this link will take the operator to Figure 4.7.6-13, which displays a list of collections with its version number and description that are not in the Data Pool database. The operator can add any one of these collections to the group by clicking on the collection link. This will bring up the Add Collection page for an ECS Collection shown in Figure 4.7.6-12. The operator can add a Non-ECS collection to a Non-ECS

group by clicking on an **Add New Collection** link on a Non-ECS Collection Group Screen. This action will bring up Add Collection screen for a Non-ECS Collection shown in Figure 4.7.6-16.

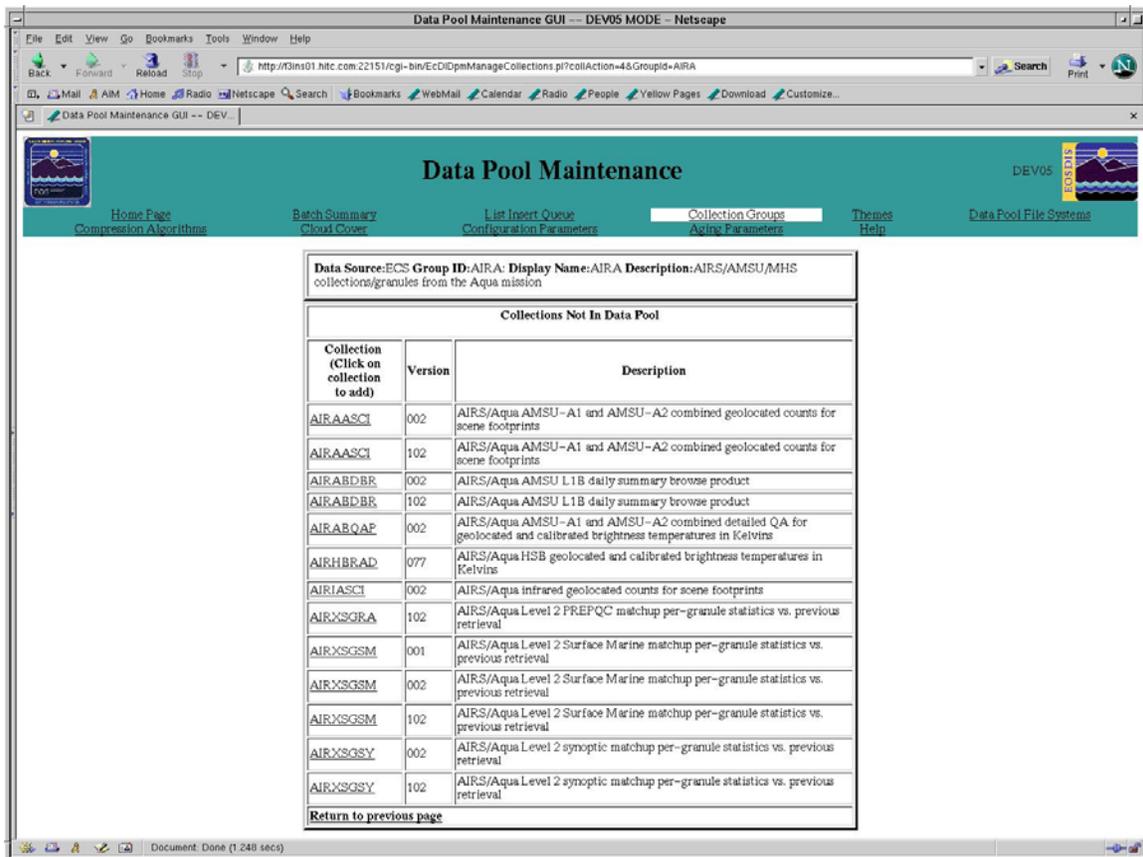


Figure 4.7.6-13. List of Collection Not in Data Pool

Note: This page is not accessible by Limited Capability users.

The full-capability operator can arrive at the Add ECS Collection page shown in Figure 4.7.6-14 by clicking on a collection link shown in Figure 4.7.6-11. Collection name, Version and Descriptions are predefined and cannot be changed. The operator can associate a collection with a File System label. Defaults for these two items are nulls. The Science Granules and /or Metadata row indicates if the collection is valid for science granule and metadata insertion or metadata only. The default value is science and metadata insertion. The operator can set the value to Metadata Only to indicate Metadata insertion only. The Data Pool Insertion indicates if the collection is eligible for insertion into Data Pool. The default value is invalid for data pool. The operator must set the value to valid for data pool to make the collection eligible for insertion into Data Pool. The Spatial Search Type indicates the types of search criteria used for Spatial searches such as GPolygon, Rectangle, or Orbit. The operator can also set the global coverage

flag to on/off. Default value for this flag is on. There are two more flag has on/off values can be set for a collection. Default for Day/Night flag is on and 24 hour flag is off. After creating the Quality Summary web page, the operators will enter the URL in the text area reserved for quality summary URL and thus associate the URL for the Quality Summary web page. A collection can be associated with a cloud cover attribute and its type. The operator can configure that in this page. There is also a text area to enter the cloud cover description. Defaults for quality summary, cloud cover attribute, cloud cover type and cloud cover description are nulls.

After making necessary selections the operator must press on **Apply Change** button to add the collection.

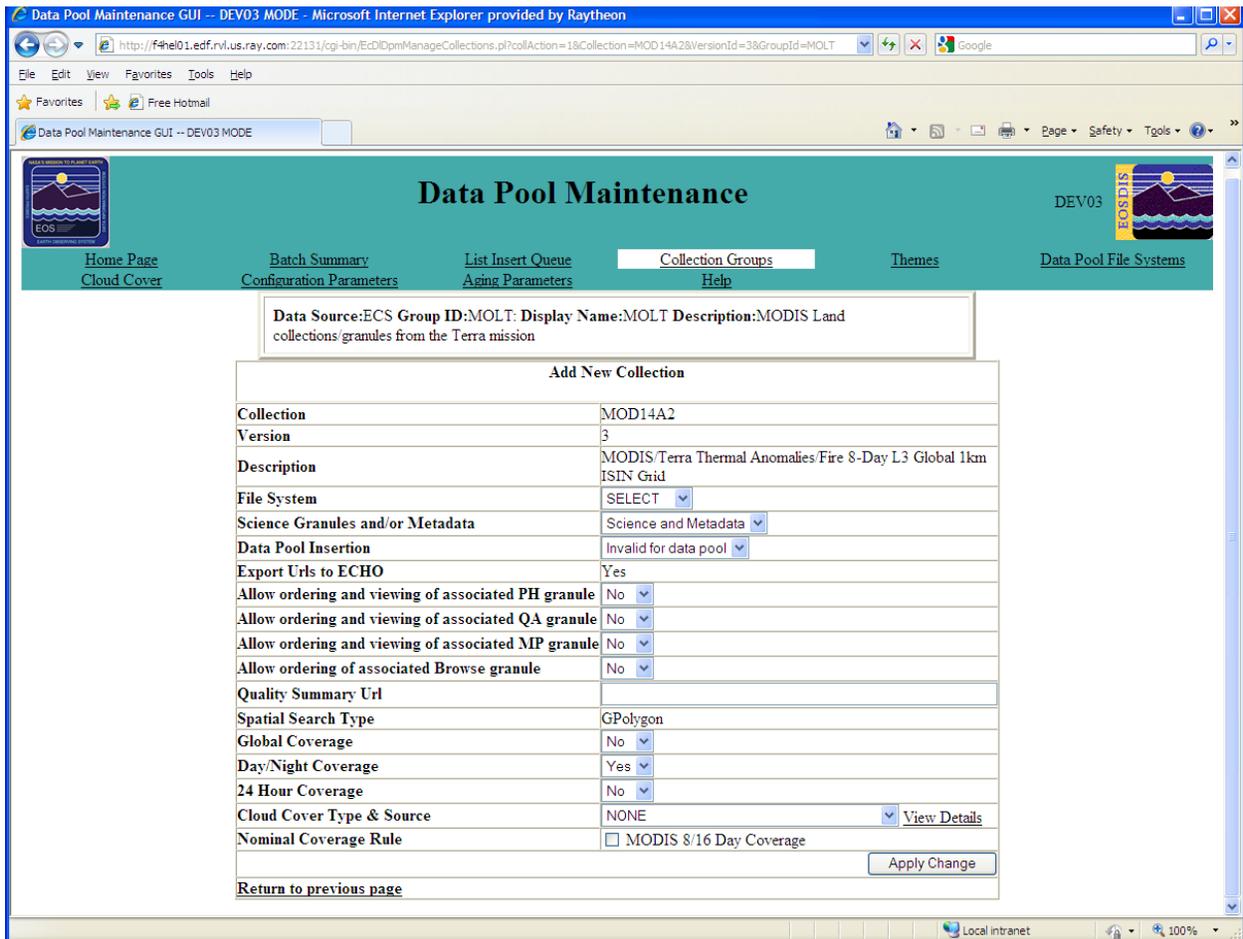


Figure 4.7.6-14. Add ECS Collection Page (This Page is only Accessible by Full Capability Operators)

