

9. Configuration Management Procedures

The prepared procedures are applicable to all hardware, software, and firmware components of systems or subsystems developed and acquired by the EED contract and/or delegated to configuration management control by the operational site-level organizations. The procedures are applicable to all items maintained by the EED Sustaining Engineering organizations in support of EED mission-specific projects and multiple mission-specific institutional facilities. The procedures are not applicable to those entities controlled by higher level ESDIS Project Office CM Plans. CM procedures already in place may be used by the contractor subject to direction from the Change Control Board (CCB) chairperson.

Some major features of the approach being described here include:

- Customers participate in establishing the procedures;
- The Science Development (SCDV) CCB performs a support role for ESDIS and its designated on-site CCBs by processing system-level Configuration Change Requests (CCRs);
- Prioritization, automated tools, and procedures are used for handling change requests;
- Diverse/Strategic representation at hierarchical CCBs facilitates a path for speedy escalation/resolution of problems/issues;
- Local organizations have the needed autonomy to accomplish their mission with the minimum necessary outside intervention to promote timely resolution of local problems and enable timely production of data products;
- Proper use and deployment of CM database assets to support all CCBs allows management monitoring, control, and analysis of activities;
- Coordination with the Problem Review Board allows coordinated response to problems and filtering of prioritized issues; and
- Common CM tools will be used in all elements of the EED Project during operations.

The procedures are organized into seven major sections that address system-level flow-down of procedures to the site-level which references applicable site-tailored procedures. The topics include:

- Section 9.1 Configuration Identification
- Section 9.2 Change Control Procedures
- Section 9.3 Configuration Status Accounting
- Section 9.4 Configuration Audits
- Sections 9.5 and 9.6 Software CM Manager (ClearCase)
- Section 9.7 Baseline Manager (ClearCase tool).

9.1 Configuration Identification Procedure

9.1.1 Purpose

The purpose of configuration identification during sustaining engineering is to incrementally establish and maintain the definitive basis of control and status accounting for the ECS control items. The EED program now includes both SDPS and ECHO. To accomplish configuration identification for both hardware and software, the configuration management (CM) administrator (CMA) will ensure the maintenance of each EED configuration controlled item in an operational baseline by executing the following tasks:

- Assign identifiers to configuration items (CIs) and their component parts and associated configuration documentation, including revision and version number where appropriate; Assign serial and lot numbers, as necessary, to establish the CI affectivity of each configuration of each item of hardware and software;
- Follow ECS developer guidelines as referenced below in Section 9.1.3 *References*;
- Use vendor nomenclature for COTS items;
- Follow author-designated version control and nomenclature for documents and follow the EED Library guidelines (cf. Chapter 17, *Library Administration*) administered by the EED Librarian;
- Maintain linkage of the ECS documentation to ECS configuration items in the Baseline Manager tool (cf. Section 9.7 *Baseline Manager*). Ensure that the marking and labeling of items and documentation with their applicable identifiers enables correlation between the item, configuration documentation, and other associated data;
- Maintain a release system for configuration changes (cf. Section 9.2 *Configuration Change Control Procedures*);
- Maintain views of operational baselines using the Baseline Manager tool.

9.1.2 Applicability

All CM Administrators and support personnel.

9.1.3 References

ESDIS CM Plan

Configuration/Data Management Plan for the EOSDIS Evolution and Development
(EED) Contract 110-EED-001

EED Software Build Process CM-1-045

Data Identification Numbering DM-002

DoD MIL-STD-973

9.2 Configuration Change Control Procedures

9.2.1 Purpose

The ESDIS-chartered Change Control Boards (CCBs) apply configuration control measures to all the ECS configuration items and the associated documentation prior to the time the baseline is modified for operations. These measures to accomplish the following objectives:

- Ensure effective control of all CIs and their approved documentation;
- Provide effective means, as applicable, for (1) proposing engineering changes to CIs, (2) requesting deviations and waivers pertaining to such items, and (3) preparing notices of revision;
- Ensure the implementation of approved changes.

9.2.2 Applicability

All ESDIS-chartered ECS CCBs.

9.2.3 References

ESDIS CM Plan

Configuration/Data Management Plan for the EOSDIS Evolution and Development
(EED) Contract 110-EED-001

CCB Change Control Process EED PI CM-004

9.2.4 Procedures

9.2.4.1 Configuration Change Request Preparation

Configuration changes processed by the ESDIS Change Control Board (CCB) are documented on ESDIS CCR forms (Figure 9.2-1). EED CCBs use CCR forms available with the EED Change Manager (ECM) Tool (Figure 9.2-2). Site-level chartered CCBs at the DAACs use either a local copy of the ECM Tool or their own, locally generated forms.

Each CCB uses unique, sequential identification numbers for CCRs. Each CCB can forward CCRs and reports from the Change Request Manager to Riverdale, which processes system-level CCRs for ESDIS CCB.

The ESDIS CM Plan determines the charter of the respective CCBs and thus the scope of CCR issues to be addressed by the site CCBs.

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Address <https://ocero.eos.nasa.gov/bin/esdis/frameset.cgi>

[ESDIS CCR System](#) [BROWSE & ASSESS CCRs](#) [GENERATE REPORTS](#) [INITIATE NEW CCR](#) [GET SYSTEM OVERVIEW](#) [RELATED SITES](#) [MASTER DOC LIST](#) [MY ACCOUNT](#)

Proposed Configuration Change Request

Please fill out all applicable fields before submitting this form to the ESDIS CM Office. Mandatory fields are marked with **red asterisks**. If you elect to "Save Draft CCR", you will be able to continue editing your draft CCR later, prior to submission to the CMO. Note that **your request will not be reviewed by the CM Office until you use the "Submit to CMO" button**. Also note that, following submission, your proposed CCR will not be accessible to you via the CCR System during the brief period of initial review by the CM Office.

CCR Number: TBD Date Initiated: 03/05/2009

* Title

* Primary Sponsor Code Phone Email

Second Sponsor Code Phone Email

If sponsor is not in these lists, please contact the [ESDIS CM Office](#) (cm4esdisemo@listserv.gsfc.nasa.gov).

Project <input checked="" type="radio"/> ESDIS <input type="radio"/> ESMO	Anticipated Cost <input type="radio"/> None (\$0K) <input type="radio"/> Small (\$0K-\$100K) <input type="radio"/> Medium (\$100K-\$500K) <input type="radio"/> Large (\$500K+) <input checked="" type="radio"/> TBD	Implementation Schedule (120 characters maximum) <input type="text"/>
ROM Required <input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> TBD	Schedule Impact <input type="text"/>	
External CCR Number <input type="text"/>		Funding Source <input type="text"/>

* **Problem**
(2000 characters maximum)

PageID: ccr_create.form Internet

Figure 9.2-1. ESDIS Configuration Change Request (CCR) Form

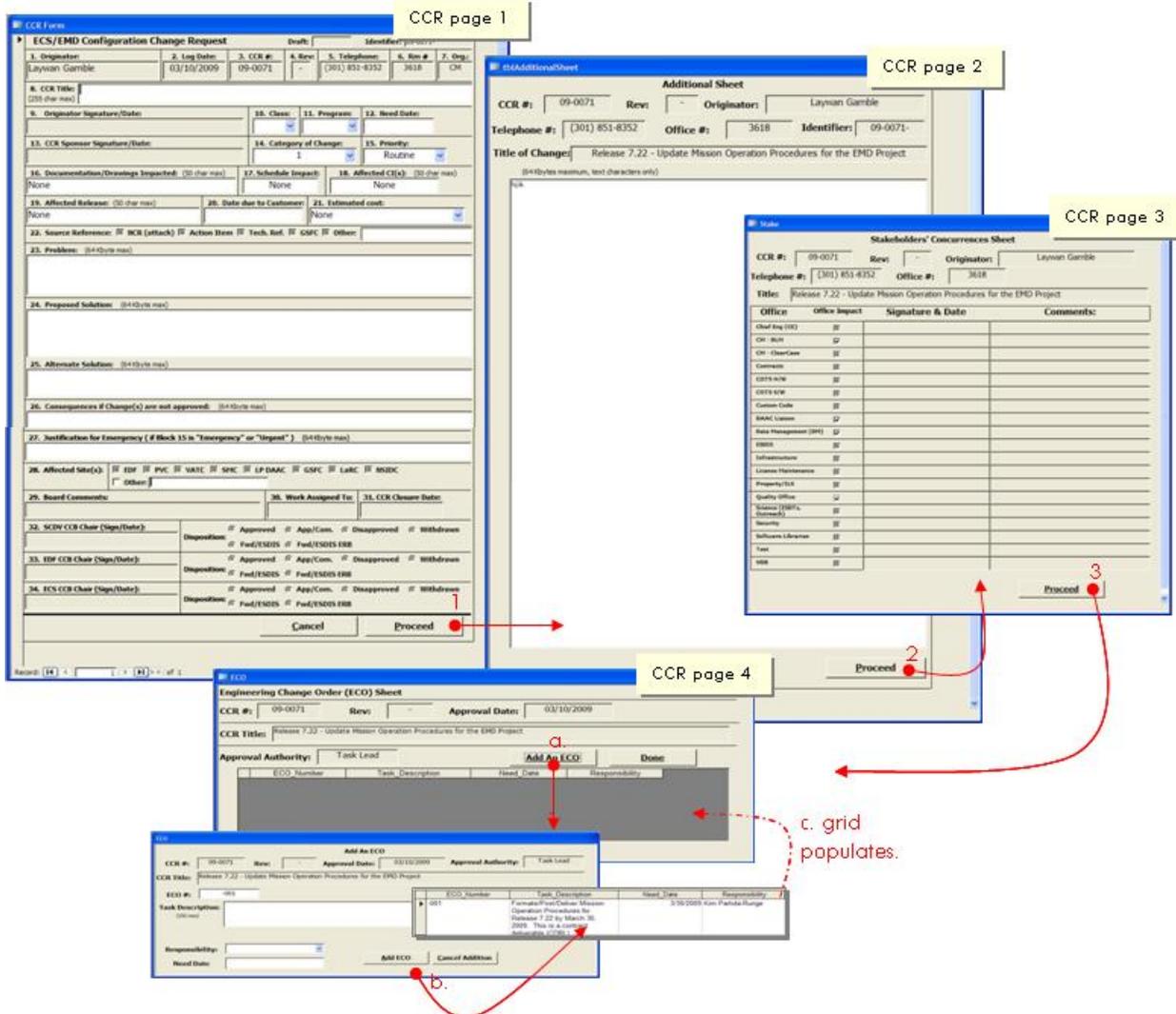


Figure 9.2-2. EED Configuration Change Request (CCR) Form

Table 9.2-1 describes the fields contained on the EED CCR form.

Table 9.2-1. CCR Form Field Descriptions (1 of 2)

Field Name	Data Type	Size	Entry	Description
CCR Title	Text	255	Required	A title for the CCR (Start the title with an action word such as Install, Update, Procure, etc.)
Class	Text	50	Required	Class descriptions are: I - Change Contractual Requirements to cost or schedule. II - No contractual impact, but control is important for ensuring Quality of the Program. IN - Has no contract impact and internal to the project (e.g., EDF configuration, EDF documents, and installation/removal of all evaluation COTS in the EDF.
Program	Text	50	Required	Applicable Programs: EED only.
Need Date	Date	Short date	Required	The date that the CCR needs to be implemented.
Category of Change	Integer	Integer	Required	This field indicates the kind of configuration change being requested. Selections are: 1 – Custom Software 2 – COTS Software 3 – Technical Documents 4 – VDB 5 – Procurement 6 – CDRL Delivery 7 – Technical Directives Release 8 – EDF/Infrastructure 9 – Hardware Change 10 – Other
Priority	Text	50	Required	The priority of the CCR: Routine – No hurry, but should be done as soon as possible. Urgent – Needs to done within 48 – 72 hours. Emergency – Needs to be done within 24 hours.
Documentation/Drawings Impact	Text	50		The documentation and drawings that this CCR affects.
Schedule Impact	Text			The impact that the CCR will have on the project schedule.
Affected CI(s)	Text			The configuration Items that are affected by the CCR.
Affected Release	Text			The Release to which this CCR applies.
Date Due to Customer	Date		Required	The date that the CCR's product is due to the customer.

Table 9.2-1. CCR Form Field Descriptions (2 of 2)

Field Name	Data Type	Size	Entry	Description
Estimated Cost	Text		Required	The estimated cost of completing the CCR. Selections are: None Small <= \$100,000 Medium (\$100,000 - \$500,000) Large >=\$500,000
Source Reference	Yes/No		Required	Source Reference selections are: NCR Attach – An NCR is being resolved by this CCR. Action Item – The NCR is being generated as the results of an action item. Tech. Ref. – The CCR has a technical reference. GSFC – The CCR has A GSFC source. Other – The CCR has another source reference {note, the other source reference has to be listed in the box alongside “Other.”}
Problem	Text		Required	The problem that this CCR will resolve.
Proposed Solution	Text		Required	The solution to the problem that the CCR will provide.
Alternate Solution	Text		Required	An alternative solution to the one being proposed in the CCR. Enter “None” if there is no alternative.
Consequences If Change(s) are not approved	Text		Required	The adverse effects if the CCR is not approved.
Justification for Emergency	Text		Optional	Explanation as to why the change is needed as quickly as possible. <u>Note, this field is required if Block 15 is Emergency or Urgent.</u>
Affected Site(s)	Yes/No			Sites (EDF, PVC, VATC, LP DAAC, ASDC, NSIDC, ECHO) that will be affected by the CCR. If Other is selected, the name of the site must be entered into the box.

9.2.4.2 Change Control Board Process (System and Site-level CCBs)

Each site's CCB is controlled by the host site organization and provides the authority and direction for the EED contractor to modify the operational baseline. The ESDIS CCB has chartered an EED Review Board to coordinate ECS system-level changes and problem management via the EED contractor and on-site Review Boards that also act as site CCBs. This is illustrated using the CM Administrator’s workflow for the sustaining engineering support of the EED Review Board in Figure 9.2-3 and the On-Site CM Administrator’s workflow for sustaining engineering support of the on-site CCB in Figure 9.2-4. Both diagrams illustrate the

flow of CCRs through the respective CCBs with inputs from the review boards and evaluators that determine the disposition of proposed changes. Details of this process are given below:

System-level Change Control Procedures

(The enumeration corresponds to the diagram of Figure 9.2-3)

1. Configuration Change Requests are received by the EED CM Administrator from all sources with regard to the operational EOSDIS Core System as described in Section 9.2.4.1. These changes designated as from other sources could involve system enhancements, procedures, interfaces (both external and internal), documentation changes, etc. that are not the subject of contemporaneous problem reports which would be first deliberated by the Problem Review Board (PRB) as explained below.
2. Configuration changes proposed for the common baseline are based on Trouble Ticket (TT) resolutions obtained from the respective review boards (Chapter 8 Problem Management, for details). The respective TT would be closed via a corresponding CCR to either ratify, i.e., to make permanent the prior temporary/emergency action taken by the PRB or to consider normal priority (scheduled) changes for incorporation into future change releases.
3. The EED CM Administrator is responsible for logging the CCR into the Change Request Manager.
4. The CCB chair assigns an evaluator and the EED CM Administrator coordinates impact assessment.
5. Class I change requests (proposed changes that affect controlled milestones, schedules, budget, cost and requirements) are forwarded to the ESDIS CCB for consideration with recommendations from the EED Review Board.
6. Class II change requests (proposed changes affecting documentation, hardware [alternative use of], software [correction of errors], and COTS substitution without a Class I impact) are considered by EED Review Board deliberations.
7. Notice of proposed changes is distributed to affected parties and review board members to obtain and coordinate impact assessment and optimize the approach to implement proposed changes.
8. The results of EED Review Board deliberations are factored into review board resolutions which determine whether, when, or where the system changes will be implemented.
9. Approved changes are processed by the EED CM Administrator to the support activities, i.e., site CCBs, support personnel, vendors, etc. who are provided with change orders, schedule, and implementation instructions.
10. Disapproved changes are processed by the EED CM Administrator via official notifications, memo to the file, and update of the Change Request Manager (CRM) – the ECM Tool.

11. The EED CM Administrator tracks implementation and closure of CCRs via directions to implementing organizations and their acknowledgements using the CRM tracking and status features.
12. New versions and/or maintenance updates are annotated in Baseline Manager at Riverdale and at the affected sites by following the procedures for configuration identification, activation dates, deactivations dates, and issuing version description documents.
13. Simultaneously, the SW Change Manager (ClearCase) is updated with directory trees, installation files, and software as required by SW maintenance.
14. Status of this activity to implement changes and assigned responsibilities is tracked through closure in the CRM at Riverdale and at the sites.
15. The databases are synchronized by manual checking between applications (Baseline Manager vs. CRM vs. SW Change Manager) and automated verification by the SW CM Manager for purposes of SW distribution and maintenance.
16. The Problem Review Board is empowered to make emergency fixes without common baseline changes and follow up with a CCR to the appropriate CCB that documents the changes to be recorded in the Baseline Manager. Proposed common baseline changes must be submitted by CCR.

Site-level Change Control Procedures

(The enumeration corresponds to the diagram of Figure 9.2-4)

1. Configuration Change Requests are received by the Site CM Administrator from all sources with regard to the **site unique extensions** to the operational EOSDIS Core System as described in Section 9.2.4.1 *Configuration Change Request Preparation*. These changes designated as from other sources could involve system enhancements, procedures, interfaces (both external and internal), documentation changes, etc. that are not the subject of contemporaneous problem reports which would be first deliberated by the Site / EED Problem Review Board (PRB) as explained below.
2. Proposed site baseline changes will be proposed based on Trouble Ticket (TT) resolutions obtained from the respective review boards (Chapter 8 *Problem Management* for details). The respective TT would be closed via a corresponding CCR to either ratify, i.e., to make permanent the prior temporary/emergency action taken by the PRB or to consider normal priority (scheduled) changes for incorporation into future change releases.
3. The Site CM Administrator is responsible for logging the CCR into the Change Request Manager.
4. The CCB chair assigns an evaluator and the Site CM Administrator coordinates impact assessment.
5. Class I/System Issues change requests (proposed changes that affect controlled milestones, schedules, budget, cost and requirements) are forwarded to the EED Review Board for consideration with recommendations from the Site CCB. Class I issues are further forwarded with recommendations by the EED Review Board to the SCDV CCB for in-scope issues and to the ESDIS CCB for consideration of out-of scope issues with respect to the SOW of the EED Contract.
6. Class II change requests (proposed changes affecting documentation, hardware [alternative use of], software [correction of errors], and COTS substitution without a Class I impact) are considered by Site CCB deliberations.
7. Notice of proposed changes is distributed to affected parties and review board members to obtain and coordinate impact assessment and optimize the approach to implement proposed changes.
8. The results of Site CCB deliberations are factored into CCB resolutions which determine whether, when, or where the system changes will be implemented.
9. Approved changes are processed by the Site CM Administrator to the support activities, i.e., other CCBs, support personnel vendors, etc. who are provided with change orders, schedule, and implementation instructions.
10. Disapproved changes are processed by the Site CM Administrator via official notifications, memo to the file, and update of the Change Request Manager (CRM).

11. The Site CM Administrator tracks implementation and closure of CCRs via directions to implementing organizations and their acknowledgements using the CRM tracking and status features.
12. New versions and/ or maintenance updates are annotated in Baseline Manager at the affected sites and Riverdale by following the procedures for configuration identification, activation dates, deactivations dates, and issuing version description documents.
13. Simultaneously, the SW Change Manager (ClearCase) is updated with directory trees, installation files, and software as required by SW maintenance.
14. Status of this activity to implement changes and assigned responsibilities is tracked through closure in the CRM at the sites.
15. The databases are synchronized by manual checking between applications (Baseline Manager vs. CRM vs. SW Change Manager) and automated verification by the SW CM Manager for purposes of SW distribution and maintenance.
16. The on-site Problem Review Board is empowered to make emergency fixes without common baseline changes and update these changes directly to Baseline Manager with documentation to follow via the CCR submitted to the appropriate CCB. Proposed common baseline changes must be submitted by CCR to the EED Review Board.

Each site's CCB accepts initial release or updates from the ESDIS CCB. Similarly, the Distributed Active Archive Center (DAAC) CCBs will accept product generation software from an ESDIS authority. Local tailoring and installation decisions are determined by the site CCB.

The CM function at each DAAC will accept science software and data items from the SCDV CCB. These items will be incorporated into the DAAC's operational baseline as directed by the DAAC CCB.

The EED Review Board will be charged with the responsibility for centralized coordination and control of EED CM activities to ensure:

- ECS integrity and quality of service;
- Successful coordination with both internal and external networks, systems, and on-site facilities;
- Timely ESDIS CCB visibility into and oversight of ECS operations;
- Convenient user administrative services.

9.3 Configuration Status Accounting Procedures

9.3.1 Purpose

Configuration status accounting (CSA) consists of recording and reporting information about the configuration status of the EED Project's documentation, hardware and software throughout the Project life cycle. Periodic and ad hoc reports keep ESDIS informed of configuration status as the operational mission evolves. Reports will be generated as needed.

The Baseline Manager tool described in Section 9.7 *Baseline Manager* records and tracks products designated as EED control items (i.e., custom, COTS, science, toolkit, etc.) SW and HW items, along with their associated documentation, records and historical versions of EED operational configurations.

CSA entails maintaining version histories of delivered and maintained products as well as histories of operational baselines and changes made to each baseline. Additionally, CSA tracks the status of proposed changes from initial CCR submission to ultimate disposition and/or implementation. CSA also maintains historical records of CCRs.

9.3.2 Applicability

All ESDIS chartered CCBs

9.3.3 References

ESDIS CM Plan

Configuration/Data Management Plan for the EOSDIS Evolution and Development (EED) Contract, 110-EED-001.

9.3.4 Procedures

The following are topical items subject to periodic or ad hoc reporting on behalf of the respective CCB or a system-level summary of information that will be reported by the CM Administrator representing the operational baseline for all the ECS sites.

- **New CCRs and Revisions.** This is a standard Change Request Manager report. This report will be issued monthly and summarized annually.
- **Electronic CCB Review.** Notifications of required CCB reviews sent when CCRs are sponsored.
- **Open Action Items.** Status of open action items should be reviewed regularly. The CCR tool provides reports of Open Action Items (ECOs) for the DAACs and Riverdale.
- **CCR Dispositions.** Notifications of the CCB's disposition of each CCR. All CCR information is accessible from the CCR tool.
- **Record Action Items.** Record actions, assignments, and due dates.
- **CM Librarian Maintained Document Changes.** When all authorized document changes have been accomplished, prepares DCN, posts the final version on the ECS Data Handling System (EDHS) and distributes hardcopy as required.
- CCR Implementation Status.
 - After CCB approval, regularly check open CCRs until closure.
 - Class I flow includes: CCR to EED Review Board for review/approval; Technical Review Board; and ESDIS Disposition.
 - CCR closure:
 - A Class I CCR is not closed until the ESDIS contract officer's authorization is received or the reference CCR has been withdrawn.
 - Class II document change CCRs may be closed with the CM Administrator's issuance of the DCN.
 - Other non-document change CCRs may be closed when the originator verifies to the CM Administrator that all specified changes have been implemented.

9.4 Configuration Audits

9.4.1 Purpose

EED supports Physical Configuration Audits (PCAs). EED also support audits by ESDIS and Raytheon's Quality Office functions. Internal CM self-audits are conducted by EED Management and Staff. Self-audits evaluate the Project's compliance with the Configuration Management Plan for the EED Project and the ESDIS CMP. The CM self-audits will verify:

- That CM policies, procedures, and practices are being followed.

- That approved changes to documentation, and to software and hardware products are properly implemented.
- That the baseline documentation of each CI agrees with the as-deployed configuration and that adequate records of differences are available at all times.

A post-audit report is written outlining the specific items audited, audit findings, and corrective actions to be taken. All action items are tracked to closure.

In addition, EED supports formal audits requested by ESDIS. These audits are conducted to validate that each ECS CI is in conformance with its functional and performance requirements defined in the technical documentation. The audits validate that:

- The as-built configurations agree with the documented configuration identifications represented by the detailed CI specifications or provides discrepancies
- Test results verify that each EED component meets its specified performance requirements to the extent determinable by testing.
- The as-built configuration being shipped compares with the final tested configuration. Any differences between the audited configuration and the final tested configuration are documented.
- When not verified by test, the compatibility of EED products with interfacing products or equipment is established by comparison of documentation with the interface specifications that apply.
- COTS products are included in audits as integral parts of the ECS baseline.

9.4.2 Applicability

All ESDIS chartered CCBs

9.4.3 References

Configuration/Data Management Plan for the EOSDIS Evolution and Development (EED) Contract, 110-EED-001

9.4.4 Procedures

The audits are standardized for a limited set of issues that drive the process for which the audit is taken, FCA/PCA, Security Issues, General Accounting, Test Readiness Review, or Operational Certifications. The baseline references for the audits will be maintained by the ClearCase Baseline Manager tool (cf. Section 9.7 *Baseline Manager*). Release Notes documents will be used to document auditable changes to configured articles that are issued at the ECS configuration item (CI) level. Audit processes, including Project Instruction documentation, are discussed in the *Configuration/Data Management Plan for the EED Project, 110-EED-001*.

The release notes contain the prioritized current status summary of any Trouble Tickets/Discrepancy Reports against the CI that is being issued per the change request.

Some general guidelines and/or items that must be tailored for the specific size and scope of configuration audit to be conducted include:

- Audit Plan;
- Conference Agenda;
- Location to collect and analyze data; conduct meetings;
- Applicable specifications, drawings, manuals, schedules, design and test data;
- Test Results Analysis;
- Meeting minutes including resulting audit action items;
- Tools and inspection equipment necessary for evaluation and verification;
- Unencumbered access to the areas and facilities of incoming inspection, fabrication, production, and testing;
- Personnel from each engineering, production, and quality department to be available for discussion of their respective areas;
- Copies of inspection reports, process sheets, data sheets, and other documentation deemed necessary by the Government FCA/ PCA teams; and
- Isolation of the item(s) and detailed parts to be reviewed.

9.5 Archiving Procedures for the SW CM Manager (ClearCase)

9.5.1 Purpose

This section details the procedures used by Configuration Management for the backup of ClearCase Versioned Object Base (VOBs), public storage area for files data.

9.5.2 Applicability

All EED CM Administrators, SW Maintenance Engineers, and Sustaining Engineers

9.5.3 References

Configuration/Data Management Plan for the EOSDIS Evolution and Development (EED) Contract, 110-EED-001.

9.5.4 Definitions

Build - an assemblage of threads to produce a gradual buildup of system capabilities.

ECS Development Facility (EDF) - the software development environment including data, hardware, software, networks, facilities and procedures used to support ECS software development and testing.

Software - for the purposes of this instruction, software includes all EED-developed application software, COTS software, build and environmental instructions, and databases used in the execution of these products.

System-level - for the purpose of this instruction, system-level includes all EED integration and test activities beginning with installation of software.

Software Development File - a repository for a collection of material pertinent to the development or support of software.

Thread - a set of components (software, hardware, and data) and operational procedures that implement a scenario, portion of a scenario, or multiple scenarios.

View - a unique workspace (operator private storage) management that provides developers and CM with transparent, file-level access to any version of any element through the use of dynamically-evaluated, user-specified version selection rules.

VOB - Versioned Object Base. Secure, permanent, virtual file system that is mountable. Repository for public area storage of version-controlled data/files.

9.5.5 General

1. IT Infrastructure maintains a backup for all EED file systems. This procedure documents the steps CM performs to ensure that the Infrastructure backups include the nightly backup of the ClearCase Versioned Object Base (VOB) data. The ClearCase VOBs store all versions of all of all custom software developed for the EED project. In the event of a catastrophic failure, everything can be restored from the VOB backup data.
2. There is a cron job that runs on each VOB server at 11:55 pm to lock the individual VOBs, tar the important VOB storage directories (the entire source pool, and the local copies of the VOB storage directories, which includes the VOB databases), and copy that data to a staging area (located in /tools/ccbackup) along with log files of the backup process.
3. The staging area is then backed up by IT Infrastructure using their standard backup procedures. IT Infrastructure maintains its own process of offsite storage for the EED systems backups.

9.5.6 Procedures

No additional procedures are needed on Configuration Management's part.

9.6 Software Delivery and Installation

9.6.1 Purpose

This section describes the delivery of Sustaining Engineer Organization-developed software from the Riverdale facility to the remote sites, and subsequent installation of the software onto target hosts, in accordance with configuration management controlled processes. The process

begins with an approved CCR. The CCR precisely defines the software to be released to the remote sites. Software is prepared and delivered using the *DeliveryTool*. The *DeliveryTool* is a custom ClearCase tool that was developed to ensure accurate and controlled releases of software. Software installation is controlled by each sites' Configuration Change Board (CCB). Riverdale CSG (ClearCase Support Group) prepares and releases the software to the DAACs, but the DAACs control the installation of the software into their operational and test modes.

9.6.2 Applicability

All ECS sites' Sustaining Engineers, System Administrators, CM Administrators, and Maintenance Engineers

9.6.3 References

Configuration/Data Management Plan for the EOSDIS Evolution and Development (EED) Contract, 110-EED-001.

COTS and Custom Software Preparation and Delivery ECS WI CM-1-032-1-

9.6.4 Procedures

9.6.4.1 Overview

This section describes the release of CM controlled software under the authority of approved CCRs.

Assumptions:

- CM maintains records and performs software preparations and deliveries.
- Baseline records are maintained in the Baseline Manager (ClearCase based tool)
- Electronic Delivery is performed via secure copy protocol (SCP) to target DAACs.
- Resource Planning, Mode Management, and other issues are not addressed in this scenario.

Summary of Procedures:

- Software is prepared upon request from Development and is delivered using the CM operated DeliveryTool. Only an approved CCR can release previously prepared software to the DAACs. Refer to CM-1-032-1, COTS and Custom Software Preparation and Delivery
- DAAC CCB Approves the Installation of the delivered software into a DAAC Operational Baseline (e.g., a mode, "OPS", "TS1", etc.)
- Software is installed in accordance with CCR installation instructions, and in accordance with local DAAC procedures/processes
- Equivalent Delivery Tracking pages are maintained by EED CM, located at:

[Riverdale](http://pete.edf.rvl.us.ray.com/baseline/) <http://pete.edf.rvl.us.ray.com/baseline/>
[LPDAAC](http://e4iil01u.ecs.nasa.gov:10160/baseline/) <http://e4iil01u.ecs.nasa.gov:10160/baseline/>
[ASDC](http://l4iil01.larc.nasa.gov:10160/baseline/) <http://l4iil01.larc.nasa.gov:10160/baseline/>
[NSIDC](http://n4iil01u.ecs.nasa.gov:10160/baseline/) <http://n4iil01u.ecs.nasa.gov:10160/baseline/>
[ESDIS site](http://ebis.gsfc.nasa.gov:10160/baseline/) <http://ebis.gsfc.nasa.gov:10160/baseline/>

9.6.4.2 Functional Roles

EED CM Administrator--Ensures that changes to the hardware, software, and procedures are properly documented and coordinated. Will recommends the levels of configuration identification for all ECS hardware and software.

DAAC CM Administrators--Ensures that changes to the hardware, software, and procedures are properly documented and coordinated. Will maintains control of all configured hardware and software. Will assist in the development and administration of the library with respect to local configuration management procedures.

DAAC Sustaining Engineering--SW Maintainer--Produces, installs, and documents the corrections, modifications, and enhancements made to ECS software (including COTS), and/or adaptations or incorporations of ECS COTS software and hardware.

9.7 Baseline Manager

9.7.1 Overview

EED provides a ClearCase Baseline Manager (BLM) tool to assist in documenting changes to the baseline and to maintain a historical record of those changes. The tool is used by CM Personnel to manage baseline data about resources deployed to all external ECS sites, including the three DAACs and ECHO, as well as the three internal Riverdale sites, including the PVC, VATC, and EDF2. The BLM tool is used at the ECS Development Facility to maintain and generate system-level records and site-level records; baseline reports are accessible at the operational sites by accessing the URLs mentioned in Section 9.6.4.1 Overview. This is the ECS Baseline Information System (EBIS). Each site has a replicated EBIS file system and local web server. Access to the remote EBIS is controlled by the remote sites, with the exception of the ESDIS provided site, which is controlled by Riverdale by the firewall. Selection of the “Technical Documents” button provides detailed reports regarding the ECS baseline, including Current and Previous versions.

9.7.2 Baseline Terms and Concepts

Baseline management is a process to identify and control versions of hardware and software, to provide a standard configuration of systems throughout all sites, and yet allow unique site-configured systems and baselines. It identifies interdependencies between hardware and software items, and permits maintenance of a complete history of baseline changes throughout the life of the project. For ECS baseline management and the BLM tool, certain terms and concepts are key to understanding how data on the system baseline are stored and tracked.

<i>Control Item</i> –	Any EED item under version control by Configuration Management.
<i>Configuration Item</i> –	An aggregation of hardware, firmware, software, or any discrete component or portion, which satisfies and end user function and is designated for configuration control.
<i>Baseline</i> –	A configuration identification document or set of such documents formally designated by the Government at a specific time during the life cycle of a configuration item (CI).
<i>Configured Article</i> –	A control item reportable as part of the Configured Articles List (CAL).
<i>CIL</i> –	A Configuration Items List (CIL) identifies the approved set of CIs that are subject to CM requirements and procedures.
<i>CAL</i> –	A Configured Articles List (CAL) describes all CIs, critical item hardware and software, and supporting documentation by which the exact configuration definition of the hardware and software can be determined.

Additional terms, some of which address specific entries in the BLM tool, further define how data on the system baseline items and structure are tracked.

<i>Assembly</i> –	An item made up of other items.
<i>Bill of Materials</i> –	This is a list of items that comprise an assembly.
<i>Product Structure</i> –	The parent-child pairings that define the bill of material for an assembly; each product structure record specifies the effective dates and quantities for a single component of a parent for each engineering change.
<i>Active Date</i> –	The date a component becomes effective in an assembly's bill of material. This date is the CCR approval date.
<i>Engineering Change</i> –	An engineering change is the mechanism for grouping, reporting, and controlling product changes collectively.
<i>Revision</i> –	The sequence number of a product structure change to an assembly; it signifies a change to the configuration of an assembly that does not alter its form, fit, or function.
<i>Implementation Status</i> –	A record describing the deployment of a control item to a site and the current state and associated date of its implementation; each control item has one record for each site to which it is deployed.
<i>Exporting Data</i> –	Creation of formatted file or records extracted from the BLM database; control item engineering change, product structure, and

interdependency records may be extracted and sent to other application software at any site.

Importing Data – Loading BLM data from a formatted file.

At the lowest level, the baseline is composed of configured articles that are the specific types of items that make up ECS and are tracked using the BLM tool. It is important to recognize, however, that a conceptual structure on those configured articles to help think about the system. It is possible to conceptualize the structure of the system in a number of different ways, and a different conceptual structure based on the requirements of the situation may be warranted. The ECS baseline management approach and the BLM tool both facilitate recording and tracking these different conceptual baselines, which are related to the same records of the configured articles.

For example, system designers may conceptualize the system in terms that will help track subsystems and the configuration items for which each subsystem team is responsible. This may produce a baseline structured according to a design view, such as that shown in Figure 9.7-1.

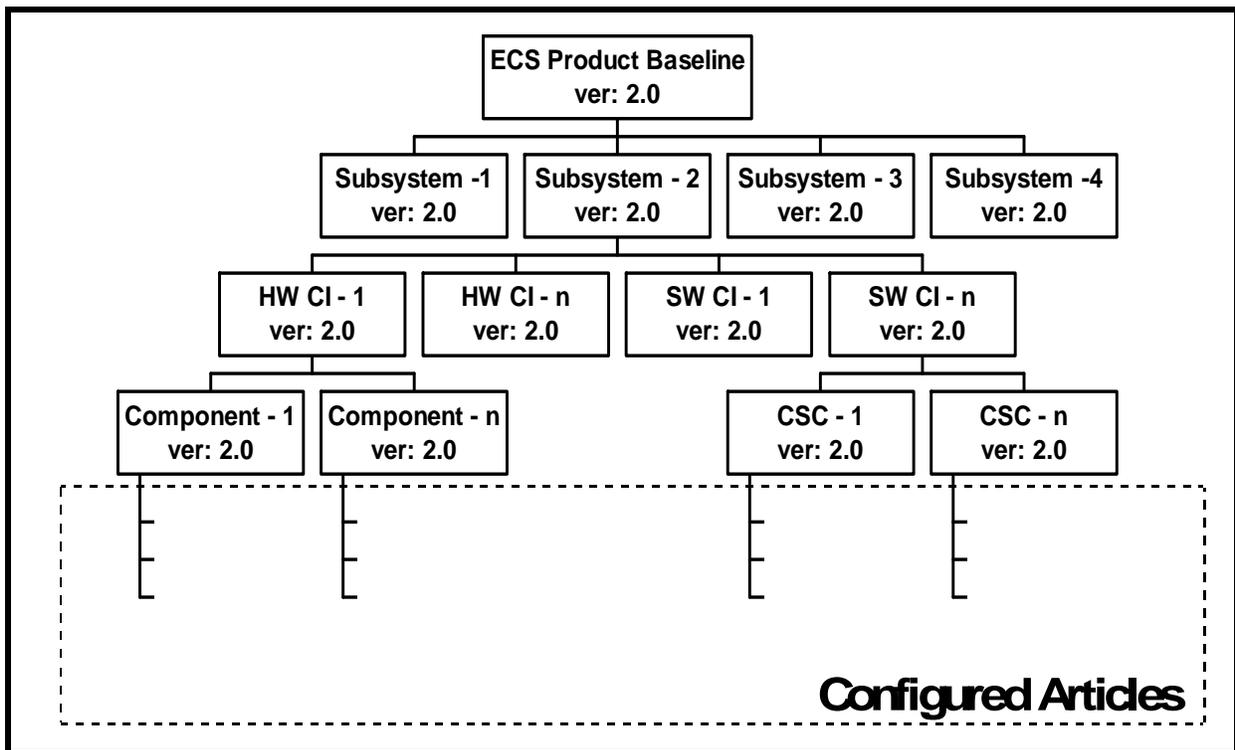


Figure 9.7-1. ECS Baseline Concept from a Design (CIL/CAL) View

At an operations site, the concept reflected in the upper layers of the Design View baseline structure may not be particularly useful. Although the same configured articles are involved, it may be desirable, for instance, to track items from the viewpoint of network administration. The resulting baseline product structure may reflect that shown in Figure 9.7-2.

Even if an operations site is to view ECS product structure as composed of subsystems, it is likely that the concept of CIs will be of little use. Instead, the site is likely to be focused on what hosts make up the subsystems. Therefore, the subsystem view at an operations site may be similar to that illustrated in Figure 9.7-3.

The Baseline Manager database implemented at the ECS Development Facility reflects EED-developed product structures, and site personnel may not normally need all the data necessary to define these product structures. Instead, BLM tasks are likely to be limited to areas such as noting system changes in the context of site-unique requirements and data. However, an understanding of the different ways of conceptualizing the system will help in interpreting baseline data reflected in the BLM.

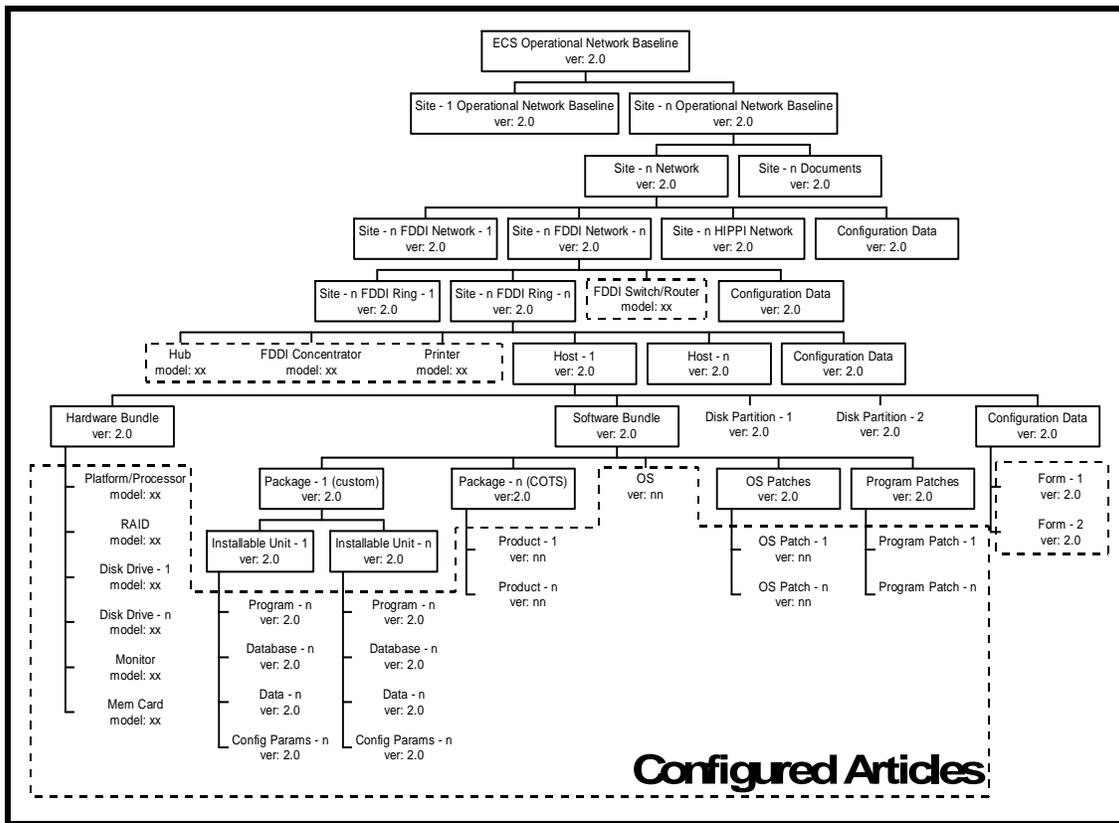


Figure 9.7-2. ECS Baseline Concept from an Operational (Network) View

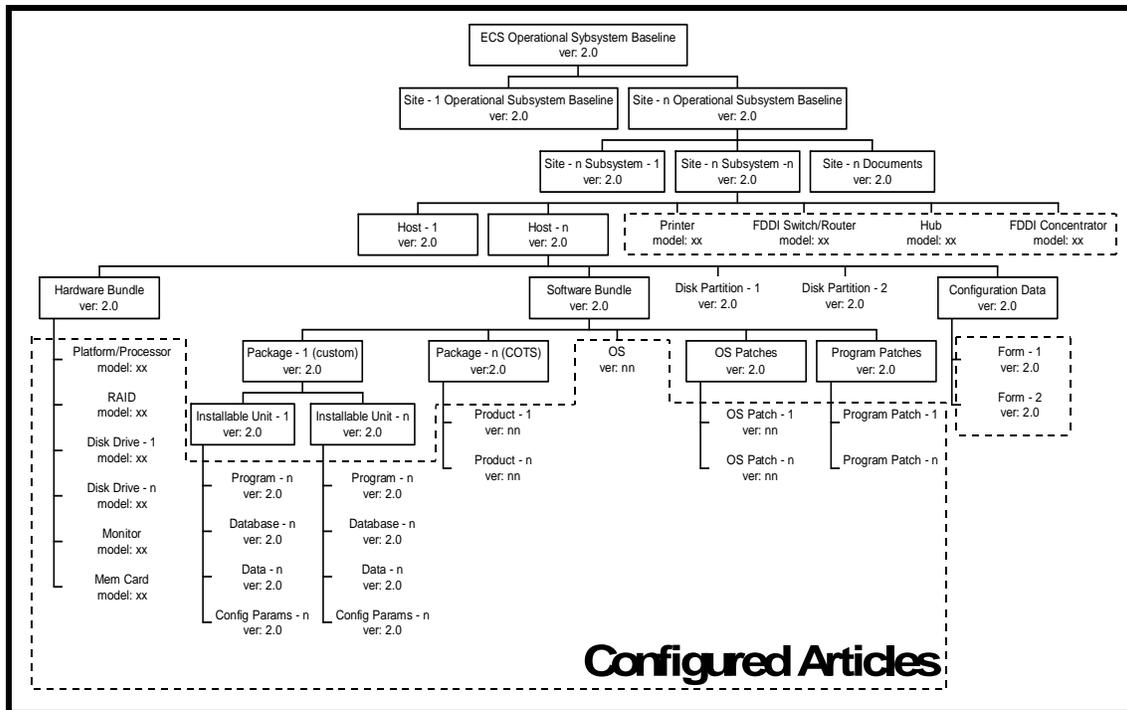


Figure 9.7-3. ECS Baseline Concept from an Operational (Subsystem) View

9.7.3 Baseline Manager (BLM) Outputs at the Sites

The BLM manages the COTS software, operating system patches, and COTS software patch baselines. The BLM records, including information on all scripts, data, and GUIs, are maintained and managed at the ECS Development Facility using ClearCase. The BLM tool produces the more rapidly changing 910/920 Technical Document reports, with automated posting to ECS Baseline Information System (EBIS) and replication to mirror sites at each DAAC and for ESDIS. The reports include the following documents that affect all sites:

- COTS Software Versions 910-TDA-003;
- Site-Host Map 910-TDA-005;
- Critical COTS Software List 910-TDA-023;
- COTS S/W Where-Used Reports 910-TDA-030.

The reports also include the following documents that are site specific:

- Hardware-Software Maps 920-TD(x)-002;
(Note: The x represents a letter designating specific ECS sites (e.g., E = LP DAAC (formerly EDC), F = EDF2, L = ASDC (formerly LaRC), N = NSIDC, C = ECHO, P = PVC, and V = VATC.)
- O/S and COTS S/W Patch Maps 920-TD(x)-014;
- Subsystem Mapping documents 920-TDx-023

All BLM records are related to approved Configuration Change Requests (CCRs) and Release Notes documents (e.g., series 914-TDA-xxx for Release Notes).

The Configuration Management (CM) organization uses the BLM tool to implement changes to the baseline. The system is used to describe CCB-approved system components and to track sites and machines where version-controlled items are configuration controlled. In addition BLM supports other functions such as configuration audits, system engineering and deployment activities. The BLM records describe the hosts and their configurations for each site. The sites are the operational Distributed Active Archive Centers (DAACs), and Performance Verification Center (PVC). The system also tracks the COTS software and patches that are mapped to their respective hosts. EBIS accommodates the identification of all configuration-controlled items such as documents, and SAN descriptions.

The BLM capabilities are used to:

- Maintain records that comprise baseline system configurations;
- Identify the versions and variants of hardware and software items that are currently managed together with the assemblies (e.g., hosts, subsystems, and networks) that use them;
- Record item interdependencies and the sites to which baseline items are deployed;
- Keep chronological histories of baseline changes and traceability of items to predecessor versions and system releases. (Current and Previous directories)

9.7.4 Procedure for Retrieving Baseline Reports

When the ECS software baseline is changed (e.g., addition of a script, update or replacement of a Graphical User Interface (GUI) package), the change is reflected in the collection, or “catalog,” of control items that make up the affected Computer Software Component (CSC) assembly in the ECS product structure. Using the BLM software tool at the EDF an update is made to document the new or revised controlled item(s). These technical documents can be accessed through any of the replicated ECS Baseline Information System (EBIS) file systems, Figure 9.7-4.

On the EBIS page, the ECS Baseline Information Technical Documentation is accessible through use of the **Technical Documents** button at the top of the row of buttons on the left side.

The resulting **ECS Baseline Technical Documentation** page lists the document series, title, and document number. The document numbers are links that provide access to the listed documents. The titles of some documents indicate BLM origin by inclusion of the parenthetical notation (**ClearCase**).