Table 4.7.6-9. Add ECS Collection

| Field Name | Data Type | Size | Entry | Description |
|----------------------------------|-----------|------|------------------|--|
| Collection | Char | 8 | System Generated | Name of a collection. |
| Version | Integer | 1 | System Generated | Version number of collection. |
| Description | Char | 80 | Optional | Description of collection. Scrollable up to 255 characters. |
| File System | Char | n/a | Optional | File system path |
| Science Granules and/or Metadata | Char | n/a | Optional | Indicate whether collection whether collection is Science Granules and/or Metadata. |
| Data Pool Insertion | Char | n/a | Optional | Indicates if the collection is eligible for insertion into Data Pool. |
| Export Urls to ECHO | Char | 1 | Optional | Indicates if this collection is to be exported to ECHO. |
| Order PH | Char | 1 | Mandatory | If set to 'Y', allows associated PH granules to be ordered. The default value is 'N'. (Not applicable for Non-ECS or collection group 'OTHR'.) |
| Order QA | Char | 1 | Mandatory | If set to 'Y', allows associated QA granules to be ordered. The default value is 'N'. (Not applicable for Non-ECS or collection group 'OTHR'.) |
| Order MP | Char | 1 | Mandatory | If set to 'Y', allows associated MP granules to be ordered. The default value is 'N'. (Not applicable for Non-ECS or collection group 'OTHR'.) |
| Order Browse | Char | 1 | Mandatory | If set to 'Y', allows associated browse granules to be ordered. The default value is 'N'. (Not applicable for Non-ECS or collection group 'OTHR'.) |
| Quality Summary URL | Char | 80 | Optional | URL that describes the quality summary of a collection. Scrollable up to 255 characters |
| Spatial Search Type | Char | n/a | System Generated | Indicates if Spatial Search is required/needed. |
| Global Coverage | Char | 1 | Optional | Indicated if global coverage is needed. |
| Day/Night Coverage | Char | 1 | Optional | Indicate if day or night coverage is needed. |
| 24 Hour Coverage | Char | 1 | Optional | Indicate if 24-hour coverage is needed. |
| Cloud Cover Type and Source | Char | n/a | Optional | Source and type name for a cloud cover. |

Entries for Cloud Cover attribute and type must be verified against the XML small file archive.

An error window as shown in Figure 4.7.6-15 will pop up to indicate that collection cannot be added due to wrong cloud cover information. Click **OK** to dismiss the error window.

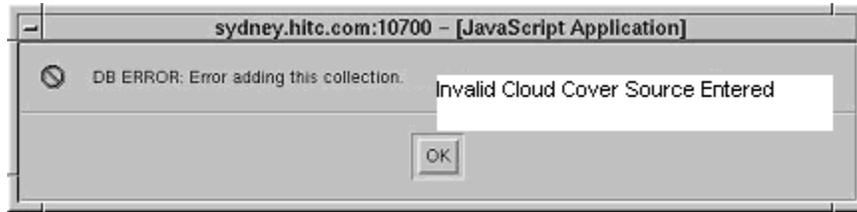


Figure 4.7.6-15. Error Window

The operator can add a Non-ECS collection to a Non-ECS group by clicking on an **Add New Collection** link in a Collections Associated with a Non-ECS Collection Group Screen. This action will bring up Add Collection screen for a Non-ECS Collection shown in Figure 4.7.6-16. The operator needs to enter a Collection name and Version number. These two fields are required. The operator can provide an optional collection Description for the collection. The operator can associate a collection with a File System label. Defaults for these two items are nulls. The Science Granules and /or Metadata row indicates if the collection is valid for science granule and metadata insertion or metadata only. The default value is science and metadata insertion. The operator can set the value to Metadata Only to indicate Metadata insertion only. The Data Pool Insertion indicates if the collection is eligible for insertion into Data Pool. The default value is invalid for data pool. The operator must set the value to valid for data pool to make the collection eligible for insertion into Data Pool. NONECS collections can also have the option to configure Spatial Search Type for a collection. Options provided are 'Not supported', 'Rectangle', Gpolygon and 'Orbit'. Default value for Spatial Search Type is 'Not Supported'. The operator can also set the global coverage flag to on/off. Default value for this flag is on. There are two more flag has on/off values can be set for a collection. Default for Day/Night Coverage flag is on and 24 hour coverage flag is off. After creating the Quality Summary web page, the operators will enter the URL in the text area reserved for quality summary URL and thus associate the URL for the Quality Summary web page. A collection can be associated with a Cloud Cover Type and Source attribute. The operator can configure that in this page. There is also a text area to enter the cloud cover description. Defaults for quality summary, cloud cover attribute, cloud cover type and cloud cover description are null. After making necessary selections operator must press on **Apply Change** button to add the collection. Table 4.7.6-10 gives descriptors for each of the Add New Non-ECS Collection entries.

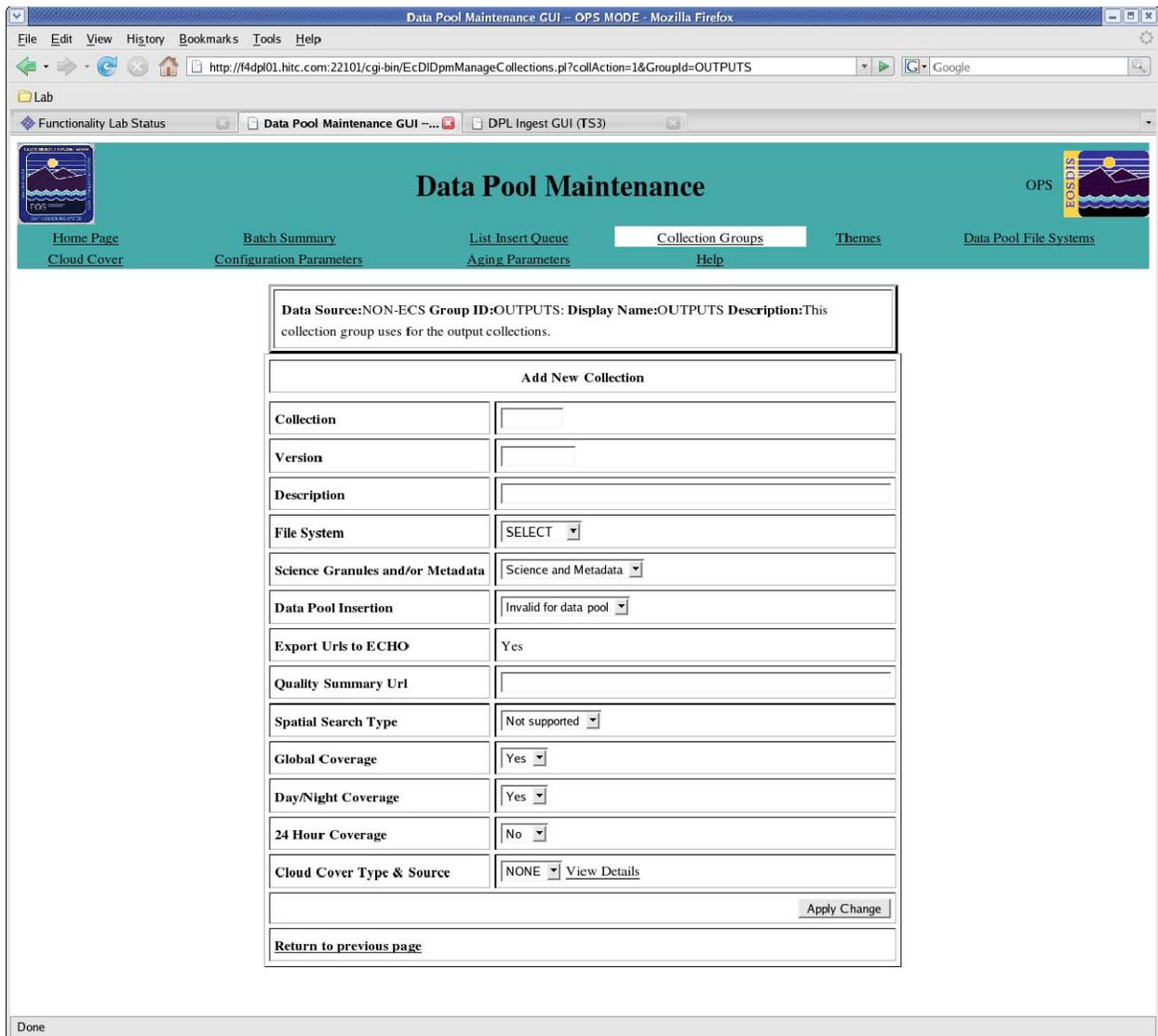


Figure 4.7.6-16. Add Non-ECS Collection Page (This Page is Only Accessible by Full Capability Operators)

Note: Limited Capability users cannot use this functionality.

Table 4.7.6-10. Add Non-ECS Collection

| Field Name | Data Type | Size | Entry | Description |
|----------------------------------|-----------|------|----------|---|
| Collection | Char | 8 | Required | Name of a collection. |
| Version | Integer | 1 | Required | Version number of collection. |
| Description | Char | 80 | Required | Description of collection. Scrollable up to 255 characters. |
| File System | Char | n/a | Optional | File system path |
| Science Granules and/or Metadata | Char | n/a | Optional | Indicate whether collection whether collection is Science Granules and/or Metadata. |
| Data Pool Insertion | Char | n/a | Optional | Indicates if the collection is eligible for insertion into Data Pool. |
| Export Urls to ECHO | Char | 1 | Optional | Indicates if this collection is to be exported to ECHO. |
| Quality Summary URL | Char | 80 | Optional | URL that describes the quality summary of a collection. Scrollable up to 255 characters |
| Spatial Search Type | Char | n/a | Optional | Indicates if Spatial Search is required/needed and its type. |
| Global Coverage | Char | 1 | Optional | Indicated if global coverage is needed. |
| Day/Night Coverage | Char | 1 | Optional | Indicate if day or night coverage is needed. |
| 24 Hour Coverage | Char | 1 | Optional | Indicate if 24-hour coverage is needed. |

Entry for Non-ECS Collection name is verified against input error. It is also verified against same name and same version ID. An error window, as shown in Figure 4.7.6.17 and Figure 4.7.6.18, will pop up for each case on the Add Collection screen. Click **OK** to dismiss the error window.



Figure 4.7.6-17. Input Error Window



Figure 4.7.6-18. DB Error Window

4.7.6.1.5.6 Modify Existing Collection

The full-capability operator can modify a collection by clicking on the **Modify Collection** link shown in Figure 4.7.6-12 will take the operator to the Modify Collection page. There is one difference between the ECS and NON-ECS modify page. The ECS modify page does not allow the operator to modify a collection's description. The NON-ECS modify page allows the description field to be updated. Figure 4.7.6-19 describes modify an ECS collection example page and Figure 4.7.6-20 describes a NON-ECS modify page.

Both modify pages displays current information and allow operator modifications. After all desired changes are entered, the operator needs to click on the button called **Apply Change**. This action will change the data in database.

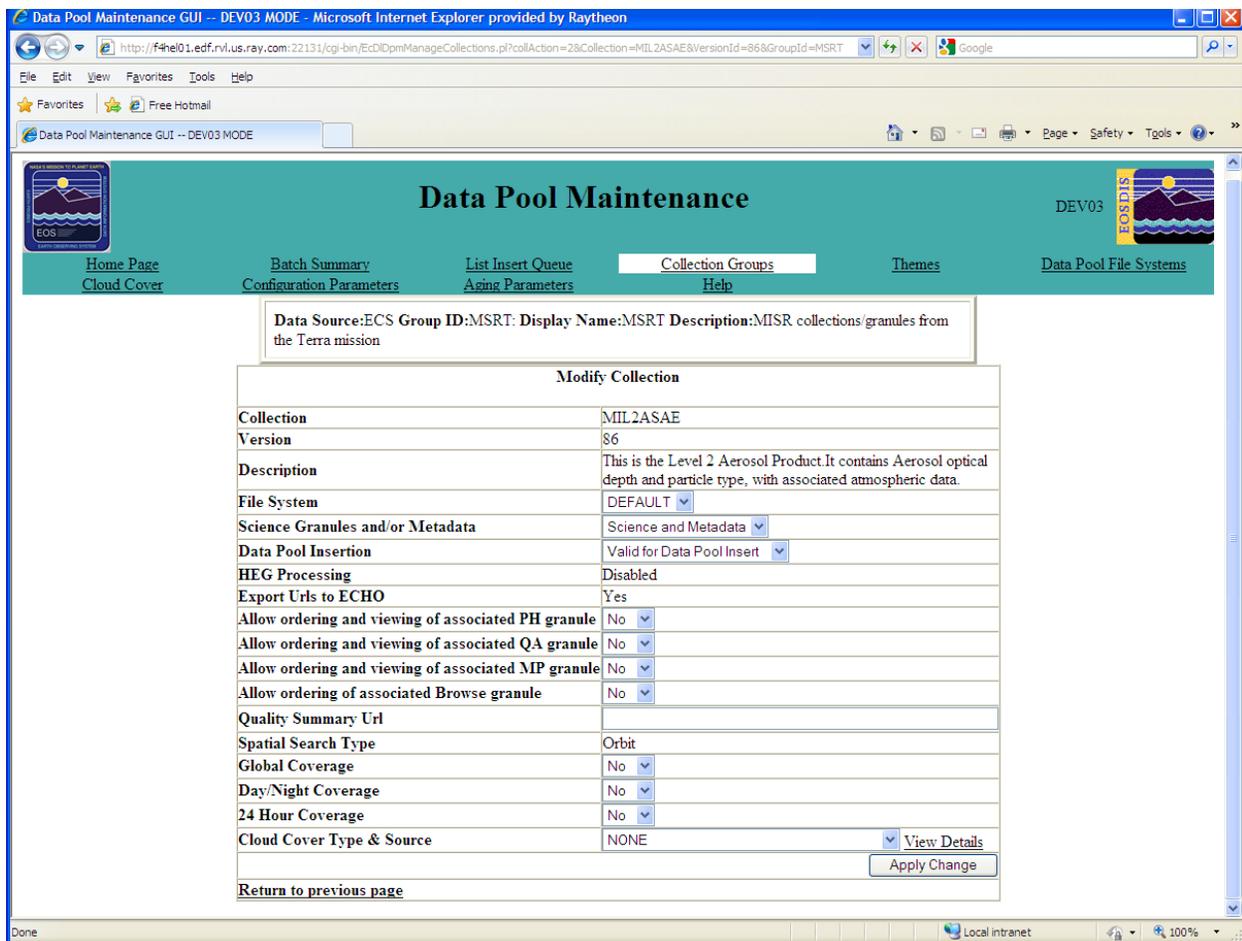


Figure 4.7.6-19. ECS Modify Collection Screen

Note: Limited Capability users cannot use this functionality.

Field descriptions for the screen can be found in Table 4.7.6-9.