9.7.4.1 Retrieving Baseline Reports

- 1 **Launch a web browser** on a computer that has network access to your site's ECS Baseline Information System.
 - 2 Type in the **Universal Resource Locator (URL)** for the ECS Baseline Information System home page (Section 9.6.4.1), and then press the **Return/Enter** key.
 - The **ECS Baseline Information System (EBIS)** home page (Figure 9.7-4) is displayed, offering access to ECS baseline information as well as a number of tools, ECS web sites, and NASA EOS web sites.
 - 3 Click the **Technical Documents** button.
 - The **ECS Baseline Technical Documentation** page is displayed.
 - 4 Locate the desired report, scrolling down as necessary.
 - Reports generated by the BLM tool are indicated with a parenthetical notation (ClearCase BLM) in the title entry.
 - 5 Click on the link for the document to be accessed.
 - A directory is displayed with one or more document numbers and versions indicated as links.
 - 6 Click on the **link for the document** and version desired.
 - The document is displayed, and can be printed and searched.
-

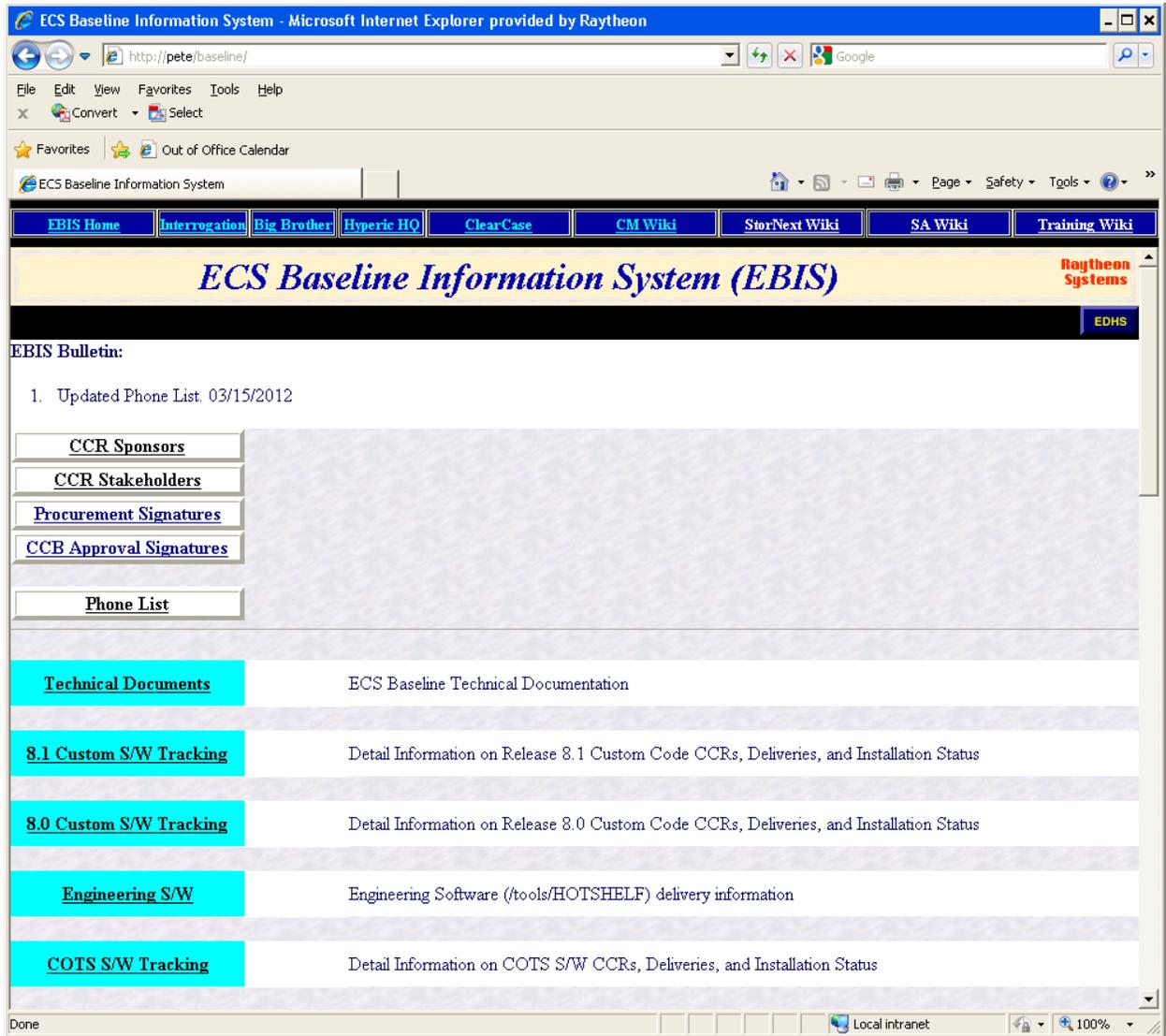


Figure 9.7-4. EBIS Home Page (1 of 3)

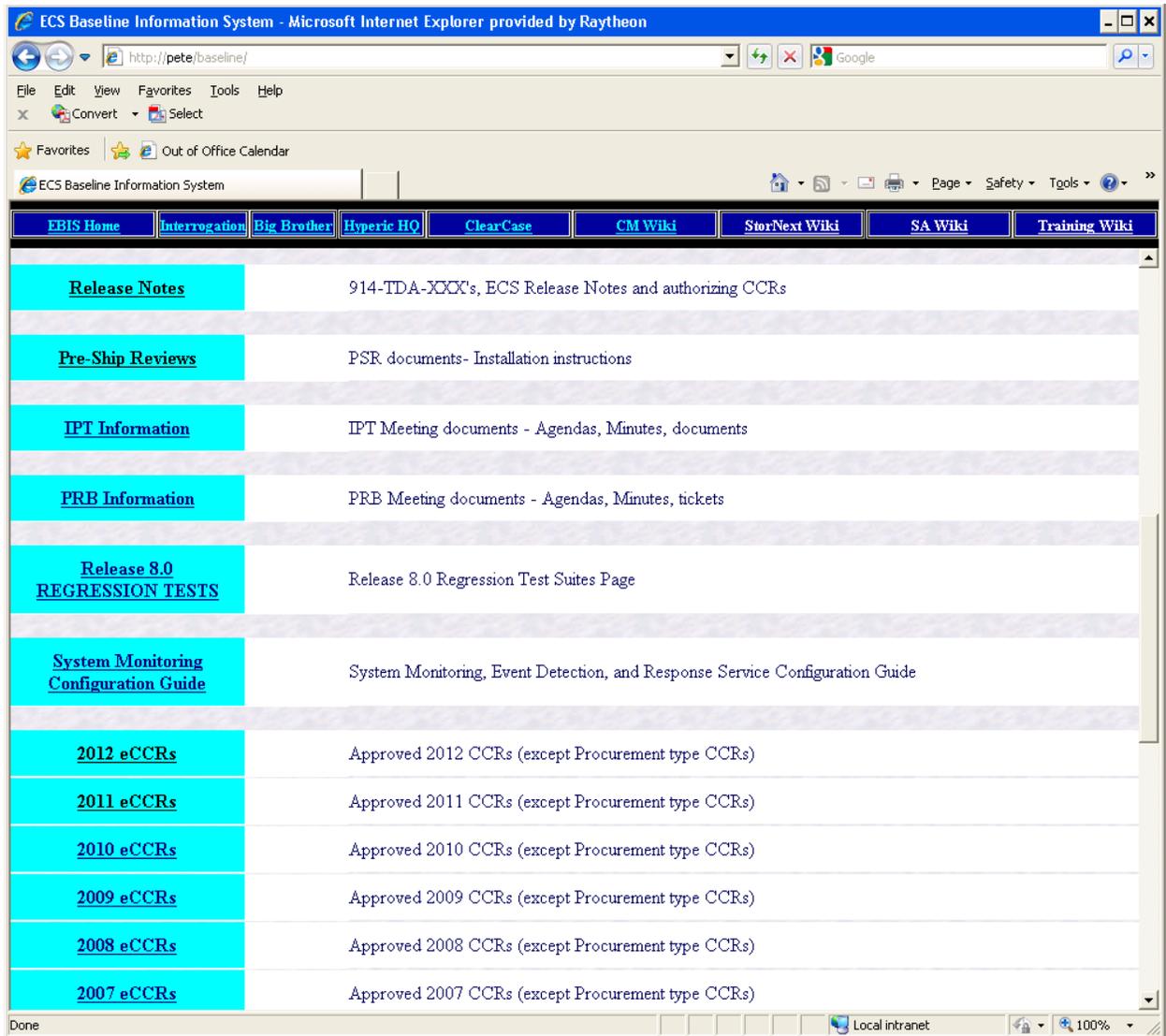


Figure 9.7-4. EBIS Home Page (2 of 3)

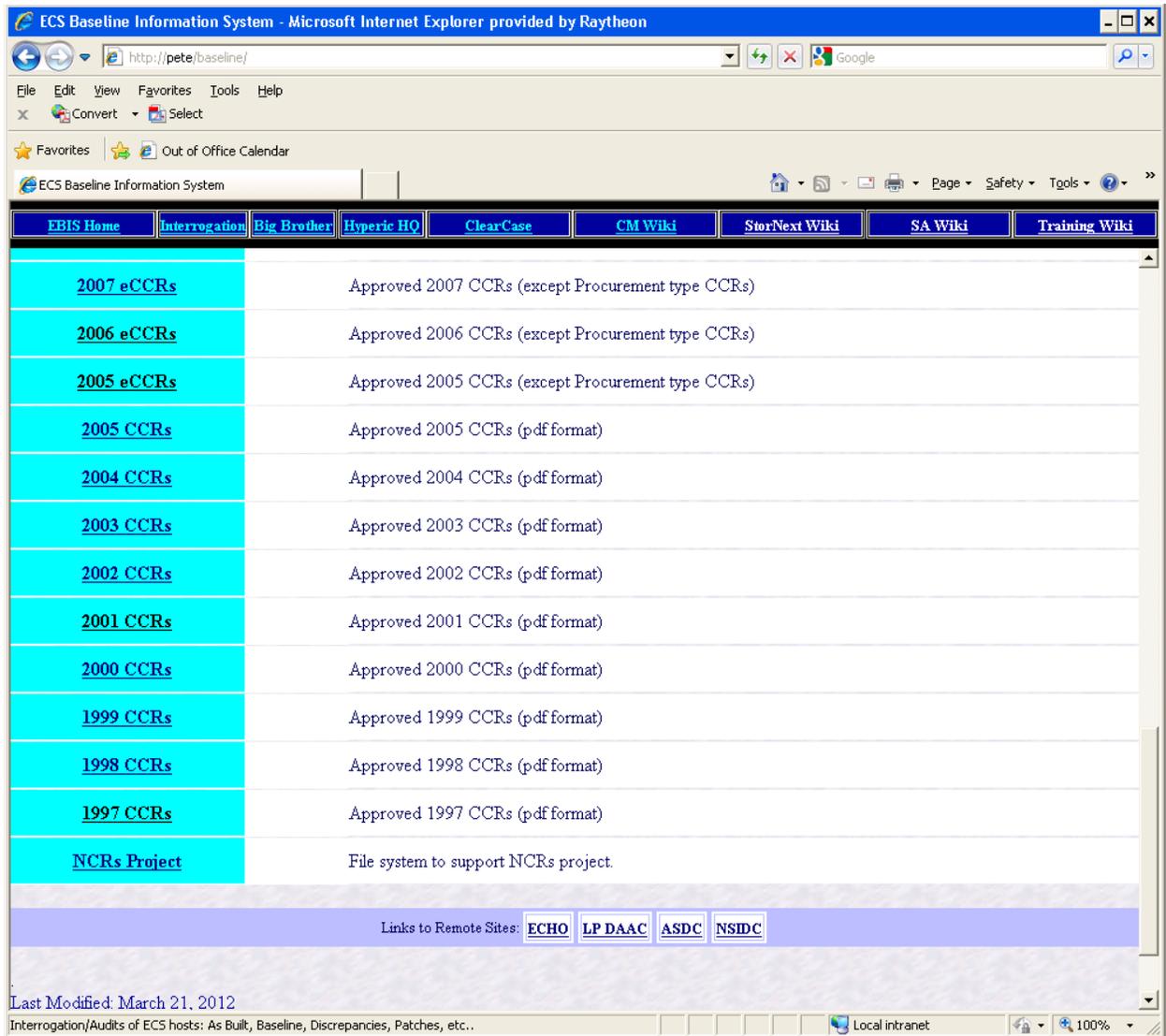


Figure 9.7-4. EBIS Home Page (3 of 3)

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10. Metadata Administration

Every science data product generated and archived by the system must be described to the system by metadata that are put into an inventory and then used to retrieve and distribute the data to users of the system. The Earth Science Data Model, described in document 420-EMD-001, Release 7 Implementation Earth Science Data Model, organizes the metadata into groups of related attributes and services to be performed on the data products. These "core" attributes are necessary to identify, interpret and perform services on granules and collections. The Data Model also provides for "product-specific" attributes (PSAs), i.e., attributes which are unique to a specific data product. ECS has been modified to also support metadata that conform to the ISO 19115 Metadata Model.

The smallest aggregation of data that is independently described and inventoried in the system is referred to as a data granule. Granules are organized into logical groupings called collections in which the granule metadata varies principally by time or location, called single-type collections.

Every collection is described by an Earth Science Data Type (ESDT) and is made known to the system by adding the type to ECS. This means that the parameter values in the ESDT descriptor file must be added to the appropriate databases in the ECS system. The ESDTs that conform to ISO 19115 include three files in addition to the ESDT descriptor file.

Metadata administration includes creating and updating ESDTs. Collections may be modified and updated over time. Collection-level metadata can be updated by updating the ESDT. Granule-level metadata can be updated manually (i.e., not as a result of an operation such as subsetting, which modifies the science data content of a granule) by setting the Quality Assurance flags and explanations. Procedures for updating these flags are provided in Chapter 15 *Quality Assurance*.

10.1 ESDT Descriptor and Related Files

The primary task in establishing a collection is providing the core and product-specific metadata attribute values. This is done by creating an Earth Science Data Type (ESDT) descriptor file. The descriptor file is also used to specify the data services that are available for granules that belong to the collection. The descriptor file is the means by which a collection is made known to the ESDT Maintenance Service.

The ESDT descriptor file is composed of the following information:

- Collection level metadata attributes with values contained in the descriptor.
- Granule level metadata attributes whose values are supplied primarily by the Product Generation Executables (PGEs) during runtime.
- Valid values and permitted ranges for all product-specific attributes.
- List of services for all the granules in the collection and events that trigger responses throughout the system.

The services that apply to a collection are specified in the ESDT descriptor file. Product-specific services, such as subsetting or a product-specific acquire, require executable code to enact those services. This code is contained in the Ingest and Order Manager Server software. After the ESDT descriptor file has been generated it must be installed using the ESDT Maintenance Service before the first data granule can be inserted. During this installation process, information from the ESDT Descriptor File is propagated to the Inventory Database and the Spatial Subscription Server Database, all of which must be operating during the ESDT installation process.

NOTE: ‘Services’ in this context should not be confused with the services provided by the Data Access subsystem as introduced in Release 8.1.

For ISO 19115-conformant ESDTs, the ESDT descriptor file is minimal. Its information is augmented by the following three files:

- ISO 19115 Series Metadata file which contains the collection metadata for the ESDT.
- Series XPath file which contains the locations within the ISO 19115 series metadata file from where collection metadata attributes required by ECS can be extracted.
- Dataset XPath file which contains the locations within the ISO 19115 dataset metadata files from where granule metadata attributes required by ECS can be extracted.

10.1.1 Steps in Generating a Descriptor and Related Files

ESDTs for Distributable Product

These are the typical steps used in generating a descriptor file:

1. Identify desired collection-level metadata attributes.
 - For permanent and interim files use only the minimum attributes.
 - For distributable products identify all applicable attributes. This will involve reading appropriate documentation and interacting with the data provider.
2. Identify granule-level attributes.
 - If a sample metadata configuration file is available from the data provider, use this.
3. Check “valids” (allowable metadata values) for core attributes (write NCR if new valids are required).
4. Check PSAs (register PSAs if new).
5. Use custom built scripts and a text editor to generate the descriptor file.
6. Verify the descriptor file as outlined in Section 10.1.2 *Verifying Descriptor Files*.
7. Check descriptor files into ClearCase.

8. If the ESDT is ISO 19115-conformant, the ISO 19115 series metadata file is created by the data provider. The series XPath file and the dataset XPath file are created based on information supplied by the data provider.

10.1.2 Verifying Descriptor Files

1. Run the PERL script "update.pl", following the instructions in the script prologue.
 - This script makes sure that the inventory metadata attributes are all listed as event qualifiers in the EVENT group.
2. Run the PERL script esdtQC.pl following the instructions in the script prologue.
 - This script checks for more than 30 common descriptor file errors.
3. Make any necessary corrections in response to errors issued.
4. Rerun the PERL script esdtQC.pl.
5. Repeat Steps 3 and 4 until there are no errors.
6. Run the testodl utility to ensure that there are no errors in the ODL structure for the descriptor file.
7. Make any necessary corrections in response to errors issued.
8. Rerun the testodl utility.
9. Repeat Steps 7 and 8 until there are no errors.

10.2 Preparation of Earth Science Data Types

An ESDT goes through pre-operational life cycle steps starting with an analysis of the collection's need and continuing through development and operational installation. This process involves actions by the Data Provider or User in addition to EED. The procedures are detailed in Software Development (SD) Project Instruction SD-038 ESDT Creation, Testing, Maintenance and Integration at http://dmsserver.gsfc.nasa.gov/EMD_PAL/index.html).

10.2.1 Definitions

Archive - A File Type indicating granules will be inserted to Data Server for long-term storage and acquisition for distribution.

Full - A level of metadata coverage intended for data products that are produced within the system.

Collection - A related group of data granules.

Granule - The smallest data element that is identified in the inventory tables.

Interim - A File Type indicating granules are temporarily stored in support of product generation.

Intermediate - A level of metadata coverage intended for contemporaneous data products that are not produced within the system.

Limited - A level of metadata coverage intended for heritage data products brought into the system for distribution

Minimal -A level of metadata coverage sufficient to uniquely identify a collection or granule.

Permanent - A File Type indicating static or semi-static granules that are used only as inputs in product generation.

Product Specific Attributes - Attributes that are defined by the data provider in support of searching for specific granules

Valid - An allowable metadata value.

10.2.2 Process

1. Need Analysis

- The baseline list of science ESDTs and their services is controlled by the ESDIS CCB. This baseline was established through an analysis of the system Functional and Performance Requirements Specification, the Technical Baseline established from inputs from the Ad Hoc Working Group on Production, and meetings with the individual data providers to define the basic requirements of each ESDT.
- The basic requirements are:
 - Data Provider File Designation,
 - File Type (Permanent, Interim, Archive)
 - Level of Metadata Coverage (Minimal, Limited, Intermediate, Full)
- For new ESDTs not currently in the development baseline, the result of the Need Analysis forms the basis for approving the inclusion of the ESDT into the system. This is accomplished through the CCR process.

2. ESDT Specification

- This step results in a set of specifications extending the results of the needed analysis and providing the information needed to implement an ESDT. This step is executed only if the ESDT has been included in the baseline. The roles and responsibilities for developing the specification are as above.
- The specifications must include:
 - ShortName and VersionID of the ESDT
 - A list of the metadata attributes needed, valids, and any constraints on attributes.
 - A list and specification of the services needed (e.g., specification of the INSERT, SEARCH, ACQUIRE and SUBSCRIPTION semantics).

3. ESDT Generation

- Once the ESDT Specification has been developed and the applicable attributes identified, the necessary metadata has to be gathered, the metadata values checked against the valid values and the product-specific attributes (PSA) need to be checked against the list of PSAs that are already defined (see Figure 10.2-1).

- Once the collection-level metadata and granule-level attributes have been checked, then the descriptor file is generated and testing and validation of the ESDT performed. This process is further elaborated in the sections below.
- For a one-of-a-kind, distributable product with Full metadata coverage, this process can take up to six weeks to accomplish. For a related group of products with identical services, much of the Descriptor File of the first ESDT can be reused, and the cycle time for preparing subsequent ESDTs in the related group is much less.

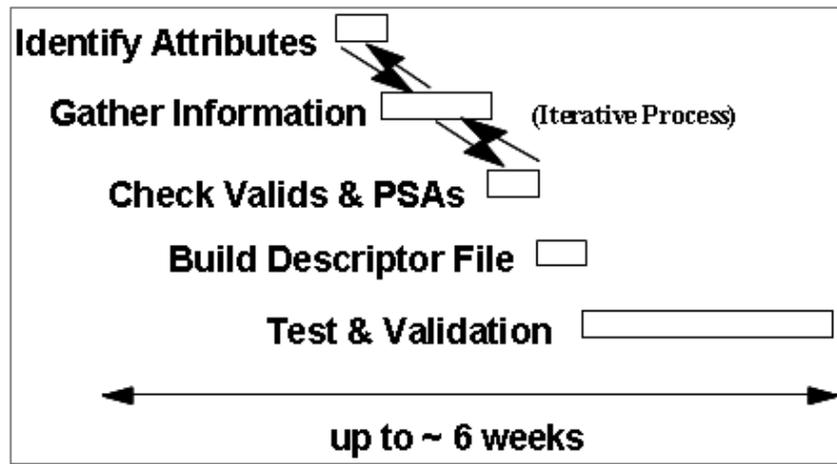


Figure 10.2-1. Steps in ESDT Development

10.3 Metadata Population

10.3.1 Collection-Level Metadata

A majority of the attributes in the Data Model apply to all the granules in the collection. These are known as collection-level attributes. There can be both core and product-specific collection-level attributes, defined once prior to establishing the collection.

Collection-level metadata is input using either a text editor or a custom built script.

10.3.2 Granule-Level Metadata

The attributes in the Data Model that can vary on a granule-by-granule basis are known as granule-level attributes. There can be both core and product-specific granule-level attributes.

Granule-level metadata are specified and populated using the Metadata Configuration File (MCF). The MCF is derived from information contained in the ESDT descriptor file and is delivered by the ESDT Maintenance Service for use by the Ingest Subsystem. The MCF specifies how the searchable metadata attributes will be populated in the Inventory database. For data products generated within the system, the science software or Product Generation Executive (PGE) interacts with the MCF using metadata tools contained in the Science Data Processing

Toolkit. Through this process, values are set for metadata attributes specified in the "source" MCF, such as the temporal or spatial coverage of each granule. These values are then inserted into a "target" MCF at PGE run time. The MCF is used in a similar manner for data entering the system through the Data Pool Ingest.

Note: ISO 19115-conformant ESDTs do not use MCFs. Their granule-level metadata are extracted from the ISO 19115-conformant dataset metadata files using the information in the dataset XPath file.

Procedures for entering data into the system through Data Pool Ingest are described in Chapter 13, Ingest. Each data granule consists of one or more physical files. Accompanying each granule is a metadata record; i.e., an ASCII file containing the granule-level attributes and their values in ODL. Only one metadata record is allowed per granule, i.e., no sub-granule records are allowed, and no metadata records are shared between granules.

10.3.3 Product-Specific Metadata

Product-specific metadata can be at both the granule level and the collection level. Product-specific metadata may (at the data provider's election) be contained in the Inventory Database tables, in which case it will be searchable by the system. There is also a provision to store product-specific metadata within granules that is available only when the granule has been ordered and delivered. This is termed archive metadata and is specified in a separate ODL group in the MCF.

In the granule metadata, the core attribute that is available to store product-specific metadata is called ParameterValue. The metadata describing this attribute is specified by the data provider through the AdditionalAttributes class at the collection-level. The units of measure, range, accuracy, and resolution for this are specified in the PhysicalParameterDetails class, also at the collection-level.

Product-specific metadata at the collection level is specified at the time the other collection level metadata attributes values are defined. At the granule-level, product-specific metadata is defined in the MCF. In both cases, a list of valid values and permitted ranges are specified in the ESDT data dictionary.

10.4 ESDT Maintenance

The ESDT Maintenance functionality is accomplished by using the ESDT Maintenance GUI which provides the DAAC staff with functionality to view, update or remove installed ESDTs and to install new ESDTs.

The process of maintaining ESDTs will continue to rely on the ODL descriptors as the starting point. As part of an Update ESDT operation, changes to the descriptor will be propagated to the XML representation of the descriptor as well as an ESDT descriptor specific schema. For ISO 19115-conformant ESDTs, ESDT descriptor-specific schemas are not created.

Figure 10.4-1 illustrates the ESDT descriptor files utilized in ECS and the components that generate them:

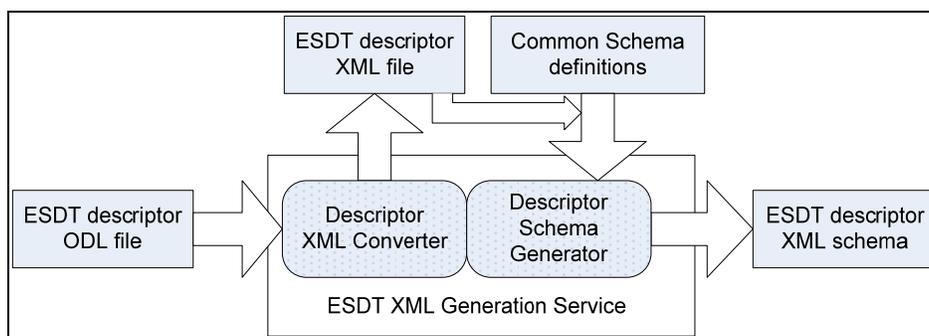


Figure 10.4-1. ESDT Descriptor File Transformations in ECS

The original ESDT descriptor ODL file is converted to its XML representation by the Descriptor XML Converter. This conversion occurs when an **Add ESDT** or **Update ESDT** or **View ESDT** process is selected from the ESDT Maintenance GUI.

The ESDT descriptor XML file is used to generate the descriptor XML schema. For ISO 19115-conformant ESDTs, this step is unnecessary and is not performed.

The ESDT Descriptor XML file, together with a set of Common Schema Definitions file are used as input to the Descriptor Schema Generator which produces the ESDT descriptor XML schema. The schema is used for validating the granule XML metadata file. The Common Schema Definitions file contains definitions for all elements that are used by the supported ESDTs as well as the hierarchical relationships in which they can appear. For ISO 19115-conformant ESDTs, the ISO 19115-conformant dataset metadata file is validated against a local copy of the 19115 XML schema.

The Descriptor XML Converter and the Descriptor Schema Generator are part of the ESDT Descriptor XML Generation Service since they both produce descriptor related XML (the ESDT descriptor XML file and the ESDT specific schema respectively).

Figure 10.4-2 illustrates the high-level functionality flow that is provided by the ESDT Maintenance GUI for adding a new ESDT or updating an existing ESDT:

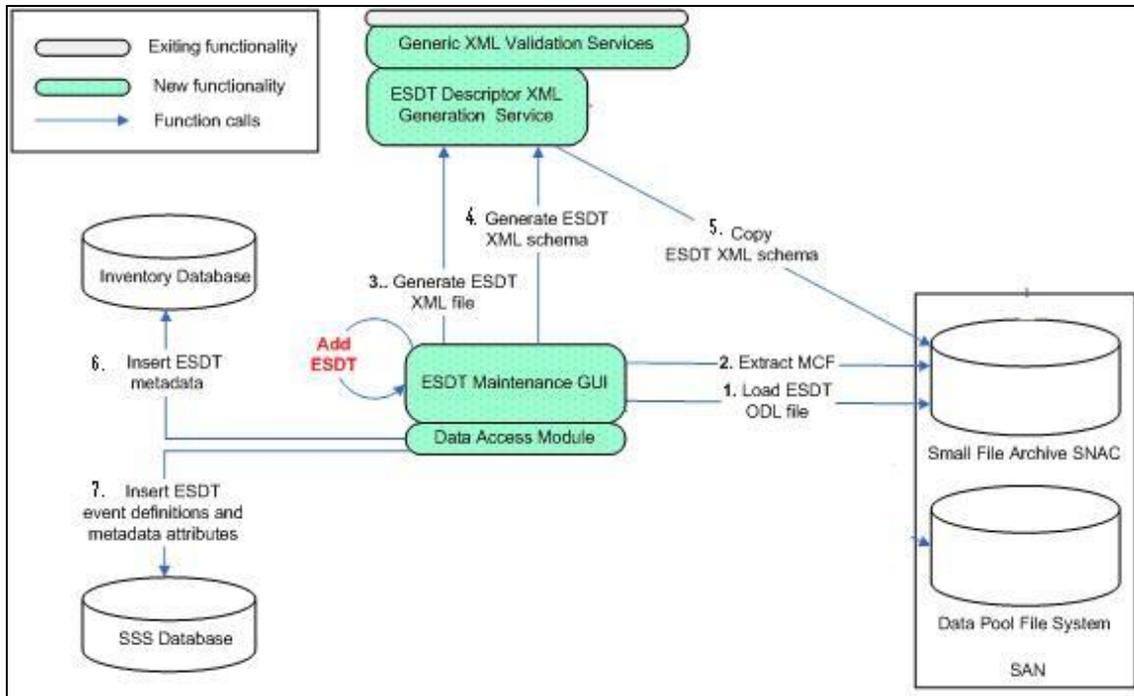


Figure 10.4-2. Adding/Updating an ESDT using the ESDT Maintenance GUI

The following functionality flow is used when an ESDT is added or updated using the ESDT Maintenance GUI.:

1. An ESDT ODL file from the location specified in the ESDT Maintenance GUI configuration file is loaded. The directory will contain all the descriptor related files.
2. The Metadata Configuration File (MCF) is extracted from the descriptor ODL file and placed in the ESDT specific directory in the Small File Archive. This step is not performed for ISO 19115-conformant ESDTs.
3. The ESDT descriptor XML file is generated. This step is not performed for ISO 19115-conformant ESDTs. The ESDT Descriptor XML generation service contains the Descriptor XML Converter and the Descriptor Schema Generator modules.
4. The ESDT specific schema is generated, using the ESDT descriptor XML file produced in the previous step. This step is not performed for ISO 19115-conformant ESDTs.
5. The generated ESDT descriptor XML schema is copied to the Small Archive File ESDT-specific directory. For ISO 19115-conformant ESDTs, the ISO 19115 series metadata file, series XPath file, and dataset XPath file are copied to the Small Archive File ESDT-specific directory instead.
6. The ESDT collection metadata is inserted in the Inventory database.
7. The ESDT collection event definitions and metadata attributes that can be used to qualify subscriptions in the Spatial Subscription Server database are inserted. Currently, subscriptions are not supported for ISO 19115-conformant ESDTs. So, this step is not performed for ISO 19115-conformant ESDTs.

Figure 10.4-3 illustrates the high-level functionality flow that is provided by the ESDT Maintenance GUI for removing an existing ESDT from the system:

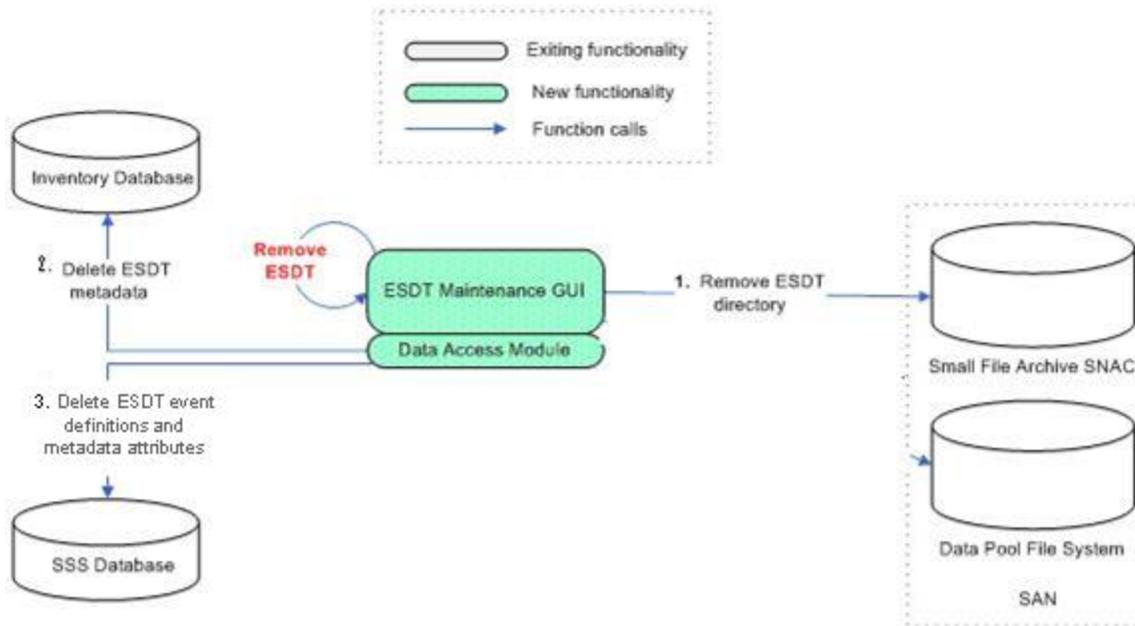


Figure 10.4-3. Removing an ESDT using the ESDT Maintenance GUI

The following functionality flow is used when an ESDT is removed:

1. ESDT specific files (ODL, MCF, XML schema, Series metadata, Series XPath, Dataset XPath, ESDT metadata directory <shortname.VersionID>) are removed.
2. The ESDT collection metadata from the Inventory database is deleted.
3. ESDT collection event definitions and metadata attributes from the Spatial Subscription Server database are deleted. Since subscriptions are not currently supported for ISO 19115-conformant ESDTs, this step is not performed for ISO 19115-conformant ESDTs.

Note: Removal of an ESDT is not allowed if granules are present in the Inventory or DataPool. In addition, there can not be a Subscription on the ESDT within the Spatial Subscription Server. The appropriate Granule Deletion scripts must be run, if necessary, and all subscriptions removed before removing an ESDT.

Table 10.4-1 provides an activity Checklist for ESDT Maintenance.

Table 10.4-1. ESDT Maintenance - Activity Checklist

Order	Role	Task	Section
1	Database Admin	Launching the ESDT Maintenance GUI	(P) 10.4.1.1
2	Database Admin	Filter the ESDT List Page	(P) 10.4.1.2
3	Database Admin	View XML or ODL ESDT Descriptor Information	(P) 10.4.1.3
4	Database Admin	Re-generate an MCF or Schema	(P) 10.4.1.4
5	Database Admin	Remove an ESDT	(P) 10.4.1.5
6	Database Admin	Install/Update an ESDT	(P) 10.4.1.6
7	Database Admin	Update BMGT Configuration Files	(P) 10.4.1.7
8	Database Admin	Cleanup Failed ESDTs	(P) 10.4.1.8

10.4.1 Launching the ESDT Maintenance GUI

ESDT maintenance is accomplished by accessing the ESDT Maintenance GUI and is restricted to a single Database Username. This Username is configured in the ESDT Maintenance GUI Configuration file.

The ESDT Maintenance GUI will only allow for one authenticated session at a time. This is to prevent situations where multiple operators may perform conflicting actions. The time-out for authenticated sessions is configured in the Web application settings and is configurable via ECS Assist.

Note: The ESDT Maintenance GUI is by default configured to time out after 2 Minutes. You will need to log back into the GUI after each time out occurs.

10.4.1.1 Launching the ESDT Maintenance GUI

- 1 Access a terminal window logged in to a host (e.g., the Operations Workstation or Sun external server) that has access to the **Firefox** web browser.
 - Examples of Linux external server host names include e4spl01 or n4spl01.
- 2 Type **firefox &** then press **Return/Enter**.
 - It may be necessary to respond to dialogue boxes, especially if the browser is already being used by someone else who has logged in with the same user ID.
 - The Mozilla Firefox web browser is displayed.
- 3 If a bookmark has been created for the **ESDT Maintenance GUI**, select the appropriate bookmark from those listed on the browser's Bookmarks pull-down window.
 - The **Login:** prompt is displayed.
- 4 If no bookmark has been created for the **ESDT Maintenance GUI**, type **http://host:port** in the browser's **Location (Go To)** field then press **Return/Enter**.
 - For example: <http://f5dpl01v.edn.ecs.nasa.gov:28000/ESDTMaint/>

- The Login: prompt is displayed with the username configured for the GUI (see Figure 10.4-4)

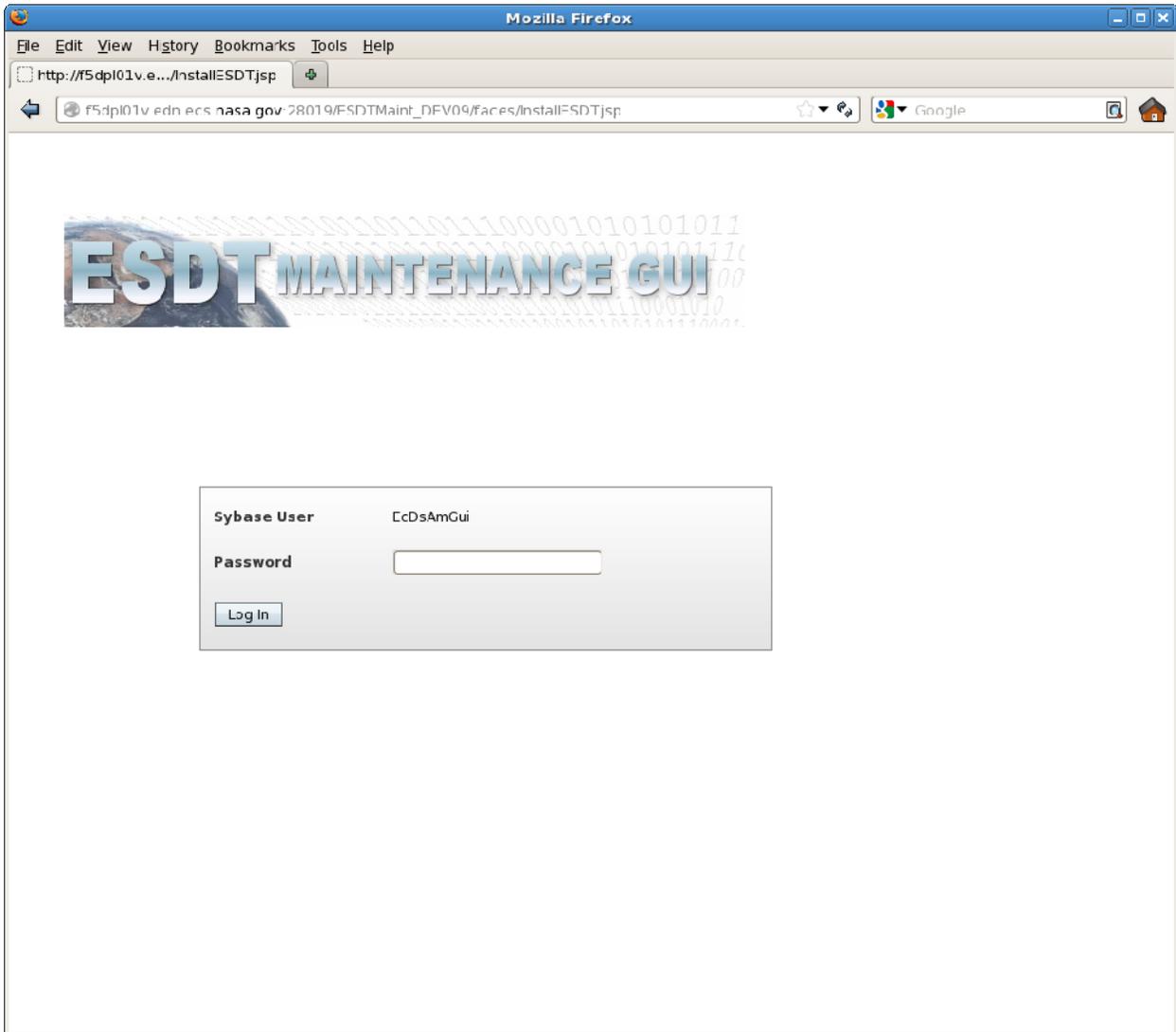


Figure 10.4-4. ESDT Maintenance GUI Log-in Screen

- 6 Type the appropriate password in the **Password** box of the security Login prompt.

- 7 Click on the **Log In** button:
- The **Installed ESDT** page is displayed (see Figure 10.4-5).

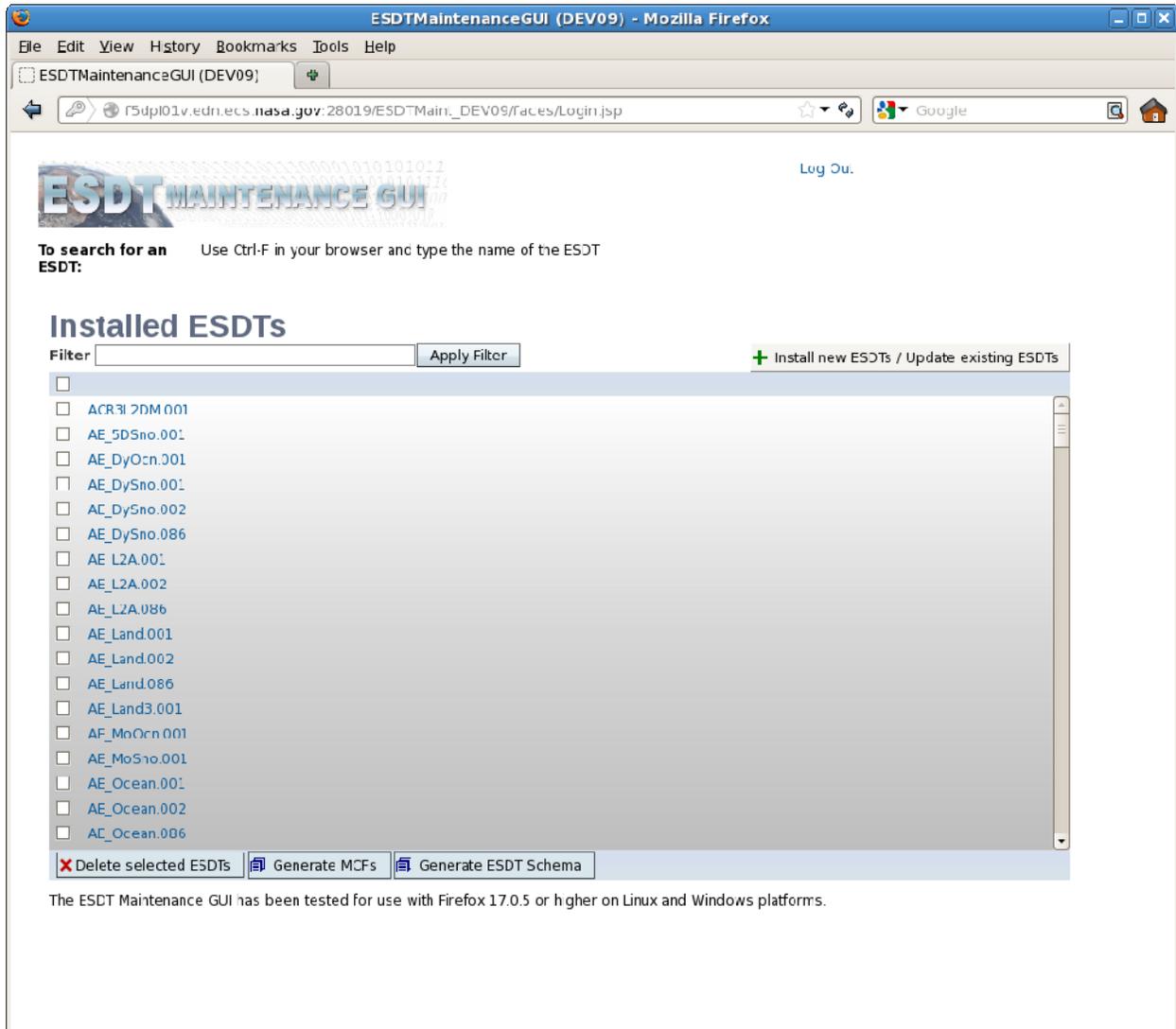


Figure 10.4-5. Installed ESDT Page

The ESDT List page lists all of the currently installed ESDTs. From this page, the operator can perform the following actions:

- Search for an ESDT by using the browser’s built-in search function.
- View the ODL and XML descriptor information for a specific ESDT. For ISO 19115-conformant ESDTs, the XML information viewed is the ISO 19115 series metadata file.

- Generate MCFs for one or more ESDTs. This is not supported for ISO 19115-conformant ESDTs.
- Generate Schemas for one or more ESDTs. This is not supported for ISO 19115-conformant ESDTs.
- Delete one or more ESDTs.
- Navigate to the ESDT installation/update page.

The ESDT List page includes a filter that can be applied to the list of ESDTs. This is useful for selecting particular types of ESDTs for bulk action (i.e., deletion, and MCF or ESDT Schema generation). This is a simple text search and will search ESDT Short Names. As shown in the example below, *MODIS* would return any ESDT with the MODIS anywhere in the name. The search is also case-insensitive.

10.4.1.2 Filter the ESDT List Page

- 1 Log in to the **ESDT Maintenance GUI**.
 - The **Installed ESDT** page is displayed.
 - 2 In the **Filter** box, enter the desired filter to be applied to the ESDT List.
 3. Select **Apply Filter** button.
 - The ESDT List will display the filtered ESDTs list as requested.
-

10.4.1.3 View XML or ODL ESDT Descriptor Information

- 1 Log in to the **ESDT Maintenance GUI**.
 - The **Installed ESDT** page is displayed.
- 2 In the list of **Installed ESDT**, click on the desired ESDT name.
 - The XML Descriptor Information page (see Figure 10.4-6) is displayed.

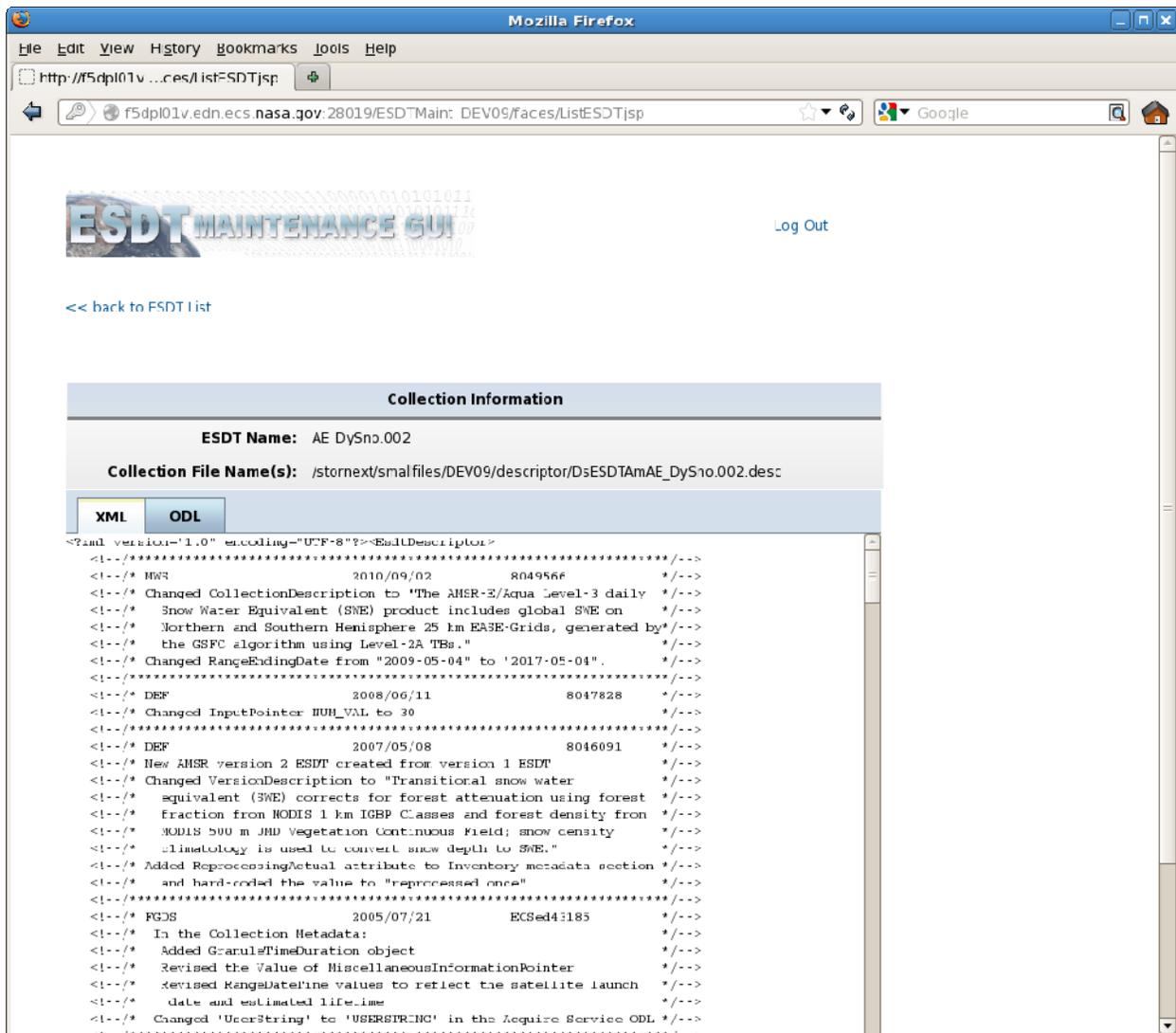


Figure 10.4-6. XML Descriptor Information Page

3. To display the Descriptor Information in ODL, click on the ODL button.
 - The Descriptor Information page is displayed in ODL format.

During the initial install of an ESDT, the MCF and Schema files are generated from the descriptor file and copied to the Small Archive File ESDT specific directory. Certain situations (such as a corrupted MCF or Schema file) may require that these files be re-generated.

10.4.1.4 Re-generate an MCF or Schema (not supported for ISO 19115-conformant ESDTs)

- 1 Log in to the **ESDT Maintenance GUI**.
 - The **Installed ESDT** page is displayed (see Figure 10.4-5).
- 2 Select the ESDT(s) that require a re-generation of the MCF or Schema.
 - A check mark is displayed in the box next to the selected ESDT.
- 3 Scroll to the bottom of the **Installed ESDT** list, click on the **Generate MCFs** or **Generate ESDT Schema** button.
 - The ESDT descriptor files stored in the Small File Archive will be used to re-generate the MCF or ESDT Schema.

Note: This action requires that the Data Pool Ingest Processing Service and the Data Pool Action Driver Service be restarted.

When an ESDT is removed, the following pre-conditions must be satisfied:

- All granules for this ESDT must not be present in the Inventory or DataPool. The Granule Deletion script must be run.
- The Data Pool collection for that ESDT must be removed using the Data Pool Maintenance GUI
- All subscriptions on the ESDT must be removed.

10.4.1.5 Remove an ESDT

1. Verify that Granules for the selected ESDT(s) have been removed from the Inventory and Data Pool.
2. Verify Subscriptions for the selected ESDT(s) have been removed.
3. Log in to the **ESDT Maintenance GUI**.
 - The **Installed ESDT** page is displayed (see Figure 10.4-5).
4. Select the ESDT(s) that are to be deleted
 - A check mark is displayed in the box next to the selected ESDT.
5. Scroll to the bottom of the **Installed ESDT** list, click on the **Delete selected ESDTs** button.
 - The ESDT specific files (ODL, MCF, and XML schema or in the case of ISO 19115-conformant ESDTs, ISO 19115 series metadata, series XPath, and dataset XPath) are removed.
 - The ESDT (ShortName, VersionID) directory on the file system where granule metadata files are stored is removed.
 - The ESDT collection metadata from the Inventory database are deleted.
 - The ESDT collection event definitions and metadata attributes from the SSS database are deleted. Since subscriptions are not currently supported for ISO 19115-conformant ESDTs, this step is not necessary for ISO 19115-conformant ESDTs.

Note: This action requires that the Data Pool Ingest Processing Service and the Data Pool Action Driver Service be restarted.

The operator can install a new or update existing ESDTs from the ESDT Maintenance GUI. On the List ESDT page of the ESDT Maintenance GUI, the operator selects the Install new ESDTs/Update existing button which displays a list ESDTs to be installed. The operator can review the file list and select the ESDTs to be installed or updated by checking the boxes for each ESDT. There are buttons to select the following descriptor files in the list: **all**, **none**, **installed**, **uninstalled** and **failed** ESDTs. Selection of these buttons will select all ESDTs in the category selected. Desired descriptors can be individually selected by clicking on the box next to the descriptor.

An operator performs installation or update on ESDTs by first selecting one, some, or all of the Descriptor files. Then the **Proceed with installation/update** button is used to perform installation or an update on the selected Descriptor file name. The column on the right contains the current status of an ESDT.

If the installation or update completes successfully for all ESDTs, the installation files will be removed from this list, and a message will be displayed at the top of the screen indicating the success.

If the installation or update did not succeed for one or more ESDTs, a general error message will be displayed at the top of the screen. A table at the top displays detailed error information next to each ESDT that failed.

If an error is encountered during the installation or update (e.g., a validation error), the installation for that particular ESDT will fail. Installation of the other ESDTs will continue processing until the selected list is completed. As ESDTs are successfully installed or updated, the descriptor files are removed from the installation source directory. Any remaining files in the list would be those that could not be installed due to an error or those that were not selected for processing.

Note: In order for products associated with this ESDT to be exported to ECHO, the following BMGT configuration settings need to be updated:

- Insert collection into `bg_collection_configuration` using the `EcBmConfigureCollection.pl` script, setting proper values for `CoordinateSystem`, `GranuleSpatialRepresentation`, `DIF ID`, `TwoD Coordinate System`, etc.

10.4.1.6 Install/Update an ESDT

- 1 Log in to the **ESDT Maintenance GUI**.
 - The **ESDT List** page is displayed.
- 2 Select the **Install new ESDTs/Update existing ESDTs** button.
 - The **ESDTs to be Installed, Updated, or that have Failed** page is displayed (see Figure 10.4-7).

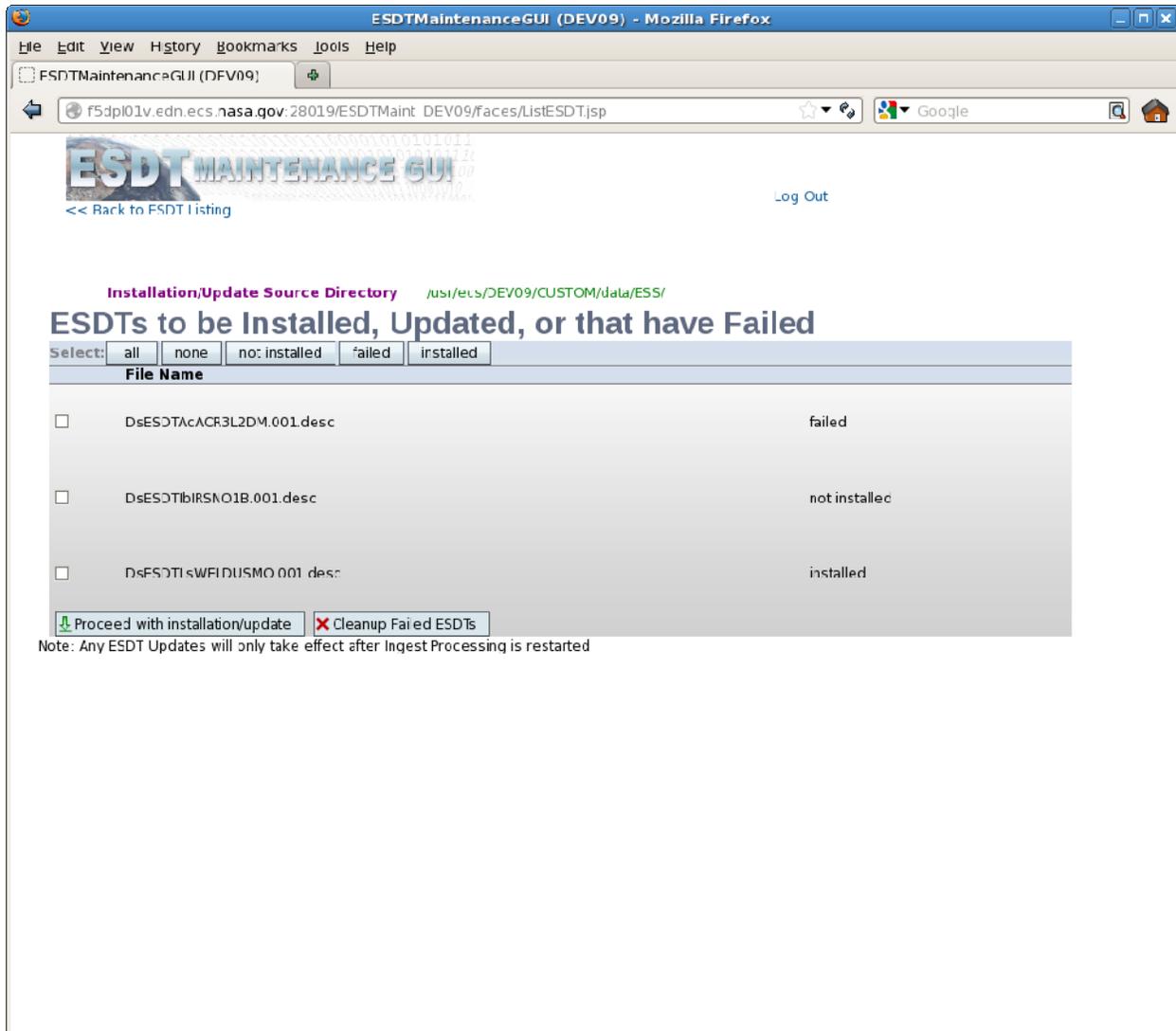


Figure 10.4-7. ESDTs to be Installed, Updated, or that Have Failed Page

- 3 Click on the checkbox(es) next to the desired descriptor file(s).
 - A check is displayed in the box.

Note: The five categories displayed above the list of descriptor files can be used if applicable (i.e. **all** - if you want all descriptor files selected; **uninstalled** - if you want all uninstalled descriptor files selected; **failed** - if you want all failed descriptor files selected; **Installed** - if you want all installed descriptor files selected).
- 4 Select the **Proceed with installation/update** button.
 - A message is displayed (see Figure 10.4-8) indicating the number of descriptors successfully installed and the installation files will be removed from the install list.

- If the installation is not successful, a message is displayed at the top of the page, indicating the number of descriptors that failed to be installed along with the associated error.