Starting with Release 7.23, the cloud cover source can be modified for collections that already have granules in the public DPL, as opposed to 7.22, when the cloud cover source can be modified only for collection without DPL public granules. The following operations are permitted:

- a. **Remove** the cloud cover source for a specified collection: set the cloud cover source for the collection to “NONE”.
- b. **Reconfigure** the cloud cover source for a specified collection: set the cloud cover source for the collection to the new source (if the new source doesn’t already exist it will have to be created). This operation should be used when the DAAC determined that the cloud cover source has been incorrectly configured for a collection.

- c. **Enable/Configure** the cloud cover source for a specified collection: set the cloud cover source for the collection to the desired cloud cover source (a new source must be created if necessary). This operation should be used when the DAAC determined that the cloud cover source is absent for a collection that should have had a cloud cover source.

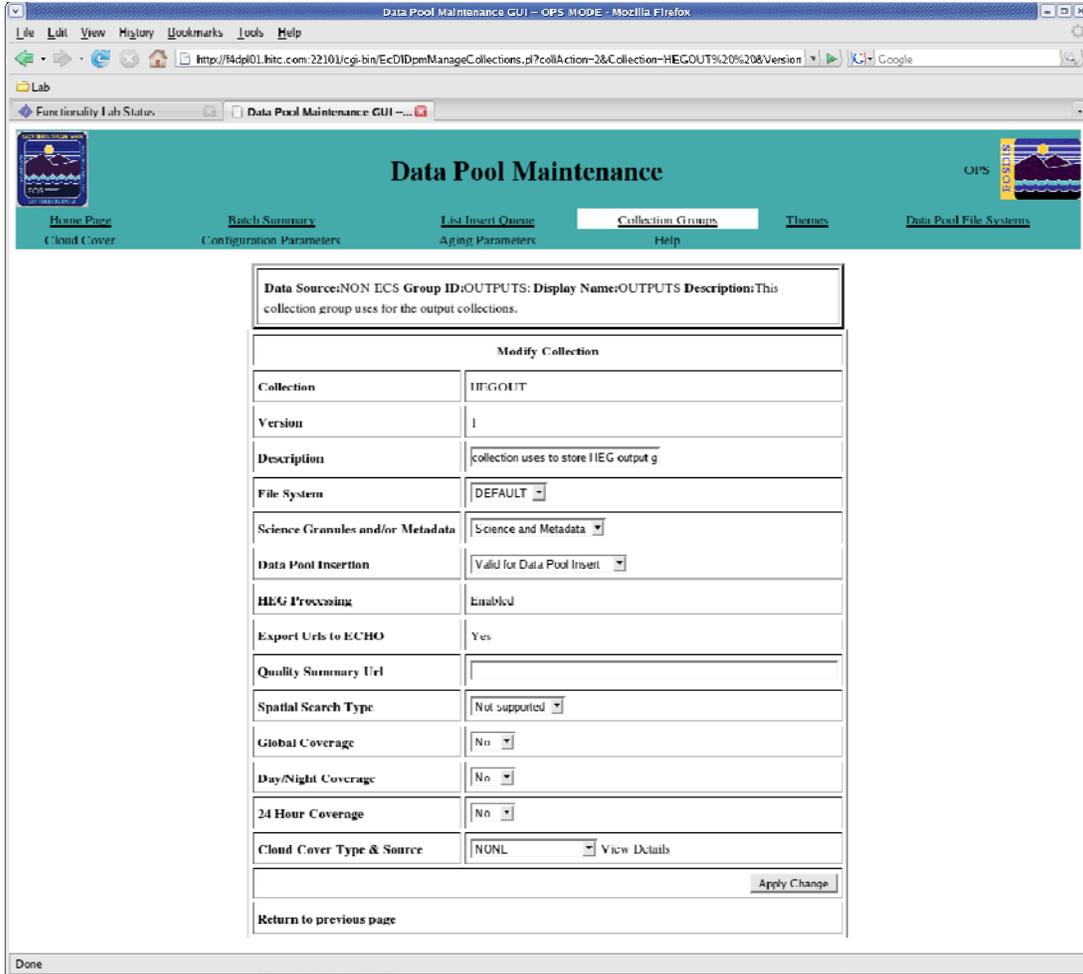


Figure 4.7.6-20. Non-ECS Modify Collections Screen

Field descriptions for the screen can be found in Table 4.7.6-10.

Note: Limited Capability users cannot use this functionality.

4.7.6.1.6 Data Pool File System Tab

Manage File System screen shown in Figure 4.7.6-21 allows the operator to view a list of file systems and information on Free Space Flag, Availability for insert, and Min Freed Space Amount. From this page the full capability operator can also configure a new file system and modifying an existing one by clicking on the link **Add New File System** and **Modify Data Pool**

File System Information link respectively. Clicking on **Add New File System** will take the operator to ‘Add New File System’ page shown in Figure 4.7.6-22. The operators need to add five fields --- 1) File System Label: A label representing an existing Data Pool file system. 2) Free Space Flag: Value needs to be set is either ON or OFF. If is set to ON that means free space is available. If it is set to OFF then that means free space is not available. 3) Availability for Insert: Value needs to be set is either ‘Available’ or ‘Unavailable’. If the value is set to ‘Available’ that means file system is available for Data Pool insert. If the value is set to ‘Unavailable’ that means file system is not available for Data Pool insert. 4): Absolute Path: indicates path name to location. 5) Min Freed Space: Need to enter an integer value, which represent megabytes of space. This amount space must remain free in order to make the file system available for insert. Clicking on Modify File System will take the operator to ‘Modify File System Information’ page shown in Figure 4.7.6-23. The operator can change Free Space Flag, Availability for insert flag, and the Min Freed Space Amount in this page. There are check boxes associated with each file system. The operator can change multiple file system at one time by checking the desired file system’s checkboxes and press on **Apply Change** button.

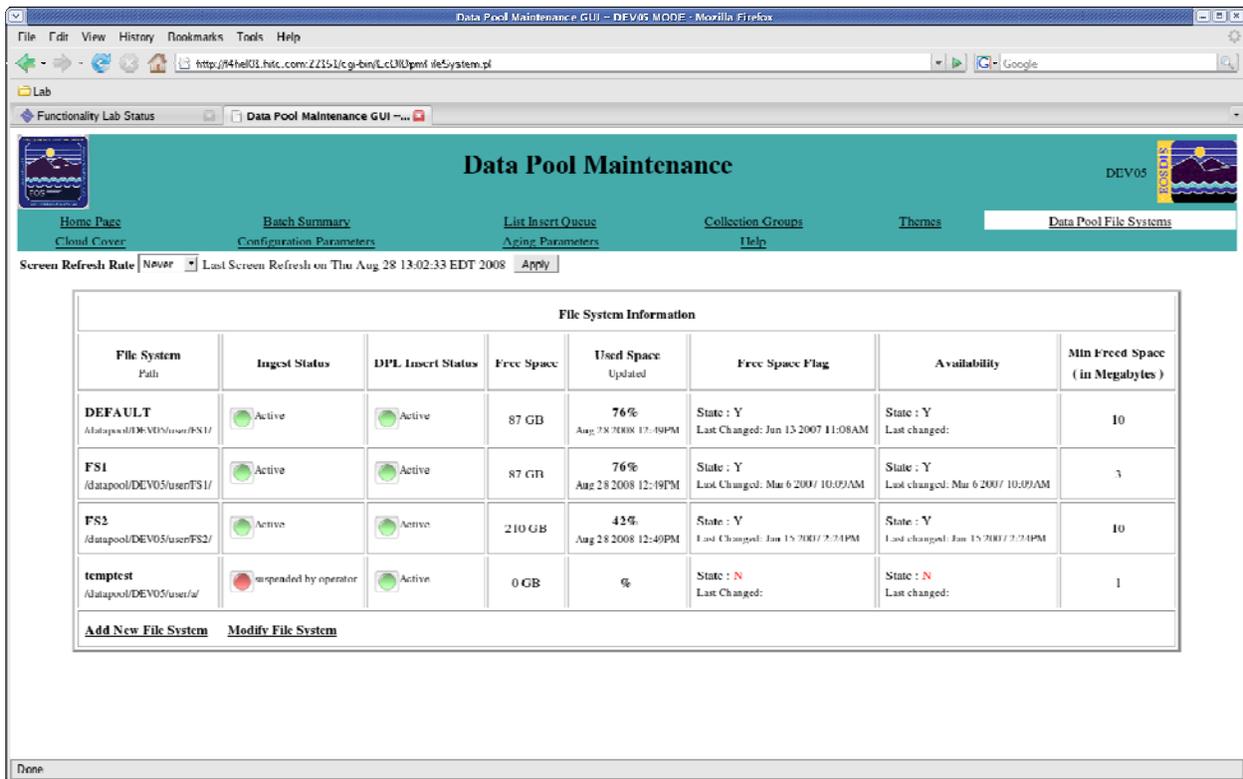


Figure 4.7.6-21. Data Pool File System Information Screen

Field descriptions for the screen can be found in Table 4.7.6-11.