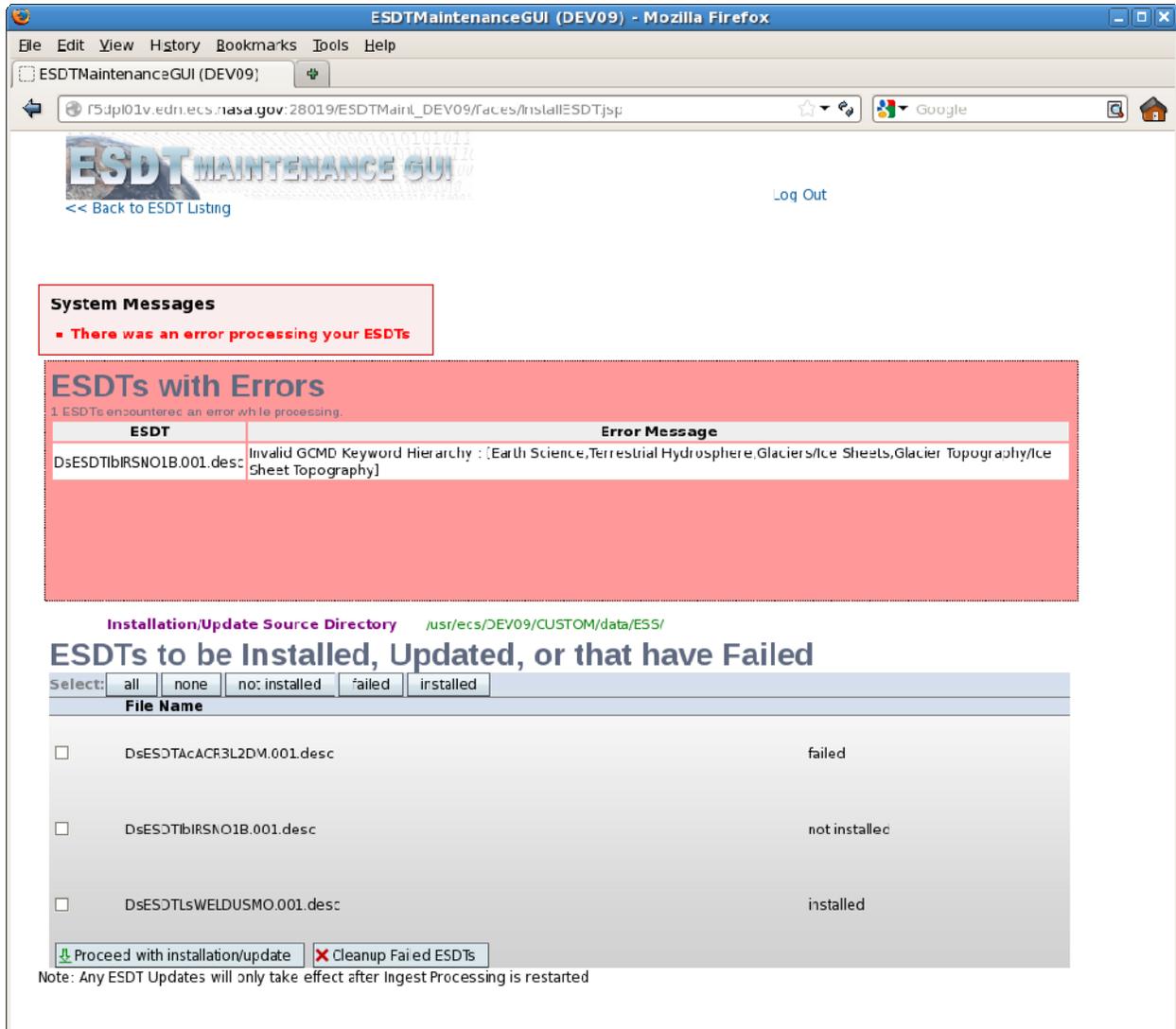


Figure 10.4-8. ESDTs Failure Screen

Note: This action requires that the Data Pool Ingest Processing Service and the Data Pool Action Driver Service be restarted.

10.4.1.7 Update BMGT Configuration Files

- 1 Log on to the host where BMGT is installed (e.g., x5oml01).
- 2 Type the following:
 - **cd /usr/ecs/OPS/CUSTOM/utilities**
- 3 Populate bg_collection_configuration by entering the following command:
 - **EcBmConfigureCollection.pl [-u] mode csv_file_path**
 - Where 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**
 - **Add the -u flag to update an existing collection**
 - **Note: null values should be indicated either by the literal value null or no value between the commas (not by an empty string).**
- 4 Valid values are as follows:
 - **Shortname/Version: The shortname and version from amcollection**
 - **Granule/collection exportflag: (Y/N) Y = enable for export, N = disable. Note that enabling a collection for granule export will result in export of all granules.**
 - **Orbit group: One of “GLAS Quarter Orbit” “GLAS Two Orbit” “GLAS 14 Orbit” “AMSR-E” “AMSR-A” “MISR”, or null for no backtrack orbit metadata population.**
 - **Granule Spatial Representation: One of: GEODETIC, ORBIT, CARTESIAN, NO_SPATIAL, or null to use derived value (see below). Spatial representation for granules in the collection.**
 - **Collection Coordinate System: One of: CARTESIAN, GEODETIC or null to use default (see below). The coordinate system for collection spatial metadata.**
 - **Two D Coordinate System: One of: “MISR” “MODIS TILE EASE” “MODIS TILE SIN”, or null for no TwoD Coordinates. Alternative coordinate system to expose for searching for granules in the collection.**
 - **DIF ID: Any text value (usually <Shortname><VersionID>), or null for no DIF ID. ID of the collection in the Global Change Master Directory (<http://gcmd.nasa.gov>).**
 - **Max Granules to Verify: Maximum number of granules to include for this collection in a single incremental verification batch**

5 Null values for collectioncoordinatesystem and granulespatialrepresentation will cause BMGT to use default or derived values as follows:

- **If collectioncoordinatesystem set to null default value will be used (default is determined by value of config parameter BMGT.Common.CoordinateSystemDefault – normally CARTESIAN, which is used by virtually all collections)**
- **If granulespatialrepresentation is set to null, value will be derived from amcollection.spatialsearchtype as follows:**
 - **SpatialSearchType => GranuleSpatialRepresentation**
 - GPolygon => GEODETIC**
 - Orbit => ORBIT**
 - Point => GEODETIC**
 - Rectangle => CARTESIAN**
 - NotSupported => NO_SPATIAL**

If an error is encountered during the installation or update (e.g., a validation error), the installation for that particular ESDT will fail. Installation of the other ESDTs will continue processing until the selected list is completed. As ESDTs are successfully installed or updated, the descriptor files are removed from the installation source directory. Any remaining files in the list would be those that could not be installed due to an error or those that were not selected for processing. In cases when fatal error has occurred, the ESDT will be marked as failed in the list of **ESDTs to be Installed**. After reviewing the error, the operator will be able to initiate recovery for the failed ESDT by using the **Cleanup Failed ESDTs** command.

10.4.1.8 Cleanup Failed ESDTs

- 1 Log in to the **ESDT Maintenance GUI**.
 - The **ESDT List** page is displayed.
- 2 Select the **Install new ESDTs/Update existing ESDTs** button.
 - The **ESDTs to be Installed** page is displayed.
- 3 Click on the box(es) next to the desired descriptor file(s) to be cleaned up.
 - A check is displayed in the box.
- 4 Select the **Cleanup Failed ESDTs** button.
 - For each ESDT selected, (i.e., incomplete installation), any Descriptors, MCFs, and Schema (and for ISO 19115- conformant ESDTs, ISO 19115 series metadata, series XPath, and dataset XPath files) present in the Small File Archive is removed.
 - The ESDT is removed from the Inventory Database.
 - The temporary backup descriptors, MCFs, and schema files (and for ISO 19115- conformant ESDTs, ISO 19115 series metadata, series XPath, and dataset XPath files) are restored and information from the restored descriptor file is place in the Inventory Database.

11. Bulk Metadata Generation Tool

11.1 BMGT Overview

The Bulk Metadata Generation Tool (BMGT) is an ECS component that is used to generate an external representation of the ECS metadata holdings. This external representation consists of a number of distinct data products that describes both the current state of the metadata holdings, as well as changes to that state (such as the insert, update, and deletion of collections and granules).

The data products produced by BMGT are exported to the EOSDIS ClearingHouse o (ECHO) where they are ingested into the ECHO database and used to allow search and order of ECS data through ECHO clients. This provides what has become the primary gateway for access to ECS data.

In general use, the BMGT is designed to be fully automatic. BMGT will automatically generate the required products to reflect any recent changes to the DAAC holdings and export them to ECHO. Alternatively, the operator may explicitly request BMGT to generate one or more products based on collection and/or granule selection criteria. The operator may also instantiate (or automate via a cron) the export of verification metadata to verify that ECS and ECHO metadata is in sync and reconcile any discrepancies that exist.

The metadata files sent to ECHO will be formatted in XML. The schemas used are available at <http://www.echo.nasa.gov/ingest/schemas/operations/> and also described in more in the document: “Interface Control Document between EOSDIS Core System (ECS) and EOS Clearinghouse (ECHO) for Metadata Inventory and Ordering”, referred to as the “ECHO/ECS ICD”

Figure 11.1-1 shows the high level context in which the BMGT operates.

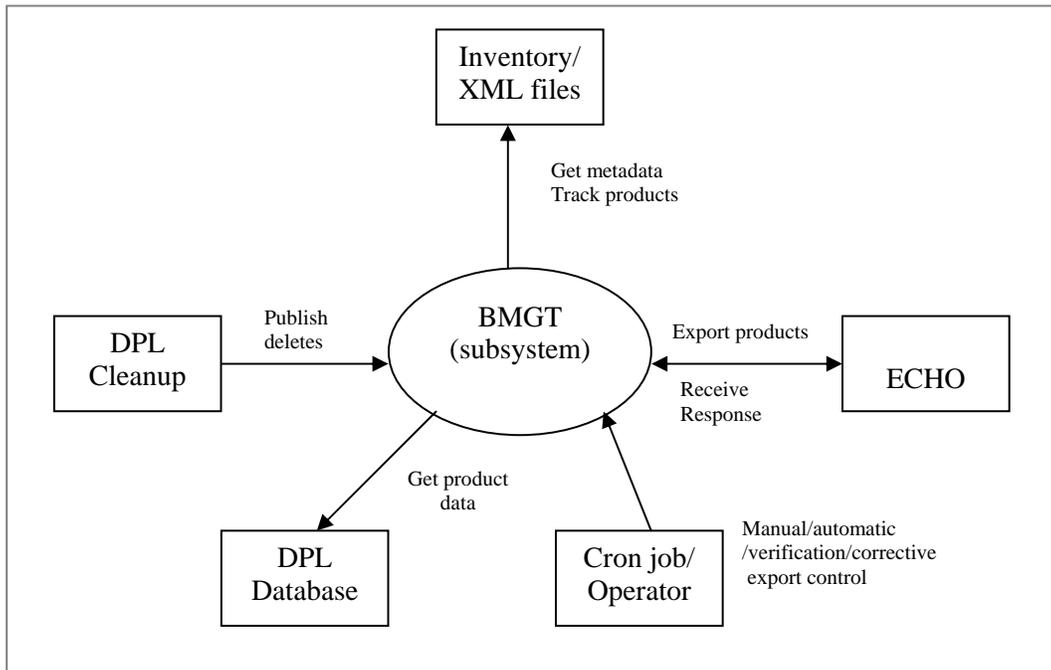


Figure 11.1-1. BMGT Context diagram

A BMGT export cycle can be initiated in one of five ways.

- **Automatically:** The Automatic Export process is responsible for selecting which products need to be exported and populating the BMGT database appropriately.
- **Manually:** This happens when the operator explicitly tells the BMGT to initiate an export. This is handled by the Manual Export Driver, which provides a large number of options for generating the export package. The Manual Export process is responsible for verifying that a manual export can be run and initiating the manual export generation.
- **Corrective:** The operator tells BMGT to initiate an export request to export metadata for export requests blocked due to errors returned from ECHO.
- **Verification:** The operator tells the BMGT enqueue verification export requests which will detect and repair any metadata discrepancies. This export can take one of three forms: Short Form (verify existence only), Long Form (verify entire metadata for granules and collections specified by the operator), or Incremental (verify entire metadata for granules and collections selected automatically by BMGT).

NOTE: There are collection level metadata values that cannot be automatically updated in ECHO. They include but are not limited to:

- Spatial search type - granule spatial representation
- Short Name/Version
- Long Name

Modifying the above collection level metadata values will require ECHO to drop the collection which means all granules in the ECHO inventory for that collection will be need to be deleted. In this circumstance, all historical granules for that collection will have to be re-exported to ECHO. BMGT does provide a mechanism to explicitly request the export of a deletion of a collection that is not actually deleted from ECS, for this purpose. This feature is a part of the Manual Export Process.

Table 11.1-1 provides an activity Checklist for BMGT.

Table 11.1-1. BMGT - Activity Checklist

Order	Role	Task	Section
1	Archive Technician	Launching the BMGT GUI	(P) 11.2.1.1
2	Archive Technician	Monitoring System Status	(P) 11.2.2.1
3	Archive Technician	Monitoring Incremental Verification	(P) 11.2.2.2
4	Archive Technician	Monitoring Recent Requests	(P) 11.2.3.1
5	Archive Technician	Cancelling Recent Requests	(P) 11.2.4.1
6	Archive Technician	Reviewing Failed Requests	(P) 11.2.5.1
7	Archive Technician	Reviewing Corrective Export Requests	(P) 11.2.6.1
8	Archive Technician	Changing BMGT Configuration Parameters	(P) 11.2.7.1
9	Archive Technician	Viewing Collection Configuration	(P) 11.2.9.1
10	Archive Technician	Modifying Collection Configuration	(P) 11.2.9.2
11	Archive Technician	BMGT Manual Mode	(P) 11.3.1
12	Archive Technician	BMGT ReExport Queue Utility	(P) 11.4.1
13	Archive Technician	BMGT Automatic Mode	(P) 11.5.1

11.2 BMGT GUI

The BMGT GUI allows the operator to monitor BMGT metadata export requests (Automatic, Manual, Corrective, Verification, and Incremental). The primary purpose of the GUI is to provide the operator with a list of recent requests and their status. In addition, the operator will use it to configure various BMGT tuning parameters, such as the frequency of automatic event checks and the connectivity parameters to ECHO. Since it is possible for errors to occur during various parts of the BMGT process, the third function of the GUI is to display errors returned by ECHO which might lead a request to be exported repeatedly without intervention. Finally, the BMGT GUI allows the operator to view collection configuration as well as monitor and configure the incremental verification for a particular group or collection.

11.2.1 BMGT GUI Functions



Figure 11.2-1. 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 to 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.

11.2.1.1 Launching the BMGT GUI

- 1 Access a terminal window logged in to a host (e.g., the Operations Workstation or Sun external server) that has access to the Mozilla Firefox web browser.
 - Examples of Linux external server host names include e4dp101, l4dp101 or n4dp101.
- 2 Type **firefox &** then press **Return/Enter**.
 - It may be necessary to respond to dialogue boxes, especially if the browser is already being used by someone else who has logged in with the same user ID.
 - The Mozilla Firefox web browser is displayed.
- 3 If a bookmark has been created for the **BMGT GUI**, select the appropriate bookmark from those listed on the browser's Bookmarks pull-down window.
 - The **application page with the Welcome tab selected is shown**.
 - 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.



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 11.2-2. BMGT Login Page

- 4 If no bookmark has been created for the **BMGT GUI**, enter the URL in the Address window and click on the **Go** or press the **Return/Enter** button.
 - For example: <http://x4dp101v.hitc.com:22500/BmgtGui>.
 - The Login: prompt is displayed.
- 5 If you are logging in for Read/Write access, enter the appropriate password in the **Read/Write Access Password** box.
- 6 Click on the **Login** button.

11.2.2 Monitoring System and Verification Status

The System Status tab is shown in figure 11.2-3.

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 11.2-3. System Status Tab

11.2.2.1 Monitoring System Status

The first section of the System Status tab 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.

The second section of the system status tab lists the BMGT request queues, their status, counts of requests in various states for each queue, and the ability to pause or resume each queue. The BMGT request queues are:

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 inventory events. 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 do 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.

11.2.2.2 Monitoring Incremental Verification

The third section of the System Status tab displays the current incremental verification status for the entire system, as well as for each group and each collection. Incremental verification is initiated by a Manual verification command (see section below), but is usually set on a cron job to automatically run periodically. Each run reviews which collections and granules require verification and attempts to process as much as possible up to certain configurable limits. Whatever is left over is left for the next attempt at incremental verification.

Each run of incremental verification will run through the collections, picking granules up to a max granule count per collection. An additional constraint considered is the total-max-granules per incremental verification run. The granules are added up to max granules per collection and not exceeding the total-max-granules per run. If the total-max-granules per run has not been reached for a given collection, the next collection is considered, and so on.

For each row in the verification status table the total and number of granules verified is listed, along with a percent verified graphic. Each collection is listed with the lastUpdate time-stamp and granule ID of the most recently verified granule.

Incremental verification can be reset for each collection, for a collection group or for all collections. Clicking on the Reset button for a given collection will set the lastUpdate time-stamp to the earliest update-time for any granule in the collection, and the last Update granule ID is set to zero, thus causing the next verification sweep to pick up all granules in that collection for verification. The number of granules verified is also reset to zero. Clicking on the Reset button for a collection group will reset verification for all collections in that group. Clicking on the Reset button for all groups will reset verification for all collections. Note that this will have a significant impact on the system as all granules require verification, which can take significant time to work through as incremental verification is triggered.

11.2.3 Monitoring Recent Requests

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 incremental verification. 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.

<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 11.2-4. 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.

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:

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.

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 11.2-5. Export-Requests – Requests Queue Summary

The bottom 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. If the Apply-Filters checkbox is not checked, then the counts reflect the system total and should correspond with the summary counts on the System Status tab.

Export-Request Queue Summary		Batch Job Summary		Batch Per Collection Summary						
Above Date/Time-Range and Filter settings apply!										
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 11.2-6. Export-Requests – Export Batch Summary

The Batch Job Summary sub tab shows statistics for each batch (the above filter settings always apply). Batches are logical groupings of export requests that were enqueued 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.

Export-Request Queue Summary		Batch Job Summary		Batch Per Collection Summary					
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 SNV	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 11.2-7. Export-Requests – Batch per Collection Summary

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

11.2.3.1 Monitoring Recent Requests

- 1 Login to the BMGT GUI.
 - The **BMGT GUI Welcome** tab is displayed.
- 2 Click on the **Export Requests** tab.
 - The **Export Request** tab (see Figure 11.2-8) is displayed.

Figure 11.2-8. Export Requests Tab

From this tab the user can see all export requests and their status. Export requests are the driver of all BMGT activity. Requests follow a basic progression from (optionally) **BLOCKED** to **PENDING** to **STARTED** to one of a number of completion states. In the presence of errors, Requests are “requeued”, or more accurately assigned a new initiating status of **BLOCKED** or **PENDING**.

Requests reflect the demand for BMGT export activity, but the Export Activity table captures the specifics of processing that request. When a request is in the **STARTED** state, detailed processing status is captured in an associated activity record. If the export processing completes

normally, the request is transitioned to SUCCESS. If, however, there are errors, the activity transitions to a completion state but the request is “requeued”. In these cases there will be more than one activity record for any given request.

Figure 11.2-9 shows the request states and associated activity states, as well as error-policy identifiers associated with state transitions.

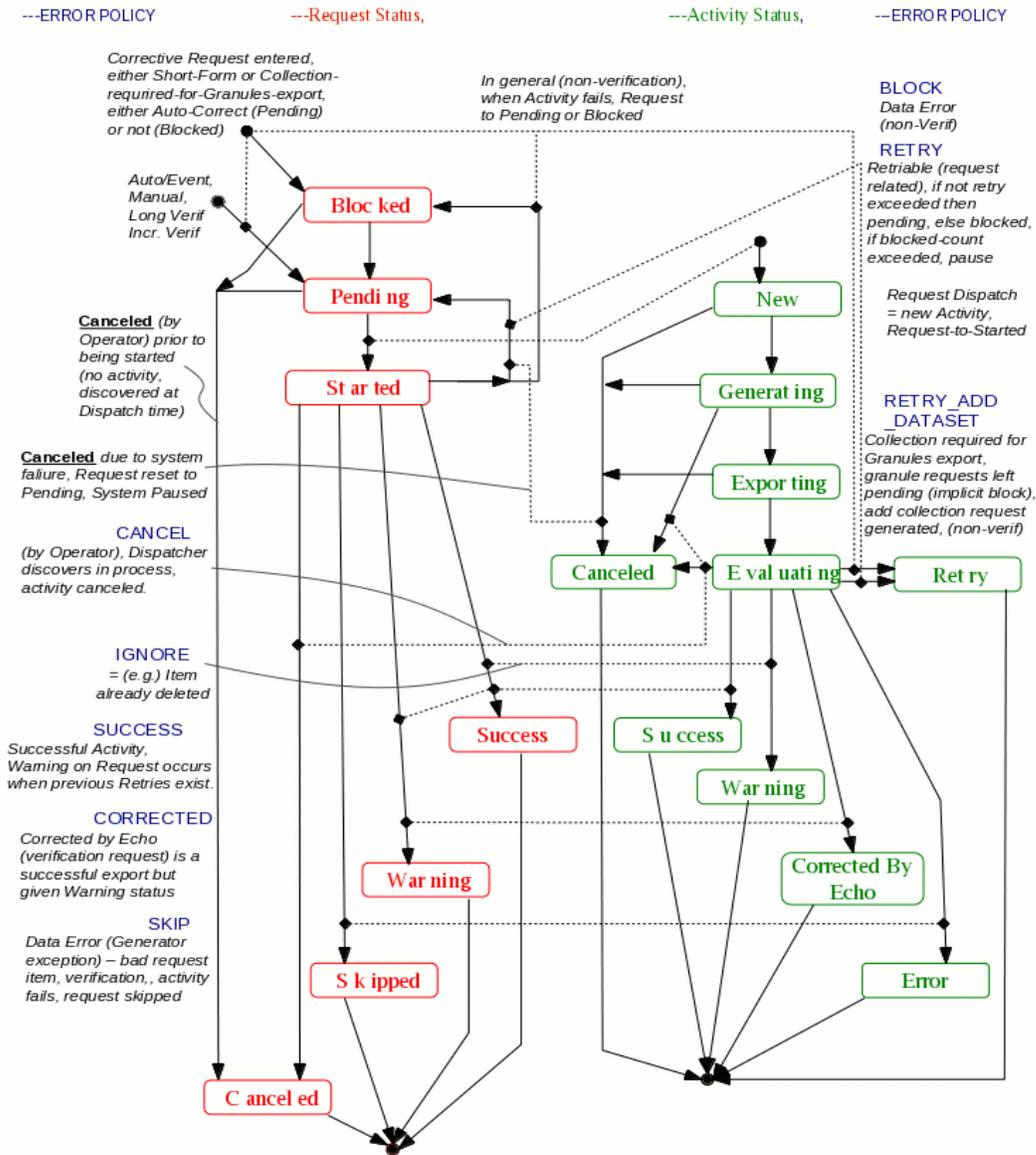


Figure 11.2-9. Export Request And Activity State Transition Diagram

To see detailed activity for a given request, click on the desired **Activity** link. The **Export Activity** tab (see Figure 11.2-10) is displayed.

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 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
<input type="checkbox"/>	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 11.2-10. Export Activity / Errors

- Click on the checkbox for a given request to see the associated error messages for that activity. The error messages (if any) will appear in the panel below the list of activities. The Export Activity tab also has a summary panel of activity records, with summary counts per export request queue.

11.2.4 Canceling Recent Requests

From the **Export Request** tab, the **Cancel** button allows the operator to select individual requests and cancel them if they are not yet started or in a terminal state. A request can only be cancelled if it is **BLOCKED** or **PENDING**. The **Cancel** button cancels all requests whose checkboxes are currently selected; the checkboxes can be checked only in those cases when the request can be cancelled. Note that cancelling a request should be done with extreme caution, especially for Event requests, as it could result in updates not being propagated to ECHO.

11.2.4.1 Cancelling Recent Packages

- 1** Login to the BMGT GUI.
 - The **BMGT GUI Home** page is displayed.
 - Enter the Read/Write Access Password and click on the Login button
- 2** Click on the **Export Requests** tab.

Optionally, use the time-range or filter feature to restrict the request list to a specific set of requests.
- 3** Click on the box next to requests to be cancelled or click on the checkbox in the column header to select all requests. Note that only requests in **BLOCKED** or **PENDING** status can be selected for cancellation.
 - A check is placed one or more checkboxes.
- 4** Click on the **Cancel** button.
 - The status of the selected requests becomes **CANCELED**.

11.2.5 Reviewing Failed Requests

Any single export request activity may fail for a number of different reasons, with differing responses. Looking at the export request list you may see:

- The Export Request has the status SKIPPED:
 - The export activity failed to generate valid metadata. The export Activity is marked with status ERROR.
- The Export Request has the status WARNING:
 - This only occurs for Verification requests (long-form verification), as the associated use-case only occurs in the case of verification.
 - ECHO reported that there were validation errors encountered – either in the presence or absence of metadata, or in the details of the metadata content. In any case, ECHO accepted the new metadata or deletion of metadata. The export activity is marked CORRECTED_BY_ECHO.
- All other cases are handled by BMGT as retries, and are so marked with an asterisk in the export request table in the Retry column.
 - As a processing policy, BMGT will attempt to rectify export requests processing errors in one way or another. The result is one or more retries, which may eventually become BLOCKED. If the issues cannot be rectified, the request may be canceled by the user.

Additional BMGT error scenarios and retry cases:

- ECHO reported an error that indicates such a minor concern that BMGT can ignore the error, e.g., a delete metadata request is sent to ECHO and ECHO responds that the metadata item did not exist within ECHO. The activity is marked by setting the status to WARNING and the request status is set to SUCCESS.
- BMGT received an error message from ECHO that indicates a necessary collection metadata record is required before associated granule metadata can be received. In this case a corrective-action export request is automatically generated and entered in the CORR export request queue. The activity is marked RETRY and the export request marked either PENDING or BLOCKED, depending on the setting of the corrective-action configuration setting. Note that in this case all granule export requests for that collection, while they may be PENDING, are implicitly “blocked” from being processed by BMGT until the associated BLOCKED or PENDING export-collection-metadata request is processed.
- The export activity failed to generate metadata or ECHO reported that the generated metadata could not be processed (data error). The Activity is marked RETRY and the request is marked BLOCKED.

- The BMGT Exporter, in communicating with ECHO, received an error that indicates an immediate retry is worth trying. This is not marked in any way in the activity or requests, but is written to the BMGT logs.
- The BMGT Exporter received an error in communicating with ECHO that indicates an immediate retry is not appropriate. In general, something is clearly wrong with the communication path to ECHO, so a retry is necessary. The Activity is marked RETRY and the request is marked PENDING so that BMGT will pick up the request shortly for a follow-up attempt. If, however, the retry limit has been reached, the request is marked BLOCKED.

11.2.5.1 Reviewing Failed Requests

- 1 Login to the BMGT GUI.
 - The **BMGT GUI Home** page is displayed.
- 2 Click on the **Export Requests** tab.
- 3 Optionally, use the time-range or filter feature to restrict the request list to a specific set of requests, e.g., Retry = Y. Also optional, click on the Status column or Retry column to have the requests sorted by status or retry respectively.
 - The list of requests will indicate error cases (SKIPPED, WARNING) or retry cases (asterisk in Retry column).
- 4 For a given export request of interest, click on the Activity Link button to jump to the Export Activity tab preselected to show only the activities associated with that export request.
 - Optionally for the export activity table, click on a column to sort the activities, e.g., in descending or ascending Activity Id (default is descending).
- 5 For a given export activity of interest, click on the checkbox in the leftmost column. The Error Message panel below will then display one or more error messages associated with the activity.
 - The error messages are sorted by presence of policy id first, and then by error id. Those error messages with policy id are colored red, indicating their significance relative to those without policy id. In general, error messages without policy id are of lesser significance and may usually be safely ignored.

11.2.6 Reviewing Corrective Export Requests

BMGT has two cases where export requests are added to the export request table automatically to correct some specific error case. These are called corrective exports and are always added to the CORR export request queue. Thus corrective exports can always be reviewed by looking specifically at the CORR export request queue.

One case for corrective export requests has already been mentioned in discussing BMGT error cases. BMGT will add an export-request for collection metadata if an attempt is made to export a granule metadata and ECHO responds that there is no collection metadata.

The second case for corrective export requests comes from a manual short-form verification request. In those cases where there is a discrepancy between the catalog listing received from ECHO relative to the local SDPS catalog, then BMGT will generate corrective export requests in order to bring the catalogs back in sync.

Corrective Exports will share a Batch-Id that ties requests together into a common group. In the case of a collection-metadata corrective export, the batch-id is used to tie the new request back to the granule-export that caused the corrective export to be generated. In the case the granule-export did not originally have a batch-id, one will be generated. In the case of a short-form export request, the batch-id of that short-form export is used to associate any corrective export requests that are generated.

11.2.6.1 Reviewing Corrective Export Requests

- 1 Login to the BMGT GUI.
 - The **BMGT GUI Home** page is displayed.
- 2 Click on the **Export Requests** tab.
 - Filtering by Export-Queue or Sorting by Export-Queue will allow the user to quickly identify the Corrective export requests in the export-requests table.
 - The Export-Request Summary panel at the bottom of the page shows summary counts for the export requests with various statuses per queue. Thus by inspecting the CORR queue listing, summary data for corrective exports is shown.
 - Alternatively, the Batch Job Summary tab will show requests with a common Batch-id. Requests in the CORR queue indicate corrective export requests.

11.2.7 BMGT Configuration

The BMGT 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.

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 11.2-11. BMGT Configuration

A property can be modified by clicking on the value, providing that the user has logged in for Read/Write access (there is a radio-indicator at the upper right that shows, if filled-in, that the GUI is in Read-Only mode where changes are disabled). 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.

Once a value has been changed, the **Save** and **Clear Updates** buttons will be enabled at the top left. Click **Save** to persist the changes, or **Clear Updates** to discard them. Once a change has been made, the other BMGT GUI tabs will be disabled until **Save** or **Clear Updates** is pressed.

Table 11.2-1 contains a description of the parameters that can be updated using the BMGT GUI.

Table 11.2-1. BMGT Configuration (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 11.2-1. BMGT Configuration (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	8640000 0-24hr	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	2160000 0-6hr	Polling interval in milliseconds on which to look for requests which are stale or can be cleaned up
BMGT.Monitor.purgeOlderThan	2592000 000- 30days	Age in milliseconds after which a terminal request is eligible for cleanup
BMGT.Monitor.staleAfter	8640000 00- 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://f5ftl 01/	Base host and port for all datapool URLs
BMGT.Common.CoordinateSystemDefault	CARTES IAN	Default value to use when bg_collection_configuration.collectoncoordinatesystem 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

Table 11.2-1. BMGT Configuration (3 of 3)

Property Name	Default Value	Description
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
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

11.2.7.1 Changing BMGT Configuration Parameters

- 1 Login to the BMGT GUI.
 - The **BMGT GUI Home** page is displayed.
 - Enter the Read/Write Access Password and click on the Login button
- 2 Click on the **BMGT Configuration** tab.
- 3 Click on any properties requiring change and type in a new value. The Save and Clear Update buttons will become enabled whenever changes are made. Click on Save or Clear Update buttons to effect or rollback the changes. The GUI will prevent leaving the tab until either Save or Clear Update is pressed.

11.2.8 Error Configuration

The Error Configuration Page provides a reference to all of the possible error codes that could be returned from ECHO in response to an export, and the BMGT response to each error.

The Response Handler is responsible for processing the responses returned from ECHO for each export attempt and handling each response appropriately. In the case of a nominal success response, this involves simply marking the Export Request as complete. But in the case of error responses, this processing could be more complicated. Table 11.2-2 contains a description of the BMGT Error Configuration.

If the response which the Response Handler is processing is an error, the following possible handling pathways exist:

- Manual Intervention – If the error cannot be automatically handled, raise an error which will be displayed to the operator in the GUI and via an email. The export entry will be placed in a blocked state and can be released by the operator to be re-queued for another attempt, either by invoking a corrective export, or releasing the request via the GUI. If enough such errors are received, The BMGT Dispatcher may be halted to prevent further errors until the issue can be addressed.
- Contact ECHO – Same as the above item except the operator will be informed that the error indicates an issue which ECHO operations may need to be consulted on.
- Re-queue – If the export is expected to succeed on a retry, then re-queue it (up to a configurable maximum number of times. Depending on configuration, the re-queue may be in a blocked state awaiting operator clearance (or corrective export).
- Re-queue associated – If the error indicates that the failure was due to another item being missing from ECHO (e.g. granule insert failed because the associated collection is missing). The associated item must be exported before the re-queued original item. Depending on configuration, the re-queue may be in a blocked state awaiting operator clearance (or corrective export).
- Ignore Error – The error was spurious in nature (e.g. exporting a deletion for an item that was already deleted). The error will be logged, but no additional attention is needed.
- Mismatch Handled by ECHO – For Long/Incremental Verification. The indicated mismatch was handled by ECHO automatically. The error will be logged as a verification mismatch and available for further investigation, but no immediate attention is needed. Any additional issues incurred during the replacement ingest into ECHO will result in additional errors which will be handled appropriately.

Each type of error will be mapped to a particular set of possible outcomes. For instance, an error which indicates that a granule does not exist could either be ignored or require manual intervention, all depending on whether the granule exists in the inventory (if not, then the non-existence of the granule in ECHO is correct).

There is one other type of special processing that the Response Handler is responsible for. When a collection is newly enabled for granule export, or has a full update requested, all granules in that collection must be exported. In either of these cases, the Export Request will be marked with a specific export type. When Response Handler sees a successful response for a request of this type, it will automatically queue all of the granules in that collection.

Some DAACs would prefer that automatic ‘corrective’ exports which BMGT determines to be necessary to correct an error not be actually exported until an operator has had a chance to review them, while others are fine with the process being entirely automated except when an error requires manual intervention. For this reason, the Response Handler will be configurable to add and re queue all events in a ‘blocked’ state requiring an operator to release. Blocked (awaiting operator action) corrective actions will not be much different from the failed requests awaiting manual intervention, but they will be listed separately in the GUI and it will be possible to choose to include only one or the other in a corrective export.

Table 11.2-2. BMGT Error Configuration (1 of 3)

Export Type	Error Code	Description	Configured Response
VER	ECHO_GRAN_ID_NOT_MATCH	Granule_Id specified in request header does not match what is in the database during granule update	BLOCK
ADD	DATASET_NOT_DEFINED	Dataset referenced by granule is not defined	RE TRY_ADD_DATASET
VER	DATASET_NOT_DEFINED	Dataset referenced by granule is not defined	RETRY_ADD_DATASET
ADD	INVALID_XML	XML schema validation failed	BLOCK
VER	INVALID_XML	XML schema validation failed	BLOCK
VER	RECORD_INVALID	Dataset/Granule validation failed (but XML schema validation succeeded)	BLOCK
DEL	REST_ITEM_NOT_FOUND	Dataset/Granule does not exist at ECHO anyway	IGNORE_ECHO_ERR
VER	ITEM_INSERTION	Dataset/Granule added during verification	CORRECTED
ADD	REST_MISSING_PARAMETER	Missing rest parameter	BLOCK
ADD	REST_CONFLICT	Dataset/Granule received simultaneous insert/update requests.	BLOCK

Table 11.2-2. BMGT Error Configuration (2 of 3)

Export Type	Error Code	Description	Configured Response
VER	METADATA_MISMATCH	The particular field exists in both the old and the new(verification) records, but its value has changed	CORRECTED
VER	METADATA_SUBTRACTION	The particular field does not exist in the old record, but exists in the new(verification) record	CORRECTED
VER	METADATA_ADDITION	The particular field exists in the old record, but not in the new (verification) record.	CORRECTED
VER	REST_MISSING_PARAMETER	Missing Parameter	BLOCK
DEL	REST_MISSING_PARAMETER	Missing Parameter	BLOCK
ADD	REST_BAD_REQUEST	Bad Request	RETRY
VER	REST_BAD_REQUEST	Bad Request	RETRY
DEL	REST_BAD_REQUEST	Bad Request	RETRY
ADD	REST_UNPROCESSABLE	Rest unprocessable	BLOCK
VER	REST_UNPROCESSABLE	Rest unprocessable	BLOCK
DEL	REST_UNPROCESSABLE	Rest unprocessable	BLOCK
ADD	NOT_ALL_GRANS_INDEXED	Not all granules of the collection indexed when update request is sent	RETRY
VER	NOT_ALL_GRANS_INDEXED	Not all granules of the collection indexed when verification request is sent	RETRY
ADD	DATASET_ID_NOT_MATCH	Dataset Id in XML does not match dataset Id in parameter	BLOCK
VER	DATASET_ID_NOT_MATCH	Dataset Id in XML does not match dataset Id in parameter	BLOCK
ADD	SHORT_NAME_VERSION_NOT_UNIQUE	Short name and Version Id combination not unique	BLOCK
VER	SHORT_NAME_VERSION_NOT_UNIQUE	Short name and Version Id combination not unique	BLOCK
ADD	LONG_NAME_VERSION_NOT_UNIQUE	Long name and Version Id combination not unique	BLOCK
VER	LONG_NAME_VERSION_NOT_UNIQUE	Long name and Version Id combination not unique	BLOCK

Table 11.2-2. BMGT Error Configuration (3 of 3)

Export Type	Error Code	Description	Configured Response
ADD	GRANULE_UR_NOT_MATCH	Granule_UR in XML does not match granule_ur in parameter	BLOCK
VER	GRANULE_UR_NOT_MATCH	Granule_UR in XML does not match granule_ur in parameter	BLOCK
VER	GRANULE_UR_NOT_MATCH	Granule_UR in XML does not match granule_ur in parameter	BLOCK
VER	DATASET_ID_NOT_MATCH_PREVIOUS	Dataset_Id in XML does not match the previous one during granule update	BLOCK
ADD	DATASET_ID_NOT_MATCH_PREVIOUS	Dataset_Id in XML does not match the previous one during granule update	BLOCK
ADD	ECHO_GRAN_ID_NOT_MAT CH	Granule_Id specified in request header does not match what is in database during granule update	BLOCK
ADD	RECORD_INVALID	Dateset/Granule validation failed (but XML schema validation succeeded)	BLOCK
VER	ECHO_GRAN_ID_NOT_MAT CH	Granule_Id specified in request header does not match what is in the database during granule update	BLOCK

11.2.8.1 Item Errors (automatically handled)

Many types of item level errors may be able to be automatically handled depending on the status of the objects in question. Such errors occur, for instance, when an attempt to export a browse link for a granule fails because ECHO cannot find the referenced browse granule; a granule is updated (e.g., by trying to add a URL) but ECHO does not have the granule in its inventory; or if a granule verification is exported for a granule that is not in the ECHO inventory. In these cases, either ECHO will attempt to repair the error, BMGT will attempt to reexport the affected object to ECHO, or BMGT will ignore the error. In all but one case (Ignore Error), these actions will result in the BMGT package being placed in the “COMPLETE_WITH_WARNINGS” state, indicating that there was an error, but that it does not require immediate DAAC staff attention.

Ignore Error

The error will not cause any email to be sent, or any state change to the package. The BMGT export Item will be placed in the "SUCCESS" state (barring any additional, more serious errors). An error can only be ignored if the error indicates that the ECS and ECHO inventories are in

agreement. For instance, if a granule delete fails because the granule was not present in ECHO's inventory. If the inventories are not in agreement, then the error will be handled by the Notify DAAC Staff Handler.

Response Code: **IGNORE_ERROR**

11.2.9 Collection Configuration

The Collection Configuration tab displays and allows the modification of configuration for all collections which BMGT is configured to export metadata for. This tab is essentially a table with each row representing a collection and each column representing some property of that collection. Many of the properties are changeable, assuming the user is logged in for update. Double clicking a text value or clicking a check box will allow it to be edited, and once a value has been changed, the Save and Clear Updates buttons will be enabled at the top left. Click Save to persist the changes, or Clear Updates to discard them.

Once a change has been made, the other BMGT GUI tabs will be disabled until Save or Clear is pressed. A message is displayed in the message box if another tab is clicked. Other messages are possible if e.g.;

- an attempt is made to set the Export Granules Flag when the Export Collection Flag is not set (not allowed),
- if the Export Collection Flag is cleared when the Export Granules Flag is set (allowed, but both are cleared), or
- if a checkbox is checked in read-only mode.

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>).

11.2.9.1 Viewing Collection Configuration

- 1 Login to the BMGT GUI.
 - The **BMGT GUI Home** page is displayed.
- 2 Click on the **Collection Configuration** tab from the navigation panel.
 - The **Collection Configurations** page is displayed (see Figure 11.2-13).

11.3 BMGT Manual Mode

The BMGT manual driver provides an interface through which the operator can initiate an export of ECS metadata through BMGT. Unlike a normal '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 collections. An operator is able to specify which metadata products are desired, rather than exporting all of them. An operator is also able to use the Manual Driver to re-run a previous AUTOMATIC export that has failed or 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, the desired products will be created by the BMGT Generator server and are exported to ECHO similar to automatic exports. The Manual Driver is meant primarily for reconciling ECS and ECHO metadata or for other situations where the normal, automatic export of BMGT metadata is not sufficient, as well as finding and repairing discrepancies with ECHO. The Manual Driver does not prevent multiple exports of the same metadata as 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.

Table 11.3-1 contains a listing/description of the arguments used by the Manual Export Script.

Table 11.3-1. Manual Export - General Arguments

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

Table 11.3-2. Manual Export – Generated Product Arguments

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 11.3-3. Manual Export – Run Type Arguments

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 above options 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.

Table 11.3-4. Manual Export – Item Selection Arguments

Option	Notes	Description
--collections | -c <shortname.version ID>[,<shortname.version ID>,...]		Generate metadata for collection <shortname.version ID>. 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].
--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.

11.3.1 BMGT Manual Mode

- 1 Log in at the machine where the Bulk Metadata Generation Tool (BMGT) manual script is installed (e.g., e4oml01 and n4oml01).
- 2 Type `cd /usr/ecs/<MODE>/CUSTOM/utilities` then press **Return/Enter**.
- 3 To run the BMGT manually, at the UNIX prompt enter (as applicable):

EcBmBMGTManualStart <MODE>.

- 4 Select the desired command arguments using the table above.
 - Example 1: Run the Manual script to generate Collection and Granule Information for collections listed in a file and with insert time falling in a specified range and export to ECHO.

Enter the following:

EcBmBMGTManualStart.pl

-mode<MODE>

-metg

-metc

-cf<file>

-starttime<YYYY-MM-DD HH:MM:SS>

-endtime<YYYY-MM-DD HH:MM:SS>

- Request the export of a listing of all granule 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 attempt to 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 package, and the lastUpdate of the granules. This 'incremental' package will constitute a set of the least recently updated granules which have not yet been verified with ECHO since they were updated.

EcBmBMGTManualStart.pl

--mode <MODE>

--incremental

11.4 BMGT ReExport Queue Utility

When processing Ingest Summary Reports from ECHO, the BMGT system will handle some reported errors by enqueueing corrective actions on the BMGT ReExport Queue. DAAC Staff can then remedy the reported error by running the BMGT Manual Start Script with the **--corrective** option. The **--corrective** option processes any corrective actions on the ReExport Queue, and exports corresponding metadata to ECHO.

In addition to processing the ReExport Queue for corrective export to ECHO, DAAC staff may also view and manage the ReExport Queue with the BMGT ReExport Queue Utility. The ReExport Queue Utility offers two options for viewing the queued actions; report, which prints the queue contents as a list of actions, and summary, which prints a statistical summary of the queued actions grouped by collection/group/itemtype (science, browse, or collection). The queue report or summary is printed to the terminal. The utility also offers the ability to delete one or more actions from the queue, by providing dbIDs or geoids on the command line or in a file. Report output can be filtered by collection and/or group, which can be specified on the command line, or in a file.

Table 11.4-1 contains a listing/description of the ReExport Queue Utility Commands

Table 11.4-1. ReExport Queue Utility Commands

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.

Table 11.4-2 contains a listing/description of the ReExport Queue Utility Options

Table 11.4-2. ReExport Queue Utility Options (1 of 2)

Parameter Name	Comments
--mode | -m <MODE>	Run in ECS mode <MODE>. Mode must be provided, either by this option, or by itself as the first argument to the utility.
--help | -h	Display a detailed help page.
--collection | -c <ShortName.VersionID>	The collection for which a report should be generated. More than one collection option may be given, resulting in all items from the re-export queue in any of the named collections being included in the report. Collection may be combined with group. Only valid for "report".
--group | -c <groupName>	The group for which a report may be generated. More than one group option may be given, resulting in all items from the re-export queue in any of the named groups being included in the report. group may be combined with collection. Only valid for "report".
--granuleids | -i g <ID>[,<ID>,...]	A list of IDs of granules to be deleted from the re-export queue. IDs must be separated by commas with no space between them, or they will be seen as separate, unrecognized arguments. IDs may be granule IDs (only digits) or geoids (e.g., SC:MOD14.005:12345). More than one ids switch may be given. IDs may be combined with idfile.
--gfidfile | -gfidfile | -f <filename>	A file containing a list of granule IDs or geoids, separated by whitespace or commas. More than one idfile may be given. idfile may be combined with ids.

Table 11.4-2. ReExport Queue Utility Options (2 of 2)

Parameter Name	Comments
--cycleids | -y <cycleid1,...>	A list of --cycleids . Combined with report, this option will cause the produced report to contain only those queued items which are were added due to one of the listed cycles. Combined with delete, this option will result in the items which were enqueued due to the listed cycles being removed from the queue. IDs must be separated by commas with no space between them, or they will be seen as separate, unrecognized arguments. --cycleids may be combined with --cycleidfile .
--cycleidfile | -l <cycleidfile>	A file containing a list of --cycleids , separated by whitespace or commas. More than one --cycleidfile may be given. --cycleidfile may be combined with --cycleids .

11.4.1 BMGT ReExport Queue Utility

- 1 Log in at the machine where the Bulk Metadata Generation Tool (BMGT) Manual Driver start script is installed (e.g., e4oml01 and n4oml01).
- 2 Type **cd /usr/ecs/<MODE>/CUSTOM/utilities** then press **Return/Enter**.
- 3 To run the BMGT ReExport Queue Utility, at the UNIX prompt enter (as applicable):

EcBmBMGTManualStart <MODE> -corrective [OPTIONS]

[COMMAND] is one of the commands listed in table 11.4-1 above and [OPTIONS] is zero or more of the options listed in table 11.4-2 above.

11.5 BMGT Automatic Mode

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

11.5.1 BMGT Automatic Mode

- 1 Log in at the machine where the Bulk Metadata Generation Tool (BMGT) is installed (e.g., e5oml01 and n5oml01).
- 2 At the UNIX prompt, enter:
cd /usr/ecs/<MODE>/CUSTOM/utilities
- 3 Run the Autodriver start script to start BMGT automatic driver with the following command

EcBmBMGTAutoStart <MODE>

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12. Quality Assurance

The Data Pool subsystem update utility for managing Quality Assurance (QA) metadata, the QA Update Utility (QAUU), consolidates the QAMUT utility from the SDSRV subsystem into a single utility. This tool receives an input file which contains header information indicating the format of the data in the file and the flags that are being updated.

12.1 Using the QA Update Tool

The QA Update Utility is an operational support tool used for updating the values of the Quality Assurance (QA) flags in the inventory metadata. The QA Update Utility sets QA values for data granules containing one or more measured parameters after they have been assessed by Science Computing Facility (SCF) or DAAC staff to determine their quality.

Data granules have Operational and Science QA flags. Operational QA flags can have the following values:

- Passed.
- Failed.
- Being Investigated.
- Not Investigated.
- Inferred Passed.
- Inferred Failed.
- Suspect.

In addition to these Operational QA flag values, Science QA flags can also have the following value:

- Hold

Table 12.1-1 provides an Activity Checklist for Using the QA Update Tool.

Table 12.1-1. Using the QA Update Tool - Activity Checklist

Order	Role	Task	Section	Complete?
1	System Administrator/ Database Administrator	Configure the QA Update Tool	(P) 12.1.1.1	
2	System Administrator/ Database Administrator	Configure the QA Update Email script	(P) 12.1.2.1	
3	Production Monitor	Prepare QA Update Request File	(P) 12.1.4.1	
4	Production Monitor	Update QA Flags Using QA Update Utility	(P) 12.1.5.1	

During one run, the QA Update Utility can update the metadata QA flags for multiple granules. In fact, the strength of the tool derives from its ability to update batches of granules at a time. There is a configurable limit on the number of granules that may be specified for a run (MAX_NUM_GRANULES in Table 12.1-2). However, this limit may be overridden by the operator. In fact, depending on how frequently the originators of requests for QA flag updates submit their requests, the DAAC may receive requests for updates of thousands of granules at a time. However, this creates the potential for extreme database loading (e.g., requirements for temporary storage of granule information). Specific practical limits may depend on individual site capacities and requirements, and the DAAC may need to work with the originators of requests to formulate requests of appropriate size to minimize QA Update Utility processing times and associated database impacts. If a request is for significantly more than that, consideration should be given to breaking it up into multiple requests.

The granules with QA flags to be updated using the QA Update Utility may each contain several different measured parameters. The tool can update the QA flag associated with each parameter for each granule listed in a metadata update request. Updates for different measured parameters related to a particular granule may be grouped contiguously on separate lines in the request so that all the updates for the granule are accomplished at the same time.

The input needed to run the QA Update Utility is a uniformly formatted update request. Each update request contains an e-mail header (including the requester's return address) and an attachment request file containing a list of the granules to be updated, along with the new QA flag values for the specified parameters.

Requests sent via e-mail are automatically placed in the input request directory by the QA Update email script. Requests not sent by e-mail must be placed in the input request directory.

After the data has been copied to this input request directory, the metadata can be updated by using QA Update Utility.

The QA Update Utility retrieves a batch of granules to update from the processing table and is updated within the XML Archive. When all files listed in the batch are updated, the processing table is updated to record the work as completed. Additionally, the updates are recorded in a history file with the original and new values. When all batches are completed, the updates are recorded for BMGT to export. Finally, the files in the Data Pool file system are replaced by the newly updated files in the XML Archive. The QA Update Utility is accessible on the x4dpl01 server.

12.1.1 Configure QA Update Utility

The **EcDsAmQaUpdateUtility.properties** contains the QA Update configuration parameters and is used by the System Administrator/Database Administrator to manage the configuration of the QA Update Utility. The site installer or Database Administrator is responsible for maintaining this file. Table 12.1-2 contains a list and description of the QA Update Utility Configuration Parameters.

Table 12.1-2. Configuration File Parameters for QA Update Utility (1 of 2)

Parameter Name	Description
SYBASE_SQL_HOST	The host for the Inventory and Data Pool databases
SYBASE_SQL_SERVER	The name of the Sybase server for the Inventory and Data Pool databases
SYBASE_JDBC_DRIVER_CLASS	The java class used for connecting the QAUU java application to Sybase
SYB_DBNAME	The name of the Inventory database
SYB_DPL_DBNAME	The name of the Data Pool database
SYB_PORT	The port number used to connect to the Inventory and Data Pool databases
SYB_USER	The username used to connect to and perform queries for the Inventory and Data Pool databases
PGM_ID	The ECS Program ID for the QAUU user (SYB_USER)
DB_NUM_RETRIES	The number of times to retry failed DB operations
DB_SLEEP_SEC	The number of seconds between DB operation retries
EMAIL_SERVER_HOST	Host name where email server runs
EMAIL_SMTP_USER	Email SMTP user name
EMAIL_QAUU_FROM_ADDRESS	Email notification sender address
FILE_NUM_RETRIES	The number of times to retry failed file operations
FILE_SLEEP_SEC	The number of seconds between file operation retries
QA_REQUEST_DIR	Path of directory containing QA update requests
QA_ERROR_REQUEST_DIR	Path of directory containing QA update requests that have failed.
QA_COMPLETED_REQUEST_DIR	Path of directory containing successfully completed QA update requests
QA_TEMP_DIR	Path of directory containing temporary files
QA_HISTORY_DIR	Path of directory containing QA update history files
DAAC_EMAIL_ADDRESSES	List of valid DAAC email notification addresses
<SCFSite>_EMAIL_FROM_ADDRESSES	List of valid email notification from addresses for a <SCFSite>
<SCFSite>_EMAIL_REPLY_ADDRESSES	List of valid email notification reply addresses for a <SCFSite>
<SCFSite>_NOTIFICATION_ON_SUCCESS	Flag indicating (if = "Y") that email notification should be sent upon successfully processing QA update requests for a <SCFSite> or for requests that fail. If = 'N', email should only be sent for requests that fail.
VALID_SCIENCE_QA_FLAGS	List of valid science QA flag values
VALID_OPERATIONAL_QA_FLAGS	List of valid operational QA flag values

Table 12.1-2. Configuration File Parameters for QA Update Utility (2 of 2)

Parameter Name	Description
NUM_XML_THREADS	The number of threads to be used. One thread will operate upon an UPDATE_BATCH_SIZE of QA updates.
MAX_NUM_GRANULES	The maximum number of granules that can be updated per run
UPDATE_BATCH_SIZE	The number of QA updates to be performed at a time.
XML_ARCHIVE_DIRECTORY	Pathname of XML Archive file system
SOCKS_PROXY_HOST	SOCKS proxy hostname
SOCKS_PROXY_PORT	SOCKS proxy port
BCP_EXEC_PATH	Path to unix bcp executable
SHELL_PATH	Path to unix sh shell needed to perform unix commands
application.name	Name of this application
log.operations.level	Level of logging desired in operational log: NONE, INFORMATION, VERBOSE or XVERBOSE
log.debug.level	Level of logging desired in debug log: NONE, INFORMATION, VERBOSE or XVERBOSE
log.performance.level	Level of logging desired in performance log: NONE, INFORMATION, VERBOSE or XVERBOSE
log.overwrite	If true, log file will be overwritten for each run
log.threshold	Size of log files before new ones are created.
log.rotation.number	Number of log files that will be rotated through.

12.1.1.1 Configure the QA Update Utility

- 1 Log into the host for the QA Update Utility (e.g., x4dpl01).
- 2 Change to the directory for configuration files, and then press the **Return/Enter** key.
cd /usr/ecs/<MODE>/CUSTOM/cfg
 - The working directory is changed to /usr/ecs/<MODE>/CUSTOM/cfg.
- 3 Type **ls** and then press the **Return/Enter** key.
 - Configuration files are displayed.
- 4 Find and highlight the **EcDsAmQaUpdateUtility.properties** file.
- 5 To start the vi editor and specify **EcDsAmQaUpdateUtility.properties** as the name of the file to be updated, type the following:
vi EcDsAmQaUpdateUtility.properties
 - A new file is opened for editing and the cursor is displayed on the first character at the upper left corner of the file.
 - **Note:** This procedure assumes use of the vi editor. Other editors may be used.

- 6 Type **i** to put the **vi** editor into the insert mode.
 - The **vi** editor is in the insert mode, but no feedback is provided.
 - 7 Enter/Update data to specify how to connect to the Sybase database and provide necessary DAAC-specific configuration information (see Table 12.1-2).
 - 8 To leave the insert mode and return to the command mode, press the **Esc** key.
 - The cursor moves one character to the left and the **vi** editor is in the command mode.
 - 9 Type **ZZ** to save the file and exit the **vi** editor.
-

12.1.2 Configure QA Email Script

A perl script allows remote sites to submit update request input files via email as attachments. The script (EcDsQAUUEmailScript.pl) parses the request, gets the attached request file and moves it to the QAUU request directory. It will reside on the central mail servers while the rest of the QAUU will reside on other boxes. The directories containing the email script output (/usr/ecs/<mode>/CUSTOM/data/DSS/QAUU/ and subdirectories) will be created on the boxes holding the QAUU and remote mounted on the central mail servers. Email aliases need to be set up in the /etc/aliases file on the central mail servers to direct email QAUU update request to the email script. One email alias is required for each mode supporting QAUU.

12.1.2.1 Configure QA Email Aliases

- 1 Log into the host for the QA Update Utility (e.g., x4dpl01).
- 2 Change to the directory for utilities, and then press the **Return/Enter** key.
cd /usr/ecs/<MODE>/CUSTOM/utilities
- 3 Type **ls** and then press the **Return/Enter** key.
- 4 Set up email aliases on the central mail servers (x4eil01) by entering the following:
QAUU_<MODE>: “| /usr/ecs/<MODE>/CUSTOM/utilities/EcDsQAUUEmailScript.pl”

Examples:

QAUU_<OPS>: “| /usr/ecs/<MODE>/CUSTOM/utilities/EcDsQAUUEmailScript.pl”

QAUU_<TS1>: “| /usr/ecs/<MODE>/CUSTOM/utilities/EcDsQAUUEmailScript.pl”

QAUU_<TS2>: “| /usr/ecs/<MODE>/CUSTOM/utilities/EcDsQAUUEmailScript.pl”

12.1.3 Input File Name Format

The input file name must adhere to the following:

<MODE>_<Site>_QAUPDATE<description>.<YYYY><MM><DD><HH><MM><SS>

The following example shows the filename from site LDOPE for OPS mode at 12:20:30 on Feb. 29, 2008:

OPS_LDOPE_QAUPDATE.20080229122030

Note: All the files in the request directory will be processed alphabetically by file name and stored in the Inventory Database. The timestamp in the filenames guarantee that all the requests coming from the same site will be processed in the right order.

12.1.4 Request Format

The body of the request starts with the statement "begin QAMetadataUpdate <Science or Operational> <LGID, GranuleUR or ESDT>" and ends with an "end QAMetadataUpdate" statement. Each request can be based on 3 possible origins:

- **LGID**
- **GranuleUR**
- **ESDT with temporal range.**

In between the "begin QAMetadataUpdate" and "end QAMetadataUpdate" statements is at least one parameter/QA value statement with the following components (which must be separated by tabs):

- Short Name
- Version ID
- LGID, GranuleUR, or Range Beginning Date <tab> Range Ending date, depending on whether "LGID", "GranuleUR", or "ESDT" is specified, respectively, on the "begin" statement
- Measured Parameter Name or "ALL"
- QA Flag Value
- QA Flag Explanation Value

This information must be properly arranged and placed in the Inventory database (a designated directory or file). Figures 12.1-1 through Figure 12.1-3 contain examples the different requests.

```
From LaRC
begin QAMetadataUpdate Operational ESDT
MOD13A1  1Jul 18 2000  Jul 27 2000  ALL  Being Investigated  ESDT Update for Perf
MOD13A1  1  Jun 9 2000Jul 11 2000  ALL  Being Investigated  ESDT Update for Perf
MOD13A1  1  Oct 2 2000Oct 15 2000  ALL  Being Investigated  ESDT Update for Perf
end QAMetadataUpdate
```

Figure 12.1-1. Sample Metadata QA Update Request ESDT with Temporal Range

```

From LaRC
begin QAMetadataUpdate Science LGID
AIRHASCI 77 AIRHASCI.A2001181.2359.077.2003129185118.hdf RadianceCounts
Passed LGID EDC Syn IV
AIRHASCI 77 AIRHASCI.A2001181.2359.077.2003133150736.hdf RadianceCounts
Passed LGID EDC Syn IV
AIRHASCI 77 AIRHASCI.A2001181.2359.077.2003134164830.hdf RadianceCounts
Passed LGID EDC Syn IV
AIRHASCI 77 AIRHASCI.A2001181.2359.077.2003141142634.hdf RadianceCounts
Passed LGID EDC Syn IV
AIRHASCI 77 AIRHASCI.A2001181.2359.077.2003147145008.hdf RadianceCounts
Passed LGID EDC Syn IV
AIRHASCI 77 AIRHASCI.A2001181.2359.077.2003148174646.hdf RadianceCounts
Passed LGID EDC Syn IV
AIRHASCI 77 AIRHASCI.A2001181.2359.077.2003149211207.hdf RadianceCounts
Passed LGID EDC Syn IV
AIRHASCI 77 AIRHASCI.A2001181.2359.077.2003150132315.hdf RadianceCounts
Passed LGID EDC Syn IV
end QAMetadataUpdate

```

Figure 12.1-2. Sample Metadata QA Update Request with LGID

```

From LaRC
begin QAMetadataUpdate Science GranuleUR
AST_L1BUR:10:DsShESDTUR:UR:15:DsShSciServerUR:13:[PVC:DSSDSRV]:24:SC:AST_L1B.001:2007640312 ALL
Failed SynergyIV QA 2 Update
end QAMetadataUpdate

```

Figure 12.1-3. Sample Metadata QA Update Request with GranuleUR

12.1.4.1 Prepare QA Update Request File

- 1 Log into the host for the **QA Update Request File** (e.g., x4dpl01).
 - 2 To change to the directory for **QA Update Request File**, type the following and then press the **Return/Enter** key:
cd /usr/ecs/<MODE>/CUSTOM/data/DSS/QAUU/QAUURequest
 - The working directory is changed to
cd/usr/ecs/<MODE>/CUSTOM/data/DSS/QAUU/QAUURequest
 - 3 To start the **vi** editor and specify **OPS_<SITE> QAUPDATE.<yyyymmddhrminsec>** as the name of the Request file to be used by QA Update Utility, type the command:
vi OPS_<SITE> QAUPDATE.< yyyymmddhrminsec >
 - The Request file is opened for editing and the cursor is displayed on the first character at the upper left corner of the file.
 - **Note:** This procedure assumes use of the **vi** editor. Other editors may be used.
 - 4 Type **i** to put the **vi** editor into the insert mode.
 - The **vi** editor is in the insert mode, but no feedback is provided.
 - 5 Enter request data following the proper format.
 - 6 To leave the insert mode and return to the command mode, press the Esc key.
 - The cursor moves one character to the left and the **vi** editor is in the command mode.
 - 7 Type **ZZ** to save the file and exit the **vi** editor.
-

12.1.5 Update QA Metadata Flags Using QA Update Utility

Access to the QA Update Utility must be gained through the use of UNIX commands. The QAUU is started by executing the following:

```
EcAmQAUUStart modename [ -file <filename>] [ -noprompt] [-noExitOnError][-recoverOnly] [-abortRecovery] [ -skipRecovery ] [ -recoverInvestigated]
```

All parameters, except for **modename**, are optional.

- **modename:** The mode to run in
- **-file <filename>:** The name of the request file containing the QA updates to be applied. If omitted, all request files in the configured request directory are processed.
- **-noprompt:** if specified, the utility will not prompt the user for confirmations
- **-noExitOnError:** if specified, the utility will not exit on the first error. This allows the operator to determine all errors that may occur during processing.
- **-recovery options:** These are all mutually exclusive; only one may be specified. Note that if none of these options are specified, the utility will recover, if necessary, and process new requests:
 - **-recoverOnly:** . recover and do NOT process new requests (assume we do NOT recover failures flagged as investigating)
 - **-abortRecovery:** delete all failures in working table and process new requests

- **-skipRecovery:** flag (don't process) failures for investigation (InvestigateFlag = 'Y') and process new requests
- **-recoverInvestigated:** set InvestigateFlag = null, recover (including formally investigated failures) and process new requests

The process of updating QA metadata flags using the QA Update Utility start-up script starts with the following assumptions:

- The applicable servers are running.
- The DAAC operator has logged in to the system.
- A request for metadata update has been received in an acceptable format.
- The update request has been saved with the appropriate file name **<MODE>_<Site>_QAUPDATE<description>.<year><month><day><hour><minute><second>** (i.e., **OPS_<SITE>_QAUPDATE.<yyyymmddhrminsec**) and placed in the **/usr/ecs/<MODE>/CUSTOM/data/DSS/QAUU/QAUURequest** directory found on.x4dpl01 machine.

12.1.5.1 Update QA Flags Using the QA Update Utility

1 Log into the host for the QA Update Utility (e.g., x4dpl01).

2 Enter:

Run EcAmQAUUStart <MODE> -file <QAUpdate Request File> -noExitOnError

- The QA Update Utility retrieves the batch of granules to update from the processing table. The files listed in the batch are updated within the XML Archive.
 - The history file is updated
 - The DIMeasuredParameter table within the Data Pool database is updated
 - The affected metadata files within the Data Pool file system are replaced by the newly updated files from the XML Archive.
 - The updates are recorded for BMGT to export.
-

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13. Data Pool Ingest

13.1 Ingest Process

The Data Pool (DPL) Ingest Subsystem is a Science Data Processing component that allows the Ingest Technician to obtain data from external data providers and archive into the system. The ingest technician can configure and monitor the system via access through the DPL Ingest GUI (Graphic User Interface).

The DPL Ingest Service is used for Science Investigator-Led Processing Systems (SIPS), S4P, Secure Copy (SCP) and cross-DAAC ingest. This service supports the ingest protocol known as 'Polling with Delivery Record', and inserts the ingested data into the Data Pool Storage Area Network (SAN) and archive.

The DPL Ingest Service is also used for ingesting EMOS Detailed Activity Schedules and data type ActSched which is supported by the ingest protocol known as 'Polling without Delivery Record', and inserts the ingested data into the Data Pool SAN and archive. Data Pool Ingest does not send Product Acceptance Notifications (PANs) or Product Deliver Record Discrepancies (PDRDs) to the EMOS data provider. EMOS data files do not contain checksum values and it is assumed that processed data files in the EMOS polling directory are periodically cleaned out by a DUE (DAAC Unique Extension).

Figure 13.1-1 provides an illustration of the Data Pool Ingest Polling with Delivery Record and archiving processes which are described in the following steps:

1. SIPS providers place their data and PDRs into a polling directory. The directory can be local, e.g., accessible via a mount point; or remote, i.e., accessible via FTP or SCP.
2. The DPL Ingest Service will poll these directories as configured by the DAAC and retrieve all new PDR files in those directories.
3. The DPL Ingest Service queues ingest requests for all PDRs that it finds. To decide which validated PDR will be processed next, it checks available resources and DAAC configured priorities.
4. The granule files are copied into the Data Pool SAN, using hidden directories for that purpose unless the DAAC requested that the data be published on insert.
5. Preprocessing events include checksum verification and translation of ODL files to XML if needed.
6. For non-SIPS ESDTs, Ingest will retrieve the MCF from a configured location in the Small File Archive.
7. Ingest validates the incoming granule metadata using the XML Validation Utility. The validated science xml metadata will be copied to a location in the StorNext Archive.

8. The Data Pool Ingest Utility (DPIU) registers the granule in the DPL database
9. The DPIU then copies the granules to the StorNext Archive. This may involve a copy to both a primary and backup archive depending on how the ESDT is configured for archiving.
10. Once all granules within the PDR are completed, the provider is notified of the outcome, which could be immediately via Product Delivery Record Discrepancy Report (PDRD) if PDR validation failed, or later via a short or long Product Acceptance Notification (PAN).
11. If the ESDT is configured for public Data Pool insert, granule made public in the Data Pool and populates the warehouse tables using the XML version of the metadata.
12. If the ESDT is not configured for public DPL Ingest it will remain in the hidden area of the Data Pool.

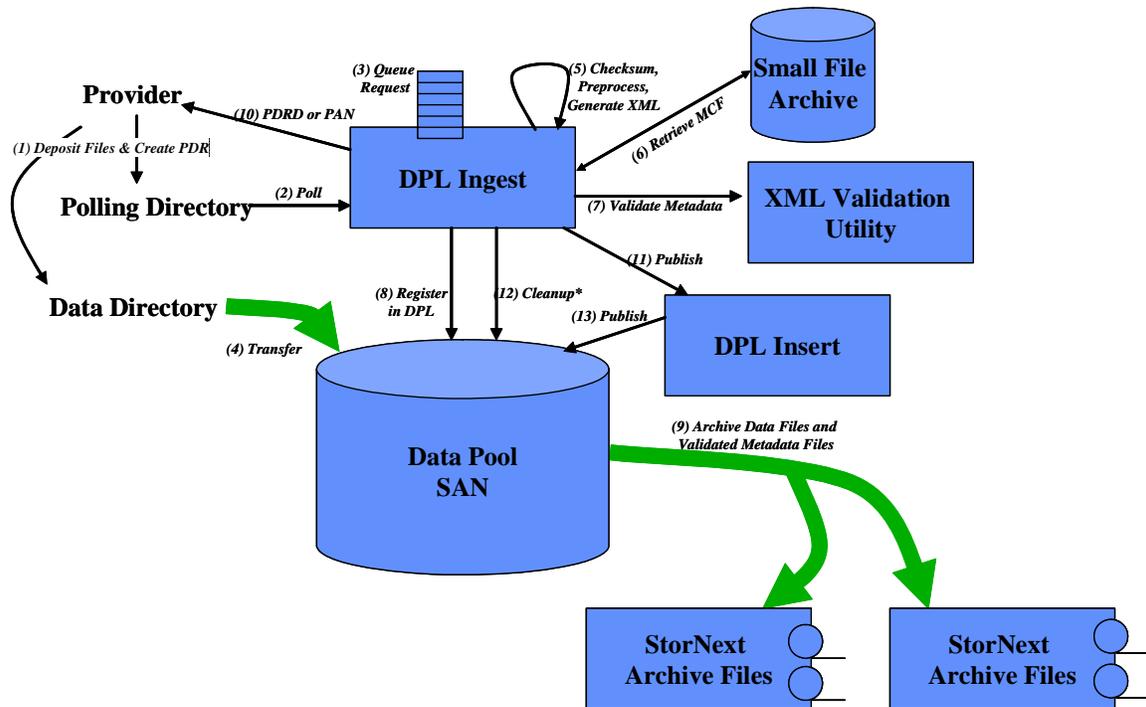


Figure 13.1-1. Data Pool Ingest High Level Architecture

The DPL Ingest Service is comprised of three distinct, contiguous components:

1. Polling (Figure 13.1-1, Step 2) will be responsible for the provision of work to the service via transferring Product Delivery Records (PDRs) into the system and registering them.
2. Processing (Figure 13.1-1, Steps 3-9) will pick up registered PDRs and attempt to ingest the inventory they describe into the Data Pool, perform any additional processing

required for specific inventory (for example inventory may relate to a pending order causing processing to inform the OMS), and archive the inventory. The processing component will update the status of a particular PDR on completion of various steps during processing, and queue a notification to be sent when all processing has completed (either successfully or unsuccessfully).

3. Notification (Figure 13.1-1, Step 10) will detect the queued notification and notify the provider associated with that PDR with details of its completion state. Terminal states are Successful, Partially Failed and Failed. Terminal states are conveyed to the provider by means of a Product Acceptance Notification (PAN) or Product Delivery Record Discrepancy Report (PDRD).

Subsequent sections related to Ingest address the following topics:

- **Section 13.2** Contains procedures for logging in to Data Pool Ingest System Hosts.
- **Section 13.3** Contains procedures for Monitoring Data Pool Ingest System.
- **Section 13.4** Contains procedures for resolving ingest requests with open interventions and Data Pool System alerts.
- **Section 13.5** Contains procedures for modifying DPL Ingest configuration parameters.
- **Section 13.6** Contains procedures for reviewing and generating reports.
- **Section 13.7** Contains procedures accessing Help Pages.
- **Section 13.8** Contains procedures for monitoring Data Pool Collections from the Data Pool Maintenance GUI.

13.2 Logging in to System Hosts

The following procedure presents the steps required to log in to system hosts.

Table 13.2-1 contains the activity checklist for Login to the Systems Hosts.

Table 13.2-1. Login to System Hosts - Activity Checklist

Order	Role	Task	Section	Complete?
1	Ingest Technician	Log in to System Hosts	(P) 13.2.1	

13.2.1 Log in to System Hosts

- 1 At the UNIX command line prompt enter: **setenv DISPLAY <client name>:0.0**
 - Use either the X terminal/workstation IP address or the machine-name for the client name.
 - When using secure shell, the DISPLAY variable is set just once, before logging in to remote hosts. If it were to be reset after logging in to a remote host, the security features would be compromised.
 - 2 In the terminal window (at the command line prompt) log-in to the appropriate host by entering:
ssh <host name>
 - Data Pool Ingest Server host names include **e5dpl01** at the LP DAAC; **n4dpl01** at NSIDC; **l4dpl01** at ASDC
 - If you receive the message, “Host key not found from the list of known hosts. Are you sure you want to continue connecting (yes/no)?” Enter **yes** (“y” alone will not work).
 - If you have previously set up a secure shell passphrase and executed sshremote, a prompt to Enter passphrase for RSA key '<user@localhost>' appears; continue with Step 3.
 - If you have not previously set up a secure shell passphrase, go to Step 4.
 - 3 If a prompt to **Enter passphrase for RSA key '<user@localhost>'** appears, enter:
<passphrase>
 - If a command line prompt is displayed, log-in is complete.
 - If the passphrase is unknown, press **Return/Enter**, which should cause a **<user@remotehost>'s password:** prompt to appear (after the second or third try if not after the first one), then go to Step 4.
 - If the passphrase is entered improperly, a **<user@remotehost>'s password:** prompt should appear (after the second or third try if not after the first one); go to Step 4.
 - 4 If a prompt for **<user@remotehost>'s password:** appears, enter:
<password>
 - A command line prompt is displayed.
 - Log-in is complete.
-

13.3 Monitoring the Ingest System

The central feature for monitoring the Ingest System is accessible to the operator through the web-based Data Pool (DPL) Ingest Graphical User Interface (GUI). The DPL Ingest GUI allows

operators to access and manipulate the DPL Ingest system from virtually anywhere there is accessible internal network from a qualified web browser. Using this GUI, an operator can monitor and fix Ingest requests, view system alerts, and at a glance view the status of the DPL Ingest system, either in part or whole. The DPL Ingest GUI also allows in-depth configuration of the entire DPL Ingest system eliminating manual configuration of the DPL Ingest database. It provides a fast and secure way to easily manage the entire DPL Ingest system, complete with full operator permission configuration and management so that only authorized persons may perform actions or change configuration settings.

Data Pool Ingest servers are initiated by the following three scripts:

1. EcDIInProcessingService
2. EcDIInPollingService
3. EcDIInNotificationService.

Since the DPL Ingest GUI is a web-based interface, it can be accessed from virtually anywhere there is access to the internal network. No custom software installation is required – all that is needed is a web browser (Firefox is recommended and supported) running on a Windows 2000/XP PC or a compatible Linux OS (e.g., Red Hat) that can run Firefox.

13.3.1 DPL Ingest GUI

The ECS Data Pool Ingest GUI, illustrated in Figure 13.3-3, has six functional areas accessible through an Explorer-like menu of the Navigation Panel (located in the left pane of its home page). These functions menu selections provide the following:

1. Home - Displays General System Statistics, DPL Ingest Status, Email Service Status, Notification Service Status, Polling Service Status and Processing Service Status.
2. Monitoring - Allows operators to monitor currently active Ingest Requests, History of Ingest Request, Provider Status, File System Status, Transfer Host Status, ECS Service Status, and PDR List.
3. Interventions & Alerts - Allows operator to review, resume, cancel and process ingests requests that have Open Interventions.
4. Configuration - Allows operator to alter configuration parameters for Data Providers, Data Types, Transfer Hosts, File Systems, ECS Service Hosts, Global Tuning, Volume Groups and Operators.
5. Reports - Displays information across several data providers or data types.
6. Help - Provides General help topics and Context Help Information.

The Navigation Panel also contains an operator information panel (Figure 13.3-1) below it's menus that displays a synopsis of the current/active operator and provides several menu options to perform the following actions:

- Log out – allows user to log out of the current session (without closing the browser).
- Change your password – current user can change current password on screen.
- Show all of your permissions – allows the user to view or hide current permissions.



Figure 13.3-1. Operator Information Panel

NOTE: In order to properly navigate the application, **do not use the built-in back/forward browser buttons** (Figure 13.3-2 Built-in Back/Forward Browsers Buttons), to avoid errors to occur in the application. All navigation should be performed using the navigation panel and/or list navigators (e.g., custom back/forward buttons for lists of requests and granules). The occurrence of errors on pages will display in “red” text.

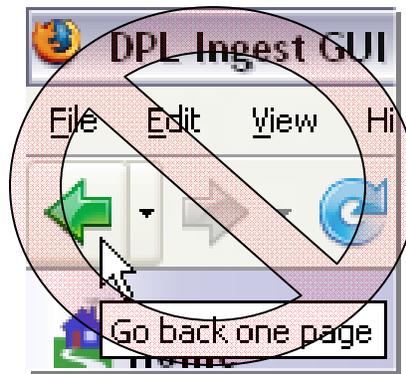


Figure 13.3-2. Built-in Back/Forward Browser Buttons

Operator GUI security standards require the following multiple levels of permissions to be assigned to each operator that has access to the DPL Ingest GUI:

- View Only
- Ingest Admin
- Ingest Control
- Security Admin
- Tuning Control.

Full-capability operators have the ability to configure parameters and perform all other actions that can be accomplished with the **DPL Ingest GUI**. Limited-capability operators are able to view a lot of information; however, on the limited-capability GUI some buttons and links have been disabled so it is not possible to perform certain actions or access certain pages.

The DPL Ingest GUI is certified for use with any browser supporting the Mozilla Firefox 3.0+ standard. Launching the DPL Ingest GUI, it is assumed that the Ingest Technician has logged into the system. Table 13.3-1 provides an activity checklist for Monitoring DPL Ingest.

Table 13.3-1. Monitoring DPL Ingest

Order	Role	Task	Section
1	Ingest Technician	Launching the DPL Ingest GUI	(P) 13.3.1.1
2	Ingest Technician	Changing Requests Status Filters	(P) 13.3.2.1
3	Ingest Technician	Monitoring Request Status	(P) 13.3.2.2
4	Ingest Technician	Cancel, Suspend, Resume or Change Requests Priority	(P) 13.3.2.3
5	Ingest Technician	Changing Suspended Granules Status	(P) 13.3.2.4
6	Ingest Technician	Viewing Historical Requests	(P) 13.3.3.1
7	Ingest Technician	Viewing Provider Status	(P) 13.3.4.1
8	Ingest Technician	Suspend or Resume Data Providers	(P) 13.3.4.2
9	Ingest Technician	Suspend or Resume Individual Polling Locations	(P) 13.3.4.3
10	Ingest Technician	Viewing File System Status	(P) 13.3.5.1
11	Ingest Technician	Suspend or Resume File System	(P) 13.3.5.2
12	Ingest Technician	Viewing Transfer Host Status	(P) 13.3.6.1
13	Ingest Technician	Suspend or Resume Transfer Host	(P) 13.3.6.2
14	Ingest Technician	Viewing ECS Service Status	(P) 13.3.7.1
15	Ingest Technician	Suspend or Resume ECS Service(s)	(P) 13.3.7.2
16	Ingest Technician	Re-Ingesting a PDR	(P) 13.3.8.1

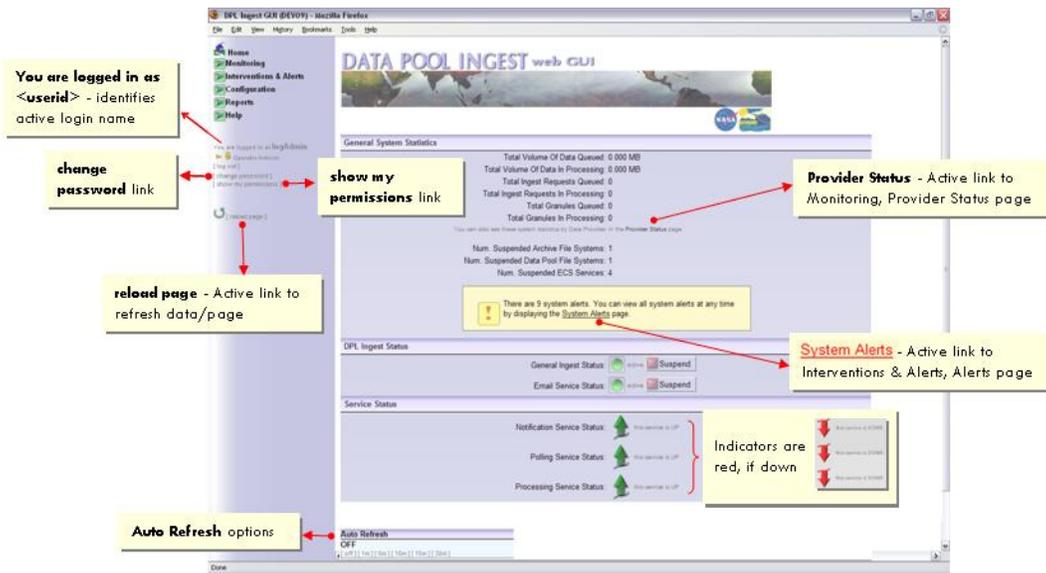


Figure 13.3-3. Data Pool Ingest GUI Home Page

The DPL Ingest GUI Home Page (Figure 13.3-3) provides a general overview of the Data Pool Ingest system status. The home page has three working sections:

1. **General System Statistics** - provides general information about current requests and granules in the system, as well as the various services and file systems used in processing. The Operator selects active links to the Provider Status and Alerts page, from this section.

Detail descriptions of the data found in this section are listed in Table 13.3-2.

Table 13.3-2. Home Page Field Descriptions (1 of 2)

Field Name	Description
Total Volume of Data Queued	Sum of the size of all files of all granules that have not yet been activated
Total Volume of Data In Processing	Sum of the size of all files of all granules that are currently active, and not suspended or in a terminal state
Total Ingest Requests Queued	Total number of requests that have not yet been activated
Total Ingest Requests In Processing	Total number of requests that are currently active, and not suspended or in a terminal state

Table 13.3-2. Home Page Field Descriptions (2 of 2)

Field Name	Description
Total Granules Queued	Sum of all granules in active or queued requests that have not yet been activated
Total Granules In Processing	Sum of all granules in active or queued requests that are currently active, and not suspended or in a terminal state
Num. Suspended Archive File Systems	Total archive file systems that have been suspended, either automatically by the server or manually by operator
Num. Suspended Data Pool File Systems	Total data pool file systems that have been suspended, either automatically by the server or manually by operator
Num. Suspended ECS Services	Total ECS service hosts that have been suspended, either automatically by the server or manually by operator

2. **DPL Ingest Status** - consists of two status options that enables the user to suspend or resume various actions throughout the data pool ingest system:

- **General Ingest Status** – allows the Operator to stop polling from all polling locations and prevent any new granules from being activated. Any granules that are already active will complete ingest. These actions can easily be suspended/resumed by pressing/toggling the Suspend/Resume button (Figure 13.3-4).



Figure 13.3-4. General Ingest Status/Resume Button

- **Email Service Status options** – allows the Operator to stop any further email notifications to the external data providers (i.e. completed, cancelled, failed, or terminated requests). Once the button is depressed/toggled, email notifications will resume (Figure 13.3-5).



Figure 13.3-5. General Ingest Status/Resume Buttons

3. **Service Status** - provides status for several primary services that make up the Data Pool Ingest system. Ingest services cannot be started and stopped via the Data Pool Ingest GUI. Instead, they are managed using start and stop scripts found in the utilities directory of the given mode. For the status of these services to be accurate, the IngestServiceMonitor script must also be running. This script is installed in the utilities directory (i.e., /usr/ecs/<MODE>/CUSTOM/utilities) of each mode and can be started with the command: EcDIIngestServiceMonitorStart [MODE]. The status services which cannot be changed by the operator are as follows:

- **Notification Service Status** - Indicates whether the notification service is active (up) or suspended (down). If suspended, no notifications will be sent, but a queue of notifications will be collected and distributed once the service is restarted (not done via the DPL Ingest GUI).
- **Polling Service Status** - Indicates whether the polling service is active or suspended. If suspended, PDRs will not arrive from any configured polling location, but any PDRs that remain in the directories will be added once the service is restarted (not done via the DPL Ingest GUI).
- **Processing Service Status** - Indicates whether the processing service is active or suspended. If suspended, no actions on any requests or granules will start, continue, or complete. Granules will “hang” in whatever state they are in (not done via the DPL Ingest GUI).

13.3.1.1 Launching the DPL Ingest GUI

- 1 Access a terminal window logged in to a host (e.g., the Operations Workstation or Sun external server) that has access to the **Firefox** web browser.
 - Examples of Linux external server host names include “e5eil01”, “n5oml01” or l5dpl01.
- 2 Type **firefox &** then press **Return/Enter**.
 - It may be necessary to respond to dialogue boxes, especially if the browser is already being used by someone else who has logged in with the same user ID.
 - The Mozilla Firefox web browser is displayed.
- 3 If a bookmark has been created for the **DPL Ingest GUI**, select the appropriate bookmark from those listed on the browser’s Bookmarks pull-down window.
 - The **Login:** prompt is displayed.
- 4 If no bookmark has been created for the **DPL Ingest GUI**, type **http://host:port** in the browser’s **Location (Go To)** field then press **Return/Enter**.
 - For example: http://n5iil01.nsidc.ecs.nasa.gov:25000/Ingest
 - For example: <http://p5iil01.pvc.nasa.gov:25000/Ingest>.
 - For example: http://f5iil01:25010/Ingest_DEV01
 - The Data Pool Ingest web GUI **Login Screen** (Figure 13.3-6) displays.



Figure 13.3-6. Ingest GUI Login Screen

- 5 Type the appropriate **User** name in the textbox of the security **Login** prompt.
- 6 Type the appropriate **Password** in the textbox of the security **Login** prompt.
- 7 Click **Login**:
 - The dialogue box is dismissed.
 - The **DPL Ingest GUI Home Page** (Figure 13.3-3) is displayed.

13.3.2 Monitoring Requests Status

The DPL Ingest Request Status screen is used to check the status of current active Ingest requests. Table 13.3-3 provides descriptions of the information available for each request. Table 13.3-4 lists actions allowed for different status types.

This page displays the current active Ingest requests. The limited-capability operator can use the Request Status page to filter and view Ingest request information.

Table 13.3-3. Request Status Page Column Descriptions (1 of 2)

Field Name	Description
Request ID	Unique ID for an ingest request
Status	Status of the request (Table 13.3.4 for list of possible statuses)
Priority	The precedence which a request will have for activation and various processing actions (i.e., XPRESS, VHIGH, HIGH, LOW or NORMAL).
Provider Name	Name of the provider from which the request was obtained
Size [MB]	Sum of the size of all granules in the request
Granules	Total granules included in the request

Table 13.3-3. Request Status Page Column Descriptions (2 of 2)

Field Name	Description
Granules Completed Processing	Total granules that have reached a successful state
When Queued	Time the request was encountered by the polling service
Last Update	Time of the last change made by the ingest services to the status of the request or its granules

Table 13.3-4. Ingest Request Status Allowed Actions

Request Status	Request Actions				
	Suspend	Change Priority	Resume	Cancel	No Actions Allowed
New		X		X	
Validated		X		X	
Active	X	X		X	
Partially_Suspended	X	X		X	
Suspending / Suspended		X	X	X	
Resuming	X	X			
Failed					X
Partial_Failure					X
Canceling					X
Partially_Cancelled					X
Successful					X

The operator may change the filters for the Ingest Requests screen to meet a specific need, which alters the contents of the Ingest Requests screen. Filter settings will remain unchanged until altered again. Filter settings are associated with an operator's profile and are always remembered, including when logged-out of session.

13.3.2.1 Changing Requests Status Filters

- 1 Click on the **Monitoring** link in the navigation frame of the DPL Ingest GUI to expand its menu.
- 2 Click on the **Requests Status** link to display the **Ingest Requests page** (Figure 13.3-8).
- 3 Click the **Show/Hide Filters** button at top-left of the Ingest Requests page to show the current filter settings.
 - The **Active Ingest Request List Filter Panel** (Figure 13.3-7) displays.

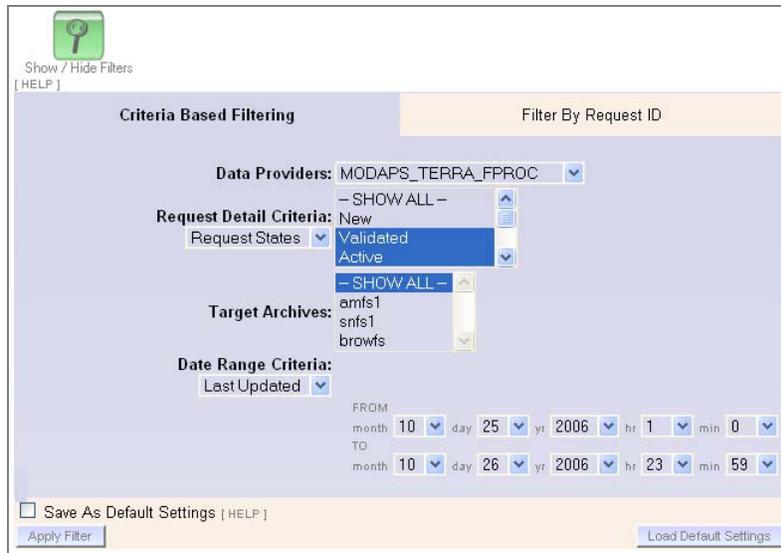


Figure 13.3-7. Active Ingest Request List Filter Panel

- 4 Click on the **Criteria Based Filtering** button to show filter options based upon the attributes of various requests (Figure 13.3-7).
 - Or to filter only a single request ID select **Filter By Request ID**.
- 5 Select the **Data Provider** from the drop-down list to display those associated with request.
- 6 Select one or multiple (hold CTRL key, then select) **Request Detail Criteria**:
 - **Error Type** – select the state to filter only requests in intervention with at least one granule currently in that error state. Only one error type may be selected.
 - **Request States** – select the state to filter requests in the selected states. Multiple states may be included in the filter (hold CTRL key, then select).
- 7 Select the **Target Archives** criteria to query requests with granules from data types configured to be sent to the selected archives.
- 8 Select the **Date Range Criteria**:
 - To view entries for a particular **Date/Time Criteria**, click and hold the option button, move the mouse cursor to the desired selection (i.e., **SHOW ALL, Last Update, Queued, Queued Within Last Hour**), then release the mouse button.
 - If selected **Last Updated or Queued**, select the appropriate **FROM** Date/Time range (Month, Day, Year, Hour, Minute) and **TO** Date/Time range (Month, Day, Year, Hour, Minute),
 - Use the 24-hour format to designate the hour (e.g., type **14** to designate 2 p.m.) in the **hour** fields.

- Use the **Tab** key to advance from one field to the next.
- 9 If the selected filters are to be the desired default filters, click in the **checkbox** next to **Save As Default Settings**.
- 10 Click the **Apply Filter** button.
- The **Ingest Requests** screen displays the new filters criteria data.

13.3.2.2 Monitoring Requests Status

- 1 Click on the **Monitoring** link in the navigation frame of the **DPL Ingest GUI**.
- The **Monitoring** menu is expanded.
- 2 Click on the **Requests Status** link in the navigation frame of the **DPL Ingest GUI**.
- The **Ingest Requests** page (Figure 13.3-8) is displayed.

Dynamic Auto-Refresh Clock appears if Auto Refresh is on. Indicates next refresh time.

Pagination Arrows moves pages to first, to previous, to next or to last.

Action Buttons for eligible Ingest Requests.

Auto Refresh Control Panel reloads page information defined by seconds or minutes. Each screen has an independent refresh rate.

Request ID	Status	Priority	Provider Name	Size [MB]	Granules	Granules Completed Processing	When Queued	Last Update
20523	Active	VHIGH	JPL	0.252	2	0	2007-09-10 12:54:01	2007-09-10 12:54:03
20515	Active	VHIGH	JPL	330.337	2	1	2007-09-10 12:54:01	2007-09-11 13:20:50
20513	Active	VHIGH	JPL	330.337	2	0	2007-09-10 12:54:01	2007-09-10 12:54:17
20511	Active	VHIGH	JPL	330.337	2	1	2007-09-10 12:54:01	2007-09-11 13:21:05
20509	Active	VHIGH	JPL	330.337	2	0	2007-09-10 12:54:01	2007-09-10 12:54:16
20507	Active	VHIGH	JPL	1.523	1	0	2007-09-10 12:54:01	2007-09-10 12:54:04
20503	Active	VHIGH	JPL	1.523	1	0	2007-09-10 12:54:01	2007-09-10 12:54:04
	Active	VHIGH	JPL	1.523	1	0	2007-09-10 12:54:01	2007-09-11 13:20:38
	Active	VHIGH	JPL	1.523	1	0	2007-09-10 12:54:00	2007-09-11 13:20:38
	Active	VHIGH	JPL	1.523	1	0	2007-09-10 12:54:00	2007-09-11 13:20:38

Figure 13.3-8. Ingest Requests Page

- The **Ingest Requests** status page has the following columns:
 - **Request ID** which displays a unique ID for each ingest request.
 - **Status** which provides status of a request (i.e., New, Validated, Active, Partially_Suspended, Suspended, Canceling, Resuming, Successful, Cancelled, Partially_Cancelled, Failed, Partial_Failure or Terminated).
 - **Priority** is the precedence which a request will have for activation and various processing actions (i.e., **XPRESS, VHIGH, HIGH, LOW** or **NORMAL**).
 - **Provider Name** identifies the provider from which the request was originated.
 - **Size [MB]** is the sum of the size of all granules in the request.
 - **Granules** list the total granules included in the request.
 - **Granules Completed Processing** displays total granules that have reached a terminal state.
 - **When Queued** is the time the Request was encountered by the polling service.
 - **Last Update** is the time of the last change made by the ingest services to the status of the request or its granules.

3 Click the desired **Request ID**, to view the results of ingest request. The data is displayed on the Ingest Request Detail Page (Figure 13.3-9).

Ingest Request Detail

Request Info
[Show / Hide]

Request ID: 20515	Status: Active	Priority: VHIGH
Polling Location: JPL Local Polling	Mission:	Size: 330.337 MB
Data Provider: JPL		

PDR Path and file name: /datapool/DEV09/user/FS1/pdrs/1000191/500174/Criteria_0260_1_1188918087.83048_RGEN.PDR

Last Update: 2007-09-11 13:20:50
When Queued: 2007-09-10 12:54:01
When Activated: 2007-09-10 12:54:07
When Completed:
Expiration Date/Time:

Granule Statistics:					
Total Granules	Granules Preprocessed	Granules Inserted	Granules Transferred	Granules Archived	No. Files
2	50%	50%	50%	50%	8

Status Change History	
Status Changed to New	2007-09-07 14:46:23
Status Changed to Validated	2007-09-10 12:54:01
Status Changed to Active	2007-09-10 12:54:07

Request Notes
Added 2006-10-26 17:23:33 by IngAdmin GranuleID: 10000000019387 Failed granule.
Added 2006-10-26 17:24:24 by IngAdmin Failed granule after verifying that the metadata was corrupt and could not be processed after retrying the granule.

[Add annotation...] [Cancel]

Annotation text:
 After failing the granule, the metadata was corrected and the granule will be reingested through a later request.

[Add annotation...]

Request Info details specific to current request, including dates of major changes.

Granule Statistics details overall statistics of all granules associated with request.

Scrollable table of complete records of status changes.

Annotations, useful in tracking changes to the request – add automatically by server or manually by operator. All notations are time stamped on entry.

Figure 13.3-9. Ingest Request Detail Page

- The **Ingest Request Detail** page (Figure 13.3-9) is divided into several parts:
 1. **Request Info** which contains summarized data from the **Ingest Request** status page and is located at the top of the page. The following information (Table 13.3-5) highlights the fields that are found this page:

Table 13.3-5. Ingest Request Detail Page – Request Info Field Descriptions

Field Name	Description
Request ID	Unique ID for an ingest request
Polling Location	Unique name assigned to the polling location from where the request was obtained
Data Provider	Unique name assigned to the provider associated with the polling location where the request was found
Status	The current state of the request (Table 4.6.1-3 for possible request states)
Mission	Satellite mission defined in the PDR associated with this request (this is not defined in most PDRs)
Priority	The precedence which a request will have for activation and various processing actions.
Size	Sum of the size of all granules in the request
PDR Path and file name	Temporary location and file name of the PDR after it was copied from the polling location. The PDR can be found in this location until the request completes ingest.
Last Update	The last time the status of the request or an associated granule changed
When Queued	The time the request was added to the request list
When Activated	The time the request was moved into the “Active” state
When Completed	The time all the granules in the request reached a terminal state
Expiration Date/Time	The date and time by which the corresponding ingest request must be completed

2. The **Granule Statistics** contains the following information (Table 13.3-6) for all the granules associated with this request:

Table 13.3-6. Ingest Request Detail Page – Granule Statistics Field Descriptions

Field Name	Description
Total Granules	Total number of granules included in the request
Granules Preprocessed	Percentage of granules that have moved from the preprocessing state to the archiving state
Granules Inserted	Percentage of granules that have been inserted into the Science Data Server
Granules Transferred	Percentage of granules transferred from the provider to the temp directories
Granules Archived	Percentage of granules that have been archived
No. Files	Total number of files associated with granules in the request

3. **Status Change History** is displayed for the selected Request ID.
4. **Request Notes**, annotations that can be useful in tracking changes to a request, are either added by the operator or automatically added by the server. Automatic annotations are generated when operator performs an action on the request or granules in the request.
5. The **Granule List** (Figure 13.3-12) for the selected Request ID, details (at the bottom of the Ingest Request Detail Page) contains the following associated status information (Table 13.3-7):

Table 13.3-7. Ingest Request Detail Page – Granule List Field Descriptions

Field Name	Description
Checkbox column	This column may contain a checkbox next to the granule, <u>if the granule is not in a terminal state</u> . This allows an action to be processed for the selected granule(s). The checkbox at the top of the column selects or de-selects all the granules in the list that have checkboxes.
File Detail	<p>The column holds a link to display the detailed file information for each granule – this information appears for each granule at the top of the table when clicked. The associated granule file information details, when displayed, includes the following:</p> <ul style="list-style-type: none"> • Path for the directory identified in the PDR of the file location. • Name of the file. • Type of the internal file of the file translated from the file type to PDR according to a predefined table (i.e., SCIENCE, METADA, BROWSE) • Status of the last action performed on file or the most recent, unresolved, error encountered during file processing.
Seq. Number	The order in which a granule was found in the PDR
Ingest Gran ID	Unique Identifier assigned to the granule
Data Type	Data Type found in the PDR describing the granule
Version	Version found in the PDR describing the granule. The version will be extracted from the database if none is in the PDR
Status	Current granule status (Table 4.6.1-7) and detailed error information
Granule Size (MB)	Sum of the size of all files associated with the granule
No. Files	Number of files found associated with the granule in the PDR
Last Status Change	Date and time the granule's status was last updated

- Any granule(s) encountering problems during any point in their processing are initially flagged as “suspended”. The only exception is if a granule fails checksum verification during each of the configured number of tries. Granules are not failed until the operator explicitly invokes a “fail suspended granules” action – this is an exception of failed checksum verification or a PDR validation failure. The following actions (Table 13.3-8. Granule List - Granule Allowable Actions) can be performed on granules (in the granule list) depending on the granule state:

Table 13.3-8. Granule List – Granule Allowable Actions

Granule Status	Status Type	Fail / Retry / Retry From Start	Cancel	No Actions Allowed
New	Queued		✓	
Transferring / Transferred	Active		✓	
Checksumming / Checksummed	Active		✓	
Preprocessing / Preprocessed	Active		✓	
Archiving / Archived	Active		✓	
Inserting	Active		✓	
Inserted	Active			✓
Suspending / Suspended	Error	✓	✓	
Resuming	Active		✓	
Canceling	Active			✓
Cancelled	Terminal			✓
Successful	Terminal			✓
Failed	Terminal			✓
Publishing / Published	Terminal			✓

Sometimes it may be necessary to cancel, suspend or resume the processing of one or more ingest request. The procedure for canceling, suspending or resuming granule processing starts with the assumption that all applicable servers and the DPL Ingest GUI are currently running.

13.3.2.3 Cancel, Suspend, Resume or Change Requests Priority

- Click on the **Monitoring** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Monitoring** menu is expanded.
- Click on the **Requests Status** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Ingest Requests** page is displayed.
- To change one or more Request Statuses (cancel, suspend or resume) (Figure 13.3-10), select the desired request(s) by checking the checkboxes on the left side of the request list.

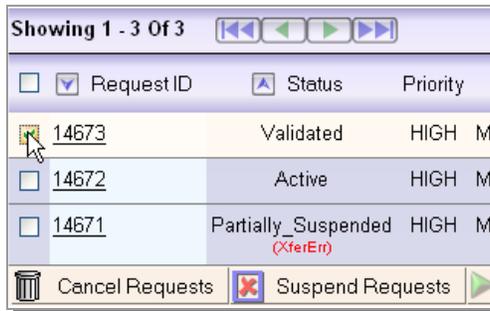


Figure 13.3-10. Cancel Request/Suspend Requests Buttons

- Click on the **desired action button** at the bottom of the list:
 - **Cancel Requests:** This is an irreversible action; there is no way to ‘un-cancel’ a request.
 - **Suspend Requests:** This action may be performed only if the selected request(s) are not already suspended or cancelled and is used to stop new granules from being activated. Active granules in suspended requests will continue through processing.
 - **Resume Requests:** This action may be performed only if the selected requests are suspended.
 - **Change Priority:** To change the priority of an ingest request, select the desired requests and click on the Change Priority button at the bottom of the list. A dropdown lists appears to select the new priority.
 - The **Change Priority dialog box** (Figure 13.3-11) will appear to enter a reason for the status change.

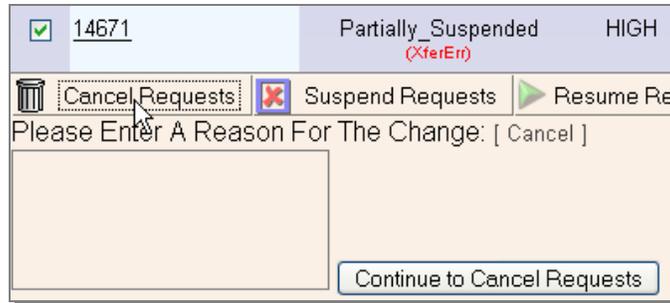


Figure 13.3-11. Change Priority Dialog Box

- Enter the reason for the change in the **Reason For Change** textbox.
- To cancel this action click on the **Cancel** button.
- Select the **Continue to [Cancel or Resume]** button.
- Or, Select the **OK** button.

Any granule(s) encountering problems during any point in their processing are initially flagged as “suspended”. They are not failed until the operator explicitly takes an action to fail such granules. The following actions may be performed on granules that have been initially suspended:

- **Retry selected granules:** This applies only to granules that are currently suspended and retries them from the last known good state of processing.
- **Retry from START selected granules:** This applies only to granules that are currently suspended and retries them from the beginning of processing.
- **Fail selected granules:** This applies only to granules that are currently suspended and transitions the granule into the failed state, with the status indicating the type of error that originally caused the suspensions
- **Cancel selected granules:** This applies to granules that are in the New state, Active state, or Suspended state and can be cancelled by selecting this icon. If the state is Successful, Failed or any Terminal state, the granule may not be cancelled. This action manually fails the granules, marking them ‘canceled.’

13.3.2.4 Changing Suspended Granules Status

- 1 Click on the **Monitoring** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Monitoring** menu is expanded.
- 2 Click on the **Requests Status** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Ingest Requests** page is displayed.

3 Click on the desired **Request ID**.

- **Request Detail Page** displayed for the selected Request ID.
- At the bottom of the **Request Detail Page – Granule List** (Figure 13.3-12), listed, are the granules for selected request(s).

<input type="checkbox"/> File Detail	Seq. Number	Ingest Gran. ID	Data Type	Version	Status	Granule Size (MB)	No. Files	Last Status Change
<input type="checkbox"/> [show/hide]	4	1000000008387	MOD29P1D	86	Successful	6.144	2	2006-10-27 11:37:52
<input type="checkbox"/> [show/hide]	3	1000000008386	MOD29P1D	86	Cancelling	6.148	2	2006-10-27 11:42:17
<input type="checkbox"/> [show/hide]	1	1000000008384	MOD29P1D	86	XferErr Error executing the following copy command: /usr/ecs/OPS/CUSTOM/bin/DPL/EcDICopyExec /home/cmshared/PDRS/scripts/TEMP/OPS//Criteria_1420_MOD_r1.1161963070.11622.RGEN.hdf /datapool/OPS/user/FS1/temp/ingest/14679/1000000008384/ 4096 3, Failed by Operator	6.148	2	2006-10-27 11:42:02
<input type="checkbox"/> [show/hide]	2	1000000008385	MOD29P1D	86	Resuming	6.144	2	2006-10-27 11:42:39

Figure 13.3-12. Request Detail Page – Granule List

- Any granule(s) that encountered problems during any point in their processing are initially flagged as “suspended”.
- 4 Click on the checkbox next to the granule you want to change the status.
- A checkmark is displayed.
- 5 Select one of the following appropriate actions:
- **Retry Selected Granules:** This applies only to granules that are currently suspended and will retry them from the last known good state of processing.
 - **Retry Selected Granules From Start:** This applies only to granules that are currently suspended and will retry them from the beginning of processing.

- **Fail Selected Granules.**
 - This applies only to granules that are currently suspended and transitions the granule into the failed state, with the status indicating the type of error that originally caused the suspensions. Error types are determined by the state granule is in when failed:
 - **XferErr** – transferring.
 - **ChecksumErr** – checksumming.
 - **PreprocErr** – preprocessing.
 - **ArchErr** – archiving.
 - **InsertErr** – inserting.
 - **PubErr** – publishing.

NOTE: Post-failure of granules, an annotation is generated identifying time-stamp with operator ID and action.
 - **Cancel Selected Granules:** This applies only to granules that are not yet in a terminal state. It manually fails the granules, marking them ‘canceled.’
 - A selected action is executed and status is updated.
-

13.3.3 Viewing Historical Requests

When an ingest transaction has been completed, several things happen:

- A notice is automatically sent to the data provider indicating the status of the ingested data.
- The data provider sends an acknowledgment of that notice.
- Receipt of the acknowledgment is logged by Ingest.
- The **Request ID** of that ingest request is removed from the list of active requests.
- The DPL Ingest History receives statistics on the completed transaction.

The DPL Ingest Historical Requests provides the following information:

- A summary of ingest requests that have been processed.
- Historical Requests Detail gives detailed information about each completed ingest request.
- Request Timings provides ingest request processing statistics to include time required to perform Transfer, Checksum, Preprocess DPL Insert and Archive.

- Granule List provides detailed information about each granule.

Since the Historical Requests are completed requests, no action can be processed from these pages.

- The operator can configure the length of time Historical Request Related Configuration information (Figure 13.3-13) is kept on a page. These historical ingest requests column descriptions can be modified on the Global Tuning Configuration page by the operator.

13.3.3.1 Viewing Historical Requests

- 1 Click on the **Monitoring** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Monitoring** menu is expanded.
- 2 Click on the **Historical Request** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Historical Ingest Requests** (Figure 13.3-13) page is displayed with the following fields.
 - **Request ID:** Unique ID for an ingest request, which displays a request detail page similar to that for an Active Ingest Request.
 - **Status:** Terminal state reached by the request.
 - **Priority:** The final priority assigned to the request during processing.
 - **Provider Name:** Name of the provider from which the request was obtained.
 - **Size [MB]:** Sum of the size of all granules in the request.
 - **No. Granules:** Total number of successful granules included in the request.
 - **Ingest Method:** Whether the request was processed by “CLASSIC” Ingest, or the new “DPL” (DataPool Ingest) system.
 - **When Queued:** Time the request was encountered by the polling service.
 - **When Proc. Started:** Time the request was activated by processing.
 - **When Processing Completed:** Time the request reached a terminal state.