Note: Limited Capability users cannot click ‘Add New File System’ or ‘Modify File System’ links.

Table 4.7.6-11. File System Information Field Description

| Field Name | Data Type | Size | Entry | Description |
|--------------------------------|-----------|------|----------|---|
| Label | char | 10 | Required | File System Label. Limited to 10 characters. This is displayed in the File System Path column. |
| Absolute Path | char | 255 | Required | File system's absolute path. Only relative path is modifiable. Limited to 255 characters for the entire path. This is displayed in the File System Path column. |
| Ingest Status | Int | 1 | Derived | Indicates if the file system is enabled for DPL ingest processes. |
| DPL Insert Status | Int | 1 | Derived | Indicates if the file system is enabled for public datapool insert processes. |
| Free Space | Int | 5 | Derived | Indicates the space available on this file system (in GB) |
| Used Space | Int | 2 | Derived | Indicated the percentage of the file system used and the date this statistic was last updated. |
| Free Space Flag | char | 1 | Optional | Indicates if space is available for Data Pool insert. 'ON' value indicates that space is available. Default is 'ON'. |
| Availability | char | 1 | Optional | File system available for insert. Value 'YES' indicate it is available and value 'NO' it is not available. The default value is 'YES'. |
| Min Freed Space (in Megabytes) | int | 4 | Optional | Amount space must be freed in order to make the file system available |

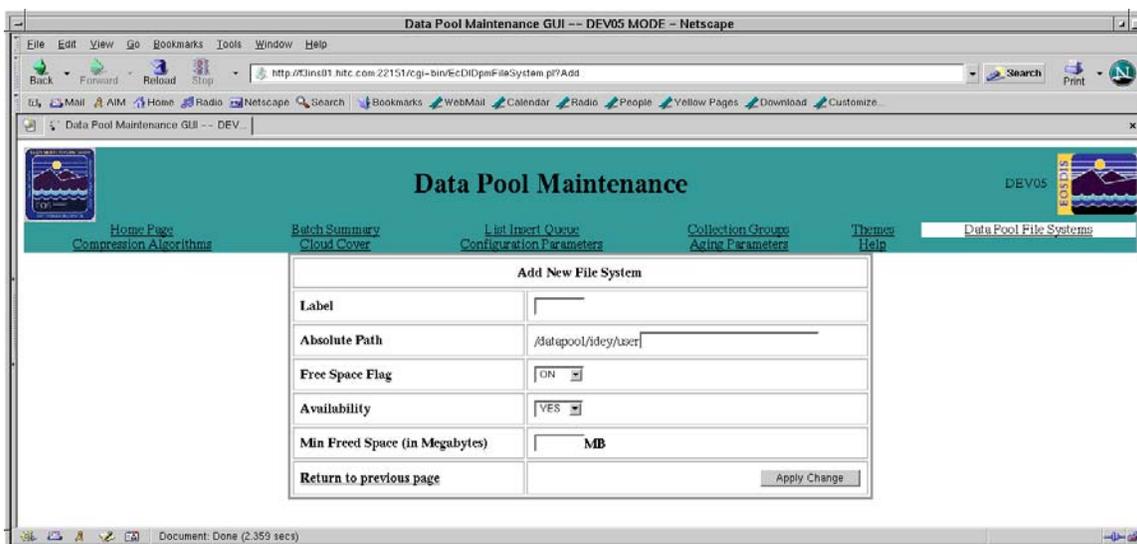


Figure 4.7.6-22. Add New File System Screen

Field descriptions for the screen can be found in Table 4.7.6-12.

Note: Limited Capability users cannot use this functionality.

Table 4.7.6-12. Add New File System Field Description

| Field Name | Data Type | Size | Entry | Description |
|--------------------------------|-----------|------|----------|--|
| Label | char | 10 | Required | File System Label. Limited to 10 characters. |
| Absolute Path | char | 255 | Required | File system's absolute path. Only relative path is modifiable. Limited to 255 characters for the entire path. |
| Free Space Flag | char | 1 | Optional | Indicates if space is available for Data Pool insert. 'ON' value indicates that space is available. Default is 'ON'. |
| Availability | char | 1 | Optional | File system available for insert. Value 'YES' indicate it is available and value 'NO' it is not available. The default value is 'YES'. |
| Min Freed Space (in Megabytes) | int | 4 | Optional | Amount space must be freed in order to make the file system available |

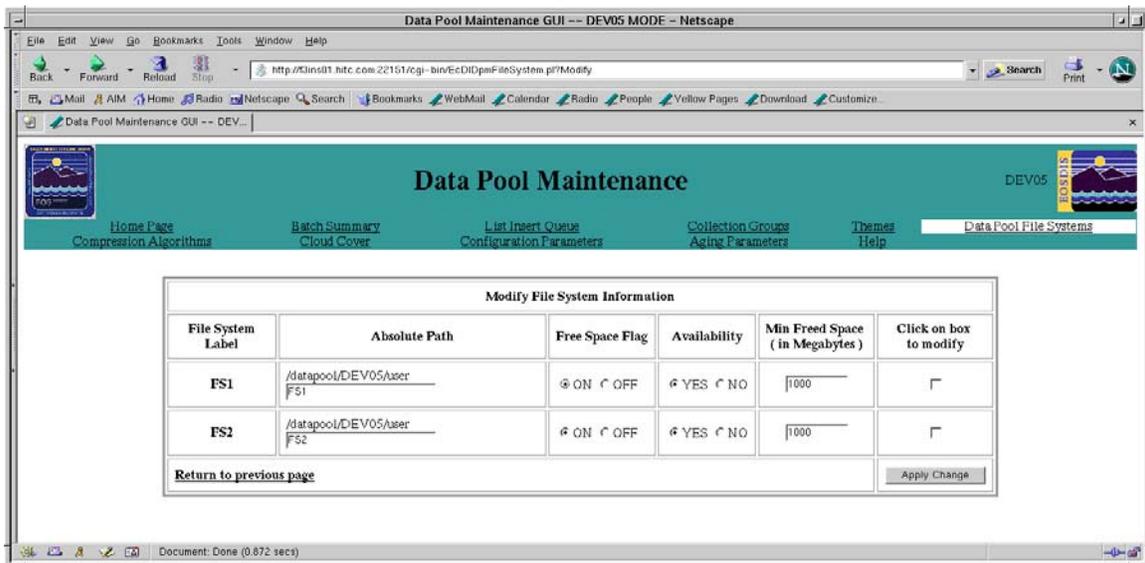


Figure 4.7.6-23. Modify File System Information Screen

Field descriptions for the screen can be found in Table 4.7.6-13.

Note: Limited Capability users cannot use this functionality.