DATA POOL INGEST web GUI Tue Sep 11 2007 13:45:48

Historical Ingest Requests

Show / Hide Filters

[HELP] Showing 1 - 20 of 707 [Navigation icons] print/save view Page size: 20

RequestId	Status	Priority	ProviderName	Size	No. Granules (no. Successful)	Ingest Method	When Queued	When Proc. Started	When Proc. Completed
20427	Cancelled (Prepended)	HIGH	1@2.3	111.125	2(0)	DPL	2007-09-01 16:30:26	2007-09-01 16:30:29	
18573	Failed	HIGH	1@2.3	-0.000	1(0)	DPL	2007-08-31 00:56:58		2007-08-31 00:56:58
18563	Failed	HIGH	1@2.3	-0.000	1(0)	DPL	2007-08-31 00:56:57		2007-08-31 00:56:59
18565	Failed	HIGH	1@2.3	-0.000	1(0)	DPL	2007-08-31 00:57:07		2007-08-31 00:57:15
18575	Failed	HIGH	1@2.3	0.006	1(0)	DPL	2007-08-31 00:57:08		2007-08-31 00:57:15
18567	Failed	HIGH	1@2.3	-0.000	1(0)	DPL	2007-08-31 00:56:58		2007-08-31 00:57:15
18569	Failed	HIGH	1@2.3	-0.000	1(0)	DPL	2007-08-31 00:57:07		2007-08-31 00:57:15
18571	Failed	HIGH	1@2.3	-0.000	1(0)	DPL	2007-08-31 00:57:08		2007-08-31 00:57:22
18555	Failed	HIGH	1@2.3	-0.000	1(0)	DPL	2007-08-31 00:57:08		2007-08-31 00:57:22

Historical Request Related Configuration

Parameter Name	Parameter Description	Parameter Value
MONTHS_TO_KEEP_HIST_STATS_ALERTS	The retention time in months for keeping historic information for requests, alerts and throughput statistics	2

Apply Changes Cancel Changes

Figure 13.3-13. Historical Ingest Requests Page

- 3 Click on the **Show/Hide Filters** button.
 - The following filters are displayed.
 - **Provider** (i.e., SHOW ALL, EDOS, ASTER, MODAPS, MISR).
 - **Request States** (i.e., SHOW ALL, Resuming, Successful, Cancelled, Partially_Cancelled, Failed, Partial_Failure, Terminated).
 - **Date/Time Range Filter** (i.e., SHOW ALL, When Completed, When Queued, Queued Within 24 Hours, Start Date and Stop Date).
 - **Data Type** (e.g., SHOW ALL, AST_L1B, MOD021KM.003, MISL0CA).
- 4 Select the desired **Provider** (e.g., **EDOS**) by highlighting the desired provider from the pull-down window.
- 5 Select the desired **Request State** (i.e., **SHOW ALL, Resuming, Successful, Cancelled, Partially_Cancelled, Failed, Partial_Failure, Terminated**) by highlighting the desired request state from the window.
- 6 Select **Date/Time Range Filter** (i.e., **When Completed, When Queued, Queued Within 24 Hours, Start Date and Stop Date**), by highlighting the desired Date/Time Range Filter from the pull-down window.

- If you selected **When Completed** or **When Queued** select the appropriate **From Date/Time Range (Month, Day, Year, Hour, Minute)** and **To Date/Time range (Month, Day, Year, Hour, Minute)**.
 - Use the 24-hour format to designate the hour (e.g., type **14** to designate 2 p.m.) in the **hour** fields.
- 7** Select a particular **Data Type** (e.g., AST_L1B) by highlighting the desired data type from the pull-down window.
- 8** Select the **Apply Filter** button.
- **The Historical Ingest Request** page is displayed with the new filters.
 - This page shows all of the ingest requests that have been processed. The DPL database keeps a persistent record of all requests that have undergone ingest processing and can thus be viewed on this page.
- 9** To view the **Historical Ingest Request Detail** for a given **Request ID**, click on the desired **Request ID**.
- The **Historical Ingest Request Detail** page (Figure 13.3-14) is displayed.
 - The layout of the request detail page for historical requests consist of **Request Info** (top section), **Request Timings** and **Status Change History** (middle section) and **Granule List** (bottom section) and are very similar to the data contained on the **Active Ingest Request** page.
 - The details on this page pertain to historical data only and can not be changed.
 - Table 13.3-9. Historical Ingest Request Page describes the information on the Historical Ingest Request Detail page sections:

Table 13.3-9. Historical Ingest Request Detail Page –Field and Column Descriptions (1 of 2)

Field Name: Request Info	Description
Request ID	Unique ID for an ingest request
Status	The final state of the request (Table 4.6.1-3 for a list of possible request states)
Priority	The precedence which a request will have for activation and various processing actions.
Provider	Unique name assigned to the provider associated with the polling location where the request was found
Size	Sum of the size of all granules in the request
No. Granules	Total number of granules in the PDR
Ingest Method	Whether the request was processed by Classic Ingest, or the new DataPool Ingest system
No. Files	Number of files found associated with the granule in the PDR

Table 13.3-9. Historical Ingest Request Detail Page –Field and Column Descriptions (2 of 2)

Field Name: Request Info	Description
Time to Xfer	Total seconds of time that passed during all granule transfers
Time to Checksum	Total seconds of time that passed during all granule checksum operations
Time to Preprocess	Total seconds of time that passed during all granule preprocessing operations
Time to Insert	Total seconds of time that passed to insert all granules into AIM
Time to Archive	Total seconds of time that passed to copy all granules into the archive
Field Name: Granule List	Description
Seq Number	The order in which a granule was found in the PDR
Ingest Gran ID	Unique Identifier assigned to the granule by the DPL Ingest System
ECS Gran ID	Unique Identifier assigned to the granule for insert into AIM
DPL Gran ID	Unique Identifier assigned to the granule for registration in the Data Pool
Data Type	Data Type found in the PDR describing the granule
Version	Version found in the PDR describing the granule
Status	Terminal state reached by the granule
Granule Size (MB)	Sum of the size of all files associated with the granule
No. Files	Number of files found associated with the granule in the PDR
Proc. Start	Time of granule activation
Proc. End	Time granule reached a terminal state
Total Proc. Time	Total seconds that lapsed in between granule activation and completion
Time to Checksum	Total seconds that passed during granule checksum across all files
Retry Count	Number of times the granule was retried (or retried from start)

Historical Ingest Request Detail for RequestId 18565																		
Request Info [Show / Hide]																		
RequestID: 18565 Provider: 1@2.3 Ingest Method: DPL			Status: Failed Size: -0.000 MB				Priority: HIGH No. Granules: 1 (0 successful) No. Files: 2											
<p style="text-align: center;">When Queued: 2007-08-31 00:57:07 When Processing Started: When Processing Ended: 2007-08-31 00:57:15</p>																		
Request Timings																		
Time To Xfer	Time To Checksum	Time To Preprocess	Time To DPL Insert	Time To Archive														
0	-	0	-	0														
<table border="1"> <thead> <tr> <th colspan="2">Status Change History</th> </tr> </thead> <tbody> <tr> <td>Status Changed to New</td> <td>2007-08-31 00:41:59</td> </tr> <tr> <td>Status Changed to Validated</td> <td>2007-08-31 00:57:07</td> </tr> <tr> <td>Status Changed to Failed</td> <td>2007-08-31 00:57:15</td> </tr> </tbody> </table>											Status Change History		Status Changed to New	2007-08-31 00:41:59	Status Changed to Validated	2007-08-31 00:57:07	Status Changed to Failed	2007-08-31 00:57:15
Status Change History																		
Status Changed to New	2007-08-31 00:41:59																	
Status Changed to Validated	2007-08-31 00:57:07																	
Status Changed to Failed	2007-08-31 00:57:15																	
<table border="1"> <thead> <tr> <th colspan="2">Request Notes</th> </tr> </thead> <tbody> <tr> <td colspan="2">There are no Request Notes for this request.</td> </tr> </tbody> </table>											Request Notes		There are no Request Notes for this request.					
Request Notes																		
There are no Request Notes for this request.																		
Granule List Showing 1 - 1 of 1																		
Seq. Number	Ingest Gran. ID	ECS Gran. ID	DPL Gran. ID	Data Type	Version	Status	Granule Size (MB)	No. Files	Proc. Start	Proc. End	Total Proc. Time	Time To Checksum	Retry Count					
1	5000000021393			AE_RnGd	1	InitErr	0.085	0										

Figure 13.3-14. Historical Ingest Request Detail Page

13.3.4 Provider Status

The Provider Status link provides access to the status and information about each configured data provider in the ingest system. This page provides the following:

- List of all configured providers along with general statistics for each provider.
- Provides the status of the provider (i.e., Active, Suspended by Server, or Suspended by Operator). This is the only changeable field on this page. From this page a provider can be Resumed or Suspended.
- Provides individual status for polling locations (e.g., total number of active or suspended polling location).
- Provides access to detailed provider status that shows individual status of each polling location associated with a provider. From this page, an individual polling location can be suspended or resumed accordingly.

13.3.4.1 Viewing Provider Status

- 1 Click on the **Monitoring** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Monitoring** menu is expanded.
- 2 Click on the **Provider Status** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Provider Status** page (Figure 13.3-15) is displayed with the following fields.
 - **Provider:** Provider name configured to identify an External Data Provider.
 - **Status:** Whether the provider is active, suspended by server, or suspended by operator.
 - **Polling Locations:** Total number of active polling locations on the provider, or the number of polling locations that are suspended out of the total number configured.
 - **Request Queued:** Total Number and Volume of requests waiting for activation.
 - **Request In Process:** Total Number and Volume of requests that are active and not suspended.
 - **Granules Queued:** Total number of granules waiting for activation in requests from the provider.
 - **Granules In Process:** Total number of granules waiting for activation in requests from the provider.

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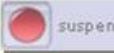
Provider Status

[HELP]

<input type="checkbox"/>	Provider	Status	Polling Locations	Requests Queued	Requests In Process	Granules Queued	Granules In Process
<input type="checkbox"/>	0270	active	No Polling Locations	0	0	0 (0.000 MB)	0 (0.000 MB)
<input type="checkbox"/>	0310	active	No Polling Locations	0	0	0 (0.000 MB)	0 (0.000 MB)
<input type="checkbox"/>	1023	active	1 of 1 active	0	0	0 (0.000 MB)	0 (0.000 MB)
<input type="checkbox"/>	1Lisa_Amser	suspended by operator	No Polling Locations	0	0	0 (0.000 MB)	0 (0.000 MB)
<input type="checkbox"/>	1Lisa_Modaps_Aqua	suspended by operator	No Polling Locations	0	0	0 (0.000 MB)	0 (0.000 MB)
<input type="checkbox"/>	1Lisa_Modaps_Terra	suspended by operator	No Polling Locations	0	0	0 (0.000 MB)	0 (0.000 MB)
<input type="checkbox"/>	4010_Connection_Prob	suspended by operator	No Polling Locations	0	0	0 (0.000 MB)	0 (0.000 MB)
<input type="checkbox"/>	ACRIM	suspended by operator	1 of 1 suspended	0	0	0 (0.000 MB)	0 (0.000 MB)
<input type="checkbox"/>	AMSR_E_SIPS	active	1 of 2 suspended	0	0	0 (0.000 MB)	0 (0.000 MB)
<input type="checkbox"/>	ASTER_GDS	suspended by operator	1 of 2 disabled	0	0	0 (0.000 MB)	0 (0.000 MB)
<input type="checkbox"/>	ASTER_OSF	suspended by operator	1 of 1 suspended	0	0	0 (0.000 MB)	0 (0.000 MB)
<input type="checkbox"/>	DAP	suspended by operator	1 of 1 suspended	0	0	0 (0.000 MB)	0 (0.000 MB)
<input type="checkbox"/>	DDIST	suspended by operator	1 of 1 suspended	0	0	0 (0.000 MB)	0 (0.000 MB)
<input type="checkbox"/>	EDOS	suspended by operator	No Polling Locations	0	0	0 (0.000 MB)	0 (0.000 MB)
<input type="checkbox"/>	FtpProvider	suspended by operator	No Polling Locations	0	0	0 (0.000 MB)	0 (0.000 MB)
<input type="checkbox"/>	ICESAT	suspended by operator	1 of 1 suspended	0	0	0 (0.000 MB)	0 (0.000 MB)
TOTALS:				0	9	5 (21.529 MB)	9 (669.087 MB)

Status Indicators

 active At least one active polling location

 suspended by operator Operator manually suspended polling location via GUI .

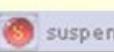
 suspended by server Server automatically suspended polling location.

Figure 13.3-15. Provider Status Page

- 3 To view the individual status of each polling location associated with a given provider, Click on the desired **Provider** (e.g., ASTER.OSF, JPL, etc.)
 - The **Provider Status Detail** page (Figure 13.3-16) is displayed.

DATA POOL INGEST web GUI Tue Sep 11 2007 13:52:47

Provider Status Detail

General Status

Provider: NSIDC_DAAC

General Status: ● suspended by operator ▶ Resume

Requests Queued: 0 (0.000 MB)

Requests In Process: 0 (0.000 MB)

Configured Notification Types

Email: Yes FTP: No SCP: No

Polling Locations

<input type="checkbox"/>	Status	Source Polling Path	Host Type	Host Name	Host Status	Address
<input type="checkbox"/>	● suspended by operator	/net/origin/devdata1/DEV09/INGEST/poll/NSIDC	local	LOCAL	● active	LOCAL

■ Suspend ▶ Resume

Figure 13.3-16. Provider Status Detail Page

- Displayed in the **General Status** section, information for a given Provider:
 - **Provider:** Unique name for that identifies the selected external data provider.
 - **General Status:** Identifies status of the provider (i.e., Active or Suspend).
 - **Requests Queued:** Total Number and Volume of requests waiting for activation from the Provider.
 - **Request In Process:** Total Number and Volume of requests that are active and not suspended from the Provider.
- Listed in the **Configured Notification Types** section, related information.
 - Status of each notification method (i.e. Email: No, or FTP: Yes).
- Listed in the **Polling Locations** section, related information:

- **Status:** Whether the polling location is Active, Suspended by Server, or Suspended by Operator.
 - **Source Polling Path:** Full path of the directory being polled.
 - **Host Type:** Method being used for polling – Local, FTP, or SCP.
 - **Host Name:** Label assigned to the host on which the polling location is found.
 - **Host Status:** Whether the host where the polling location is found is active or suspended – Polling location can be suspended, which will not affect the host state.
 - **Address:** IP Address or DNS name where the polling directory can be found.
-

A Data Provider may be suspended or resumed from the Provider Status page. Suspending a Data Provider will stop the activation of Ingest Requests from that Provider, but Ingest Requests that are already active will be completed. Ingest will also stop polling any of the Polling Locations associated with that Data Provider. This means that no new Requests from that suspended Data Provider will be queued except if a polling cycle is in progress, in which case the polling cycle will be completed.

13.3.4.2 Suspend or Resume Data Providers

- 1 Click on the **Monitoring** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Monitoring** menu is expanded.
 - 2 Click on the **Provider Status** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Provider Status** page is displayed.
 - 3 Select the desired **provider(s)** (e.g., ASTER.OSE, JPL, etc.) by clicking in the **checkbox** next to the name of the provider.
 - A checkmark is displayed.
 - 4 Select either the **Suspend** or **Resume** button located at the bottom of the page.
 - You will be prompted for confirmation before the action is carried out.
 - If you selected **Suspend**, the activation of Ingest Requests from that Provider will be stopped, but Ingest Requests that are already active will be completed. Ingest will also stop polling any of the Polling Locations associated with that Data Provider.
 - If you selected **Resume**, the activation of Ingest Requests from that Provider will be resumed.
 - The **Status** field will be updated accordingly when the requested action is completed.
-

Polling Locations for a Data Provider may be suspended or resumed from the Provider Status Detail page. Each Data Provider has a list of associated Polling Locations, which are directories on SCP, FTP or local Hosts. Polling locations can be suspended or resumed in order to halt or resume data to be sent through these providers, without impacting the status of the Host on which that polling location resides.

13.3.4.3 Suspend or Resume Individual Polling Locations

- 1 Click on the **Monitoring** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Monitoring** menu is expanded.
 - 2 Click on the **Provider Status** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Provider Status** page is displayed.
 - 3 Click on the desired **Provider** (e.g., ASTER.OSF, JPL, etc.).
 - The **Provider Status Detail** page is displayed.
 - At the bottom of the **Provider Status Detail**, the list of **Polling Locations** for the selected Provider displays.
 - 4 Select the desired **Polling Locations** to be suspended or resumed by clicking in the **checkbox** associated with the **Source Polling Path**.
 - A checkmark is displayed in the checkbox.
 - 5 Select either the **Suspend** or **Resume** button located at the bottom of the page.
 - You will be prompted for confirmation before the action is carried out.
 - If you selected **Suspend**, the Polling Path(s) will be stopped but Ingest Requests that are already active will be completed.
 - If you selected **Resume**, the activation of Ingest Requests from that Polling Location will be resumed.
 - The **Status** field will be updated accordingly when the requested action is completed.
-

13.3.5 File System Status

The **File System Status** page displays the following status information for each of the Archive File Systems and Data Pool File Systems:

- Name(s) and directory paths for **Archive** and **Data Pool File Systems**.
- Provides the statuses of the Archive and Data Pool File Systems (i.e., **Active**, **Suspended by Operator** or **Suspended by Server**). This is the only changeable field on this page. From this page Archive and Data Pool File Systems can be **Resumed** or **Suspended**.
- Provides File System space threshold metrics.

13.3.5.1 Viewing File System Status

- 1 Click on the **Monitoring** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Monitoring** menu is expanded.
- 2 Click on the **File System Status** link in the navigation frame of the **DPL Ingest GUI**.
 - The **File System Status** page (Figure 13.3-17) is displayed with the following fields for **Data Pool** and **Archive File Systems**:

Tue Sep 11 2007 13:54:34

File System Status

[HELP]

Data Pool File Systems

<input type="checkbox"/>	Name Path	Status	Free Space	Used Space Updated	Cache Used Alert Threshold	Queued Granules Volume	Granules Processing Volume
<input type="checkbox"/>	DEFAULT /datapool/DEV09/used/FS1/	active	175GB	52% 2007-09-11 13:49:20.566	92%	5 21,529 MB	9 659,087 MB
<input type="checkbox"/>	FS2 /datapool/DEV09/used/FS2/	active	232GB	36% 2007-09-11 13:49:20.593	92%	0 0.000 MB	0 0.000 MB

Suspend Resume

Archive File Systems

<input type="checkbox"/>	Name Path	Status	Free Space	Used Space Updated	Cache Used Alert Threshold	Cache Used Suspend Threshold	Queued Granules (Min-Max) Volume (Min-Max)	Granules Processing (Min-Max) Volume (Min-Max)
<input type="checkbox"/>	ARCHIVE5 /archive5/used/	active	203GB	18% 2007-09-11 13:49:20.66	95%	100%	0 - 0 0.000 - 0.000MB	0 - 0 0.000 - 0.000MB
<input type="checkbox"/>	ARCHIVE8 /archive8/used/	active	62GB	74% 2007-09-11 13:49:20.863	95%	100%	0 - 0 0.000 - 0.000MB	0 - 0 0.000 - 0.000MB
<input type="checkbox"/>	Archive1 /archive1/used/	active	60GB	75% 2007-09-11 13:49:20.656	80%	99%	5 - 5 21,529 - 21,529MB	9 - 9 659,087 - 659,087MB
<input type="checkbox"/>	XMLArchive /archive/xml/used/	active	231GB	9% 2007-09-11 13:49:20.656	95%	100%	0 - 0 0.000 - 0.000MB	0 - 0 0.000 - 0.000MB

Suspend Resume

Auto Refresh
OFF
Off [1m] [5m] [10m] [15m] [30m]

Figure 13.3-17. File System Status Page

- **Name:** Unique name assigned to the file system and the directory which the file system is located.
- **Status:** Whether the file system is active, suspended by operator, or suspended by server.
- **Free Space:** Space (GB) remaining on the file system.
- **Used Space:** Percentage of used space and the time this information was last checked.
- **Cache Used Alert Threshold:** The percentage of used space in the cache at which point an alert would be raised. For example, if the threshold was set to 80%, an alert would be raised as soon as more than 80% of the cache was used.

Neither requests nor file systems would be suspended as a result of reaching this threshold.

- **Cache Used Suspend Threshold** (Archive File System only): The percentage of used space in the cache at which point the Archive File System or Data Pool File System would be suspended. For example, if the threshold was set to 90%, the Archive File System would be suspended as soon as more than 90% of the cache was used.
 - **Queued Granules**: Total granules waiting for activation set to ingest on the file system and the sum of the size (MB) of those granules.
 - **Granules Processing**: Total granules active set to ingest on the file system and the sum of the size (MB) of those granules.
-

Each of these archives (Data Pool File System and Archive File System) can also be suspended or resumed from the File System Status page. Suspending a File System will prevent the occurrence of any activity on the selected File System. Conversely, resuming a File System will allow activity on a File System to resume.

13.3.5.2 Suspend or Resume File Systems

- 1 Click on the **Monitoring** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Monitoring** menu is expanded.
 - 2 Click on the **File System Status** link in the navigation frame of the **DPL Ingest GUI**.
 - The **File System Status** page is displayed.
 - 3 Click on the **checkbox** next to the desired **Data Pool File System** (or **Archive File System**).
 - A checkmark is displayed in the checkbox.
 - Multiple selections may be made.
 - 4 Select either the **Suspend** or **Resume** button located at the bottom of the page.
 - You will be prompted for confirmation.
 - The page will reload with the status of the selected archives changed.
 - The application will not allow the same action to be taken twice on an Archive File System. For example, an already active status can not be resumed. However, an Archive File system that was suspended by the server may be manually suspended by the operator.
-

13.3.6 Transfer Host Status

The Transfer Host Status page shows the status of each configured FTP and SCP host, including the status of Local Host Transfers. The statuses are divided into individual polling processing, and notification status for each active host provider. The hosts and provider statuses can be suspended or resumed manually, or by the Data Pool Ingest Service

When an operator suspends a host status, the Data Pool Ingest Service will complete any ongoing transfers, polling cycles, or notifications with that host, but not start any new ones. When an operator resumes a host status, this will resume all traffic with that host whose state was not “suspended by operator”. This includes polling for any previously suspended polling locations, that is, resuming a host status will resume all Polling Locations on that host that may have been suspended automatically by the Ingest Service.

13.3.6.1 Viewing Transfer Host Status

- 1 Click on the **Monitoring** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Monitoring** menu is expanded.
- 2 Click on the **Transfer Host Status** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Transfer Host Status** page (Figure 13.3-18) is displays fields for all existing FTP and SCP Hosts, including Local Host Transfers.

HOST IDENTIFICATION:
 Hostname, IP Address or
 Canonical Name, Port

FTP Hosts	Provider Name	Polling Status	Processing Status	Notification Status
hha01 (ha01)	AMSR	suspended by server	not applicable	not applicable
	chis	not applicable	not applicable	active
	EMOS	suspended by server	active	not applicable
	EMOS2	suspended by server	not applicable	not applicable
	ICESAT	not applicable	active	not applicable
	MODAPS_COMBINE	suspended by server	not applicable	active
hha01 (ha01)	EDOS	active	not applicable	suspended by server
	EDOS-ANC	not applicable	not applicable	active
UNDEFHOST_ECSESubExport_94229 (sp01)				
UNDEFHOST_EDOS_118977 (ha01.hic.com)	EDOS	not applicable	active	not applicable
Suspend Resume				
scp_host (ha01)	Provider_scp	active	not applicable	not applicable
Suspend Resume				
Local Host Transfers	AMSR	not applicable	active	
	AMSR_E_SIPS	active	active	
	ART_Provider_SIPS	not applicable	active	
	ASTER_GOS	active	active	
	lmg_110	active	not applicable	
	S4PM	active	active	
	TES	active	not applicable	
	TCMR Provider	active	not applicable	
Suspend Resume				
Auto Refresh OFF				

Figure 13.3-18. Transfer Host Status Page

- **Host Identification:** Within the each configured host status section, display **name** assigned to the host on which the polling location is found. Possible

statuses are “active” or “suspended by operator.”

– **Status By Provider:**

- **Provider Name** - Name of the provider with a polling location configured on the host (non-changeable from this page).
 - **Polling Status** - Whether or not polling actions are active, suspended or non-applicable for a specific provider (non-changeable from this page). Possible statuses are “active”, “suspended by operator”, “suspended by server”, or “not applicable.”
 - **Processing Status** - Whether or not file transfer actions are active, suspended, or non-applicable for a specific provider. Possible statuses are “active”, “suspended by operator”, “suspended by server”, or “not applicable.”
 - **Notification Status** – Whether or not active host notifications for the provider actions are active. Possible statuses are “active”, “suspended by operator”, “suspended by server”, or “not applicable.”
-

Each of the SCP/FTP hosts, as well as Local Host Transfers, can be suspended or resumed. The status columns show a green (active) or red (suspended by server or operator) icon and indicate which provider operations (polling, processing, notification) are suspended on each host.

13.3.6.2 Suspend or Resume Transfer Host

- 1 Click on the **Monitoring** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Monitoring** menu is expanded.
- 2 Click on the **Transfer Host Status** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Transfer Host Status** page is displayed.
- 3 Click on the **checkbox(es)** next to the desired **FTP (or SCP) Host**.
 - A checkmark is displayed in the checkbox.
 - Multiple selections are optional.
- 4 Click either the **Suspend** or **Resume** button located at the bottom of the page.
 - You will be prompted for a confirmation.
 - The page will reload and display host status changes of the selected host(s).
 - All provider operations will suspend as a result of suspending the host, if the “Suspend” option is executed. Polling stops on these hosts’ transfer polling locations. A notification to the host(s) is halted until the host is later resumed.

- If the status is suspended, the GUI indicates whether it was suspended by an operator or by the server.
 - If a PDR is sent through processing with a host configured in the PDR that does not show up on the GUI, a new host will automatically be added to the list of SCP and FTP Hosts with the name UNDEFHOST_[Provider]_[RequestID]. No provider status on a host will be displayed until the operator manually configures a polling location for the provider to use on that host, a PDR for the provider references the host, or the provider has configured notifications to be delivered to that host. It is possible that a host is not used for all three servers in which case the status for that particular server(s) will be displayed as not applicable. If more than one polling location is configured for a provider on the host, the number of polling locations will also be displayed next to the polling status.
-

13.3.7 Viewing ECS Service Status

The ECS Service Status page shows the status of each of the various ECS Services. There are two types of ECS Services:

1. Non-host Services – are services that run on the same host as the Ingest processing service. These services cannot be suspended or resumed by the operator because every granule requires these services to be active. If the service shows up as “suspended” that means there is an open alert against that service. The Data Pool Ingest GUI only displays service status as either up (active) or down (suspended).
 2. Hosts Used For ECS Services – are services that can run on any number of hosts that have been configured for these services. Examples are checksumming, archiving, and transfers. The service on each host is independent of the same type of service on the other hosts. So its configuration and status are host-specific. For example, checksumming may be suspended on one host but operating just fine on the other. The GUI shows the status information of that service separately for each host.
- The status columns show a green (active) or red (suspended) icon.
 - Some services exist only once and run on the host on which they were installed. An example is the XML Validation Service (XVU) – Host-specific ECS Services. These services can be individually suspended and resumed for a particular host. The XVU, DPIU, and ODL2XML services are listed separately and can only be resumed.

13.3.7.1 Viewing ECS Services Status

- 1 Click on the **Monitoring** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Monitoring** menu is expanded.
- 2 Click on the **ECS Service Status** link (Figure 13.3-19) of the **DPL Ingest GUI**.



Figure 13.3-19. ECS Services Status Page

- The **ECS Service Status** page (Figure 13.3-19) displays the status for all **Non-Host Services**:
 - **XVU**: The XML Validation Utility (XVU) is used to validate the incoming granule metadata files.
 - Status: **Active, Suspended by Server.**
 - **DPIU**: The Data Poll Insert Utility (DPIU) is used to register granule metadata into the DPL database.
 - Status: **Active, Suspended by Server.**
 - **ODL2XML**: The ODL to XML Utility (ODL2XML) is used to convert the granule metadata files from ODL format to XML format.
 - Status: **Active, Suspended by Server.**

- **If any of the services is suspended, any ingest will be prevented from completing, because every granule requires these services.**
- The **Hosts Used For ECS Services** displays the following services that are tied to a specific host. Each of these services can be suspended or resumed on that particular host:
 - **Checksum:** Status of the Checksum Service
 - **File Transfer:** Status of the File Transfer Service
 - **Archive:** Status of the Archive Service
 - **Band Extraction:** Status of the Band Extraction Service
 - **Insert Copy :** Status of the Insert Copy Service
 - **Insert Checksum:** Status of the Insert Checksum Service

Suspending a service on a host specific location, will let all service operations of that type that are currently executing on that host complete, but no new requests for that service will be dispatched to that host. For example, if the Checksum service is suspended for HOST_A, ongoing checksumming operations will complete, but then no more checksumming operations will be dispatched on that host (regardless of the type of checksum involved).

As a rule, checksum operations must take place on a different host than the one on which a granule was transferred. If all but one checksum host is suspended, all granules transferred on that same host will go into a suspended state until another checksum host is activated.

13.3.7.2 Suspend or Resume ECS Service(s)

- 1 Click on the **Monitoring** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Monitoring** menu is expanded.
 - 2 Click the **ECS Service Status** link of the **DPL Ingest GUI**.
 - The **ECS Services** page is displayed.
 - 3 In the **Hosts Used For ECS Services**, click the **checkbox** next to the desired **Service Host**.
 - A checkmark is displayed in the checkbox.
 - Multiple selections may be made.
 - 4 Select either the **Suspend** or **Resume** button located at the bottom of the page.
 - The page will reload with the status of the selected Service Host changed.
-

13.3.8 Monitoring PDR List

The PDR List page displays the PDR information retrieved from the Ingest database. The PDRs are listed by Polling Location Name and PDR File Name. Selecting a PDR from the PDR List allows the operator to re-ingest the data from the selected polling location.

13.3.8.1 Re-Ingesting a PDR

- 1 Click on the **Monitoring** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Monitoring** menu is expanded.
- 2 Click on the **PDR List** link of the **DPL Ingest GUI**.

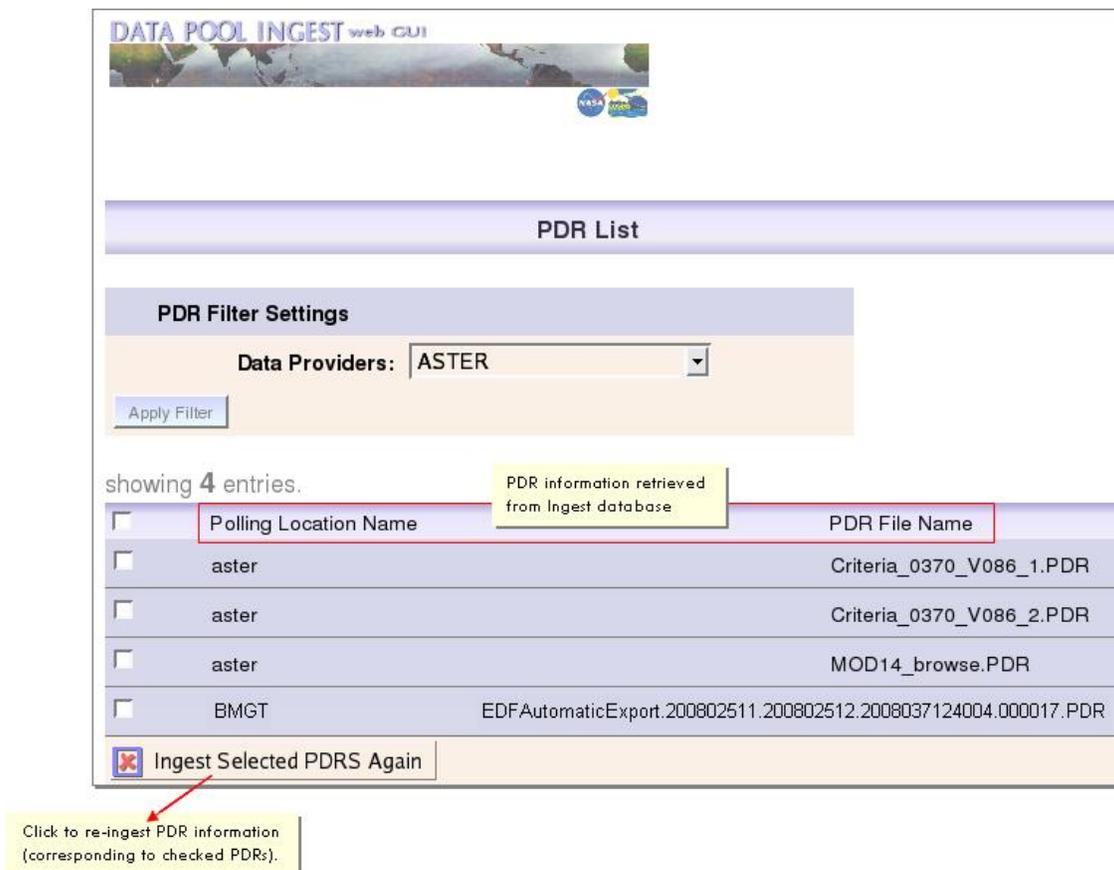


Figure 13.3-20. PDR List Page

- The **PDR List** page (Figure 13.3-20) displays a list of Polling Locations and File Name for filtered PDRs.
- 3 Click the checkbox next to the desired PDR/Polling location name.
 - A checkmark is placed in the checkbox.
 - 4 Select **Ingest Selected PDRS Again**
 - The data is re-ingested.
-

13.4 Interventions & Alerts

The Interventions & Alerts link provides the operator access to **Active Ingest Requests** with open interventions. The operator may select any eligible request and perform either a cancel request(s), resume request(s) or restart actions. Additionally, the **Interventions & Alerts** link displays Data Pool System Alerts as they are raised in the DPL database. These warn the operator when the Ingest Service runs into a problem that it believes is associated with a resource or service it is using. After raising an alert, the Ingest Service will check in regular intervals whether the problem has been resolved and clear the alert, if that is the case. An alert may also be cleared manually once the operator determined that the problem has been resolved. An operator might do that to avoid waiting until the next auto-retry of the resource. Table 13.4-1 provides an activity Checklist for Interventions & Alerts.

Table 13.4-1. Interventions & Alerts

Order	Role	Task	Section
1	Ingest Technician	Viewing Open Intervention Ingest Requests	(P) 13.4.1.1
2	Ingest Technician	Changing Request EMail Configuration	(P) 13.4.1.2
3	Ingest Technician	Changing Open Interventions Ingest Requests	(P) 13.4.1.3
4	Ingest Technician	Viewing Open Intervention Detail Page	(P) 13.4.1.4
5	Ingest Technician	Changing Suspended Granules Status	(P) 13.4.1.5
6	Ingest Technician	Viewing System Alerts	(P) 13.4.2.1
7	Ingest Technician	Changing EMail Recipient Configuration	(P) 13.4.2.2
8	Ingest Technician	Viewing Detailed System Alert Information	(P) 13.4.2.3
9	Ingest Technician	Clearing An Alert	(P) 13.4.2.4

13.4.1 Open Intervention

The **Interventions & Alerts** link provides the operator access to **Active Ingest Requests** with open interventions. The operator may select any eligible request and perform one of three actions:

- **Cancel (Active Ingest) Request(s)** – *This is an irreversible action with no way to ‘un-cancel’ a request.* Processing for this ingest request will be terminated and any granules that did not complete processing, at this point, will be considered failed. A PAN will be sent to the provider that will report failed or cancelled granules and the failure reasons.
- **Resume (Active Ingest) Request(s)** – *Used only if the selected requests are suspended or cancelled – cancelled requests can not be resumed.* Resuming a request will resume processing for all granules that are currently suspended, restarting each from the last known good state. To disposition individual granules differently, the operator needs to access the intervention detail page.
- **Restart (Active Ingest) Request(s)** – an operator invoked action to re-activate/re-start eligible granules from their beginning state.

13.4.1.1 Viewing Open Intervention Ingest Requests

- 1 Click on the **Interventions & Alerts** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Interventions & Alerts** menu is expanded.
- 2 Click on the **Interventions** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Open Interventions** page (Figure 13.4-1) is displayed and contains the following **Open Information Management** information for all interventions:

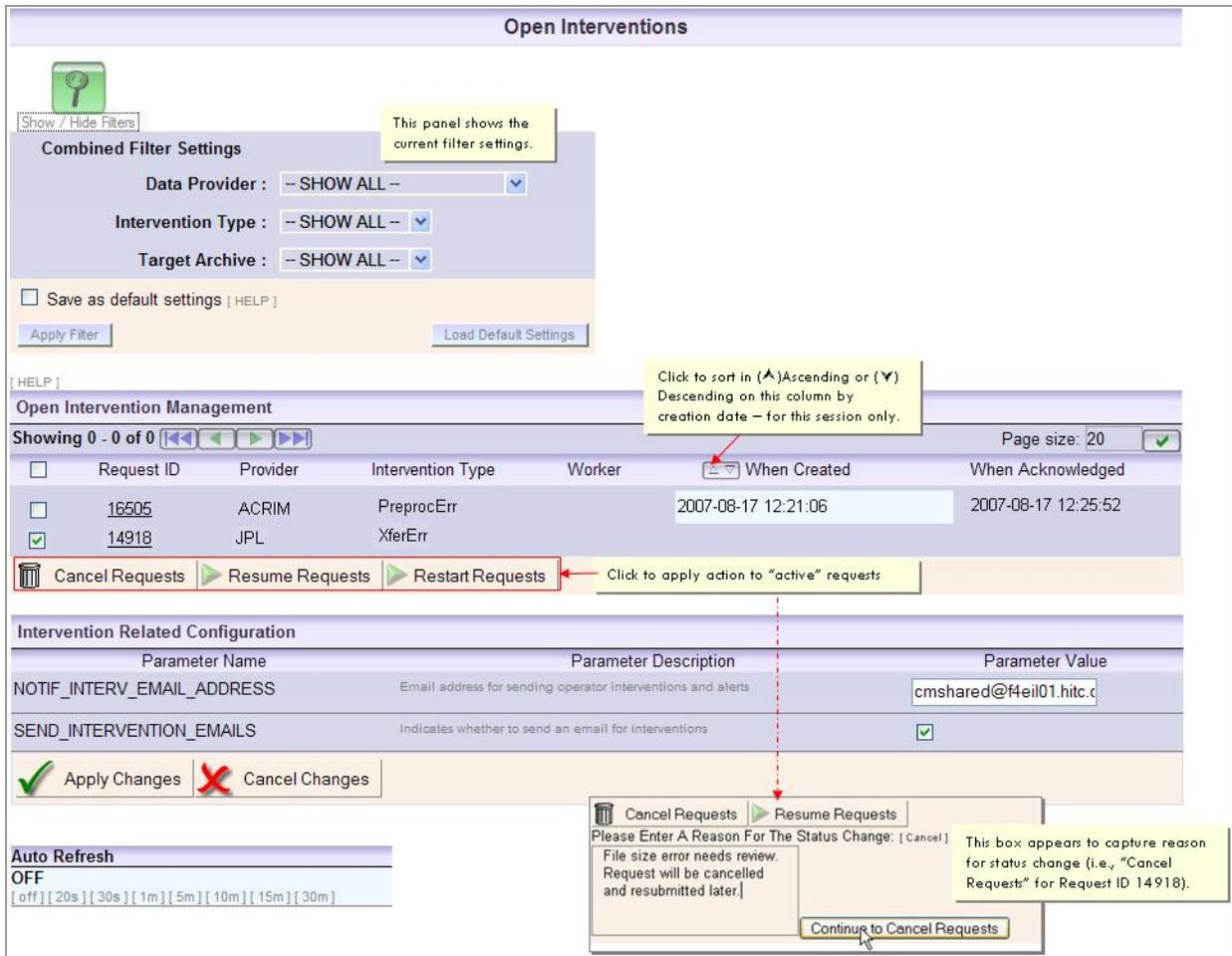


Figure 13.4-1. Open Interventions Page

- **Request ID.**
 - Unique Data Pool Ingest identifier assigned to the request in intervention.
- **Provider.**
 - Name of the provider from which the request was obtained.
- **Intervention Type.**
 - Type of error encountered during processing of at least one of the request granules: (i.e., XferErr, ChecksumErr, PreProcErr, ArchErr, InsertErr, PubErr, InitErr, Multiple).
- **Worker.**
 - Name of a worker assigned to address the intervention.

- **When Created.**
 - Time the intervention was generated (which may have been after several retries after the error was first encountered).
- **When Acknowledged.**
 - Time the intervention was first viewed by an operator.
- The **Intervention Related Configuration** fields are as follows and can be changed:
 - **Parameter Name.**
 - **SEND_INTERVENTION_EMAIL.** Indicates whether to send an Email for Intervention.
 - **NOTIFY_INTERV_EMAIL_ADDRESS.** Email address for sending operator interventions and alerts.
 - **Parameter Description.**
 - Indicates whether to send an Email for Intervention.
 - Email address for sending operator interventions and alerts.
 - **Parameter Value.**
 - **SEND_INTERVENTION_EMAIL.** Contains a checkbox to apply or change this parameter.
 - **NOTIFY_INTERV_EMAIL_ADDRESS.** Contains a textbox to enter an Email address for sending operator interventions and alerts.

The **Interventions & Alerts** link provides the operator access to **Ingest Requests** with open interventions. The operator may set and/or change the email recipient configuration from within the Intervention Related Configuration section of the Open Interventions page (Figure 13.4-2).

Intervention Related Configuration		
Parameter Name	Parameter Description	Parameter Value
NOTIF_INTERV_EMAIL_ADDRESS	Email address for sending operator interventions and alerts	cmops_edf@yahoo.com
SEND_INTERVENTION_EMAILS	Indicates whether to send an email for interventions	<input checked="" type="checkbox"/>

Apply Changes
 Cancel Changes

Figure 13.4-2. Interventions Related Configuration Section

13.4.1.2 Changing E-Mail Recipient Configuration

- 1 Click on the **Interventions & Alerts** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Interventions & Alerts** menu is expanded.
 - 2 Click on the **Interventions** link of the **DPL Ingest GUI**.
 - Displays the **Open Interventions** page.
 - 3 To set or change the intervention email address parameter: In the **Intervention Related Configuration** section, enter an **email address** in the **NOTIFY_INTERV_EMAIL_ADDRESS Parameter Value** textbox (Figure 13.4-2).
 - 4 To set the email address and permit mail notification of Interventions for available addressee(s): Click on the **checkbox** next to the **SEND_INTERVENTION_EMAIL Parameter Value** column (Figure 13.4-2).
 - A checkmark is displayed in the checkbox.
 - 5 Click on **Apply Changes** button displayed at the bottom of the **Intervention Related Configuration** section.
 - A confirmation window is displayed. To confirm, click OK.
 - The page will reload with the new e-mail address.
 - The configured email address(es) will receive notifications for all interventions as they are opened.
-

When a request completes its processing, a review is made to determine the status of each granule. If at least one granule from a request is suspended because it ran into some error, the entire request is suspended and goes into Operator Intervention Status as Suspended.

From the **Open Intervention Ingest Requests** an operator can resume suspended requests regardless of the reason for a failure.

13.4.1.3 Changing Open Intervention Ingest Requests

- 1 Click on the **Interventions & Alerts** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Interventions & Alerts** menu is expanded.
 - 2 Click on the **Interventions** link in the navigation frame of the **DPL Ingest GUI**.
 - Displays the **Open Interventions** page.
 - 3 In the **Open Intervention Management** section of the Open Intervention page, click the checkbox next to the desired **Request ID**.
 - A checkmark is displayed in the checkbox.
 - Multiple selections may be made.
 - 4 Select either the **Cancel Requests** or **Resume Requests** button located at the bottom of the page as appropriate.
 - Selecting **Cancel Requests** is an irreversible action. There is no way to ‘un-cancel’ a request. Processing for this ingest request will be terminated and any granules that did not complete processing will be considered failed. A PAN will be sent to the provider that will report the failed granules and the failure reasons.
 - Selecting **Resume Requests** will resume a request if the selected requests are suspended or not cancelled. Resuming a request will resume processing for all granules that are currently suspended, restarting each from the last known good state. To disposition individual granules differently, the operator needs to access the intervention detail page.
 - The page will reload with the status of the selected Request ID changed.
-

The **Open Interventions Detail** page allows the operator (who has Ingest Control permissions) to invoke actions on specific granules that have been intervened. Information related to the Ingest Request, contained in the Open Intervention page, is displayed at the page top, in the Intervention Info section of the Open Intervention Detail page. Related granule(s) listing(s) with detailed information is displayed at the bottom of the page. An Operator Intervention for an Ingest Request remains open as long as there are suspended granules in the Request. The operator can take one of several actions to ‘close’ the intervention (i.e., take the request out of suspension and allow the Ingest Request to be processed normally). Furthermore, any granule(s) encountering problems during any point in processing are initially flagged as “suspended”. The following actions can be performed depending on the granule state:

- **Fail Selected Granules.**
 - Applicable to granule(s) currently in the suspended state, then will transition granule(s) into a failed state. This is a permanent action and cannot be reversed. The type of suspension error the granule originally encountered will be stasured. Errors types are determined by the granules’

failed state: XferErr (transferring), ChecksumErr (checksumming), PreproErr (preprocessing), ArchErr (archiving), InsertErr (inserting),

- **Retry Selected Granules.**
 - Applicable to granule(s) that are currently suspended and retries from the last known good state of processing (e.g., checksum), at which point an annotation is added identifying the time, operator and action taken. This is effective for most cases and requires the least amount of time to reprocess.
- **Retry From START Selected Granules.**
 - The granule is retried from the start of processing, no matter where in the processing chain it failed. An annotation is added identifying the time, operator and action taken.
- **Cancel Selected Granules.**
 - Applicable only to those granules not yet in a terminal state. The granule is manually cancelled and the operator is expected to re-ingest the granule.

Once all granules issues have been resolved, the Operator Intervention status will automatically be removed. No explicit action on the part of the operator is required to do this.

If an Operator Intervention is not resolved after being viewed, it will remain in the intervention list and can be worked on at any time after navigating to a different page or even logging out of the session.

13.4.1.4 Viewing Open Intervention Detail Page

- 1 Click on the **Interventions & Alerts** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Interventions & Alerts** menu is expanded.
- 2 Click on the **Interventions** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Open Interventions** page is displayed.

- 3 Click on the specific **Request ID**.
 - The **Open Intervention Detail** page (Figure 13.4-3) is displayed.

The screenshot shows the 'Open Intervention Detail' page. At the top, it displays 'Intervention Info' with fields for RequestID: 14921, Provider: JPL, Intervention Type: MULTIPLE, and Worked By: James Pino. The status is 'Suspended' with a size of 24.586 MB and a priority of 'NORMAL'. A callout box points to the 'Show / Hide' link, stating: '[Show / Hide] link to display or collapses the Intervention Info section of the details page.'

Below this, there are 'Intervention Creation Date/Time', 'Intervention Acknowledgement Date/Time', 'When Queued', and 'When Processing Started' timestamps. An 'Operator Notes' section contains two entries from 'IngAdmin' dated 2006-10-30, describing errors and a decision to cancel granules. A callout box points to the '[Add annotation...]' link, stating: '[Add annotation...] link to display a time stamped (with OperatorID) annotation textbox for Notes.'

On the right, an 'Ingest Request Detail' window is visible, showing 'Request ID: 14921', 'Status: Suspended', and 'Priority: NORMAL'. It includes a 'Granule Statistics' table:

Total Granules	Granules Prepared	Granules Ingested	Granules Transferred	Granules Archived	No. Files
2	100%	100%	100%	100%	1

Below the notes is a 'Request Notes' section with the text 'There are no Request Notes for this request.' and a callout box pointing to the '[Add annotation...]' link.

At the bottom, there are 'Granule action buttons' (Retry Selected Granules, Retry From START Selected Granules, Fail Selected Granules, Cancel Selected Granules) and a 'Granule List' table. A callout box points to the '[show/hide]' link in the first row of the table, stating: '[show/hide] link to display or hide details of granules that have not reached terminal state for action.'

File Detail	Seq. Number	Ingest Gran. ID	Data Type	Version	Status	Granule Size (MB)	No. Files	Processing Start	Processing End
[show/hide]	1	15000000008388	MOD29PID	86	Suspended CrashErr Error executing the following copy command: /usr/ecs/OPS/CUSTOM/bin/DPLcDI/CopyExec /home/cmshare/PDRS/scripts/TEMP/OPS/Criteria_1420_MOD_r1.1162227188.55036.RGEN.hdf.met /datapool/OPS/user/FS1/temp/ingest/14921/15000000008388/4096.3	6.148	2	2009-02-03 17:04:38	2009-02-03 17:04:45
[show/hide]	3	15000000008390	MOD29PID	86	Successful	6.148	2		
[show/hide]	4	15000000008391	MOD29PID	86	Successful	6.144	2		
[show/hide]	2	15000000008389	MOD29PID	86	PreprocErr Metadata validation failed with error. Metadata validation failed with reason: Failure reason: Error obtaining INVENTORYMETADATA from the descriptor, Failed by Operator	6.144	2	2009-02-03 17:12:46	

Figure 13.4-3. Open Interventions Detail Page

- The following detailed information is displayed in the Open Interventions Detail – Intervention Info section (Table 13.4-2):

Table 13.4-2. Open Interventions Detail – Intervention Info

Field Name	Description
Request ID	Unique Data Pool Ingest identifier assigned to the request in intervention.
Provider	Name of the provider from which the request was originated.
Intervention Type	Type of error encountered during processing of at least one of the request granules (if there are multiple error types encountered in a single request, the type will be “MULTIPLE”). Other types of errors: XferErr, ChecksumErr, PreProcErr, ArchErr, InsertErr, PubErr, InitErr.
Worked By	Name of a worker assigned to address the intervention.
Status	Provides status of a request (i.e. New, Validated, Active, Partially_Suspended, Suspended, Cancelling, Resuming, Successful, Cancelled, Partially_Cancelled, Failed, Partial_Failure or Terminated).
Size	Sum of the size of all granules in the request.
Priority	The precedence which a request will have for activation and various processing actions (i.e., XPRESS, VHIGH, HIGH, LOW or NORMAL).
No. Granules	Total Granules included in the request.
Intervention Creation Date/Time	Time the intervention was generated (which may have been after several retries after the error was first encountered).
Intervention Acknowledgement Date/Time	Time the intervention was first viewed by an operator.
When Queued	Time request was queued.
When Processing Started	Time when request processing started.
Operator Notes	Displays all notes along with the name of the operator who added the annotation.
Request Notes	Displays Request related annotations by the operator included a time stamp with OperatorID.
Granule List	The section contains the following information for all the granules associated with this request.

- The following detailed information is displayed in the Open Interventions Detail – Granule List section (Table 13.4-3) which provides detailed file information about each granule:

Table 13.4-3. Open Interventions Detail – Granule List

Field Name	Description
File Detail (show/hide)	A link that displays/toggles the following details for a Granule: <ul style="list-style-type: none"> • <i>Path</i>: Directory identified in the PDR where the file can be found • <i>Name</i>. Name of file. • <i>Type</i>: Type of file, as identified by the file extension (e.g., SCIENCE or METADATA). • <i>Status</i>: Last action performed on the file or the most recent, unresolved, error encountered while processing the file.
Seq. Number	The order in which a granule was found in the PDR.
Ingest Gran. ID	Unique Identifier assigned to the granule.
Data Type	Data Type found in the PDR describing the granule.
Version	Version found in the PDR describing the granule.
Status	Current granule status (whether the granule is queued, its stage in processing, an error status, or its terminal state) and detailed error information.
Granule Size (MB)	Sum of the size of all files associated with the granule.
No. Files	Number of files found associated with the granule in the PDR.
Processing Start	Time the granule’s processing started.
Processing End	Time the granule’s processing ended.

The **Open Interventions Detail** page is the operator’s link to taking action on specific granules that have been intervened. The **Request** information contained in the Open Intervention page is listed at the top of the page. A list of granule(s) along with detailed information is displayed at the bottom of the page.

An Operator Intervention remains open as long as there are suspended granules. The operator can take one of several actions to ‘close’ the intervention (i.e., take the request out of suspension and allow the Ingest Request to be processed normally):

- The suspended granules can be failed. This is a permanent action and cannot be reversed. The granule transitions into one of the ingest granule error states that indicates the type of error the granule encountered.
- The suspended granules can be retried in one of two ways:

– **Retry Selected Granules**

- The suspended granule is retried from the last known point of processing (For example: Checksum), at which point it was suspended. This is effective for most cases and requires the least amount of time to reprocess. Every retry, an annotation is appended identifying the time, operator, and action taken.

– **Retry From START Selected Granules**

- The suspended granule is retried from the start of processing, no matter where in the processing chain it failed. Every retry, an annotation is appended identifying the time, operator, and action taken.

13.4.1.5 Changing Suspended Granules Status

- 1 Click on the **Interventions & Alerts** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Interventions & Alerts** menu is expanded.
 - 2 Click on the **Interventions** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Open Interventions** page is displayed.
 - 3 Click on the specific **Request ID**.
 - **The Open Interventions Detail** page is displayed.
 - 4 In **Granule List** section of the Open Intervention Detail page, click on the checkbox next to the desired **Granule ID**.
 - A checkmark is displayed in the checkbox.
 - Multiple selections may be made.
 - 5 Any granule(s) encountering problems during any point in their processing are initially flagged as “suspended”. **To modify**, click one of the **appropriate buttons**:
 - **Fail Selected Granules.**
 - Suspended granules can be failed. This is a permanent action and cannot be reversed. The granule transitions into one of the ingest granule error states that indicates the type of error the granule encountered.
 - **Retry Selected Granules.**
 - This applies only to granules that are currently suspended. The granule is retried from the last point of. This is effective for most cases and requires the least amount of time to reprocess.
 - **Retry Selected Granules From Start.**
 - This applies only to granules that are currently suspended. The granule is retried from the start of processing, no matter where in the processing chain it failed.
 - **Cancel Selected Granules.**
 - The granule is cancelled.
 - Once the suspended granule retry is successful, the system will automatically close the Operator Intervention.
-

13.4.2 Viewing System Alerts

The Ingest operator is able to monitor Data Pool System Alerts as they are raised in the Ingest database. These alerts warn the operator when the Ingest Service runs into a problem that is believed to be associated with a resource or service being used. Ingest Service checks in regular

intervals whether the problem has been resolved and clear the alert if that is the case. An alert may also be cleared manually once the operator determines that the problem has been resolved.