Table 4.7.6-13. Modify File System Information Field Description

| Field Name | Data Type | Size | Entry | Description |
|--------------------------------|-----------|------|----------|--|
| File System Label | char | 10 | Required | File System Label. Limited to 10 characters. |
| Absolute Path | char | 255 | Required | File system's absolute path. Only relative path is modifiable. Limited to 255 characters for the entire path. |
| Free Space Flag | char | 1 | Optional | Indicates if space is available for Data Pool insert. 'ON' value indicates that space is available. Default is 'ON'. |
| Availability | char | 1 | Optional | File system available for insert. Value 'YES' indicate it is available and value 'NO' it is not available. The default value is 'YES'. |
| Min Freed Space (in Megabytes) | int | 4 | Optional | Amount space must be freed in order to make the file system available |
| Click on box to modify | checkbox | 1 | Optional | Select when modifications are needed |

4.7.6.1.7 Themes Tab

The Themes screen shown in Figure 4.7.6-24 allows the operator to view a list of themes in alphabetical order. This list can be filtered using three filter criteria: **Web Visible**, **Insert Enabled** and **Beginning Letters**. The options for **Web Visible**: Yes, No and ALL. The options for **Insert Enabled**: Yes, No and ALL. All of these criteria can be used together or separately. After selecting the option click **Apply Filter** button to view the filtered list of themes. From this page the operator can also delete a theme by selecting the corresponding Click On Box To Delete check box and clicking on the "**Apply Change**" button. The operator can add a new theme by clicking on the **Add A New Theme** link. This link will take the operator to "Add New Theme" page shown in Figure 4.7.6-25. The operator needs to add four fields regarding a theme: name, description, valid for insert or not and valid for web drill down or not. The operator also can modify an existing theme by clicking on the "**Modify Theme**" link from Figure 4.7.6-24. This link will take the operator to the Modify Theme page shown in Figure 4.7.6-28. Theme name is the only field that is not editable. The operator can modify the description of a theme by simply retyping in the text area. The operator also can change the option for Insert enabled and web enabled by selecting or deselecting the appropriate boxes. After making the selection the operator needs to select the check box corresponding to the theme and then press the **Apply Change** button. Upon pressing this button the changes will take effect in the Data Pool database and also the Manage Themes page in Figure 4.7.6-24 will be refreshed.

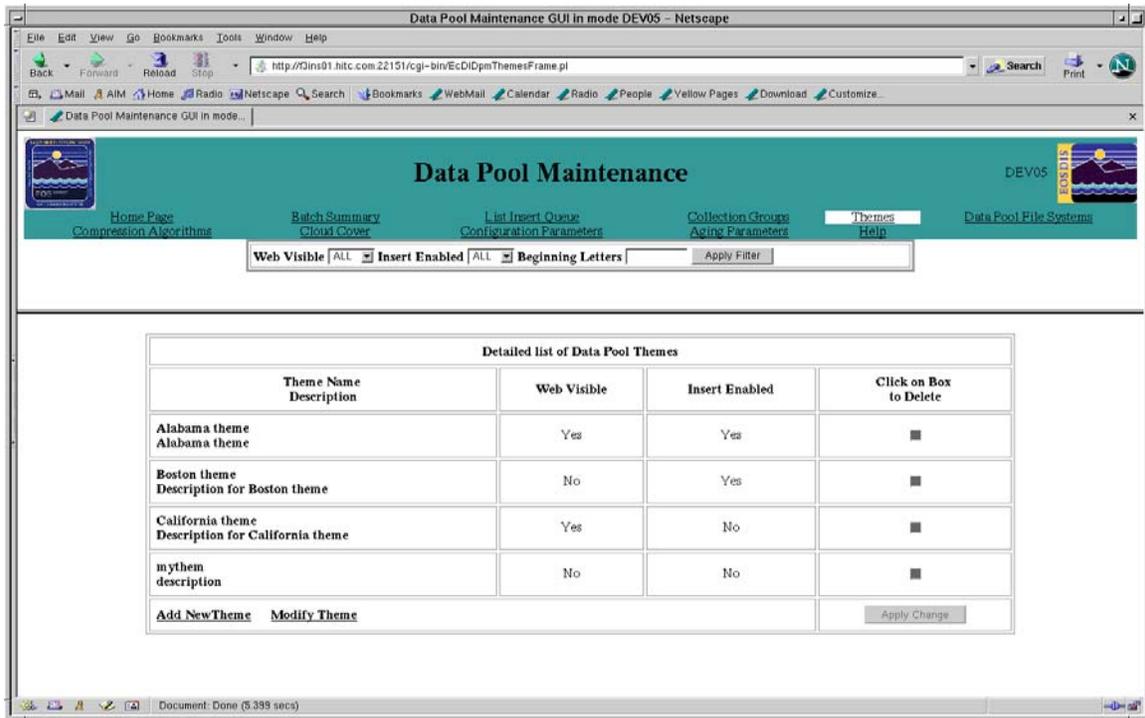


Figure 4.7.6-24. Themes Screen

Note: Limited Capability users cannot click ‘Add New Theme’ or ‘Modify Theme’ links. They also cannot delete themes. All check boxes and ‘Apply Change’ button cannot be clicked.

Table 4.7.6-14 lists the filter theme field descriptions.

Table 4.7.6-14. Filter Theme Field Description

| Field Name | Data Type | Size | Entry | Description |
|------------------------|-----------|------|----------|---|
| Theme Name | char | 40 | Required | Partial or full name of a theme. |
| Description | char | 100 | Required | Description of the theme. |
| Web Visible | char | 1 | Optional | Availability for Web scroll down. The default will be system generated. |
| Insert Enabled | char | 1 | Optional | Enabled for Data Pool insert. The default will be system generated. |
| Click on Box to Delete | check box | 1 | Optional | Option to delete theme name and its corresponding information once box is checked |

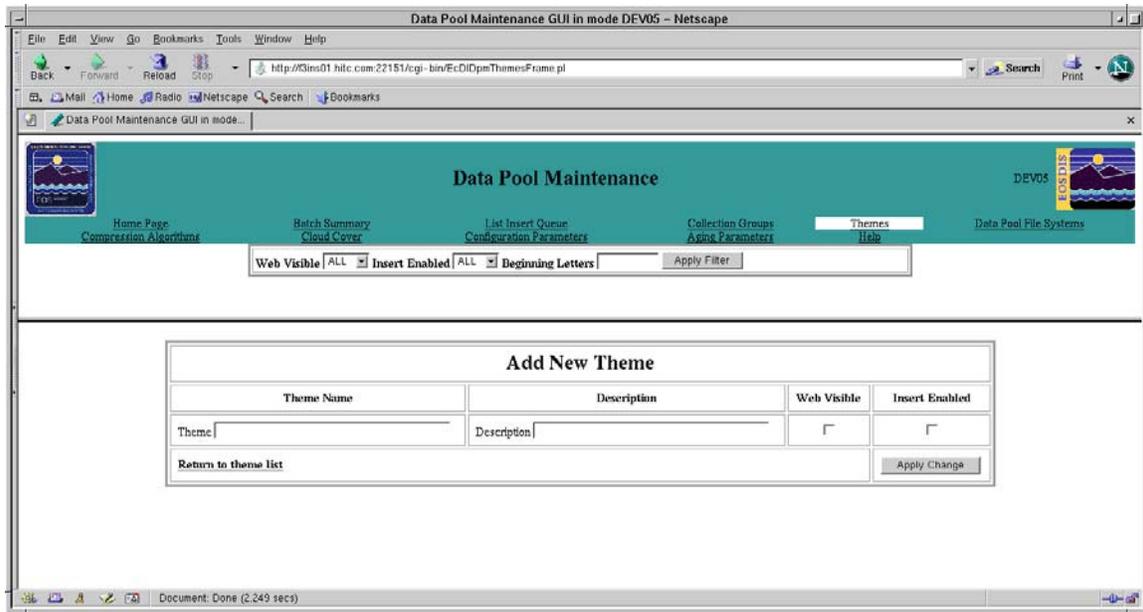


Figure 4.7.6-25. Add a New Theme Screen

Note: Limited Capability users cannot use this functionality

See Table 4.7.6-15 below for field descriptors for the Add New Themes page.

Table 4.7.6-15. Add a New Theme Field Description

| Field Name | Data Type | Size | Entry | Description |
|----------------|-----------|------|----------|--|
| Theme Name | char | 20 | Required | Name of a theme. Scrollable up to 40 characters. |
| Description | char | 100 | Required | Description of a theme. Scrollable up to 255 characters. |
| Web Visible | Check box | 1 | Optional | Availability for Web scroll down. |
| Insert Enabled | Check box | 1 | Optional | Enabled for Data Pool insert. |

Theme names will be verified against input errors and name duplication. An error window will pop in each case over the **Add A New Theme** page to indicate the error, shown in Figure 4.7.6-26 and Figure 4.7.6-27. Click **OK** to dismiss the window.