13.4.2.1 Viewing System Alerts

1 If the **DPL Ingest GUI Home** page is displayed, and an alert has been generated, the General System Statistics section will contain a link to **System Alerts**. Clicking on this link will take you to the **Alerts** page.

- The Alerts page is displayed.

OR

2 Click on the **Interventions & Alerts** link in the navigation frame of the **DPL Ingest GUI**.

- The **Interventions & Alerts** menu is expanded.

3 Click on the **Alerts** link in the navigation frame of the **DPL Ingest GUI**.

- The **Alerts** page (Figure 13.4-4) containing the following **Alert Management** information for the Data Pool is displayed:

Figure 13.4-4. Alerts Page

- **Alert Details.**
 - The **Show/Hide** link will display expanded detailed alert information to include **Symptom** and **Solutions** of the alert.
 - **Alert Description.**
 - Basic description of the error that generated the alert.
 - **Alert Type.**
 - Unique name for the type of error that was encountered.
 - **Resource.**
 - The name of the resource affected by the alert.
 - **Resource Type.**
 - The type of resource affected by the alert, such as SCP/FTP Host, Polling Location or Archive.
 - **Server Name.**
 - .The name of the server affected by the alert.
 - **Creation Time.**
 - The time by the alert was generated (which may have recorded after several retries after the error was first encountered).
 - The **Alert Related Configuration** fields displayed as follows:
 - **Parameter Name.**
 - **ALERT_EMAIL_ADDRESS.**
 - **SEND_ALERT_EMAIL**
 - **Parameter Description.**
 - Email address to which alert emails will be sent.
 - Indicates whether sending alert emails is active.
 - **Parameter Value.**
 - Contains a place to enter an email address for sending alerts notification.
 - Contains a checkbox to select this parameter.
 - Contains a place to enter an email address for sending operator interventions and alerts.
-

In addition to being displayed on this page, alerts can also be sent as email to a specified address. Use the following procedure to set the email address and permit email notification.

13.4.2.2 Changing EMail Recipient Configuration

- 1 Click on the **Interventions & Alerts** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Interventions & Alerts** menu is expanded.
 - 2 Click on the **Alerts** link in the navigation frame of the **DPL Ingest GUI**.
 - Displays the **Alerts** page.
 - 3 In the **Alert Related Configuration** section, enter an address in the **Parameter Value** field for the **ALERT_EMAIL_ADDRESS** parameter.
 - 4 Click on the checkbox in the **SEND_ALERTS_EMAIL** Parameter Value checkbox.
 - A checkmark is displayed in the checkbox.
 - 5 Click on **Apply Changes** button displayed at the bottom of the **Alert Related Configuration** section.
 - The page will reload with the new email address.
-

The Ingest operator is able to monitor Data Pool System Alerts as they are raised in the DPL database. Additional details can be viewed by using the Show/Hide button and will include **Symptoms** of the alert. If the **Resource Type** is an **archive** or **file system** the Alert Details will contain **Symptoms, Data Provider, Request Status** information. These alerts warn the operator when the Ingest Service runs into a problem that is believed to be associated with a resource or service it is using. The Ingest Services test in regular intervals whether the problem has been resolved and if so, automatically clears the alert. An alert may also be cleared manually once the operator determined that the problem has been resolved.

13.4.2.3 Viewing Detailed System Alert Information

- 1 Click on the **Interventions & Alerts** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Interventions & Alerts** menu is expanded.
 - 2 Click on the **Alerts** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Alerts** page is displayed.
 - 3 In the **Alert Management** section of the screen, click on the **Show/Hide** button to display the following Detailed Alert information:
 - **Symptom**
 - Information about the specific action or item that caused the alert.
 - If the Resource Type is an Archive or File System, the following alert details are displayed:
 - **Symptom:** Information pertaining to the specific action or item that generated the alert.
 - **Impact:** The resource affected by the Alert (if applicable). Data is displayed only if the Alert could potentially impact a Resource.
 - **Data Providers affected:** List of providers that will be suspended as a result of the alert.
 - **Number of PDRs:** Total number of PDRs “stuck” in a particular state as a result of the alert.
 - **Number of granules:** Total number of granules “stuck” as a result of the alert.
 - **Total amount of data queued:** Sum of the size of the files in the granules that require the file system and will not be activated while it is suspended.
 - **Total amount of data processing:** Sum of the size of the files in the granules that require the file system, but will get “stuck” in an active state as a result of the alert.
-

An alert may be cleared manually once the operator determines that the problem has been resolved. In response, the Ingest Service will resume using that resource and all the associated resources. The Ingest Service may find that it is still unable to use the resource (e.g., still cannot connect), in which case the alert will be raised again. However, it may be appropriate to manually clear an alert, e.g., if the operator took steps to manually resolve the reported problem (restarting an ECS Host) and then expects the Ingest Service to immediately try using that resource.

13.4.2.4 Clearing an Alert

- 1 Click on the **Interventions & Alerts** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Interventions & Alerts** menu is expanded.
 - 2 Click on the **Alerts** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Alerts** page is displayed.
 - 3 In **Alert Management** section of the **Alerts** page, click on the checkbox next to the Alert(s) to be cleared.
 - A checkmark is displayed in the checkbox.
 - Multiple selections may be made.
 - 4 After selecting all alerts to be cleared, click on the **Close Alerts** button.
 - A confirmation prompt is displayed. Select **OK** or **Cancel**.
 - If you selected **OK**, the page will be reloaded with the selected alerts no longer appearing on the list.
-

13.5 DPL Ingest Configuration

This section contains descriptions of how to modify DPL Ingest configuration values.

The DPL Ingest Configuration pages provide the full-capability operator with a means of modifying (if necessary) the values assigned to the following types of DPL Ingest configuration parameters:

- Providers
- Data Types
- Transfer Hosts
- File Systems
- ECS Services
- Global Tuning
- Volume Groups
- Operators.

Table 13.5-1 provides an activity Checklist for Modifying DPL Ingest Configuration.

Table 13.5-1. Modifying DPL Ingest Configuration

Order	Role	Task	Section
1	Ingest Technician	Edit a Data Provider	(P) 13.5.1.1
2	Ingest Technician	Edit a Polling Location	(P) 13.5.1.2
3	Ingest Technician	Remove a Data Provider	(P) 13.5.1.3
4	Ingest Technician	Remove a Polling Location	(P) 13.5.1.4
5	Ingest Technician	Add a Data Provider	(P) 13.5.1.5
6	Ingest Technician	Changing Data Types	(P) 13.5.2.1
7	Ingest Technician	Changing Data Types Attributes	(P) 13.5.2.2
8	Ingest Technician	Remove FTP or SCPTransfer Host	(P) 13.5.3.1
9	Ingest Technician	Add FTP or SCP Transfer Host	(P) 13.5.3.2
10	Ingest Technician	Edit FTP or SCP Transfer Host	(P) 13.5.3.3
11	Ingest Technician	Edit Local and Default Host Configuration	(P) 13.5.3.4
12	Ingest Technician	Change File System Threshold	(P) 13.5.4.1
13	Ingest Technician	Remove Checksum Type	(P) 13.5.5.1
14	Ingest Technician	Add Checksum Type	(P) 13.5.5.2
15	Ingest Technician	Add an ECS Service Host Type	(P) 13.5.5.3
16	Ingest Technician	Edit an ECS Service Host Type	(P) 13.5.5.4
17	Ingest Technician	Change Global Tuning Parameters	(P) 13.5.6.1
18	Ingest Technician	Add a Volume Group For a New Versioned Data Type	(P) 13.5.7.1
19	Ingest Technician	Add a Volume Group For an Existing Versioned Data Type	(P) 13.5.7.2
20	Ingest Technician	Modify Volume Groups	(P) 13.5.7.3
21	Ingest Technician	Modify Operator Permission Settings	(P) 13.5.8.1
22	Ingest Technician	Add Operator Permissions	(P) 13.5.8.2
23	Ingest Technician	Remove Operator Permission Settings	(P) 13.5.8.3

13.5.1 Data Provider Configuration

The Provider Configuration page (Figure 13.5-1) lists all of the Data Providers for the DPL Ingest System along with the following selected attributes for each **Provider**:

- **Checksum Mandatory.**
- **% Files To Checksum.**
- **Default Priority.**
- **Notification Method.**

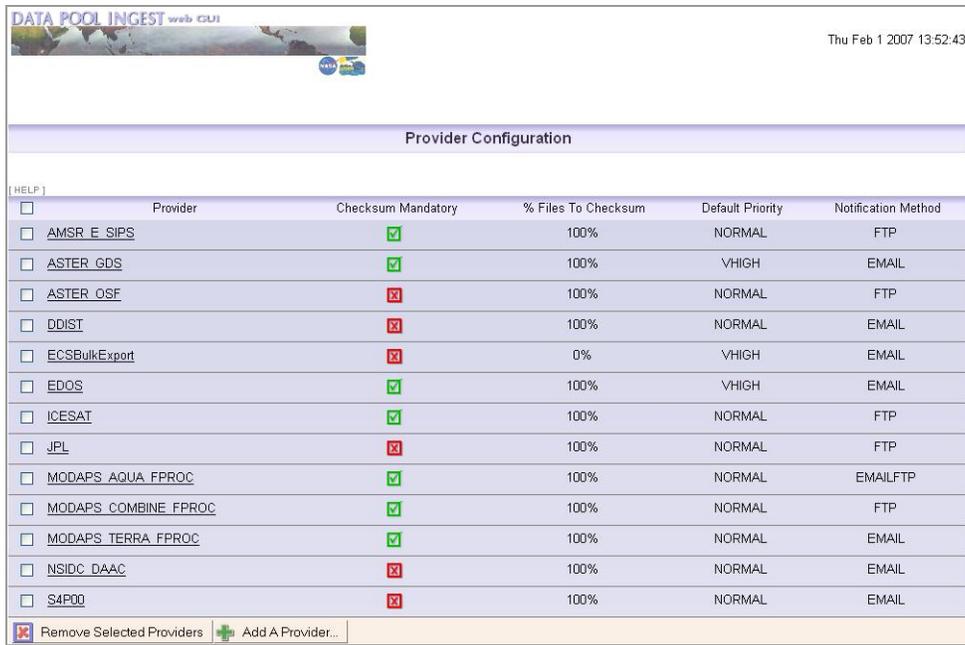


Figure 13.5-1. Provider Configuration Page

By clicking on the underscored Provider name, the operator can view/change configuration parameters for a data provider. Table 13.5-2 contains a list of changeable Data Provider parameters and their descriptions.

Table 13.5-2. Edit a Data Provider Configuration Parameter Descriptions (1 of 2)

Field Name	Entry	Description
Name	Required	Name for an external data provider
ProviderType	Required	Indicates the type of the provider (such as Polling with DR, Polling without DR, EDOS)
Checksum Mandatory	Optional	Indicates that the Data Provider <i>must</i> provide checksum information in the PDR.
% Files to Checksum	Required	Percent of requests to checksum for this provider
Default Priority	Required	Default priority for ingest requests for this provider

Table 13.5-2. Edit a Data Provider Configuration Parameter Descriptions (2 of 2)

Field Name	Entry	Description
Preprocessing Type	Required	Type of ingest processing to occur (such as SIPS or DDIST)
Max Active Data Volume	Required	Maximum total active data volume that will be allocated to a provider if requests for other providers are pending
Max Active Granules	Required	Maximum total active granules that will be allocated to a provider (if requests for other providers are pending)
Transfer Type	Required	Method used for obtaining files from the external data provider (local, FTP, or SCP with various cipher types)
Notification Method	Required	Method for providing notifications to the provider (email, SCP, FTP, or combination of SCP/FTP and email)
Email Address	Required if email is the notification method	Address to which to send notifications after a granule on the provider completes ingest
Write Login User ID	Required if FTP or SCP is the notification method	User Id for getting write permissions on the provider's notification directory
Write Info: Password	Required if FTP or SCP is the notification method	Checkbox displays a password and verify password field that are used to provide access to the provider's notification directory
Path	Required if FTP or SCP is the notification method	Directory where notifications will be sent on the provider
Choose Host	Required if FTP or SCP is the notification method	Host where the notification path can be found (list is generated from hosts configured on the Host Configuration page)
Read Login Id	Required if a polling location uses FTP or SCP	User Id for getting read permissions on the provider's polling directories
Read Info: Edit Password	Required if a polling location uses FTP or SCP	Checkbox displays a password and verify password field that are used to provide access to the provider's polling directories

13.5.1.1 Edit a Data Provider

- 1 Click on the **Configuration** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Configuration** menu is expanded.
- 2 Click on the **Providers** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Provider Configuration** page is displayed. (Figure 13.5-1.)
- 3 Click on the underscored **Provider** link (under the name column) to be modified.
 - The **Provider Configuration Detail - Edit a Provider** page (Figure 13.5.2) is displayed.
 - **NOTE:** Trailing and leading white space will be removed from values entered into text fields on this page and all related sub-pages.

Edit a Provider

Name: MODAPS_AQUA_FPROC

Provider Type: Polling with DR

Checksum Mandatory:

% Files to Checksum: 100 [0-100]

Default Priority: VHIGH(235)

Preprocessing Type: SIPS

Max Active Data Volume: 3750.000 MB [help]

Max Active Granules: 30 [help]

Transfer Type: Ftp [help]

Read Info

Read Login ID: ins

Edit Password:

FTP Mode: Passive

Notification Method: Email And Ftp

E-Mail Info

E-Mail address: cmdex08@yahoo.com

Write Info

Write Login User ID: ins

Edit Password:

Path: /usr/ecs/OPS/CUSTOM/data/dplIngest/amrs/P

Choose Host: NSIDC [help]

Name	Address	Source Polling Path	Polling Freq
<input type="checkbox"/> OLA_Test	LOCAL	/usr/ecs/OPS/CUSTOM/data/INS/pollAMSR/	120
<input type="checkbox"/> pollAMSR	#eii01	/usr/ecs/OPS/CUSTOM/data/dplIngest/amrs/pollAMSR_E_SIPS	120

Remove Selected Polling Locations Add A Polling Location

Apply Changes Reset

Figure 13.5-2. Edit a Provider Page

- 4 Select the fields to be modified.
 - Certain fields are required and must be populated.
 - 5 To apply changes, click the **Apply Changes** button.
 - A Confirmation prompt is displayed. Click **OK**
 - Changes are accepted.
-

Table 13.5-3 describes the changeable Polling Location fields. The following procedure contains the steps required to edit a polling location.

Table 13.5-3. Polling Location Page Field Descriptions

Field Name	Entry	Description
Parent Provider	Not Editable	Name of the provider with which this polling location is associated
Polling Location Name	Required	Name used to uniquely identify the polling location
Source Polling Path	Required	Source Directory that will be polled
Polling Frequency	Required	Number of seconds the ingest service will wait between scanning the polling path for new PDRs (must be greater than 120 seconds)
DPL Ingest Enabled	Optional	Indicates whether this polling location is enabled for ingest via DPL
Polling Method	Required	Transfer method used for obtaining PDRs from the polling location (Local Disk or Ftp Host)
Host Name	Required if using a remote transfer method	Host where the polling directory is found

13.5.1.2 Edit a Polling Location

- 1 Click on the **Configuration** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Configuration** menu is expanded.
- 2 Click on the **Providers** link in the navigation frame of the **DPL Ingest GUI**.
 - The Provider Configuration page is displayed.
- 3 Click on the **Provider** to be modified.
 - The **Edit a Provider** page is displayed (Figure 13.5-2).
- 4 Locate the Existing Polling Locations section (at page bottom).
- 5 Click the **underscored Polling Location** name link in the name column.
 - The **Edit a Polling Location Details** page (Figure 13.5-3) is displayed.

The screenshot displays the 'Edit a Polling Location' page. The main form is titled 'Edit a Polling Location' and contains the following fields:

- Parent Provider: AMRS_E_SIPS
- Polling Location Name: OLA_Test [help]
- Source Polling Path: /usr/ecs/OPS/CUSTOM/data/INS/pc [help]
- Polling Frequency: 120 [seconds] [help]
- DPL Ingest Enabled:
- Polling Method: FTP Host
- Host Name: Define New Host... [help]

Below these fields is the 'New Host Parameters' section with the following fields:

- Label: [] [the label for this host]
- Address: [] [the DNS name or IP address and port]
- Max. Operations: 5 [max. concurrent Operations]
- Timeout: [enable host timeout]
- Expected Throughput: 3,000 [Minimum expected throughput, in MB/s]
- Pad Time: 30 [seconds]
- Auto Retry: [enable automatic retry when Host is suspended]
- Retry Interval: 120 [seconds]

At the bottom of the main form are 'Apply Changes' and 'Reset' buttons. An inset window titled 'Existing Host Parameters' shows a table of parameters for the selected host:

Existing Host Parameters	
Host Name:	NSIDC [help]
Name:	NSIDC
Address:	f4ei01
Max FTP Operations:	7
Timeout:	yes (30s)
Auto Retry:	yes (15s)

At the bottom of the inset window are 'Apply Changes' and 'Reset' buttons.

Figure 13.5-3. Edit a Polling Location Details Page

- 6 Update the desired information.
- 7 Click the **Apply Changes** button.
 - A Confirmation prompt is displayed. Click **OK** to accept updates.
 - Changes are accepted.

13.5.1.3 Remove a Data Provider

- 1 Click on the **Configuration** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Configuration** menu is expanded.
 - 2 Click on the **Providers** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Provider Configuration** page is displayed.
 - 3 Click on the **checkbox** next to the Provider to be removed.
 - A checkmark is placed in the checkbox.
 - Multiple selections are accepted.
 - 4 At the bottom of the screen, click the **Remove Selected Providers** button.
 - 5 A Confirmation screen is displayed. Click **OK**
 - Changes are accepted.
-

13.5.1.4 Remove a Polling Location

- 1 Click on the **Configuration** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Configuration** menu is expanded.
 - 2 Click on the **Providers** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Provider Configuration** page is displayed.
 - 3 Click on the **Provider** name.
 - **The Edit a Provider** Configuration page is displayed.
 - 4 Locate the **Existing Polling Locations** section (at page bottom).
 - 5 Click on the checkbox next to the polling location name to be removed.
 - A checkmark is placed in the checkbox.
 - Multiple selections are accepted.
 - 6 At the bottom of the screen, click the **Remove Selected Polling Locations** button.
 - 7 A Confirmation screen is displayed. Select **OK**
 - Changes are accepted
-

13.5.1.5 Add a Data Provider

- 1 Click on the **Configuration** link in the navigation frame of the **DPL Ingest GUI**.
 - The Configuration menu is expanded.
- 2 Click on the **Providers** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Provider Configuration** page is displayed.
- 3 On the **Provider Configuration** page, click on the **Add A Provider** button at the bottom of the existing provider list.

- The **Add a Provider** (Figure 13.5-4) page is displayed.

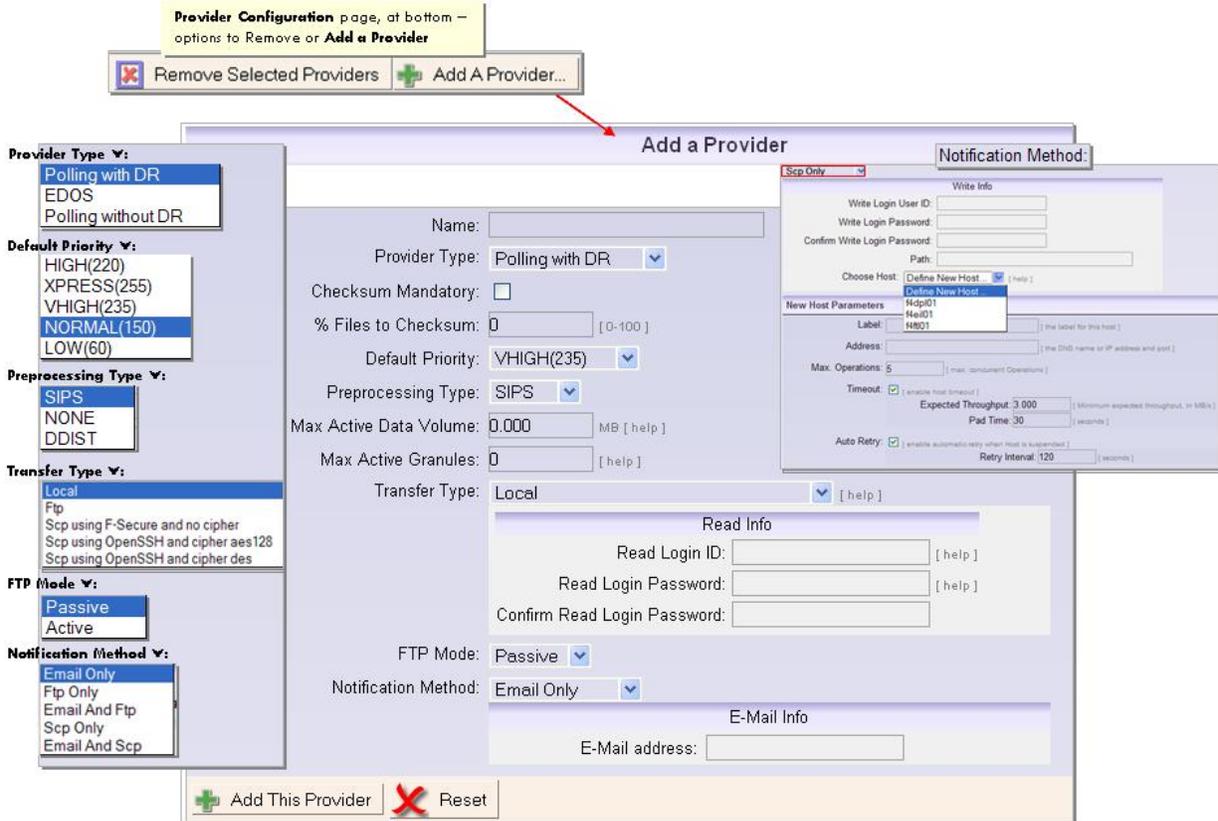


Figure 13.5-4. Add a Provider Page

NOTE: EDOS Providers have several special rules:

- A Processing Type is not allowed – automatically set to “NONE” and is enforced when adding the Provider.
- FTP Transfer Type and FTP Notification methods can only be used – automatically enforced within the GUI.

4 In the **Name** field enter a unique provider name for this provider.

- Already existing names will be rejected by the database.

5 Select the **Provider Type** from the pull-down window.

- If you select...
 - **EDOS, Preprocessing Type** will become **NONE**;
 - **Transfer Type** will become **FTP**;
 - **Notification** method will become **FTP Only**.
- If you select...

- **Polling without DR**, a **VersionedDataType** drop-down list will appear on the page for operator to select the ESDT this provider will ingest from a predefined list of polling without DR ESDTs;
 - the **Checksum Mandatory** checkbox will be unchecked and disabled, the **% Files to Checksum** will be set to 0 and disabled;
 - the **Preprocessing Type** will become **NONE** and
 - **Notification Method** will become **NONE**.
- These Provider Type options cannot be changed.
- 6** If applicable, click the checkbox for **Checksum Mandatory**:
- If this checkbox is checked, the Data Provider must provide **checksum** information in the PDR, regardless of the “% of Checksum Files” entered.
 - If you would like to **checksum at less than 100%, disable checksum mandatory and enter the desired percent** in the textbox.
- 7** Select one of the following default priorities from the **Default Priority** pull-down window:
- **LOW (60), NORMAL (150), HIGH (220), VHIGH (235), XPRESS (255)**.
- 8** Select **Preprocessing Type** from the pull-down window.
- **NONE, SIPS, DDIST**
- 9** Enter the maximum active data volume (in MB) in the **Max Active Data Volume** field that can be processed at the same time on this provider.
- The Ingest Service uses the maximum data volume and number of granules to limit the amount of the work which it will activate for a provider.
 - Ingest will activate a new granule for an active ingest request when the amount of work for the provider that is currently in progress reaches one of the configured limits.
 - New granules will be activated as granules complete and slots are opened up.
- 10** Enter the maximum number of granules in the **Max Active Granules** field that can be processed at the same time.
- New granules will be activated as granules complete and slots are opened up.
 - Note: There are overall limits on the total amount of work in progress, across all providers, which may further limit how much work is activated.
- 11** Select the **Transfer Type** from the pull-down window.
- a.** If data transfer will be **FTP (or SCP)**, the operator must enter **Read Info** parameters in the area just below the Transfer Type listbox.

- If this information is not filled out, when a polling location is added, the operator will not be able to select ftp as the transfer method.
- 12** Select **FTP Mode** (FTP Host only) from the listbox.
- **Active** or **Passive**.
- 13** Select the **Notification Method** from the listbox. Depending on your selection, the appropriate parameter related box(es) will appear (Figure 13.5-4) below the drop-down list:
- **Email Only**: enter a valid Email address in the **E-Mail Info** field.
 - **FTP only or SCP only**: enter the Write Info login information (Write Login User ID, Write Login Password, Write Login Password Confirmation, the directory Path and then Choose Host information.
 - Pick an existing, pre-configured **FTP host** as defined in the FTP Host Configuration page from the pull-down window: When you select the desired host, an information box is displayed, showing the host's login information, IP address, and other details:
 - **Local**: Enter the **local disk directory**. NOTE: no path or Read Info entry is required.
 - **Email and FTP, or Email and SCP**: enter the **E-Mail information** and **write login information (Write Login User ID, Write Login Password and Write Login Password Confirmation)**, the directory **Path** and the **Choose Host** information.
- 14** Click the **Add This Provider** button, at bottom of the Add a Provider page.
- Note: Polling locations cannot be added until the provider has been added.
- A confirmation screen is displayed. Select **OK**
 - The Provider Configuration page is displayed.
- 15** Select the new provider just entered.
- **Edit a Provider** detail page is displayed.
- 16** At the bottom of the page, click **Add a Polling Location** button.
- Note: The provider will not become active until at least one polling location is added.
- **Add a Polling Location** page is displayed.
- 17** Enter a unique name for the **Polling Location Name**.
- Names that already exist for this polling location will be rejected by the database.
- 18** Enter the **Source Polling Path**.
- This is the pathname from which to transfer the PDR files.
- 19** Enter the **Polling Frequency** in seconds.
- The minimum value is 120 seconds.
- 20** Select whether or not this Polling Location is **DPL Ingest Enabled**.

- A checkmark is placed in the checkbox.
- 21** Choose the **Polling Method** from the pull-down list of pre-configured hosts.
- Selecting **FTP Host** will cause an information box to be displayed, showing the host’s login information, IP address, and other details.
 - Selecting **Local Disk** will not require additional (the directory path is already provided at the top of the page).
- 22** Click the **Add Polling Location** button at the bottom of the screen.
-

13.5.2 Data Type Configuration

Any ECS collection is eligible for DPL ingest. Before a collection is enabled for ingest, it needs to be configured via ESDT Maintenance GUI and DataPool Maintenance GUI. In DPL Ingest GUI, the DAAC user is able to configure whether to publish the granules for the collection, whether to ignore XML metadata validation warnings during ingest and whether to enable the creation of HDF map granules for the science granules of this collection.

In Data Type Configuration page, Data Types With DPL Ingest Configurations options allows the DAAC users to change the default attributes. Table 13.5-4 describes the available fields on the Data Type Configuration page.

Table 13.5-4. Data Type Configuration Page Field Descriptions

Field Name	Entry	Description
Short Name.Version ID	Not Editable	Data Type identifier or name. Version number of the data type (identifier and version id is separated by a period)
Public In Data Pool	Editable	Indicates whether or not to “publish data” for this data type in the public Data Pool following successful Ingest.
Ignore Validation Warnings	Editable	Indicates whether or not to send email notifications and save metadata file to a holding directory when a granule of the data type encounters metadata validation warnings,
Create Map Granules	Not Editable if there is a gray X box for the data type: Editable otherwise	Indicates whether or not HDF Map Granules are created for science granules of this data type.

13.5.2.1 Changing Data Types

- 1 Click the **Configuration** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Configuration** menu is expanded.
- 2 Click the **Data Types** link to display the **Data Type Configuration** page (Figure 13.5-5).

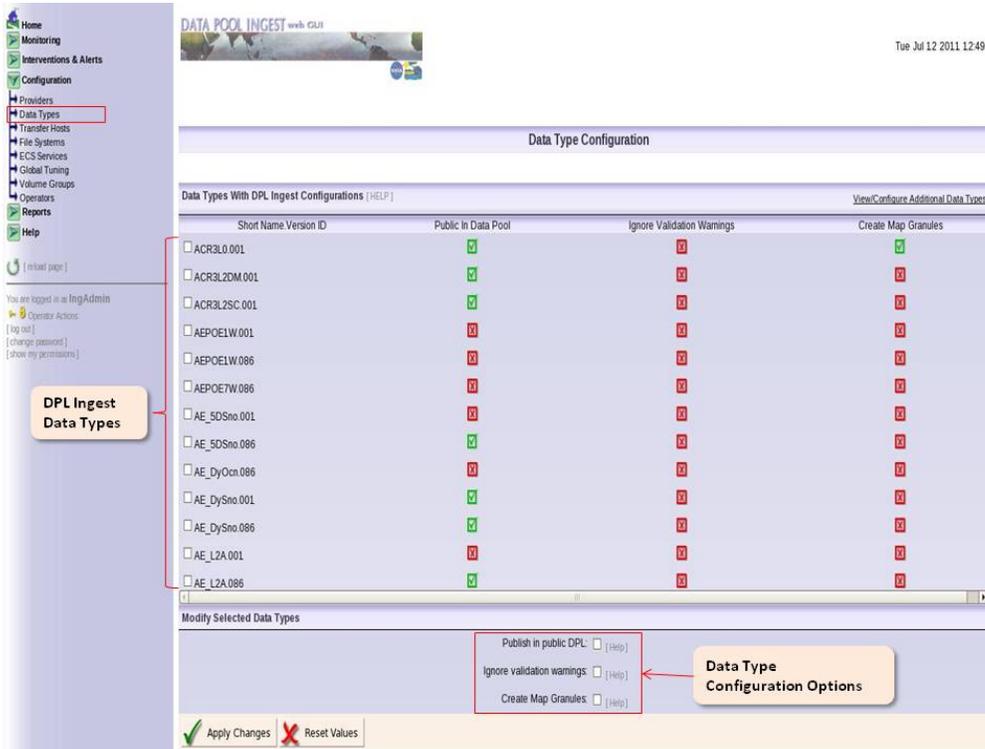


Figure 13.5-5. Data Type Configuration Page

- Displayed, is the last defined **Data Type Configurations** in the **Data Types With DPL Ingest Configurations** section, whose configurations have been altered to support non-default options. **To configure data types in the list:**
 - ▶ Click the **checkbox** of the desired **data type(s)**.
 - ▶ Enter **new parameters**
- 3 Click on the **Apply Changes** button to **Modify Selected Data Types**.
 - A Confirmation prompt is displayed. Select **OK**.

13.5.2.2 Changing Data Types Attributes

- 1 Click on the **Configuration** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Configuration** menu is expanded.
 - 2 Click the **Data Types** link to display the Data Type Configuration page (Figure 13.5-5).
 - The page shows a list of Data Types with their configurable attributes related to DPL Ingest.
 - If the Data Type you want to change is not listed, select the View/Configure Additional Data Types link. This will display the list of Data Types without DPL Ingest Configurations.
 - 3 Select each **Data Type** by clicking on the checkbox next to the **Short Name Version ID**.
 - 4 Scroll to the bottom of the screen to Modify Selected Data Types section.
 - 5 Make the desired changes for the following parameters.
 - **Publish in Public DPL**. Indicates whether or not to “publish data” for this data type in the public Data Pool following successful Ingest. Place a checkmark to select this option by clicking on the checkbox.
 - **Ignore Validation warnings**. Indicates whether or not to send email notifications and save metadata file to a holding directory when a granule of the data type encounters metadata validation warnings. Place a checkmark to select this option by clicking on the checkbox.
 - **Create Map Granules**. Indicates whether or not HDF Map Granules are created for science granules of this data type.
 - 6 Click on the **Apply Changes** button.
 - A Confirmation prompt is displayed. Select **OK**.
 - Parameters for the selected **Data Types** are change to the new settings.
-

13.5.3 Transfer Host Configuration

The **Transfer Host** link allows the operator to manage SCP, FTP, and Local hosts for general use in the Data Pool Ingest system. These hosts can be referenced when defining polling locations or notification hosts. Table 13.5-5 provides a list of the SCP and FTP related filed descriptors.

In addition, if the host ip-addresses are referenced within PDRs as the source locations for granule files, DPL Ingest will automatically refer to their definition to obtain time out and retry parameters.

In cases where a host has not been explicitly defined, the ingest operator will be able to define default time-out and retry parameters for SCP or FTP hosts. If a request is sent through processing with a host configured in the PDR that does not show up on the GUI (as a configured

host), a new host will automatically be added to the list of SCP/FTP Hosts with the name UNDEFHOST_[Provider]_[RequestID]. Default host configuration parameters will be applied to the new host until the operator chooses to modify them.

The Transfer Host, Host Configuration page has five working sections that allow the DAAC to add SCP or FTP hosts names and suitable configurations; ability to edit and/or remove hosts; change the default parameters for all SCP or FTP hosts including the LOCAL hosts. These sections are:

- Existing FTP Hosts.
- Existing SCP Hosts.
- Default FTP Host Configurations.
- Default SCP Host Configurations.
- Local Host Configurations.

The SCP or FTP Host related field descriptions are described in the Table 13.5-5:

Table 13.5-5. SCP or FTP Host Page Related Field Descriptions

Field Name	Entry	Description
Label	Required	A unique identifier for the host
Address	Required	An IP address or the canonical name and port (if needed) of an FTP host
FTP Mode	Required <i>For FTP only</i>	Whether the FTP host will be considered Active or Passive. This item does not appear on the form to Add a SCP Host.
Max Operations	Required	Total number of operations that can occur, simultaneously, on the host. If this field is left empty a default value will be supplied.
Timeout	Optional	Whether or not to allow a host to timeout if operations of a particular size take too much time to complete
Expected Throughput	Required if timeout is flagged	Expected amount of MBs of a granule to be processed during the configured pad time. If this field is left empty a default value will be supplied.
Pad Time	Required if timeout is flagged	Time (in seconds) a configured chunk of data should be processed before raising a timeout alert. If this field is left empty a default value will be supplied.
Auto Retry	Optional	Whether or not to retry an action that failed or generated an error on the host
Retry Interval	Required if Auto Retry is flagged	Time in between retries on the host. If this field is left empty a default value will be supplied.

13.5.3.1 Remove FTP or SCP Transfer Hosts

- 1 Click on the **Configuration** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Configuration** menu is expanded.
- 2 Click on the **Transfer Hosts** link in the navigation frame of the **DPL Ingest GUI**.
 - **The Host Configuration page** (Figure 13.5-6) is displayed.

Host Configuration

[HELP]

Existing FTP Hosts

<input type="checkbox"/>	Label	Address	Max. FTP Operations	Timeout (Expected Throughput + Pad Time)	Auto Retry Interval
<input type="checkbox"/>	NSIDC	f4ei01	7	3.000MB/s + 30s	15s
<input type="checkbox"/>	f4dpi01	f4dpi01.hitc.com	10	3.000MB/s + 30s	120s
<input type="checkbox"/>	f4ei01	f4ei01.hitc.com	5	3.000MB/s + 30s	120s

Remove Selected Hosts Add A FTP Host...

[HELP]

Existing SCP Hosts

<input type="checkbox"/>	Label	Address	Max. SCP Operations	Timeout (Expected Throughput + Pad Time)	Auto Retry Interval
<input type="checkbox"/>	f4dpi01	f4dpi01	10	3.000MB/s + 30s	15s
<input type="checkbox"/>	f4ei01	f4ei01	25	3.000MB/s + 30s	20s
<input type="checkbox"/>	f4ri01	f4ri01	25	3.000MB/s + 30s	15s

Remove Selected Hosts Add A SCP Host...

Default FTP Host Configurations

Max. FTP Operations: 5

Timeout (Expected Throughput + Pad Time): 3.000MB/s + 30s

Auto Retry Interval: 120s

[Edit](#)

Default SCP Host Configurations

Max. SCP Operations: 5

Timeout (Expected Throughput + Pad Time): 3.000MB/s + 30s

Auto Retry Interval: 120s

[Edit](#)

Local Host Configurations

Max. Local Operations: 5

Timeout (Expected Throughput + Pad Time): 3.000MB/s + 30s

Auto Retry Interval: 120s

[Edit](#)

Figure 13.5-6. Host Configuration Page

- Displays five related **Host Configurations** sections.

- 3 Click the checkbox next to the **host name** of the existing FTP or SCP Host(s) to be removed (multiple selections are accepted).
 - A checkmark is placed in the checkbox.
 - 4 Click on the **Remove Selected Hosts** button.
 - A Confirmation prompt is displayed. Select **OK**
 - The selected hosts are removed.
-

13.5.3.2 Add an FTP or SCP Transfer Host

- 1 Click on the **Configuration** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Configuration** menu is expanded.
- 2 Click on the **Transfer Hosts** link in the navigation frame of the **DPL Ingest GUI**.
 - **The Host Configuration** page (Figure 13.5-6) is displayed.
 - Displays five related **Host Configurations** sections.
- 3 In the **Existing FTP Hosts** or **Existing SCP Hosts** sections click on the **Add a FTP Host** or **Add a SCP Host** button.
 - The **FTP Host Configuration-add a new host** (or **SCP Host Configuration-add a new host**) screen is (Figure 13.5-7) displayed.

The screenshot shows a web form titled "FTP Host Configuration - add a new host". The form is divided into a header section and a main content area. The header section contains the title. The main content area is titled "Host Parameters" and contains several input fields and checkboxes. The fields are: "Label" (with a placeholder "[the label for this host]"), "Address" (with a placeholder "[the DNS name or IP address and port]"), "Max. Operations" (set to 5, with a placeholder "[max. concurrent FTP Operations]"), "Timeout" (checked, with a placeholder "[enable host timeout]"), "Expected Throughput" (set to 3.000, with a placeholder "[Minimum expedited throughput, in MB/s]"), "Pad Time" (set to 30, with a placeholder "[seconds]"), "Auto Retry" (checked, with a placeholder "[enable automatic retry when Host is suspended]"), and "Retry Interval" (set to 120, with a placeholder "[seconds]"). At the bottom of the form are two buttons: "Add This Host" (with a green checkmark icon) and "Cancel" (with a red X icon).

Figure 13.5-7. FTP (or SCP) Host Configuration Add a New Host Page

- 4 Enter a unique name in the **Label** field.
 - Existing names will be rejected by the database.

- 5 Enter the **IP Address** (e.g., 192.168.2.1) or the **DNS** (canonical name (e.g., my.ftp.host), including the **Port** number (on the same line, separated by a colon) in the **Address** field.
 - 6 Enter the **Max. Operations** parameter.
 - This value represents the maximum number of concurrent FTP or SCP operations that this host may initiate.
 - 7 Click on the **Timeout** checkbox (optional field).
 - If this checkbox checked, text boxes will be displayed for the **Expected Throughput** (in mb/s) and **Fixed Overhead** (seconds) values: Enter these values.
 - 8 Click on the **Auto Retry flag** (optional field).
 - If this checkbox checked, a textbox will be displayed to set the **Retry Interval** value (the number of minutes to wait between retries of this host if it becomes suspended by the server. Enter this value.
 - 9 Select the **Add This Host** button at the bottom of the screen.
 - The new entry will be displayed on the **FTP Host Configuration** page.
-

13.5.3.3 Edit SCP or FTP Transfer Host

- 1 Click on the **Configuration** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Configuration** menu is expanded.
- 2 Click on the **Transfer Hosts** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Host Configuration** page displays its five related **Host Configurations** sections.

3 In the **Existing FTP Hosts** or **Existing SCP Hosts** section, click on the underscored Label (name) of the desired host.

- The **Host Configuration for [LabelName]** page (Figure 13.5-8) is displayed.

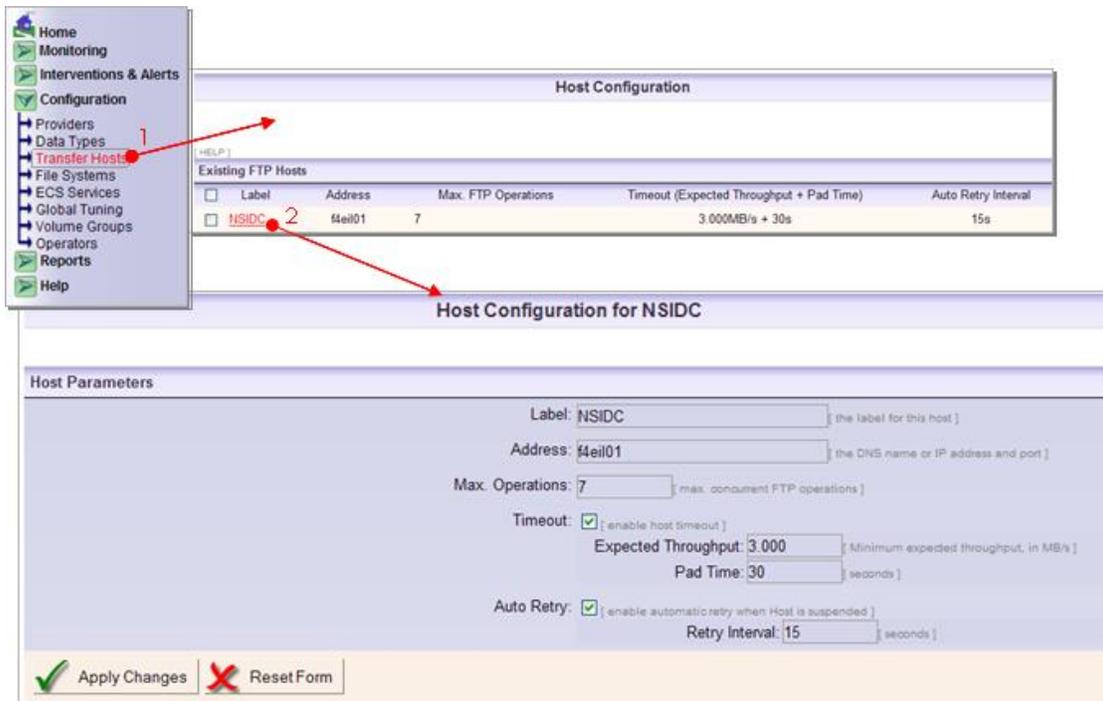


Figure 13.5-8. Host Configuration for [LabelName] Page

4 Edit the desired fields, then click the **Apply Changes** button at the bottom of the page.

- Changes will be implemented.

Local Host configuration parameters are used during any local transfer operations. The maximum Local operations limit how many local copies will occur concurrently. The timeout values apply to each individual local copy operation.

Default SCP and FTP Host configuration values are used to fill in default values whenever a new SCP or FTP host is added, or if a field is left empty when updating an existing SCP or FTP host.

13.5.3.4 Edit Local and Default Host Configuration

- 1 Click on the **Configuration** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Configuration** menu is expanded.
- 2 Click on the **Transfer Hosts** link in the navigation frame of the **DPL Ingest GUI**.
 - **The Host Configuration** page is displayed.
- Displays five related **Host Configurations** sections.
- 3 In the **Default FTP Host Configurations** section, the **Default SCP Host Configurations** section or **Local Host Configurations** section, click the **Edit** button to display their detail pages.
 - The **Host Configuration Details Page** is displayed (Figure 13.5-9).

The screenshot displays the 'Host Configuration for FTPDEFAULT' page. At the top, there are two tabs: 'Host Configuration for SCPDEFAULT' and 'Host Configuration for FTPDEFAULT'. Below the tabs is the 'Host Parameters' section, which contains the following fields:

- Label: FTPDEFAULT [the label for this host]
- Address: FTPDEFAULT [the DNS name or IP address and port]
- Max. Operations: 5 [max. concurrent FTP operations]
- Timeout: [enable host timeout]
- Expected Throughput: 3.000 [Minimum expected throughput, in MB/s]
- Pad Time: 30 [seconds]
- Auto Retry: [enable automatic retry when Host is suspended]
- Retry Interval: 120 [seconds]

At the bottom of the 'Host Parameters' section, there are two buttons: 'Apply Changes' (with a green checkmark) and 'Reset Form' (with a red X).

Below the 'Host Parameters' section is the 'LOCAL Host Configurations' section, which contains the following fields:

- Max. Operations: 5 [max. concurrent local operations]
- Timeout: [enable host timeout]
- Expected Throughput: 3.000 [Minimum expected throughput, in MB/s]
- Pad Time: 30 [seconds]
- Auto Retry: [enable automatic retry when Host is suspended]
- Retry Interval: 120 [seconds]

A yellow box on the left side of the screenshot contains the following text:

Comparisons:
The **SCPDefault** and **FTPDefault** host parameters information displays the same fields. The **LOCAL** host configurations has no Label or IP Address data requirement.

Red arrows point from the 'Label' and 'Address' fields in the 'Host Parameters' section to the 'LOCAL Host Configurations' section, indicating that these fields are not present in the LOCAL configuration.

Figure 13.5-9. Host Configuration Details Page

- FTP and SCP Hosts details display is similar.
 - The LOCAL Host Configuration page is displayed with varying information.
- 4 Edit the desired fields, then click the **Apply Changes** button at the bottom of the screen.
 - Changes will be implemented.

13.5.4 File System Configuration

The File System Configuration page allows the operator to configure warning and suspension thresholds for any configured Archive or Data Pool File Systems. This page displays related information for both file systems, as illustrated in Figure 13.5-10:

File System Configuration			
[HELP]			
XMLArchive /stornext/smallfiles			
Cache Warning Threshold	The percentage of cache used which will trigger an operator alert	<input type="text" value="88"/>	[percent]
Cache Full Threshold	The percentage of cache used which will trigger an operator alert and suspend the Archive File System	<input type="text" value="99"/>	[percent]
Cache Warning Low Watermark	The percentage of cache used that will clear the Archive Cache Warning Alert	<input type="text" value="85"/>	[percent]
Cache Full Low Watermark	The percentage of cache used that will clear the Archive Cache Full Alert	<input type="text" value="95"/>	[percent]
Amfs1 /stornext/amfs1/			
Cache Warning Threshold	The percentage of cache used which will trigger an operator alert	<input type="text" value="76"/>	[percent]
Cache Full Threshold	The percentage of cache used which will trigger an operator alert and suspend the Archive File System	<input type="text" value="80"/>	[percent]
Cache Warning Low Watermark	The percentage of cache used that will clear the Archive Cache Warning Alert	<input type="text" value="60"/>	[percent]
Cache Full Low Watermark	The percentage of cache used that will clear the Archive Cache Full Alert	<input type="text" value="70"/>	[percent]
Browfs /stornext/browfs/			
Cache Warning Threshold	The percentage of cache used which will trigger an operator alert	<input type="text" value="90"/>	[percent]
Cache Full Threshold	The percentage of cache used which will trigger an operator alert and suspend the Archive File System	<input type="text" value="99"/>	[percent]
Cache Warning Low Watermark	The percentage of cache used that will clear the Archive Cache Warning Alert	<input type="text" value="88"/>	[percent]
Cache Full Low Watermark	The percentage of cache used that will clear the Archive Cache Full Alert	<input type="text" value="95"/>	[percent]
Snfs1 /stornext/snfs1/			
Cache Warning Threshold	The percentage of cache used which will trigger an operator alert	<input type="text" value="90"/>	[percent]
Cache Full Threshold	The percentage of cache used which will trigger an operator alert and suspend the Archive File System	<input type="text" value="99"/>	[percent]
Cache Warning Low Watermark	The percentage of cache used that will clear the Archive Cache Warning Alert	<input type="text" value="88"/>	[percent]
Cache Full Low Watermark	The percentage of cache used that will clear the Archive Cache Full Alert	<input type="text" value="95"/>	[percent]
<input checked="" type="checkbox"/> Update <input checked="" type="checkbox"/> Reset			
[HELP]			
DataPool File System			
Warning Threshold	The percentage of cache used which will trigger an operator alert	<input type="text" value="90"/>	[percent]
Warning Low Watermark	The percentage of cache used that will clear the File System Warning Alert	<input type="text" value="81"/>	[percent]
<input checked="" type="checkbox"/> Update <input checked="" type="checkbox"/> Reset			

Figure 13.5-10. File System Configuration

The File System Configuration page display information is defined in the Table 13.5-6 for all fields shown on its page for the Archive and Data Pool File Systems:

Table 13.5-6. File Systems Configuration Page – Field Descriptions

Field Name – Archive File System	Entry	Description
Cache Warning Threshold	Required	The percentage of cache used which will trigger an operator alert. This must be below the Cache Full Threshold and above the Cache Warning Low Watermark.
Cache Full Threshold	Required	The percentage of cache used which will trigger an operator alert and suspend the Archive File System. This must be above the other threshold and watermarks.
Cache Warning Low Watermark	Required	The percentage of cache used that will clear the Archive Cache Warning Alert. This must be below the Cache Warning Threshold and the Cache Full Low Watermark.
Cache Full Low Watermark	Required	The percentage of cache used that will clear the Archive Cache Full Alert. This must be below the other watermark and thresholds.
Warning Threshold	Required	Warning Threshold the percentage of cache used which will trigger an operator alert.
Warning Low Watermark	Required	The percentage of cache used that will clear the File System Warning Alert.

13.5.4.1 Change File System Threshold

-
- 1** Click on the **Configuration** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Configuration** menu is expanded.
 - 2** Click on the **File Systems** link in the navigation frame of the **DPL Ingest GUI**.
 - The **File System Configuration** page (Figure 13.5-10) is displayed.
 - 3** Enter the **desired changes** in the configurable fields.
 - The change appears in the field.
 - 4** Click the **Update** button at the bottom of the page.
 - The change is accepted.
-

13.5.5 ECS Service Configuration

The operator can perform several activities from the ECS Services Configuration page (Figure 13.5-11):

- can configure parameters of ECS services (Tables 13.5-7 and 13.5-8), on a host-specific basis;
- can be set a default checksum type and algorithm for use by the checksumming service hosts;
- with proper functionality configuration, can allow the operator to select the host from which AIM will be run,

NOTE: The initial **ECS Services Configuration** page (Figure 13.5-11) is a listing (view) only page. Modifications cannot be made from this page unless by an authorized operator. The list shows which services are enabled for each host.

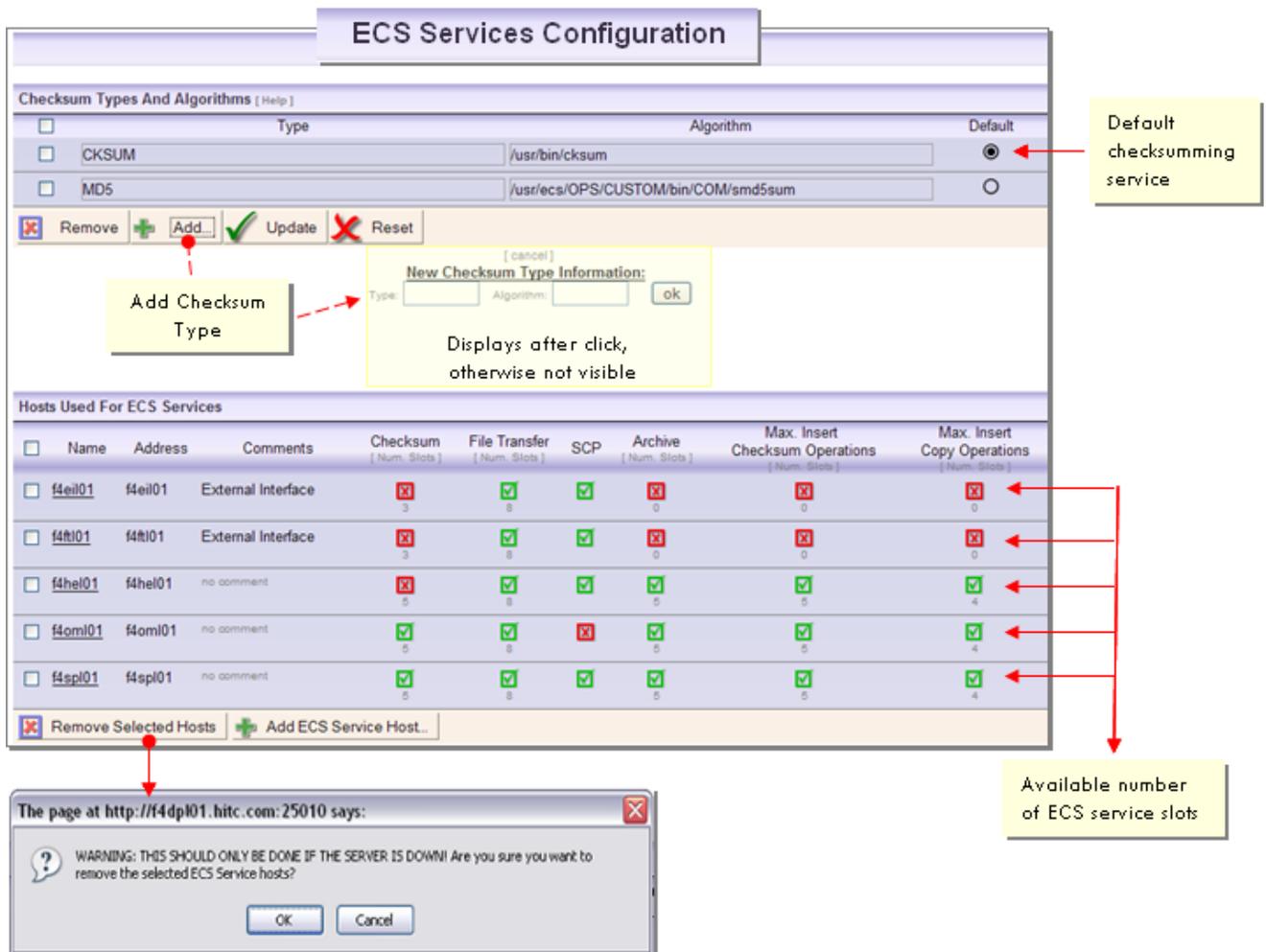


Figure 13.5-11. ECS Services Configuration Page

The **ECS Services Configuration** page contains the following two sections:

1. **Checksum Types and Algorithm Configuration.** The operator can add, edit, and delete checksum types and their specific algorithms, and specify if the checksum type will be used as the default type.
2. **Host Used For ECS Services.** The operator can view, add, and edit the attributes of the ECS Service host and can configure each of the services that run on that host.

Table 13.5-7 provides a detailed description of the Host Used for ECS Services:

Table 13.5-7. ECS Services Configuration Field Description

Field Name	Description
Name	The unique name given for this ECS Service Host
Address	The IP address or DNS name and port of the host
Comments	Any descriptive comment text given for this host.
Checksum	Each of these ECS Services is indicated by checkmark as enabled (green <input checked="" type="checkbox"/>) or disabled (red <input type="checkbox"/>) for each host. The number associated with each indicator represents the number of available service slots.
File Transfer	
SCP	
Archive	
Band Extractions	
Max. Insert Checksum Operations	The maximum number of Insert Checksum Operations that will be performed by this host (checksum performed before archiving)
Max. Insert Copy Operations	The maximum Insert Copy operations that will be performed by this host.

The ECS Services Configuration page allows the Full-Capability Operator the ability to configure other attributes of the ECS Service Hosts from the ECS Service Configuration: Add Service Host details page (Figure 13.5-12). Table 13.5-8 provides a detailed description of the Add Service Host details page.

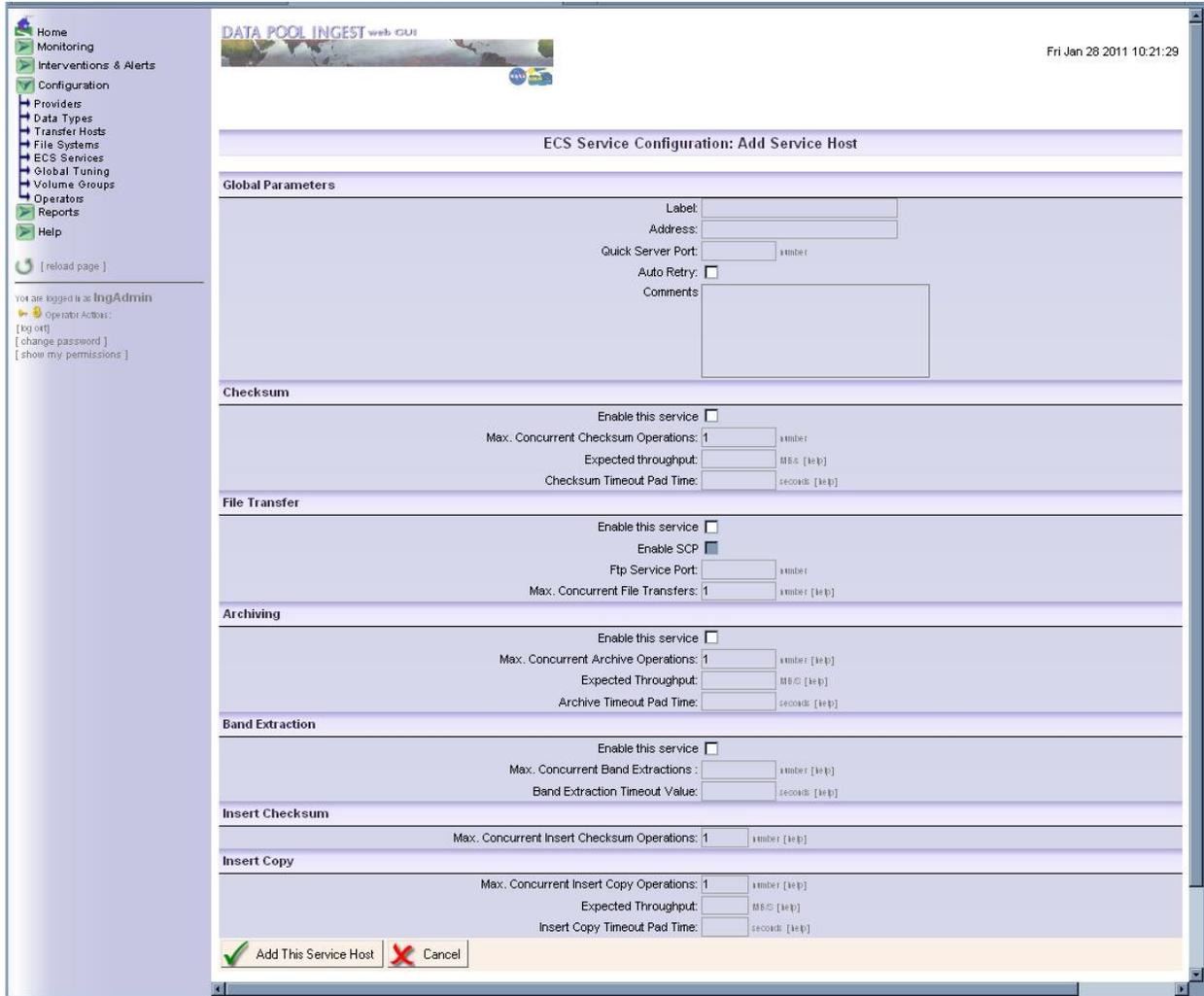


Figure 13.5-12. ECS Services Configuration: Add Service Host Page

**Table 13.5-8. ECS Services Configuration: Add Service Host - Field Descriptions
(1 of 2)**

Field Name	Entry	Description
Global Parameters		
Label	Required	A unique name for the ECS Service host, preferably based on the actual host name.
Address	Required	The IP address (e.g., 127.5.2.88) or canonical name (e.g., f4eil01.hitc.com) of the host.
Quick Server Port	Required	The Quick Server port number associated with this service. Hint: the Quick Server port can be determined by looking at the Quickserver's configuration file.
Auto Retry	Optional	Whether or not to automatically retry processing of actions for all services enabled on this host.
Comment	Optional	The description of the host and its services.
Checksum		
Enable this service	Optional	Whether or not to use this service.
Max. Concurrent Checksum Operations	Required if enabled	The maximum number of concurrent checksum operations that may be performed on this host at any one time.
Expected Throughput	Required if enabled	The expected data throughput for checksum operations. This is to identify stuck operations,
Checksum Timeout Pad Time	Required if enabled	The additional delay for a checksum operation before it is considered timed-out.
File Transfer		
Enable this service	Optional	Whether or not to use this service.
Enable SCP	Optional	Whether or not to use SCP as the file transfer method. This service takes effect only if "Enable this service" is checked.
Ftp Service Port	Required if enabled	The Ftp Service port number associated with this service. Hint: the Ftp Service port can be determined by looking at the FtpService's configuration file.
Max. Concurrent File Transfers	Required if enabled	The maximum number of concurrent files transfers that may be executed on this host.
Archiving		
Enable this service	Optional	Whether or not to use this service.
Max. Concurrent Archive Operations	Required if enabled	The maximum number of concurrent archive operations that may be executed on this host.
Expected Throughput	Required if enabled	The expected data throughput for archive operations. This is to identify stuck operations.
Archive Timeout Pad Time	Required if enabled	The additional delay for an archive operation before it is considered timed-out.

**Table 13.5-8. ECS Services Configuration: Add Service Host - Field Descriptions
(2 of 2)**

Field Name	Entry	Description
Band Extraction		
Enable this service	Optional	Whether or not to use this service.
Max. Concurrent Band Extractions	Required if enabled	The maximum number of concurrent band extraction operations that may be executed on this host.
Band Extraction Timeout Value	Required if enabled	The number of seconds for a band extraction operation before it is considered timed-out.
Insert Checksum		
Max. Concurrent Insert Checksum Operations	Optional	The maximum number of concurrent Insert Checksum operations that may be executed on this host.
Insert Copy		
Max. Concurrent Insert Copy Operations	Required	The maximum number of concurrent Insert Copy operations that may be executed on this host.
Expected Throughput	Required	The expected data throughput for Insert Copy operations. This is to identify stuck operations.
Insert Timeout Pad Time	Required	The additional delay for an Insert Copy operation before it is considered timed-out.

13.5.5.1 Remove Checksum Type

- 1 Click on the **Configuration** link of the **DPL Ingest GUI**.
 - The **Configuration** menu is expanded.
- 2 Click on the **ECS Services** link.
 - The **ECS Services Configuration** page is displayed (Figure 13.5-11).
 - The **ECS Services Configuration** page is a view only page. Individual settings cannot be entered using this initial page view.
- 3 In the **Checksum Types And Algorithms** section, click the checkbox next to the checksum type to be removed (multiple selections are accepted).
 - A checkmark appears in the checkbox.
- 4 Click on the **Remove** button.
 - A Confirmation prompt is displayed. Click **OK**.
 - The selected checksum(s) is removed.

13.5.5.2 Add Checksum Type

NOTE: There are two time-out parameters that the Ingest Service uses to determine when an operation should be considered overdue (i.e., timed-out) and cancels it. The two parameters are: (1) the expected throughput; (2) the time out pad time.

The Ingest Service will calculate the expected time of the operation for a granule by dividing the granule size by the expected throughput, and then add the time out padding. These parameters are only used to determine when an operation should be considered hung, so both the expected throughput and the time-out padding should be chosen pessimistically to avoid canceling operations that are just slow because of concurrent heavy workload.

- 1 Click on the **Configuration** link in the navigation frame of the **DPL Ingest GUI**.
 - 2 Click on the **ECS Services** link of the **Configuration** menu.
 - The **ECS Services Configuration** page is displayed.
 - 3 In the **Checksum Types And Algorithms** section, click on the **Add** button.
 - The **New Checksum Type Information** screen (and its two input boxes) is displayed in the white space portion of the **Checksum Types And Algorithms** section.
 - 4 In the **New Checksum Type Information** section, click in the in the input box next to **Type**. Enter the **Checksum Type** information.
 - The checksum type entered will be displayed in the **Type** field.
 - 5 In the **New Checksum Type Information** section, click in the input box next to **Algorithm**. Enter the **Algorithm** information.
 - The Algorithm entered will be displayed in the **Algorithm** field.
 - 6 Click on the **ok** button.
 - The new checksum type and algorithm will be added to the **ECS Services Configuration** page.
 - 7 In the **Checksum Types And Algorithms** section of **ECS Services Configuration** page, review the default setting for the checksum. If the setting is not what you want, click on the desired **Checksum Default** button.
 - The desired default **Checksum Types and Algorithms** will be selected.
-

13.5.5.3 Add an ECS Service Host Type

- 1 Click on the **Configuration** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Configuration** menu is expanded.
- 2 Click on the **ECS Services** link in the navigation frame of the **DPL Ingest GUI**.
 - **The ECS Services Configuration** page is displayed.
- 3 In the **Hosts Used For ECS Services**, Click on the **Add ECS Service Host** button.
 - The **ECS Services Configuration: Add Service Host** page (Figure 13.5-13 is displayed).

DATA POOL INGEST web GUI

Fri Jan 28 2011 10:21:29

ECS Service Configuration: Add Service Host

Global Parameters

Label:
Address:
Quick Server Port: number
Auto Retry:
Comments:

Checksum

Enable this service
Max. Concurrent Checksum Operations: number
Expected throughput: MB/s [help]
Checksum Timeout Pad Time: seconds [help]

File Transfer

Enable this service
Enable SCP
Ftp Service Port: number
Max. Concurrent File Transfers: number [help]

Archiving

Enable this service
Max. Concurrent Archive Operations: number [help]
Expected Throughput: MB/s [help]
Archive Timeout Pad Time: seconds [help]

Band Extraction

Enable this service
Max. Concurrent Band Extractions: number [help]
Band Extraction Timeout Value: seconds [help]

Insert Checksum

Max. Concurrent Insert Checksum Operations: number [help]

Insert Copy

Max. Concurrent Insert Copy Operations: number [help]
Expected Throughput: MB/s [help]
Insert Copy Timeout Pad Time: seconds [help]

Add This Service Host

Figure 13.5-13. ECS Services Configuration: Add Service Host Page

- 4 In the **Global Parameters** section, perform the following to enter the server parameters:
- Click the **Label** textbox. Enter a **unique name** for the ECS Service host.
 - Existing names will be rejected by the database.
 - Click the **Address** textbox. Enter the **IP Address** (or the name) of the ECS Service host.
 - Click the Quick Server **Port** textbox. Enter the Quick Server **port number** associated with the service ECS Service host.
 - The port can be determined by looking at the quickserver's configuration file.
 - Click the **Auto Retry** (optional) checkbox. A checkmark displays
 - All services enabled will automatically retry processing in the event of failure.
 - Click the **Comments** (optional) textbox. Enter a **description of the host** and its services.
- 5 In the Checksum section, perform the following configurations:
- Click the checkbox next to the **Enable this service** (optional) label. A checkmark displays.
 - If Checksum is enabled, complete the next steps, otherwise, go to step 6.
 - Click the **Max. Concurrent Checksum Operations** textbox. Enter the **maximum number of checksum operations** that may be performed on this host at any one time.
 - Click the **Expected Throughput** textbox. Enter the expected data throughput (MBs) for checksum operations. This will help to identify stuck operations.
 - Click the **Checksum Timeout Pad Time** field. Enter additional delay time for a checksum operation before it is considered timed-out.

- 6 In the **File Transfer** section, perform the following configurations:
 - Click in the checkbox next to the **Enable this service** (optional) label. A checkmark displays.
 - If File Transfer is enabled, complete the next steps, otherwise, go to step 7.
 - Click the checkbox next to **the Enable SCP** label. A checkmark displays.
 - Click the Max. Concurrent File Transfers field. Enter the Ftp Service Port number and the maximum number of concurrent file **transfers** that may be executed on this host at any one time.
- 7 In the **Archiving** section, perform the following configurations:
 - Click the checkbox next to the **Enable this service** (optional) label. A checkmark displays.
 - If Archiving is enabled, complete the next steps, otherwise, go to step 23.
 - Click the **Max. Concurrent Archive Operations** field. Enter the maximum number of archive operations that may be performed on this host at any one time.
 - Click the **Expected Throughput** field. Enter the expected data throughput (MBs) for archive operations. This will help to identify stuck operations.
 - Click the **Archive Timeout Pad Time** field. Enter additional delay time for an archive operation before it is considered timed-out.
- 8 In the **Band Extraction** section, perform the following configurations:
 - Click the checkbox next to the **Enable this service** (optional) label. A checkmark displays.
 - Click the **Max. Concurrent Band Extraction** field. Enter the maximum number of Band Extractions that may be performed on this host at any one time.
 - Click the **Band Extraction Timeout Value** field. Enter additional delay time for an Band Extraction operation before it is considered timed-out.
- 9 In the **Insert Checksum** section, perform the following configurations:
 - Click the **Max. Concurrent Insert Checksum Operations** field and enter the **maximum number of concurrent checksum operations** that may be executed on this host at any one time.
- 10 In the **Insert Copy** section, perform the following configurations:
 - Click the **Max. Concurrent Insert Copy Operations** field. Enter the maximum number of concurrent Insert Copy Operations that may be performed on this host at any one time.
 - Click the **Expected Throughput** field. Enter the expected data throughput (MBs) for Insert Copy operations. This will help to identify stuck operations.

- Click the **Insert Copy Timeout Pad Time** field. Enter additional delay time for an Insert Copy operation before it is considered timed-out.
- 11** Select the **Add This Service Host** button at the bottom of the page.
 - A Confirmation prompt is displayed. Select **OK**.
 - The new entry will be displayed on the **ECS Service Configuration** page.
-

13.5.5.4 Edit an ECS Service Host Type

- 1** Click on the **Configuration** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Configuration** menu is expanded.
 - 2** Click on the **ECS Services** link in the navigation frame of the **DPL Ingest GUI**.
 - **The ECS Services Configuration** page is displayed.
 - 3** In the **Hosts Used For ECS Services**, click on the name of the **ECS Service Host** to be edited.
 - The **ECS Services Configuration: Service Host Detail [Name]** page is displayed.
 - Any or all parameters listed on the **ECS Services Configuration: Service Host Detail [Name]** page can be edited from this page.
 - 4** In the **Global Parameters** section, enter the desired changes.
 - 5** In the **Checksum** section, enter the desired changes.
 - 6** In the **File Transfer** section, enter the desired changes.
 - 7** In the **Archiving Service** section, enter the desired changes.
 - 8** In the **Band Extraction Service** section, enter the desired changes.
 - 9** In the **Insert Checksum** section, enter the desired changes.
 - 10** In the **Insert Copy Service** section enter the desired changes.
 - 11** Select the **Apply Changes** button at the bottom of the page.
 - A Confirmation prompt is displayed. Select **OK** to implement changes.
-

13.5.6 Global Tuning Configuration

The Global Tuning link allows the operator to configure the Parameter Name and Value of the global tuning parameters in the Data Pool Ingest database. The parameters are listed along with their descriptions in Table 13.5-9.

There are three sections of the Global Tuning page. The first section titled Global Admin Tuning Parameter Configuration consists of tuning parameters that can be edited by an operator with Ingest Admin Tuning privileges. The second section titled Global Tuning Parameter Configuration requires Tuning privileges. The third section titled Database Connection

Configuration requires Tuning privileges. If the logged in operator does not have permission to edit a section, the fields and buttons for that section will be disabled.

Dynamic parameters are those that are applied to the Ingest Service without having to restart the Ingest Service. The Ingest Service will automatically apply these parameters within 1 minute of having been set in the database. Static parameters are those that require the Ingest Service to be restarted.

Table 13.5-9. Global Tuning Parameter Descriptions (1 of 4)

Parameter Name	Dynamic/ Static	Description
Global Admin Tuning Parameter Configuration:		
ARCHIVE_CACHE_CHECK_INTERVAL	Dynamic	Number of seconds between checks on archive cache.
DAYS_TO_KEEP_COMPLETED_NOTIFICATIONS	Dynamic	Number of days to keep completed notifications in InNotification table
DEFAULT_ALERT_RETRY_SECS	Dynamic	Default number of seconds to wait in between retrying a situation that caused a suspension
ENABLE_NOTIFICATION_PERFORMANCE_LOG	Dynamic	Indicates whether notification performance log has been enabled
ENABLE_POLLING_PERFORMANCE_LOG	Dynamic	Indicates whether polling performance log has been enabled
ENABLE_PROCESSING_PERFORMANCE_LOG	Dynamic	Indicates whether processing performance log has been enabled
FAIL_MULTIPLE_LINKAGE_PH_GRANULE	Dynamic	Indicate whether to fail PH granules with linkage error due to multiple science granules referenced by a single local granule id.
GET_DPL_SPACE_MINS	Dynamic	Number of minutes to wait in between refreshing DPL free space info
HANDLE_MULTIPLE_LINKAGE_GRANULE	Dynamic	Indicates whether to fail (FAIL), to link to most recent insertTime (RECENT), to invoke and Operator Intervention (INTERV) for a Browse, PH, or QA granule which references multiple science granules by a single local granule id
MAX_NUM_FILES_IN_VOLUME_GROUP	Dynamic	Maximum number of files in a volume group
MAX_RETRY_CHECKSUM_VERIFY	Dynamic	Maximum number of allowable retries for a checksum verification error

Table 13.5-9. Global Tuning Parameter Descriptions (2 of 4)

Parameter Name	Dynamic/ Static	Description
MINS_TO_KEEP_COMPLETED_MESSAGES		Number of minutes to keep completed messages in the database
MINS_TO_KEEP_COMPLETED_REQS	Dynamic	Number of minutes before a completed request qualifies for archival
MONTHS_TO_KEEP_HIST_STATS_ALERTS	Dynamic	The retention time in months for keeping historic information for requests, alerts and throughput statistics
NUM_RETRIES_UR_ERROR	Dynamic	Number of times to retry UR Translation due to an error
RETRY_SECS_UR_ERROR	Dynamic	Number of seconds to wait in between retrying UR Translation on error
VOLUME_GROUP_MONITOR_INTERVAL	Dynamic	Time interval in house for processing server to monitor volume group changes
Global Tuning Parameter Configuration:		
CUSTOM_DATA_LOG_FULL_THRESHOLD	Dynamic	The percentage of space used which will trigger an operator warning alert on CUSTOM data log directory
DEFAULT_NUM_RETRIES	Dynamic	Default number of retries for an error condition where no error-specific number exists
DEFAULT_RETRY_INTERVAL	Dynamic	Default retry interval (seconds) where no error-specific interval exists
EDOS_SUCCESSFUL_PAN_DIR	Dynamic	EDOS directory in which successful PANs are to be stored
FAILED_CHECKSUM_HOLDING_DIR	Dynamic	Location of files that failed checksum verification. This directory needs to be monitored and when necessary, cleaned up.
IGNORE_ARCHIVE_ALERT	Dynamic	Still activate requests independent of archive status.
IGNORE_DPL_FS_DOWN	Dynamic	Indicates whether or not we activate requests that use a suspended file system

Table 13.5-9. Global Tuning Parameter Descriptions (3 of 4)

Parameter Name	Dynamic/ Static	Description
IIU_TIMEOUT_VALUE	Dynamic	The amount of time the server will wait for a request to IIU before assuming the request is lost
MAX_CONCURRENT_PREPROCESS	Dynamic	Maximum number of concurrent preprocessing operations
MAX_CONCUR_DPL_INSERT	Static	Maximum number of allowed concurrent DPL Insert processes for Ingest
MAX_CONCUR_IIU_PROCESSES	Dynamic	Maximum number of allowed concurrent IIU processes for Ingest
MAX_CONCUR_PDR_VALIDATIONS	Dynamic	Maximum number of allowed concurrent PDR validations for Ingest
MAX_CONCUR_SCP_OPS	Dynamic	Max number of concurrent SCP ops
MAX_CONCUR_XVU_PROCESSES	Dynamic	Maximum number of allowed concurrent XVU processes for Ingest
MAX_CONSEC_FS_ERRORS	Dynamic	Maximum number of permissible file system access errors for different granules prior to raising an alert
MAX_CONSEC_XFER_ERRORS	Dynamic	Maximum number of permissible transfer errors for different files (including PAN/PDRD) prior to raising an alert
MAX_CONSEC_XFER_ERRORS_PDR	Dynamic	Maximum number of permissible PDR transfer errors for different files prior to raising an alert
MAX_GRANS_WITH_SERV_ERR	Dynamic	Maximum of allowable number of the same type of error for an ECS service for different granules prior to raising an alert for that ECS Service
PROCESSING_MAX_GRANS	Dynamic	Maximum number of granules that can be in processing at once
PROCESSING_MAX_VOLUME	Dynamic	Maximum amount of data in MB that can be in processing at once
SMTP_HOST	Dynamic	Host on which the SMTP server resides

Table 13.5-9. Global Tuning Parameter Descriptions (4 of 4)

Parameter Name	Dynamic/ Static	Description
THROUGHPUT_STATS_INTERVAL	Dynamic	Number of minutes at which throughput statistics will be recorded
VALIDATION_WARNINGS_DIR	Dynamic	Directory where we will store metadata files for granules which had validation warnings returned by the XVU. This directory needs to be monitored and when necessary, cleaned up. Note: the directory is not automatically cleaned up it must be maintained manually.
VALIDATION_WARNINGS_EMAIL	Dynamic	Comma separated list of email addresses to send granule validation warnings to.
XVU_TIMEOUT_VALUE	Dynamic	The amount of time the server will wait for a request to XVU before assuming the request is lost
Database Connection Configuration		
MAX_AIM_DB_CONN	Dynamic	Maximum database connection pool size for AIM DB
MAX_DPL_DB_CONN	Dynamic	Maximum database connection pool size for DPL DB
MAX_INGEST_DB_CONN	Dynamic	Maximum database connection pool size for Ingest DB
MAX_SSS_DB_CONN	Dynamic	Maximum database connection pool size for SSS DB
MIN_AIM_DB_CONN	Dynamic	Minimum database connection pool size for AIM DB
MIN_DPL_DB_CONN	Dynamic	Minimum database connection pool size for DPL DB
MIN_INGEST_DB_CONN	Dynamic	Minimum database connection pool size for Ingest DB
MIN_SSS_DB_CONN	Dynamic	Minimum database connection pool size for SSS DB

13.5.6.1 Change Global Tuning Parameters

- 1 Click on the **Configuration** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Configuration** menu is expanded.
- 2 Click on the **Global Tuning** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Global Tuning** page is displayed (Figure 3.5-14).

Dynamic parameters indicators (green curled arrow)

Global Admin Tuning Parameter Configuration		
Parameter Name	Description	Value
ARCHIVE_CACHE_CHECK_INTERVAL	Number of seconds between checks of archive cache	120
DAYS_TO_KEEP_COMPLETED_NOTIFICATIONS	Number of days to keep completed notifications in notification table	2
DEFAULT_ALERT_RETRY_SECS	Default number of seconds to wait in between retrying a situation that caused a suspension	60
ENABLE_NOTIFICATION_PERFORMANCE_LOG	Indicates whether notification performance log has been enabled	<input type="checkbox"/>
ENABLE_POLLING_PERFORMANCE_LOG	Indicates whether polling performance log has been enabled	<input type="checkbox"/>
Apply Changes Reset		

Global Tuning Parameter Configuration		
Parameter Name	Description	Value
CUSTOM_DATA_LOG_FULL_THRESHOLD	The percentage of space used which will trigger an operator warning alert on CUSTOM data log directory	93
DEFAULT_NUM_RETRIES	Default number of retries for an error condition where no error-specific number exists	3
DEFAULT_RETRY_INTERVAL	Default retry interval (seconds) where no error-specific interval exists	30
EDOS_SUCCESSFUL_PAN_DIR	EDOS directory in which successful PANs are to be stored	/usr/ecs/OPS/CUSTOM/d...
FAILED_CHECKSUM_HOLDING_DIR	Location of files that failed checksum verification	/usr/ecs/OPS/CUSTOM/d...
IGNORE_ARCHIVE_ALERT	Still archive requests independent of archive status	<input checked="" type="checkbox"/>
Apply Changes Reset		

Database Connection Configuration		
Parameter Name	Description	Value
MAX_AIM_DB_CONN	Maximum database connection pool size for AIM DB	10
MAX_DPL_DB_CONN	Maximum database connection pool size for DPL DB	10
MAX_INGEST_DB_CONN	Maximum database connection pool size for Ingest DB	40
MAX_SSS_DB_CONN	Maximum database connection pool size for SSS DB	10
Apply Changes Reset		

Figure 13.5-14. Global Tuning Page

Note: Operator must have Ingest Admin or Tuning privileges to make changes on this page.

- The **Global Tuning** is page divided into the following three sections:

1. **Global Admin Tuning Parameter Configuration.**

2. Global Tuning Parameter Configuration.

3. Database Connection Configuration.

- 3 Click in the **Value** field and enter the desired change for the selected parameter.
 - The change is displayed as entered.
- 4 Click on the **Apply Changes** button found in each section.
 - A Confirmation prompt is displayed. Select **OK to apply changes**.

NOTE: The directories for Failed_Checksum_Holding_DIR and Validation_Warning_DIR need to be routinely monitored. These directories require a manual cleanup.

13.5.7 Configure Volume Groups

The Volume Group configuration in the DPL Ingest GUI was developed to duplicate the functionality in the decommissioned STMGT GUI tab with minor refinements and enhancements. The **Volume Groups Configuration** page (Figure 13.5-15) displays the list of currently configured volume groups. This alphabetical listing is displayed on one scrollable-page by Data Type Shortname. You can search for a desired data type by using the browser's built-in search function.

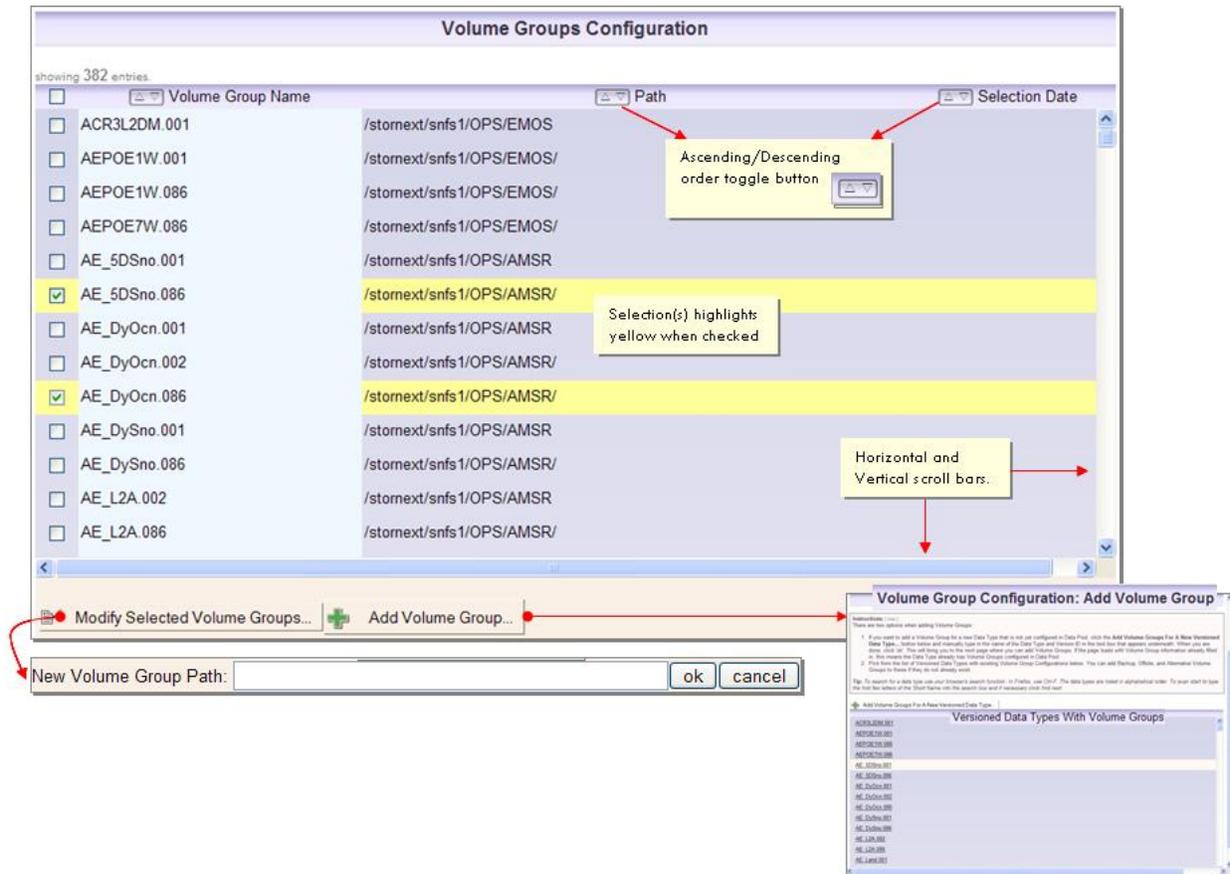


Figure 13.5-15. Volume Groups Configuration (listing page)

The **Volume Groups Configuration** page is divided into three distinct columns that provide important information about a particular **Volume Group**:

1. **Volume Group Name.**
2. **Path.**
3. **Selection Date.**

The bottom of the **Volume Groups Configuration** page has buttons to add a new volume group or to modify existing volume groups.

Table 13.5-10 contains a description of the fields contained on the **Volume Groups Configuration** page (Figure 13.5-15).

Table 13.5-10. Volume Groups Configuration Page Field Descriptions

Field Name	Entry	Description
Volume Group Name	System Generated	The name of the Volume Group based on a Data Type shortname with version identifier.
Path	System Generated	The fully qualified UNIX path to where data is stored for the specified data type.
Selection Date	System Generated	Non-NULL selection date defined for the ESDT version of which there are two volume group history sets defined for forward processing and reprocessing data respectively.
New Volume Group Path	Operator	A hidden field that is displayed when the operator clicks "Modify Selected Volume Groups" button.

An authorized Ingest Admin is authorized to add a Volume Group for a new Data Type version or add a Volume Group to an existing Data Type version. When adding a Volume Group for a new Data Type, the following rules apply:

- The Primary path information must be entered.
- **Backup Volume Group, Offsite Volume Group, or Alternative Volume Group History Set** are optional and may be entered at a later time.

Table 13.5-11 provides a description of the fields contained on the **Volume Groups Configuration: Add Volume Group** (Figure 13.5-16) and Add a Volume Group (Figure 13.5-17) pages.

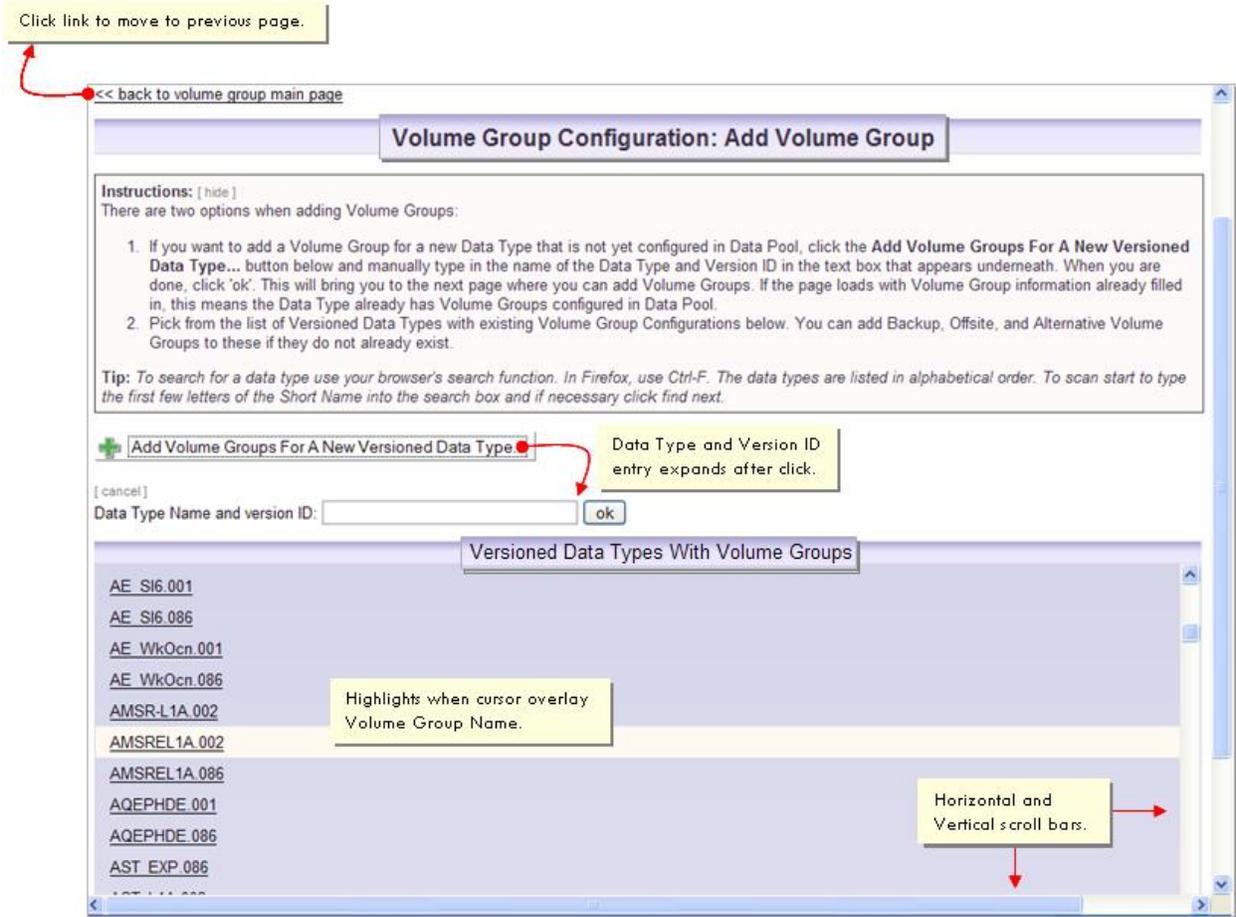


Figure 13.5-16. Volume Group Configuration: Add Volume Group Page

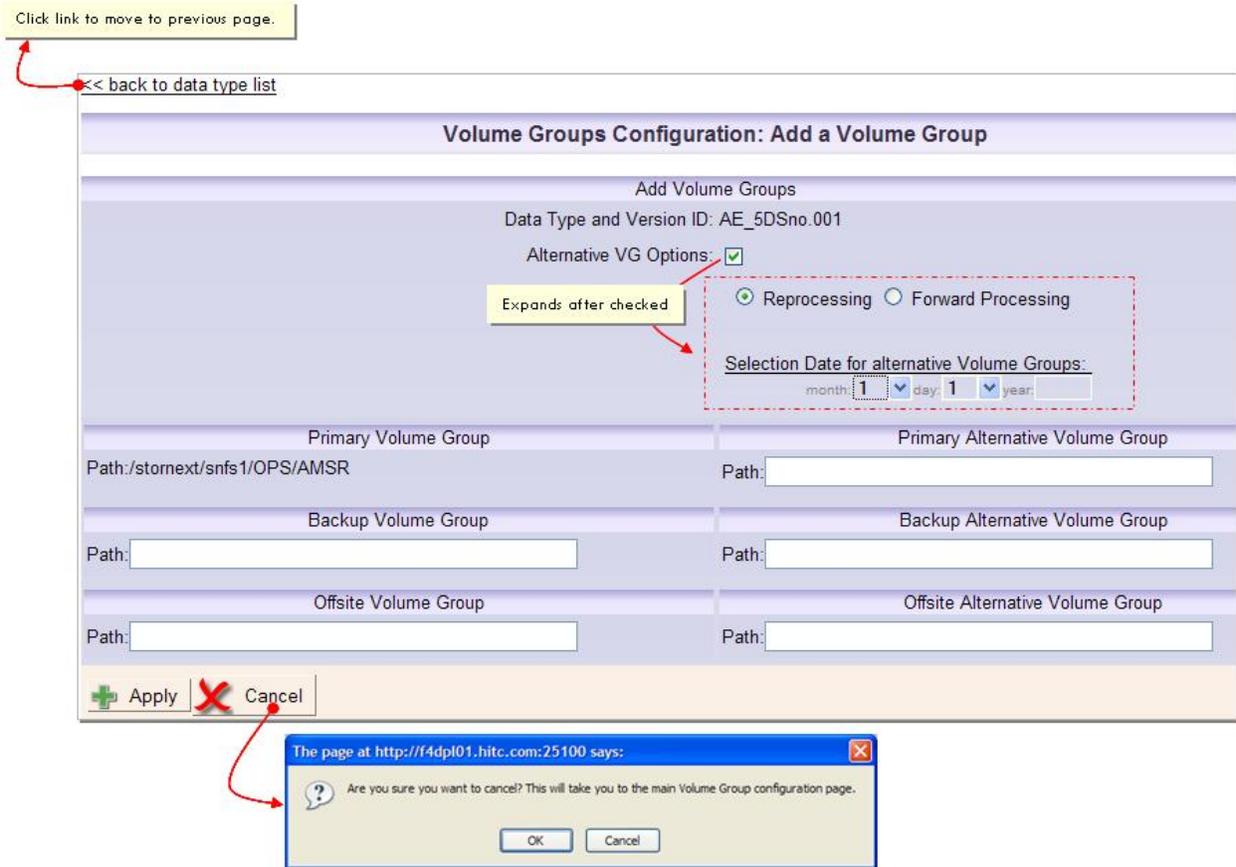


Figure 13.5-17. Volume Group Configuration: Add a Volume Group Page

Table 13.5-11. Add Volume Group Page Field Description (1 of 3)

Field Name	Data Type	Size	Entry	Description
Data Type and Version ID	Character	16	Required	A Data Type short name and version identifier.
Alternative VG Options	Checkbox	N/A	Not Required	Allows operator to enter options for alternative Volume Groups. This can only be checked if an Alternative Volume Group was specified, otherwise, the checkbox is disabled.

Table 13.5-11. Add Volume Group Page Field Description (2 of 3)

Field Name	Data Type	Size	Entry	Description
Selection Date for Alternative Volume Groups	Character	8	Required if adding Alternative Volume Group History Set	When the Alternative VG checkbox is selected, the Selection Date section is enabled and is required to be filled out by the user. Selection Date is a separate date to guide Archive Server to select a appropriate Volume Group History set for storing / retrieving data. When acquisition date is not null and less than the Selection Date, Reprocessing Volume Group history set will be used, otherwise, forward processing Volume Group history set will be used.
Reprocessing, Forward Processing	Option Buttons	N/A	Required if adding Alternative Volume Group History Set	Alternative volume groups can be configured either for Reprocessing or even for Forward Processing. Default is for Reprocessing. Although the flexibility to add a new alternative for forward processing is supported, it should be used with a great caution.
Primary Volume Group Path:	Character	Unlimited	Required	The fully-qualified UNIX path to where data is currently being stored for the specified data type to the Primary Archive.
Backup Volume Group Path:	Character	Unlimited	Required if Backup enabled	The fully-qualified UNIX path to where data is currently being stored for the specified data type to the Backup Archive.
Offsite Volume Group Path:	Character	Unlimited	Required if Offsite enabled	The fully-qualified UNIX path to where data is currently being stored for the specified data type to the Offsite Archive.
Primary Alternative Volume Group Path:	Character	Unlimited	Required if Primary Alternative enabled	The fully-qualified UNIX path to where reprocessing data is currently being stored for the specified data type to the Primary Alternative Archive.

Table 13.5-11. Add Volume Group Page Field Description (3 of 3)

Field Name	Data Type	Size	Entry	Description
Backup Alternative Volume Group Path:	Character	Unlimited	Required if Backup Alternative enabled	The fully-qualified UNIX path to where data is currently being stored for the specified data type to the Backup Alternative Archive.
Offsite Alternative Volume Group Path:	Character	Unlimited	Required if Offsite Alternative enabled	The fully-qualified UNIX path to where data is currently being stored for the specified data type to the Offsite Alternative Archive.

When a Volume Group is added, the name will be created based on the type of Volume Group that was added. There are six types, as explained in Table 13.5-12. Note that “R” indicates an alternative Volume Group for reprocessing. There is no explicit suffix for forward processing.

Table 13.5-12. Volume Group Naming

Volume Group Type	Extension	Example
Primary	none	AST_L1B.003
Primary Alternative	R	AST_L1B.003R
Backup	B	AST_L1B.003B
Backup Alternative	BR	AST_L1B.003BR
Offsite	O	AST_L1B.003O
Offsite Alternative	OR	AST_L1B.003OR

13.5.7.1 Add a Volume Group for a New Versioned Data Type

- 1 Click on the **Configuration** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Configuration** menu is expanded.
- 2 Click on the **Volume Groups** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Volume Groups Configuration** page is displayed (Figure 13.5-16).

- 3 Scroll to the bottom of the page and select the **Add Volume Groups** button.
 - The **Volume Groups Configuration: Add Volume Group** page is displayed (Figure 13.5.17).
- 4 Click on the **Add Volume Groups For a New Versioned Data Type**.
 - The **Data Type and version ID** field is displayed.
- 5 Click in the **Data Type and version ID** field and enter the new **Data Type and Version ID**. Select **ok**.
 - The **Volume Group Configuration: Add a Volume Group** page is displayed (Figure 13.5-17).
- 6 (Optional) Click the **Alternate VG Options** checkbox.
 - A checkmark is displayed in the checkbox.
- 7 (Optional) Click the **Reprocessing** (or **Forward Processing**) option button.
 - A mark is displayed in the selected option button.
- 8 (Optional) If the **Alternate VG Options:** box is selected; you must enter the date in the provided **Selection Date for alternate Volume Groups** area.
 - A date is displayed in the selected area provided.
- 9 Click in the **Primary Volume Group Path** edit window and enter the fully-qualified UNIX path to where data is currently being stored for the specified new data type to the Primary Archive.
 - Data is displayed in the edit window.
- 10 Click in the **Primary Alternative Volume Group Path** edit window and enter the fully-qualified UNIX path to where data is currently being stored for the specified new data type to the Primary Alternate Archive,
 - Data is displayed in the edit window.
- 11 Click in the **Backup Volume Group Path** edit window and enter the fully-qualified UNIX path to where data is currently being stored for the specified new data type to the Backup Archive.
 - Data is displayed in the edit window.
- 12 Click in the **Backup Alternative Volume Group Path** edit window and enter the fully-qualified UNIX path to where data is currently being stored for the specified new data type to the Backup Alternate Archive.
 - Data is displayed in the edit window.
- 13 Click in the **Offsite Volume Group Path** edit window and enter the fully-qualified UNIX path to where data is currently being stored for the specified new data type to the Offsite Archive.

- Data is displayed in the edit window.
- 14** Click in the **Offsite Alternative Volume Group Path** edit window and enter the fully-qualified UNIX path to where data is currently being stored for the specified new data type to the Offsite Alternate Archive.
- Data is displayed in the edit window.
- 15** Click in the **Apply** button.
- A Confirmation prompt is displayed. Select **OK**
 - The changes are applied.
-

The following rules apply when adding Volume Groups to an existing Data Type version (e.g., Backup, Offsite, etc.):

- The **Volume Group** name will be selected from the **Primary Volume Groups** page. When the **Add Volume Group** page is loaded, the Volume Group name will appear at the top.
- Any previously added **Volume Group** will be displayed, but not editable. For example, if a **Backup Volume Group** has already been added, the **Volume Group** path will be shown, but the operator will not be able to edit this path.
- Similarly, if any **Alternative Volume Groups** have been specified, the **Alternative VG** options and **Volume Groups** will be displayed, but not editable.
- If the operator is adding the **Alternative Volume Group History Set** for the first time, the **Alternative Options** must be selected and the operator may choose the processing type (Forward Processing or Reprocessing) for the **Alternative Volume Group History Set**, as well as a selection date to be applied to the **Reprocessing Volume Groups**.

13.5.7.2 Add a Volume Group for an Existing Versioned Data Type

- 1 Click on the **Configuration** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Configuration** menu is expanded.
- 2 Click on the **Volume Groups** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Volume Groups Configuration** page is displayed.
- 3 Scroll to the bottom of the page and select the **Add Volume Groups** button.
 - The **Volume Group Configuration: Add Volume Group** page is displayed (Figure 13.5-16).
- 4 Click on the desired existing **Volume Group Name**.
 - The **Volume Groups Configuration: Add a Volume Group** page (Figure 13.5-17) is displayed for the Data Type selected.
- 5 (Optional) Click on the **Alternate VG Options:** checkbox.
 - A checkmark is displayed in the checkbox.
- 6 (Optional) Click on the **Reprocessing** (or **Forward Processing**) option button.
 - A mark is displayed in the selected option button.
- 7 (Optional) If the **Alternate VG Options:** checkbox is selected; you must enter the date in the provided **Selection Date for alternate Volume Groups** area.
 - A date is displayed in the selected area provided.
- 8 Click in the **Primary Volume Group Path** edit window and enter the fully-qualified UNIX path to where data is currently being stored for the specified new data type to the Primary Archive.
 - Data is displayed in the edit window.
- 9 Click in the **Primary Alternative Volume Group Path** edit window and enter the fully-qualified UNIX path to where data is currently being stored for the specified new data type to the Primary Alternate Archive,
 - Data is displayed in the edit window.
- 10 Click in the **Backup Volume Group Path** edit window and enter the fully-qualified UNIX path to where data is currently being stored for the specified new data type to the Backup Archive.
 - Data is displayed in the edit window.
- 11 Click in the **Backup Alternative Volume Group Path** edit window and enter the fully-qualified UNIX path to where data is currently being stored for the specified new data type to the Backup Alternate Archive.

- Data is displayed in the edit window.
- 12 Click in the **Offsite Volume Group Path** edit window and enter the fully-qualified UNIX path to where data is currently being stored for the specified new data type to the Offsite Archive.
 - Data is displayed in the edit window.
 - 13 Click in the **Offsite Alternative Volume Group Path** edit window and enter the fully-qualified UNIX path to where data is currently being stored for the specified new data type to the Offsite Alternate Archive.
 - Data is displayed in the edit window.
 - 14 Click in the **Apply** button.
 - A Confirmation prompt is displayed. Select **OK**
 - The changes are applied.
-

13.5.7.3 Modify Volume Groups

- 1 Click on the **Configuration** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Configuration** menu is expanded.
 - 2 Click on the **Volume Groups** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Volume Groups Configuration** page (Figure 13.5-15) is displayed.
 - All columns on the **Volume Groups Configuration** page can be sorted in ascending or descending order. To sort on a column, click on the up or down arrow at the top of the column.
 - 3 Click in the checkbox next to the **Volume Group Name** of the desired volume group(s) to be change.
 - A checkmark is placed in the checkbox and the selection is highlighted yellow.
 - Multiple selections may be made using the <Ctrl> key.
 - 4 Scroll to the bottom of the page and select the **Modify Selected Volume Groups** button.
 - A path input field appears at the bottom of the page.
 - 5 Enter the **New Volume Group Path** in the edit field and click the **ok** button.
 - A Confirmation prompt is displayed. Select **OK**
 - The changes to the Volume Group Path will be applied.
-

13.5.8 Operator Configuration

The Operator Configuration page (Figure 13.5-18) consists of a list of operator names and their current permission settings. The security operator configures authorized users for the Data Pool Ingest GUI. Add, edit, or remove users.

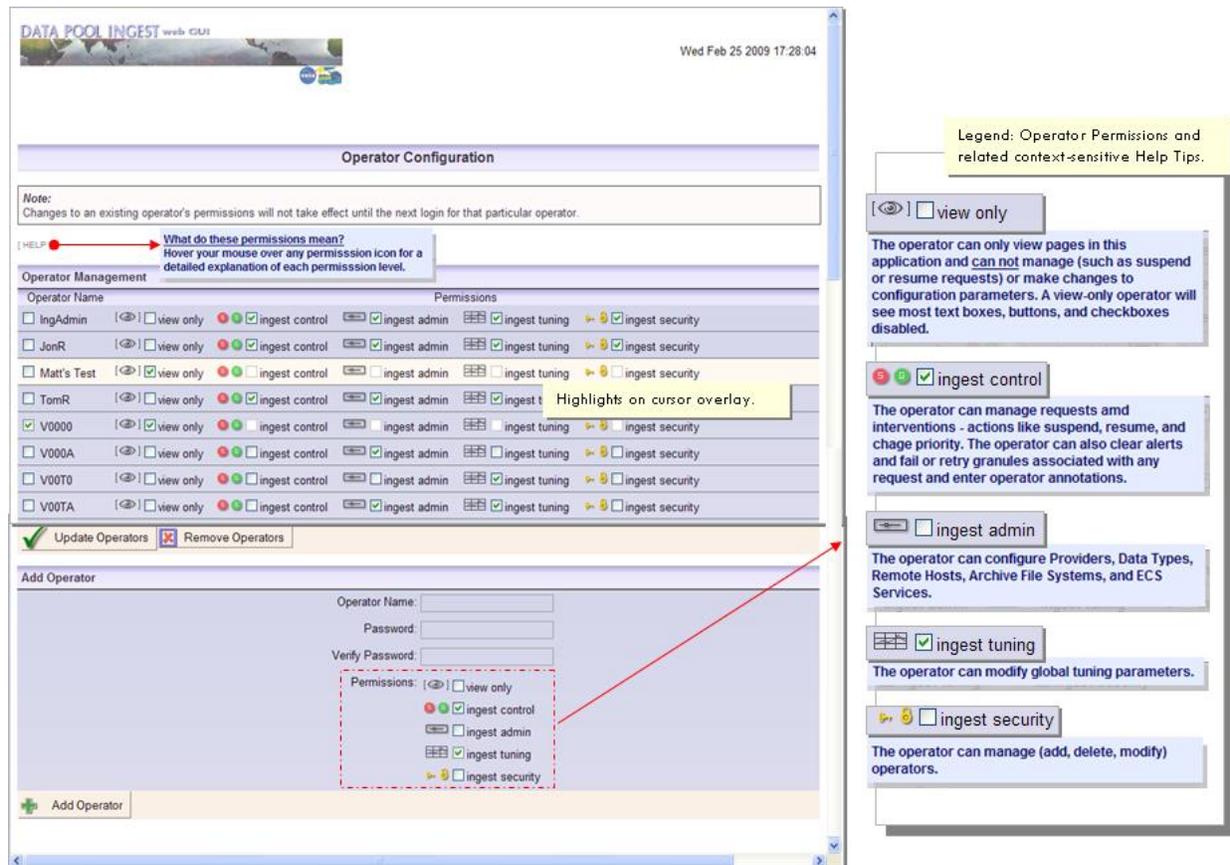


Figure 13.5-18. Operator Configuration Page

There are five permission levels. An operator assigned the view only permission level, cannot be authorized additional permissions. The other four levels can be added together as they represent the ability to manage an exclusive set of properties associated with data pool ingest. An operator may be assigned multiple permissions, other than view only. The following list reviews the five permission levels for the Data Pool Ingest GUI.

-  **View Only** – The operator cannot alter or modify anything on the GUI, nor can he/she take actions. All textboxes, checkboxes, drop-down lists, etc. are disabled.
-  **Ingest Control.** The operator can manage Ingest requests and interventions, i.e., he/she has the ability to suspend or resume requests, place on hold and close

interventions, fail or resume granules, etc. This also implies that the operator may suspend and resume services, hosts, file systems, archives, etc.