Figure 4.7.6-26. Input Error Screen



Figure 4.7.6-27. DB Error Screen

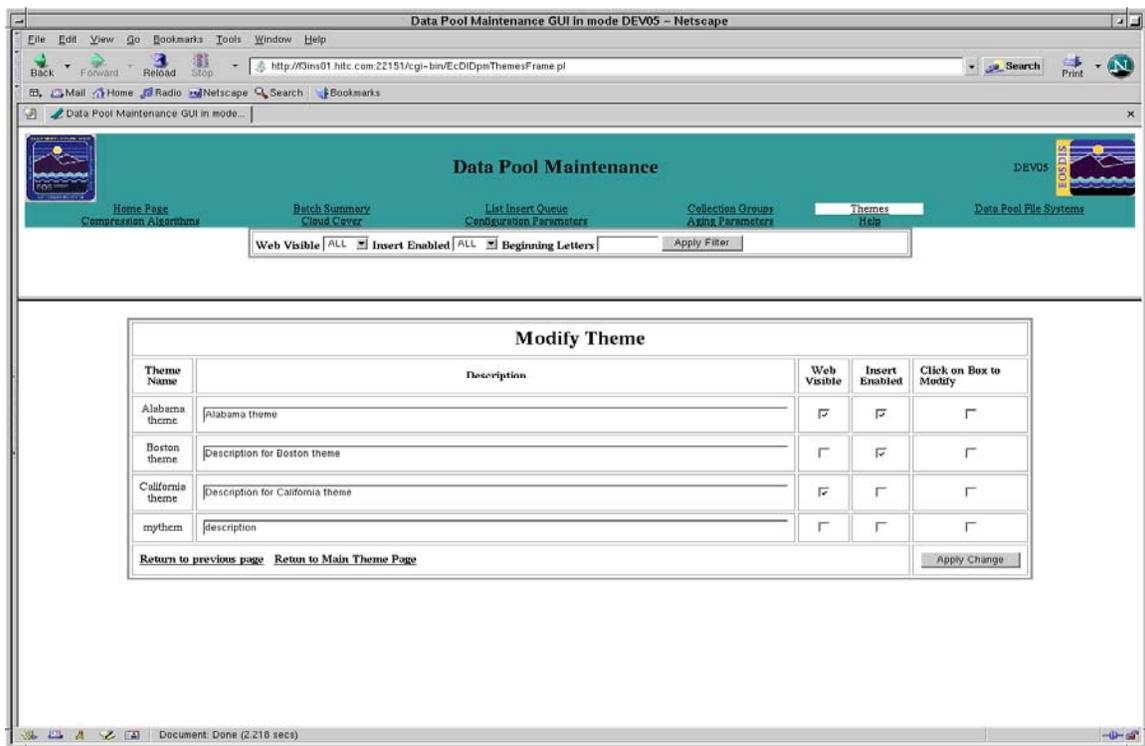


Figure 4.7.6-28. Modify Theme Screen

Note: Limited Capability users cannot use this functionality.

See Table 4.7.6-16 for Modify Theme Field Descriptions field descriptors.

Table 4.7.6-16. Modify Theme Field Description

| Field Name | Data Type | Size | Entry | Description |
|------------------------|------------------|-------------|--------------|---|
| Theme Name | char | 20 | Required | Name of a theme. Scrollable up to 40 characters. |
| Description | char | 100 | Optional | Description of a theme. Scrollable up to 255 characters. |
| Web Visible | check box | 1 | Optional | Availability for Web scroll down. Default will be not Web visible. |
| Insert Enabled | check box | 1 | Optional | Enabled for Data Pool insert. Default will be not available for insert. |
| Click on Box to Modify | checkbox | 1 | Optional | Select when modifications are needed |

4.7.6.1.8 Cloud Cover Tab

Cloud Cover Information screen shown in Figure 4.7.6-29 allows the operator to view a list of Cloud Cover source names, their types and descriptions. It also provides check boxes beside each cloud cover information rows to delete any of the entries. Only full capability operators can execute this delete operation. The full capability operators can also configure a new cloud cover information and modifying description of an existing one by clicking on the link Add New Cloud Cover and Modify Source Description link respectively. Clicking on **Add New Cloud Cover** will take the operator to 'Add A New Cloud Cover Information' page shown in Figure 4.7.6-30. The operators need to add three fields --- 1) Source Type: A drop down list consisting of types. Currently there are two types: Core Metadata and PSA (Product Specific Attribute). If 'Core Metadata' is selected then source name will be automatically populated. 2) Source Name: Need to enter a valid source name if 'PSA' is selected for Source Type. 3) Source Description: Need to enter a description for the source. This description can be 255 characters long. Clicking on **Modify Source Description** will take the operator to '**Modify Cloud Cover Description**' page shown in Figure 4.7.6-31. The operator can change the source description. There are check boxes associated with each cloud cover information item. The operator can change information at one time by checking the desired cloud cover information's checkboxes and press on **Apply Change** button. See Table 4.7.6-17 for field descriptors of the cloud cover pages.

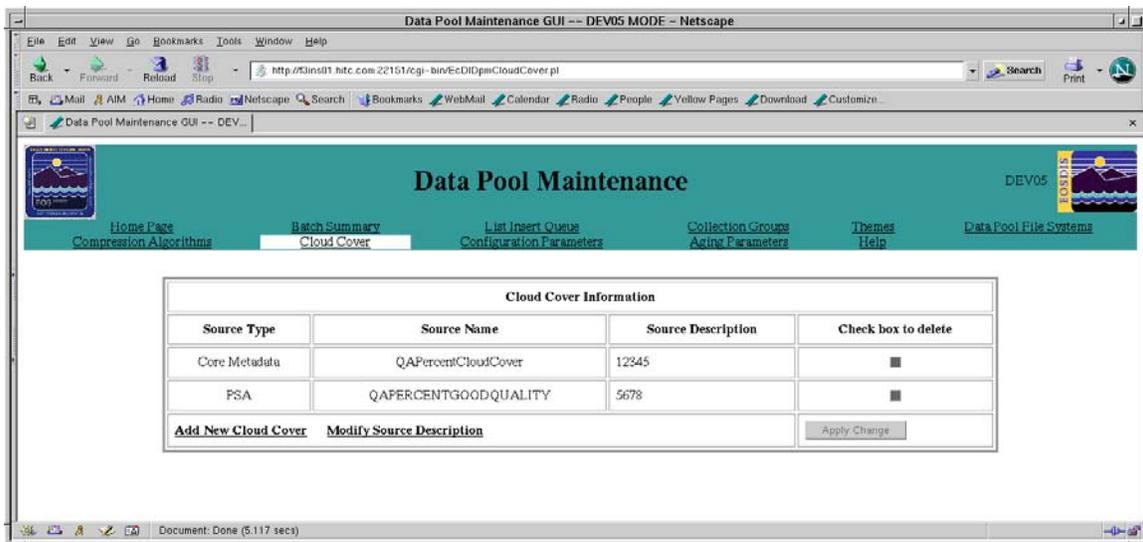


Figure 4.7.6-29. Cloud Cover Information Screen

Note: Limited Capability users are not allowed to delete cloud cover information.

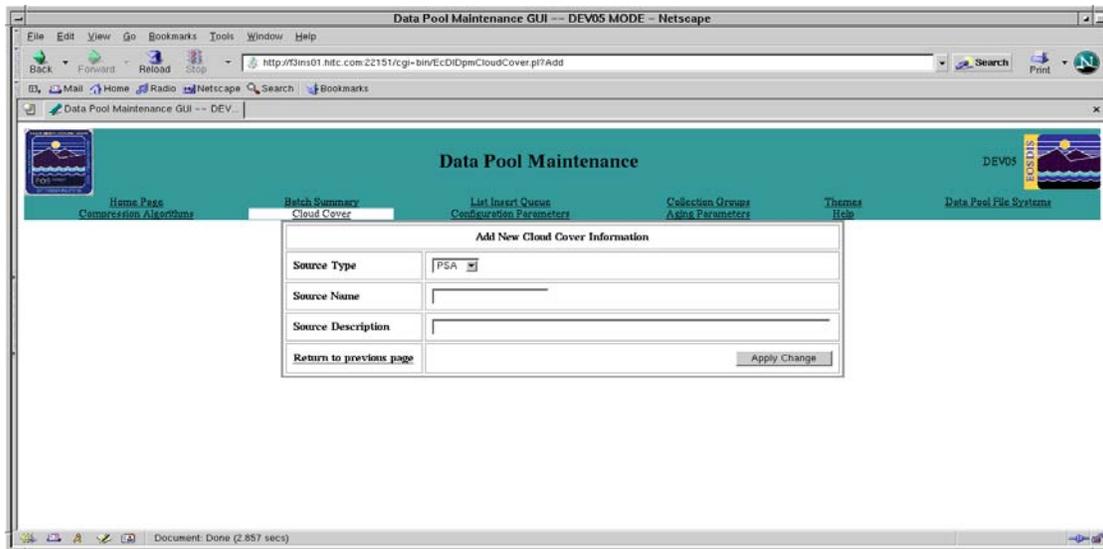


Figure 4.7.6-30. Add a New Cloud Cover Information Screen

Note: This page is not accessible by Limited Capability users.

Table 4.7.6-17. Add A New Cloud Cover Information Field Description

| Field Name | Data Type | Size | Entry | Description |
|------------------------|-----------|------|----------|---|
| Source Type | char | 30 | Required | Cloud Cover source type |
| Source Name | char | 20 | Required | Valid source name |
| Source Description | char | 30 | Optional | Description about the source name. Up to 255 characters long |
| Click on box to delete | checkbox | 1 | Optional | Option to delete theme name and its corresponding information once box is checked |

The fields of the Aging Parameters Page are described in Table 4.7.6-19.

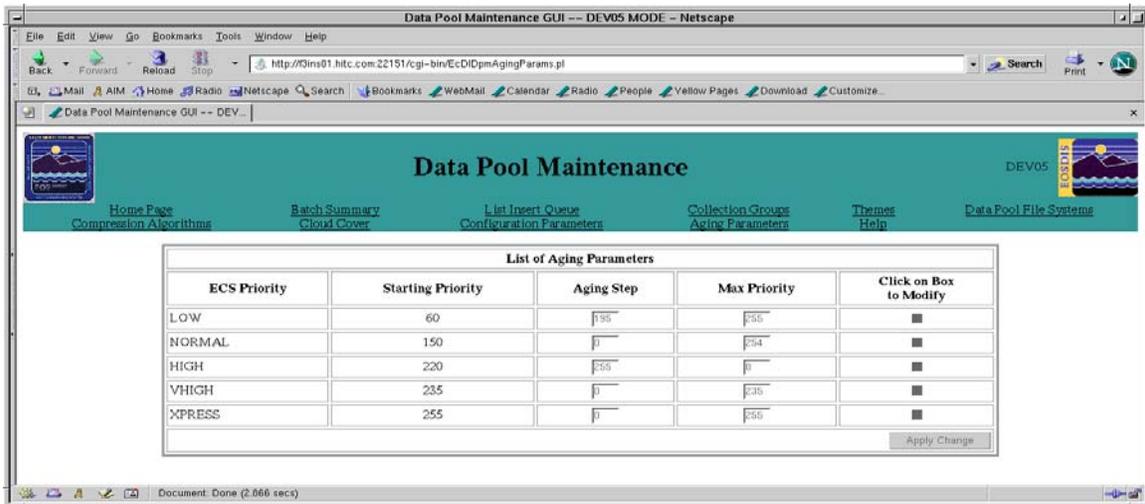


Figure 4.7.6-32. List of Aging Parameters Screen

Table 4.7.6-19. Aging Parameters Field Descriptions

| Field Name | Data Type | Size | Entry | Description |
|------------------------|-----------|------|----------|---|
| ECS Priority | char | 10 | Required | Determines the level of priority for the Aging Parameter for ECS: Low, Normal, High, Very High, Express |
| Starting Priority | int | 4 | Required | Provides ascending order of Aging Parameters according to it priority number |
| Aging Step | int | 4 | Optional | Time interval to increase the priority value |
| Max Priority | int | 4 | Optional | Maximum priority value for an ECS priority level |
| Click on Box to Modify | checkbox | n/a | Optional | Select when modifications are needed |

4.7.6.1.10 End Session Tab

The **End Session** tab is provided to end a session on demand. This tab is available only from the Data Pool Home Page. Upon clicking on **End Session** link it will bring up the **End Session** page shown in Figure 4.7.6-33.

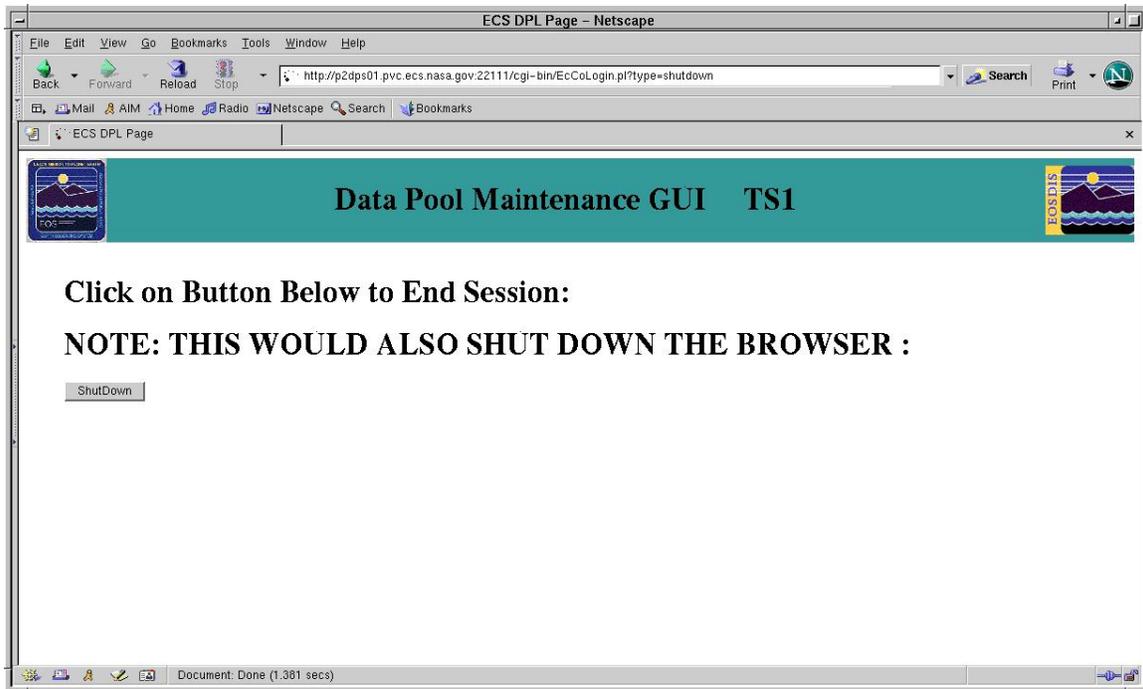


Figure 4.7.6-33. End Session Page

4.7.6.2 Data Pool Maintenance Main Screen

See Figure 4.7.6-2.

4.7.6.3 Required Operating Environment

The following environment is required for the DPM GUI to work properly:

- The O/S requirements are Linux 2.x or higher

4.7.6.4 Databases

The DPM GUI accesses the Inventory database.

4.7.6.4.1 Interfaces and Data Types

The DPM GUI exchanges data between the Web Browser and database, using Perl CGI and DBI Modules for the Interface.

4.7.6.5 Special Constraints

There are no special constraints to running the DPM GUI.

4.7.6.6 Outputs

There are no outputs from the DPM GUI except for status and error messages.

4.7.6.7 Event and Error Messages

The DPM GUI writes status and error messages to the EcDlDataPoolGUI.log file in the directory /usr/ecs/<MODE>/CUSTOM/logs.

4.7.6.8 Reports

The DPM GUI does not generate reports.