-  **Ingest Admin.** The operator can alter general configuration parameters such as SCP/FTP Host configuration, providers, data types, etc. This level of operator cannot modify tuning parameters.
 -  **Ingest Tuning.** The operator can alter global and host-specific tuning configuration parameters.
 -  **Security Admin.** The operator can maintain security-related information like passwords and operators.
-

13.5.8.1 Modify Operator Permission Settings

- 1 Click on the **Configuration** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Configuration** menu is expanded.
- 2 Click on the **Operators** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Operator Configuration** page is displayed.
 - All Operators and their current Permission settings are displayed.
 - Changes to this page can only be made if you have **Security Admin** permissions.
- 3 Click in the checkbox next to the **Operator Name** of the desired operator to change permissions.
 - Multiple selections may be made.
 - A checkmark must be visible before further changes can be made.
- 4 Click in the checkbox next to the desired permission.
 - A checkmark is displayed in the checkbox.
 - Scroll to the bottom of the **Operator Management** section and click on the **Update Operators** button.
 - A Confirmation prompt is displayed. Select **OK**.

NOTE: Changes to an existing operator's permissions will not take effect until the next login by that particular operator.

13.5.8.2 Add Operator Permissions

- 1 Click on the **Configuration** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Configuration** menu is expanded.
 - 2 Click on the **Operators** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Operator Configuration** page is displayed.
 - All Operators and their current Permission settings are displayed.
 - Changes to this page can only be made if the operator has **Security Admin** permissions.
 - 3 Scroll to the bottom of the **Operator Configuration** page until the **Add Operator** section of this page is visible.
 - 4 Click in the **Operator Name** field and enter the **name of the operator**.
 - 5 Click in the **Password** field and enter the **password**.
 - The **Password** field will be populated with stars.
 - 6 Click in the **Verify Password** field and **re-enter the password**.
 - The **Verify Password** field will be populated with stars.
 - 7 Click the checkbox next to the desired **Permissions**.
 - At least one permission level must be selected.
 - 8 Select the **Add Operator** button.
 - A Confirmation prompt is displayed. Select **OK**.
 - The new operator name will be added to the list of operators in the **Operator Management** section of the **Operator Configuration** page.
-

13.5.8.3 Remove Operator Permission Settings

- 1 Click on the **Configuration** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Configuration** menu is expanded.
- 2 Click on the **Operators** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Operator Configuration** page is displayed.
 - All Operators and their current Permission settings are displayed.
 - Changes to this page can only be made if the operator has **Security Admin** permissions.
- 3 Click in the checkbox next to the **Operator Name** to be removed.
 - Multiple selections may be made.

- A checkmark must be visible before further changes can be made.
- 4 Scroll to the bottom of the Operator Management page and click on the **Remove Operators** button.
- A Confirmation prompt is displayed. Select **OK**

NOTE: Changes to an existing operator’s permissions will not take effect until the next login by that particular operator.

13.6 Reports

13.6.1 Reports

The reporting capability of the Ingest GUI offers the ability to view detailed reports on data providers and data types, as well as request summary and granule summary reports. The report pages are located under the **Reports** menu in the navigation pane.

The report pages (**Detailed**, **Request Summary** and **Granule Summary**) display the information across data providers or data types. As with all types of reports, the operator must select a date range (presets are provided for the last 24 and 48 hours), as well as criteria for the search. These include one or more **Data Providers**, one or more **Data Types**, and one or more **Final Request Statuses**. Additionally, **Ingest Method (DPL or NON-DPL)** can also be selected. All Data Criteria fields are optional, but at least one selection of one field must be made to generate the report. Due to the large volume of data that may be in the database, reports can sometimes take a while to process and generate a display.

Table 13.6-1 provides an activity Checklist for Reports.

Table 13.6-1. Reports

Order	Role	Task	Section
1	Ingest Technician	Generating a Detailed Report	(P) 13.6.1.1
2	Ingest Technician	Viewing Volume Group(s) History	(P) 13.6.2.1

13.6.1.1 Generating a Detailed Report

- 1 Click on the **Reports** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Reports** menu is expanded.
- 2 Click on the **Detailed**, **Request Summary** or **Granule Summary** in the navigation frame of the **DPL Ingest GUI**.
 - **The Detailed Report, Request Summary Report or Granule Summary Report** criteria page is displayed.
- 3 In the **Date/Time Criteria** section of the page, select the desired **Start Date/Time** and **End Date/Time**.
 - The date and time information is displayed as selected.
- 4 In the **Data Criteria** section of the page, select one or more **Data Provider**, one or more **Data Type**, one or more **Final Request Status** and the **Ingest Method** (DPL or NON-DPL) by clicking on the desired selections.
 - The desired selections are highlighted.
- 5 Click on the **Generate Report** button.
 - The **Processing Your Request** transitional screen is displayed.
 - Time to process your request will depend on factors such as time span, number of Data Providers, Data Types and Request Statuses selected.
 - Eventually, one of the following report outputs will be displayed.
 - Detailed Report Page (Figure 13.6-1)

Detailed Report

Date/Time Criteria

Start Date/Time: month: 1, day: 1, year: 2009, hour: 12, min: 8
 End Date/Time: month: 1, day: 30, year: 2009, hour: 12, min: 8
 Presets: Last 24 hours, Last 48 hours, Previous criteria runs.

Data Criteria

Data Provider: --ALL PROVIDERS--
 AMSR_E_SIPS
 ASTER_GDS
 ASTER_OSF
 ArchiveOnline
 BMGT

Data Type: --ALL DATA TYPES--
 ACR3L0.001
 ACR3L2DM.001
 ACR3L2SC.001
 AEPOE1W.001
 AEPOE1W.086

Final Request Status: Successful
 Cancelled
 Partially_Cancelled
 Failed
 Partial_Failure
 Terminated

Ingest Method: DPL
 NON-DPL

Generate Report

Report Output
 No report generated yet.

Current Report Criteria:
 Data Provider(s): [ArchiveOnline]
 Data Type(s): [ALL]
 Final Request Status: [ALL]
 Start Date/Time: 1/1/2009 12:8
 End Date/Time: 1/30/2009 12:8

"Report Output" if criteria not met.

Generates "Report Output"

Report Output

Req.ID	Data Provider	Ingest Type	Ingest Method	Request Status	Start Date/Time	End Date/Time	Tot.# grans.	# Succ. grans.	Vol (MB)	File Count	Time to xfer (secs)	Time to preproc (secs)	Time to Archive (secs)	Priority	Restart Flag
274518	ArchiveOnline	Polling_w/DR	DPL	Successful	2009-01-07 10:17:13	2009-01-07 10:17:17	1	1	0.125	2	0	3	0	HIGH	
274519	ArchiveOnline	Polling_w/DR	DPL	Successful	2009-01-07 10:17:13	2009-01-07 10:17:17	1	1	0.360	2					
274704	ArchiveOnline	Polling_w/DR	DPL	Successful	2009-01-13 08:13:59	2009-01-13 08:14:05	1	1	0.125	2				HIGH	
274705	ArchiveOnline	Polling_w/DR	DPL	Successful	2009-01-13 08:13:59	2009-01-13 08:14:05	1	1	0.360	2		5	0	HIGH	

Highlights on cursor overlay.

Figure 13.6-1. Detailed Report Page

- Request Summary Report Page (Figure 13.6-2)

Request Summary Report

Date/Time Criteria

Start Date/Time: month: 12, day: 1, year: 2008, hour: 12, min: 28
 End Date/Time: month: 2, day: 26, year: 2009, hour: 12, min: 28
 Presets: Last 24 hours, Last 48 hours, Previous criteria runs.

Data Criteria

Data Provider: ASTER_OSF, ArchiveOnline, BMGT, DDIST, ECSBulkExport, FDS
 Data Type: --ALL DATA TYPES--
 Final Request Status: --ALL STATUSES--
 Ingest Method: DPL, NON-DPL

Generate Report

Report Output
 No report generated yet.

Current Report Criteria:

Generates: "Report Output"
 Data Type(s): [ALL]
 Start Date/Time: 12/1/2008 12:28
 Final Request Status: [ALL]
 End Date/Time: 2/26/2009 12:28

Report Output

Data Provider	Ingest Type	Ingest Method	Ttl. Reqs	Ttl. Errors	Ttl. Volume (GB)	Gran Avg	Gran Max	File Avg	File Max	Size Avg (MB)	Size Max (MB)	Xfer time Avg (secs)	Xfer time Max (secs)	Preproc time Avg (secs)	Preproc time Max (secs)	Archive Time Avg (secs)	Archive Time Max (secs)
QAUU_SIPS	Polling_w/DR	DPL	60	0	0.164	1.000	1	2.000	2	2.801	7.869	0.833	6	28.517	35	0.417	2
ArchiveOnline	Polling_w/DR	DPL	96	4	0.082	1.021	2	2.021	3	0.878	8.971	0.240	2	4.083	24	0.208	2
TOTALS:			156	4	0.246	1.013	2	2.013	3	1.617	8.971	0.468	6	13.481	35	0.288	2

Highlights: on cursor overlay.

Figure 13.6-2. Request Summary Report Page

- Granule Summary Report Page(Figure 13.6-3)

Granule Summary Report

Date/Time Criteria

Start Date/Time: month: 1, day: 1, year: 2008, hour: 2, min: 10
 End Date/Time: month: 1, day: 1, year: 2009, hour: 1, min: 2
 Presets: Last 24 hours, Last 48 hours, Previous criteria runs.

Data Criteria

Data Provider: --ALL PROVIDERS--
 Data Type: --ALL DATA TYPES--
 Final Request Status: --ALL STATUSES--
 Ingest Method: DPL

Current Report Criteria

Data Provider(s): [ALL]
 Data Type(s): [ALL]
 Final Request Status: [ALL]
 Start Date/Time: 1/1/2008 2:10
 End Date/Time: 1/1/2009 1:2

Report Output

Data Provider	Ingest Type	Ingest Method	Data Type	Ttl. Grans	Ttl. Errors	Ttl. Volume (GB)	File Avg	File Max	Size Avg (MB)	Size Max (MB)	Xfer time Avg (secs)	Xfer time Max (secs)	Preproc time Avg (secs)	Preproc time Max (secs)	Archive Time Avg (secs)	Archive Time Max (secs)
JPL	Polling_wDR	DPL	MOD29P1D	124	0	0.025	2.000	2	0.205	0.535	1.427	90	15.524	34	0.161	2
BMGT_CRIT_30_L1A	Polling_wDR	DPL	MYD13A3	3	3	0.003	2.000	2	1.157	1.189	0.667	1	0.000	0	0.000	0
MODAPS_COMBINE	Polling_wDR	DPL	MOD29P1D	4	0	0.024	2.000	2	6.110	6.110	0.000	0	0.000	0	0.000	0
Bender	Polling_wDR	DPL	DAP	2	1	0.002	2.000	2	1.250	1.2	0.000	0	0.000	1	0.000	0
JPL	Polling_wDR	DPL	AE_DySno	1	0	0.002	2.000	2	2.055	2.0	0.000	0	25.000	19	0.000	0
Bender	Polling_wDR	DPL	MYD14	213	2	0.052	2.000	2	0.249	0.745	0.901	21	4.803	12	0.643	4
JPL	Polling_wDR	DPL	AE_Si25	1	0	0.020	2.000	2	20.954	20.954	0.000	0	25.000	25	1.000	1
MODAPS_TERRA	Polling_wDR	DPL	MOD29	2	1	0.022	2.000	2	11.398	11.398	45.500	91	1.000	2	0.000	0
NSIDC_DAAC	Polling_wDR	DPL	MOD29P1D	5190	25	1.063	2.000	2	0.210	0.850	1.028	60	8.545	367	0.840	18
pchen	Polling_wDR	DPL	AST_L1A	1	1	0.108	1.000	1	110.922	110.922	2.000	2	0.000	0	0.000	0
BMGT	Polling_wDR	DPL	MYD29P1N	10	0	0.001	2.000	2	0.124	0.291	0.100	1	11.000	13	0.200	1
LeoProvider	Polling_wDR	DPL	MOD14	10	0	0.002	2.000	2	0.198	0.412	0.500	4	45.900	50	0.400	2
BMGT_CRIT_30_L1A	Polling_wDR	DPL	MOD11A2	3	3	0.003	2.000	2	1.151	1.163	0.667	2	0.000	0	0.000	0
TOTALS:				120179	881	248.778	1.719	98	2.120	307.082	2.004	1059	16.665	50531	1.378	1076

Figure 13.6-3. Granule Summary Report Page

13.6.2 Viewing the Volume Groups History Page

The **Volume Groups History** page displays the history of the configuration changes that have occurred to volume groups. Table 13.6-2 displays the information contained on the **Volume Groups History** page.

Table 13.6-2. Volume Groups History Page Field Description

Field Name	Data Type	Size	Entry	Description
VersionedData Type (Data Type. Version ID)	Character	16	Required	The name of a Volume Group.
Path	Character	Unlimited	System Generated	In reverse chronological order, the fully qualified UNIX paths to where data has been stored for the specified data type. The current path is listed first.
Start Date	Date	16	System Generated	The date on which this configuration became active for the listed data type.
End Date	Date	16	System Generated	The date on which this configuration was superseded by new configuration information. If blank, this row reflects the current configuration for the volume group. If any row has a blank end date, the volume group is closed, and no further data is accepted for that volume group.

13.6.2.1 Viewing Volume Group(s) History

- 1 Click on the **Reports** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Reports** menu is expanded.
- 2 Click on the **Volume Groups History** link in the navigation frame of the **DPL Ingest GUI**.
 - The **Volume Groups History** page is displayed (Figure 13.6-4).

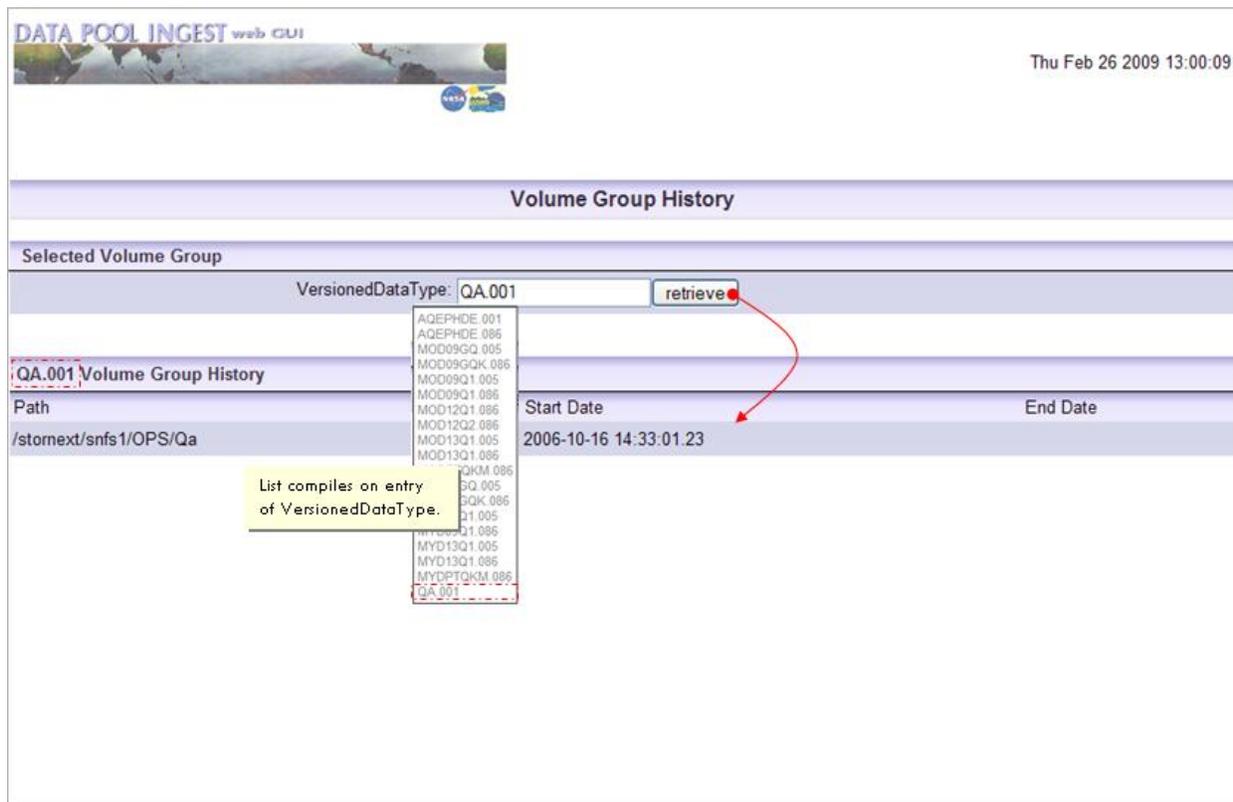


Figure 13.6-4. Volume Group History Page

- 3 In the **Selected Volume Group** section, click in the field next to the **VersionedData Type** and enter (or select from the drop-down list) the name of the **Volume Group** to be retrieved.
 - The **Volume Group** name is displayed as entered.
- 4 Click the **retrieve** button.
 - The **Path**, **Start Date** and **End Date**, are displayed in **[Name] Volume Group History** section.

13.7 Help Pages and Context Help

The **Help** section contains information the operator can have readily available while operating the Data Pool Ingest GUI. Included in this section are three pages: General Topics, Context Help and About.

The **General Topics** page includes an index of topics that should be useful to the operator in understanding how the GUI and Data Pool Ingest system work (Figure13.7-1). The operator can press on the name of a section from the index in order to jump to the section text.

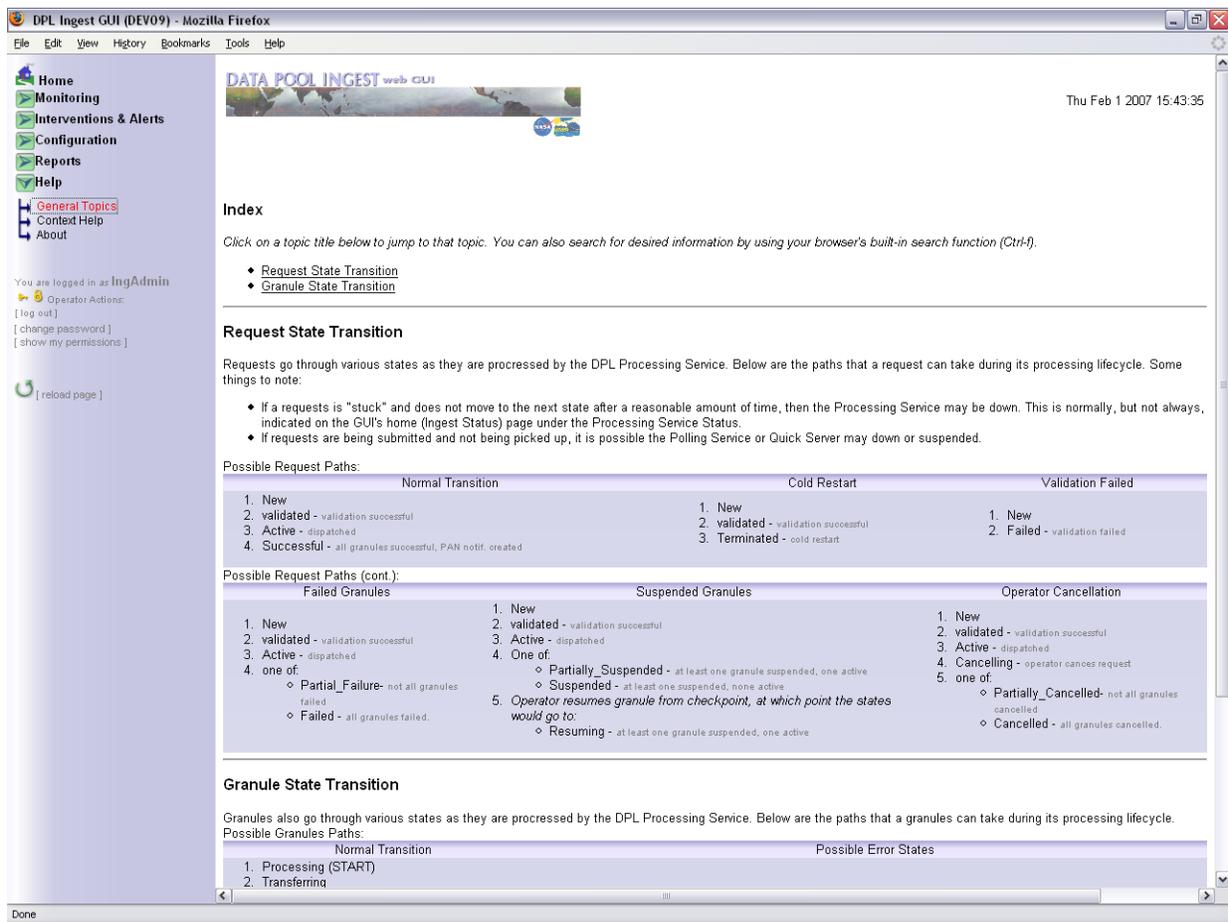


Figure 13.7-1. Help – General Topics

The **Context** page explains another tool provided by the operator to assist him in effectively using the Data Pool Ingest GUI. Throughout most pages on the DPL GUI, you can get relevant, context-sensitive help by hovering your mouse (no need to click) over the [**help**] text. In many

cases this is to explain the significance of a parameter or to provide instructions on what to do on the page. A blue pop-over window will appear and disappears as soon as the mouse is moved.

13.8 Data Pool Maintenance GUI

The Data Pool Maintenance GUI is responsible for monitoring and maintaining the Data Pool. Data Pool Ingest requires the use of the Data Pool Maintenance (DPM) GUI to perform the following tasks:

- Managing Data Pool Collection Groups
- Managing Data Pool Collections within Collection Groups

Table 13.8-1 provides an activity Checklist for Data Pool Maintenance.

Table 13.8-1. Data Pool Maintenance

Order	Role	Task	Section
1	Ingest Technician	Launching the DPM GUI	(P) 13.8.1.1
4	Ingest Technician	View Collection Groups	(P) 13.8.2.1
5	Ingest Technician	Modify Collection Groups	(P) 13.8.2.2
6	Ingest Technician	Add a Collection Group	(P) 13.8.2.3
7	Ingest Technician	Add an ECS Collection to a Collection Group	(P) 13.8.2.4
8	Ingest Technician	Modify an ECS Collection	(P) 13.8.2.5

13.8.1 Data Pool Maintenance GUI

The **DPM GUI** is used for Data Pool maintenance tasks. Of course, the first thing to do is launch the GUI. The procedure for launching the GUI is provided separately here and is referenced in other procedures. It applies to both full-capability and limited-capability operators.

13.8.1.1 Launch the DPM GUI

-
- 1 At the UNIX command line prompt enter: **setenv DISPLAY <client name>:0.0**
setenv DISPLAY <client name>:0.0
 - Use either the X terminal/workstation IP address or the machine-name for the client name.
 - When using secure shell, the DISPLAY variable is set just once, before logging in to remote hosts. If it were to be reset after logging in to a remote host, the security features would be compromised.

2 In the terminal window (at the command line prompt) start the log-in to the appropriate host by entering:

/tools/bin/ssh <host name>

- The **-l** option can be used with the ssh command to allow logging in to the remote host (or the local host for that matter) with a different user ID. For example, to log in to x0acs03 as user cmops enter:

/tools/bin/ssh -l cmops x4oml01

- Depending on the set-up it may or may not be necessary to include the path (i.e., /tools/bin/) with the ssh command. Using ssh alone is often adequate. For example:

ssh x4oml01

- or -

ssh -l cmops x4oml01

- Examples of Data Pool Maintenance GUI host names include **x4hel01**.
- If you receive the message, “Host key not found from the list of known hosts. Are you sure you want to continue connecting (yes/no)?” enter **yes** (“y” alone will not work).
- If you have previously set up a secure shell passphrase and executed sshremote, a prompt to Enter passphrase for RSA key '<user@localhost>' appears; continue with Step 3.
- If you have not previously set up a secure shell passphrase, go to Step 4.

3 If a prompt to **Enter passphrase for RSA key '<user@localhost>'** appears, enter:

<passphrase>.

- If a command line prompt is displayed, log-in is complete.
- If the passphrase is unknown, press **Return/Enter**, which should cause a **<user@remotehost>'s password:** prompt to appear (after the second or third try if not after the first one), then go to Step 4.
- If the passphrase is entered improperly, a **<user@remotehost>'s password:** prompt should appear (after the second or third try if not after the first one); go to Step 4.

4 If a prompt for **<user@remotehost>'s password:** appears, enter:

<password>

- A command line prompt is displayed.
 - Log-in is complete.
- 5 Type **firefox** & then press **Return/Enter**.
- It may be necessary to respond to dialogue boxes, especially if the browser is already being used by someone else who has logged in with the same user ID.
 - The Mozilla Firefox web browser is displayed.
- 6 If a bookmark has been created for the **DPM GUI**, select the appropriate bookmark from those listed on the browser's Bookmarks pull-down window.
- The **Login:** prompt is displayed.
- 7 If no bookmark has been created for the **DPM GUI**, type **http://host:port** in the browser's **Location (Go To)** field then press **Return/Enter**.
- For example: http:// f4hel01.hitc.com:22181/.
- 8 Type the appropriate user name in the **User** textbox of the security **Login** prompt.
- 9 Type the appropriate password in the **Password** textbox of the security **Login** prompt.
- 10 Click on the **Login** button:
- The dialogue box is dismissed.
 - The **DPM GUI** ["Home" Page] is displayed (Figure 13.8-1).

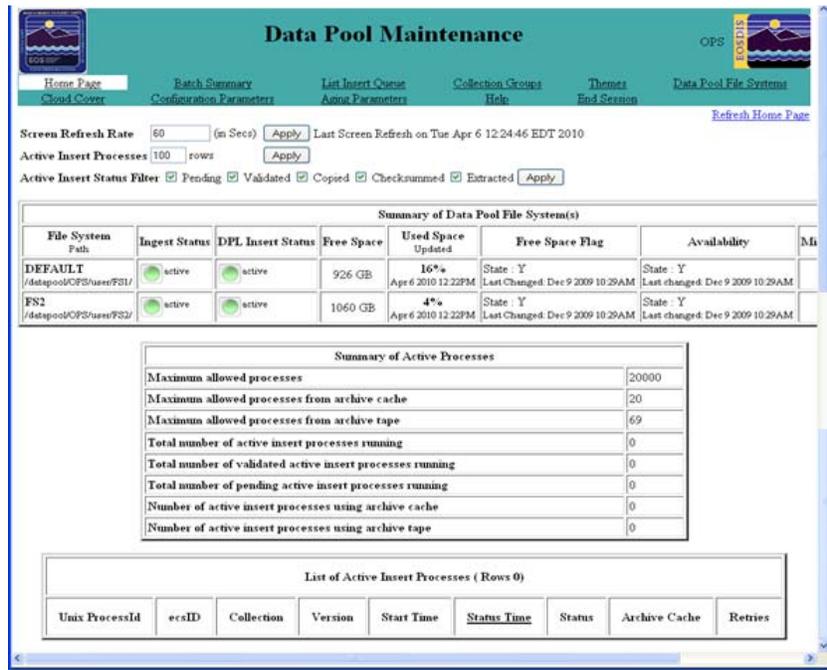


Figure 13.8-1. DPM GUI Home Page

13.8.2 Managing Data Pool Collection Groups

The conceptual structure of the data pool is set up for each DAAC based on the collections and granules archived at the DAAC. Related collections are grouped in **Collection Groups** (e.g., ASTER collections and granules from the Terra mission, MODIS Oceans collections and granules from the Terra Mission, MISR collections and granules from the Terra mission, MODIS Snow and Ice collections and granules from the Terra mission). Each collection group initially consists of a number of collections that have been specified as valid for Data Pool insertion (i.e., granules of the data types in the collection may be inserted into the Data Pool).

The Collection Group page of the **DPM GUI** allows both full-capability operators and limited-capability operators to view collection groups. It also provides access to pages for viewing collections within a collection group. In addition, the page has links that allow a full-capability operator to modify or add a collection group or collection in the Data Pool database.

Both full-capability operators and limited-capability operators can use the procedure that follows to display the list of collection groups that have collections specified as valid for Data Pool insertion and to view information about those collections.

13.8.2.1 View Collection Groups

- 1 Launch the **DPM GUI**.
 - For detailed instructions refer to the **Launch the DPM GUI** procedure (previous procedure of this lesson).
 - The **Home Page** is the default display, offering links for access to Data Pool maintenance function pages (i.e., **Data Pool File Systems, Cloud Cover, List Insert Queue, Batch Summary, Collection Groups, Themes, Configuration Parameters, Aging Parameters, Help** and **End Session**).
- 2 Click on the **Collection Groups** link.
 - The Collection Group page is displayed (Figure 13.8-2).

Data Pool Maintenance

Home Page Batch Summary List Insert/Cancel **Collection Groups** Themes Data Pool File Systems
 Cloud Cover Configuration Parameters About Parameters Help

You can manage the collections of a group by clicking on the groupid

Data Source	Group ID (Click for managing collections)	Display Name	Description
ECS	ACRM	ACRM	All collections/granules from the ACRDM mission
ECS	AIRA	AIRA	AIRS/AMSU/MHS collections/granules from the Aqua mission
ECS	AMSA	AMSA	AMSR-E collections/granules from the Aqua mission
ECS	ASTT	ASTT	ASTER collections/granules from the Terra mission
ECS	BRWS	BRWS	Browse collections/granules
ECS	DASP	DASP	Data Assimilation System Products
ECS	GLAS	GLAS	Geoscience Laser Altimeter System
ECS	LSR7	LSR7	All collections/granules from the Landsat 7 mission
ECS	MOOA	MOOA	MODIS Oceans collections/granules from Aqua mission
ECS	MOOT	MOOT	MODIS Oceans collections/granules from the Terra mission
ECS	MOPT	MOPT	MOPITT collections/granules from the Terra mission
ECS	MOSA	MOSA	MODIS Snow and Ice collections/granules from the Aqua mission
ECS	MOST	MOST	MODIS Snow and Ice collections/granules from the Terra mission
ECS	MOTA	MOTA	MODIS Terra plus Aqua Combined
ECS	MSRT	MSRT	MISR collections/granules from the Terra mission
ECS	OTHER	OTHER	Other Products. This group is used for ancillary products or other non-science pro-
NON-ECS	OUTPUTS	OUTPUTS	This collection group uses for the output collections.
ECS	SAGE	SAGE_III_SCF	Weekly collection of files from NCEP of Atmospheric pressure/temperature profile
ECS	TES	TES	TES Data
ECS	TEST	TEST	Remap regression
NON-ECS	UAE	UAE	NONECS Data

[Add Collection Group](#) [Modify Collection Group](#)

Figure 13.8-2. Collection Group Page

- 3 Observe data displayed on the Collection Group page.
- The table on the Collection Group page has columns containing the following types of collection group information:
 - **Data Source.**
 - **Group ID (Click for managing collections).**
 - **Display Name.**
 - **Description.**

- The following links are available on the Collection Groups page:
 - **Group ID (Click for managing collections)** - Links to a **List of Collections** contained in that group.
 - **Add Collection Group.**
 - **Modify Collection Group.**
- 4 To obtain more information about the collections in one of the groups, click on its link in the **Group ID (Click for managing collections)** column.
- The **List of Collection** page is displayed (Figure 13.8-3).

Data Source: ECS Group ID: AMSA. Display Name: AMSA Description: AMSR-E collections/granules from the Aqua mission

File System: ALL Apply Filter

Collection (Click for Detail Information)	Version	Science Gramsles and/or Metadata	Data Pool Insertion	HEG Processing	Export Urls to ECHO	Quality Summary Url	Spatial Search Type	Global Coverage	Day/Night Coverage	24 Hour Coverage	Cloud Coverage	Nominal Coverage Rule	Check the Box to Delete Collection
AE_L2A	001	science and metadata	valid for Data Pool	Enabled	Yes	--	Orbit	No	No	No	No	--	<input type="checkbox"/>
AMSR-L1A	001	science and metadata	valid for Data Pool	Disabled	Yes	--	Orbit	No	No	No	No	--	<input type="checkbox"/>
AE_DrOc	002	science and metadata	valid for Data Pool	Enabled	Yes	--	Rectangle	Yes	No	Yes	No	--	<input type="checkbox"/>
AEPOE1W	001	science and metadata	valid for Data Pool	Disabled	Yes	--	Not supported	No	No	Yes	No	--	<input type="checkbox"/>
AMSR_E1A	002	science and metadata	valid for Data Pool	Disabled	Yes	--	Orbit	No	No	No	No	--	<input type="checkbox"/>
AE_Land	002	science and metadata	valid for Data Pool	Disabled	Yes	--	Orbit	No	No	No	No	--	<input type="checkbox"/>
AE_Rain	002	science and metadata	valid for Data Pool	Disabled	Yes	--	Orbit	No	No	No	No	--	<input type="checkbox"/>
AE_RnGd	002	science and metadata	valid for Data Pool	Disabled	Yes	--	Rectangle	Yes	Yes	Yes	No	--	<input type="checkbox"/>

Add New Collection Return to previous page DeleteCollection

You can view the detail information of a collection by clicking on the collection link.

Figure 13.8-3. List of Collection

- 5** Observe data displayed on the **List of Collections** page.
- Near the top of the **List of Collections** page contains the following basic types of collection group information:
 - There is a file system filter (and associated **Apply Filter** button) for displaying data on the Collection **Detail Information** page for all file systems or by individual file system.
 - The **List of Collection** page has columns containing the following types of collection group information:
 - **Collection (Click for Detail Information)** link.
 - **Version.**
 - **Science Granules and/or Metadata.**
 - **Data Pool Insertion.**
 - **HEG Processing.**
 - **Export URLs to ECHO.**
 - **Quality Summary URL.**
 - **Spatial Search Type.**
 - **Global Coverage.**
 - **Day/Night Coverage.**
 - **24 Hour Coverage.**
 - **Cloud Coverage.**
 - **Nominal Coverage Rule**
 - **Check the Box to Delete Collection**
 - The following links are available on the **List of Collection** page:
 - Each collection listed in the **Collection** column links to a Collection **Detail Information** page.
 - **Add New Collection.**
 - **Return to previous page.**
- 6** To filter data displayed on the **List of Collections** page, click on the **File System** filter option button.
- Options are displayed.
- 7** Select a file system filter option click on the appropriate choice from the option list.

- 8 To implement the filtering of data displayed on the **Collection Detail** link, click on the **Apply Filter** button.
- The **Collection (Click for Detail Information)** column is displayed with the filtered collection group information.
- 9 To obtain more information about one of the collections in the collection group, click on its link in the **Collection (Click for Detail Information)** column.
- The **Detail Information** page for the selected collection is displayed (Figure 13.8-4).

The screenshot shows the 'Data Pool Maintenance' web application. The top navigation bar includes links for 'Home Page', 'Batch Summary', 'List Insert Queue', 'Collection Groups', 'Themes', and 'Data Pool File Systems'. The 'Collection Groups' link is highlighted. Below the navigation bar, there is a summary box with the following text: 'Data Source: ECS Group ID: AMSA Display Name: AMSA Description: AMSR-E collections/granules from the Aqua mission'. The main content area is a table titled 'Detail Information' with the following rows:

Detail Information	
Collection	AE_Land
Version	2
Description	AMSR-E/Aqua global swath surface soil moisture and ancillary parameters including surface type, vegetation water content, surface temp., and QC parms are generated from level 2A AMSR-E Tbs spatially resampled to a nominal 25-km equal area earth grid.
File System	DEFAULT
Science Granules and/or Metadata	Science and Metadata
Data Pool Insertion	Valid for Data Pool Inserts
HEG Processing	Disabled
Export Urls to ECHO	Yes
Allow ordering and viewing of associated PH granule	Yes
Allow ordering and viewing of associated QA granule	Yes
Allow ordering of associated Browse granule	Yes
Quality Summary Url	
Spatial Search Type	Orbit
Global Coverage	No
Day/Night Coverage	No
24Hour Coverage	No
Cloud Cover Type	
Cloud Cover Source	
Cloud Cover Description	

At the bottom of the table, there are two links: [Modify Collection](#) and [Return to previous page](#).

Figure 13.8-4. Detail Information

- 10** Observe data displayed on the **Detail Information** page.
- Near the top of the **Detail Information page** is the following basic types of collection group information.
 - The **Detail Information** page has rows containing the following types of collection information:
 - **Collection.**
 - **Version.**
 - **Description.**
 - **File System.**
 - **Science Granules and/or Metadata.**
 - **Data Pool Insertion.**
 - **HEG Processing.**
 - **Export URLs to ECHO.**
 - **Quality Summary URL.**
 - **Allow ordering and viewing of associated PH granule.**
 - **Allow ordering and viewing of associated QA granule.**
 - **Allow ordering of associated Browse granule.**
 - **Spatial Search Type.**
 - **Global Coverage.**
 - **Day/Night Coverage.**
 - **24 Hour Coverage.**
 - **Cloud Cover Type.**
 - **Cloud Cover Source.**
 - **Cloud Cover Description.**
 - The following links are available on the Collection **Information Detail** page:
 - **Modify Collection.**
 - **Return to previous page.**
- 11** To view a description for another collection in the same group first click on the **Return to previous page** link.
- The **List of Collections** page is displayed again.

- 12 To view a description for another collection in the same group return to Step 9.
 - 13 To view a description for another collection in another group return to Step 2.
-

It may be desirable to modify the description of one or more of the collection groups listed on the **Collection Groups** page. If there is a need to modify a collection group description, there is a link at the bottom of the list on that page providing access to a page that permits the descriptions to be modified. Full-capability operators (only) can use the following procedure to modify collection groups:

13.8.2.2 Modify Collection Groups

- 1 Launch the **DPM GUI**.
 - For detailed instructions refer to the **Launch the DPM GUI** procedure (previous section of this lesson).
 - The **Home Page** is the default display, offering links for access to Data Pool maintenance function pages (i.e., **Data Pool File Systems, Cloud Cover, List Insert Queue, Batch Summary, Collection Groups, Themes, Configuration Parameters, Aging Parameters, and End Session**).
- 2 Click on the **Collection Groups** link.
 - The Collection Groups page is displayed, providing a table listing collection group information; i.e., **Data Source, Group ID (Click to Manage Collections), Display Name, and Description**.
- 3 Click on the **Modify Collection Group** link at the bottom of the page.
 - The **Modify Collection Group** page is displayed (Figure 13.8-5), providing a table of collection group information showing five columns: **Data Source, Group ID (Click to Manage Collections), Display Name, Description, and Checkbox to Modify** (containing a checkbox to mark the collection group for change).

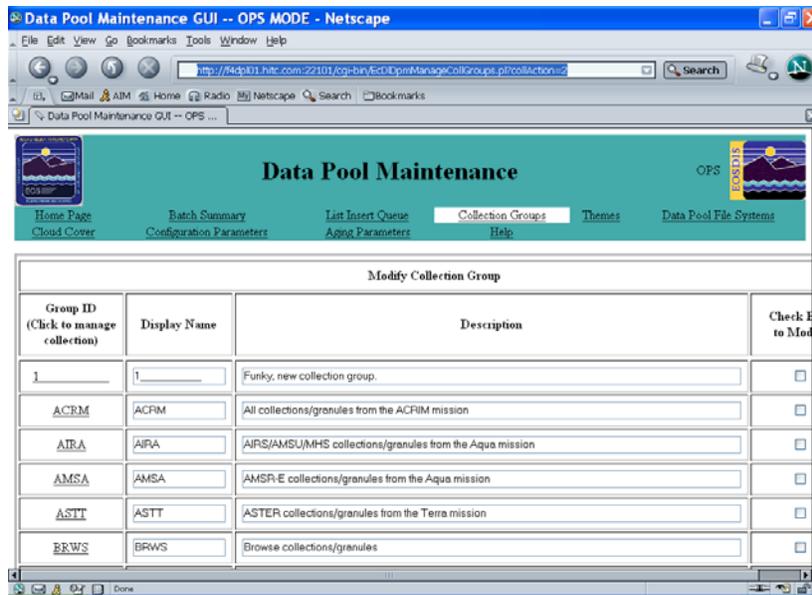


Figure 13.8-5. Modify Collection Group

- There is an **Apply Change** button at the bottom of the page for implementing changes.
- 4 To change the display name for the collection group, type the desired name in the **Display Name** field for the group ID.
 - The **Display Name** may have no more than 12 characters.
 - Valid characters include A-Z, 0-9, underscore and space.
 - 5 To change the description of the collection group, type the desired description in the **Description** field for the group ID.
 - The **Description** may have no more than 255 characters.
 - 6 Click in the checkbox at the end of the row containing collection group information to be modified.
 - The selected collection group information is marked for modification.
 - 7 Repeat Steps 4 through 6 for any additional collection groups to be modified.
 - 8 Click on the **Apply Change** button.
 - The revised collection group information is entered in the Data Pool database.
 - The Collection Group page is displayed with the modified collection group information.

From time to time, it may be necessary to add a collection group (e.g., if a DAAC begins archiving data from a new instrument). If a collection group is to be added to the list of

collection groups, it is necessary to use the **Add Collection Group** link at the bottom of the **Manage Collection Groups** page. Full-capability operators (only) can use the procedure that follows to modify collection groups:

NOTE: Although the following procedure is applicable, most of the time new collection groups will be added only during releases of new software versions and you will not use this procedure often.

Caution

The Add Collection Group function is to be exercised judiciously because the **DPM GUI** does not provide any means of deleting collection groups.

13.8.2.3 Add a Collection Group

- 1** Launch the **DPM GUI**.
 - For detailed instructions refer to the **Launch the DPM GUI** procedure (previous procedure of this lesson).
 - The **Home Page** is the default display, offering links for access to Data Pool maintenance function pages (i.e., **Data Pool File Systems, Cloud Cover, List Insert Queue, Batch Summary, Collection Groups, Themes, Configuration Parameters, Aging Parameters, and End Session**).
- 2** Click on the **Collection Groups** link.
 - The Collection Groups page is displayed, providing a table listing collection group information; i.e., **Data Source, Group ID (Click to Manage Collections), Display Name, and Description**.
- 3** Click on the **Add Collection Group** link at the bottom of the page.
 - The **Add Collection Group** page is displayed (Figure 13.8-6) providing a page with three columns of text-entry fields, **Data Source, Group ID, Display Name, and Description**.

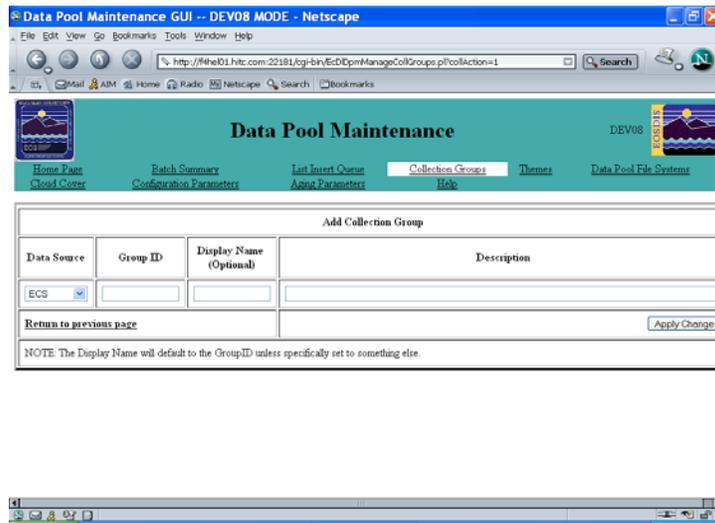


Figure 13.8-6. Add Collection Group

- 4 Select the **Data Source** from the pull-down window.
 - **ECS** or **NONECS** is displayed in the field.
- 5 Type a unique identifier for the new collection group in the **Group ID** field.
 - The **Group ID** may have no more than 12 characters.
 - Valid characters include A-Z, 0-9, and underscore.
 - The **Group ID** will be compared with the existing **Group IDs** to ensure that it is not a duplicate of another ID.
- 6 To provide a display name that is different from the **Group ID** type a name in the **Display Name** field.
 - The **Display Name** is the name for the collection as displayed on the **Data Pool Web Access GUI**.
 - If no **Display Name** is entered, the **Group ID** will be used as the **Display Name**.
 - The **Display Name** may have no more than 12 characters.
 - Valid characters include A-Z, 0-9, underscore and space.
- 7 Type the description for the new collection group in the **Description** field.
 - The **Description** may have no more than 255 characters.
- 8 Click on the **Apply Change** button.
 - The new collection group information is entered in the Data Pool database.

- The Collection Group page is displayed with the new collection group information.

Although an initial Data Pool structure is provided, not all collections are necessarily specified as eligible for Data Pool insertion. Based on experience, or on changes in demand, a DAAC may wish to add one or more collections to a data group. Full-capability operators (only) can use the following procedure to add an ECS collection to an existing collection group:

13.8.2.4 Add an ECS Collection to a Collection Group

1 Launch the DPM GUI.

- For detailed instructions refer to the **Launch the DPM GUI** procedure (previous section of this lesson).
- The **Home Page** is the default display, offering links for access to Data Pool maintenance function pages (i.e., **Data Pool File Systems**, **Cloud Cover**, **List Insert Queue**, **Batch Summary**, **Collection Groups**, **Themes**, **Configuration Parameters**, **Aging Parameters**, and **End Session**).

2 Click on the **Collection Groups** link.

- The Collection Group page is displayed, providing a table listing collection group information; i.e., **Data Source**, **Group ID (Click to Manage Collections)**, **Display Name**, and **Description**.

3 Click on the **Group ID** link for the ECS collection group to which the collection is to be added.

- The **List of Collections** page is displayed (Figure 13.8-7).

Collection (Click for Detail Information)	Version	Science Grades and/or Metadata	Data Pool Insertion	HEG Processing	Export Urls to ECHO	Quality Summary Url	Spatial Search Type	Global Coverage	Day/Night Coverage	24 Hour Coverage	Cloud Coverage
ASTL1ADG	001	science and metadata	valid for Data Pool	Disabled	No	--	GPolygon	No	Yes	No	No
ASTL1XP1	001	science and metadata	valid for Data Pool	Disabled	No	--	Not supported	No	Yes	No	No
		science	valid for				Not				

Figure 13.8-7. List of Collections

- 4 Click on the **Add New Collection** link at the bottom of the **List of Collections** page.
 - The **Collections Not in Data Pool** page is displayed (Figure 13.8-8).

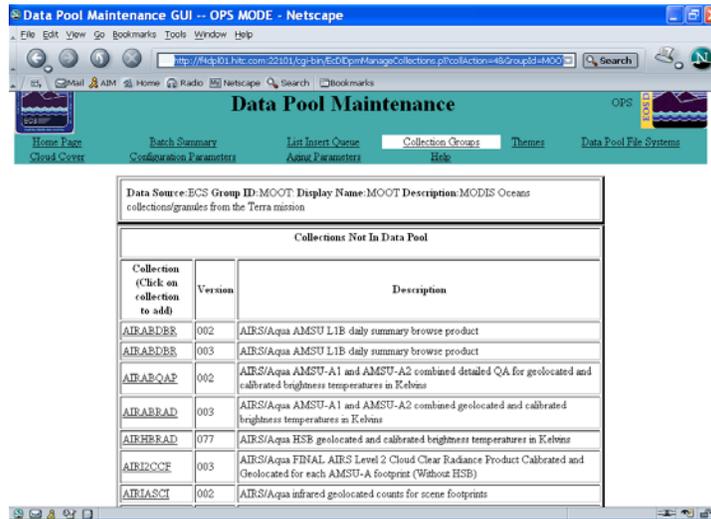


Figure 13.8-8. Collections Not In Data Pool Page

- 5 Click on the link in the **Collection (Click on collection to add)** column of the collection to be added to the collection group.
 - The **Add New Collection** page is displayed (Figure 13.8-9).

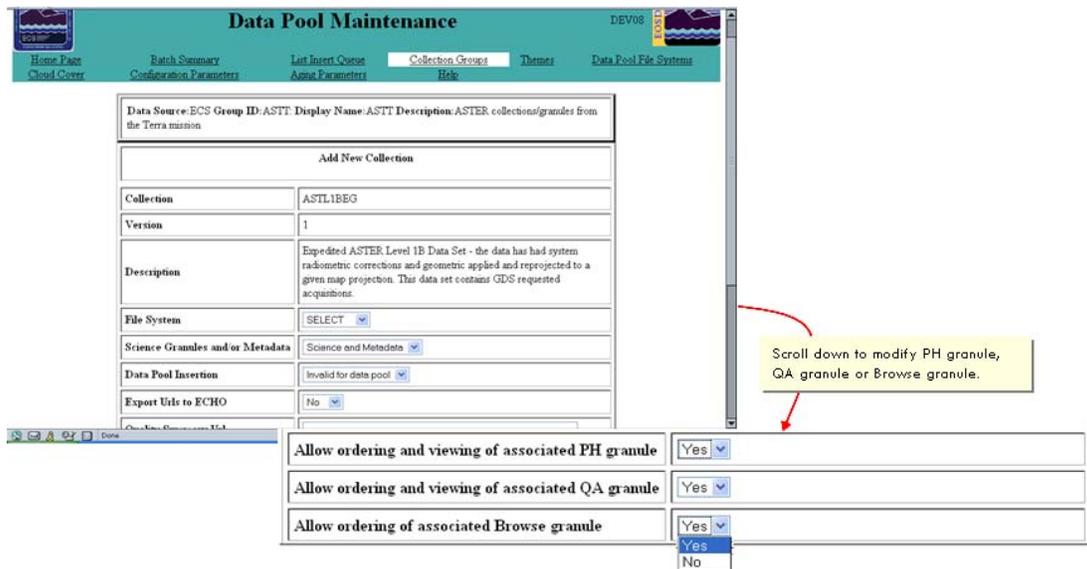


Figure 13.8-9. Add New Collection Page

- NOTE:** On the ECS collection version of the **Add New Collection** page the **Collection, Version, Description, and Spatial Search Type** fields are already filled in using information from the Data Pool database.
- 6 To select a file system option (if applicable), click on the appropriate choice from the **File System** option list.
 - 7 To select a Science Granules and/or Metadata option, click on the appropriate choice from the Science Granules and/or Metadata option list.
 - **Science and Metadata** is the default option.
 - 8 To select a data pool insertion option, click on the appropriate choice from the Data Pool Insertion option list.
 - **Invalid for data pool** is the default option.
 - **Valid for data pool** must be selected if the collection is to be eligible for insertion into the Data Pool.
 - 9 To select an ECHO export option, click on the appropriate choice from the **Export Urls to ECHO** option list.
 - **No** is the default option.
 - **Yes** must be selected if collection URLs are to be eligible for export to ECHO.
 - 10 To select option to **Allow ordering and viewing of associated PH granule, QA granule, and/or Browse granule**, click the appropriate choice:
 - **No** to disable ordering or viewing of granule.
 - **Yes** to enable ordering or viewing of granule.
 - 11 If the collection is to be linked to a quality summary web site, enter the URL in the **Quality Summary Url** text entry field.
 - Ensure that **http://** is included in the **Quality Summary Url** text entry field.
 - 12 To select a global coverage option, click on the appropriate choice from the **Global Coverage** option list.
 - **Yes** indicates no spatial searches for the collection.
 - **No** indicates that spatial searches are allowed for the collection.
 - 13 To select a day/night coverage option, click on the appropriate choice from the **Day/Night Coverage** option list.
 - **Yes** indicates that day/night searches are allowed for the collection.
 - **No** indicates that the collection is excluded from day/night searches.
 - 14 To select a 24-hour coverage option, click on the appropriate choice from the **24 Hour Coverage** option list.
 - **Yes** indicates that the collection is excluded from time of day searches.
 - **No** indicates that time of day searches are allowed for the collection.

- 15 To select a cloud cover type and source option, click on the appropriate choice from the **Cloud Cover Type & Source** option list.
 - All cloud cover information in the Data Pool database is listed.
 - If the desired cloud cover type/source is not listed, it can be entered using the procedure **Add New Cloud Cover Information Using the DPM GUI** (previous section of this lesson).
 - 16 To view details of cloud cover type and source, click on the **View Details** link adjacent to the **Cloud Cover Type & Source** option list.
 - 17 Click on the **Apply Change** button.
 - The new collection information is entered in the Data Pool database.
 - The **List of Collection** page is displayed with the new collection information.
-

As part of managing the Data Pool storage and retention of data, making adjustments based on experience and/or changes in demand, it may be desirable to modify a collection. The modification may mean specifying that metadata only may continue to be inserted and science granules may no longer be inserted, or declaring the collection no longer valid for data pool insertion at all.

13.8.2.5 Modify an ECS Collection

- 1 Launch the **DPM GUI**.
 - For detailed instructions refer to the **Launch the DPM GUI** procedure (previous section of this lesson).
 - The **Home Page** is the default display, offering links for access to Data Pool maintenance function pages (i.e., **Data Pool File Systems, Cloud Cover, List Insert Queue, Batch Summary, Collection Groups, Themes, Configuration Parameters, Aging Parameters, and End Session**).
- 2 Click on the **Collection Groups** link.
 - The Collection Group page is displayed, providing a table listing collection group information; i.e., **Data Source, Group ID (Click to Manage Collections), Display Name, and Description**.
- 3 Click on the **Group ID** link for the ECS collection group to which the collection is to be added.
 - The **List of Collections** page is displayed.
- 4 Click on the desired link found in the **Collection (Click on collection to add)** column.
 - The **Detail Information** page is displayed.
- 5 Click on the **Modify Collection** link.
 - The **Modify Collection** page is displayed (Figure 13.8-10).

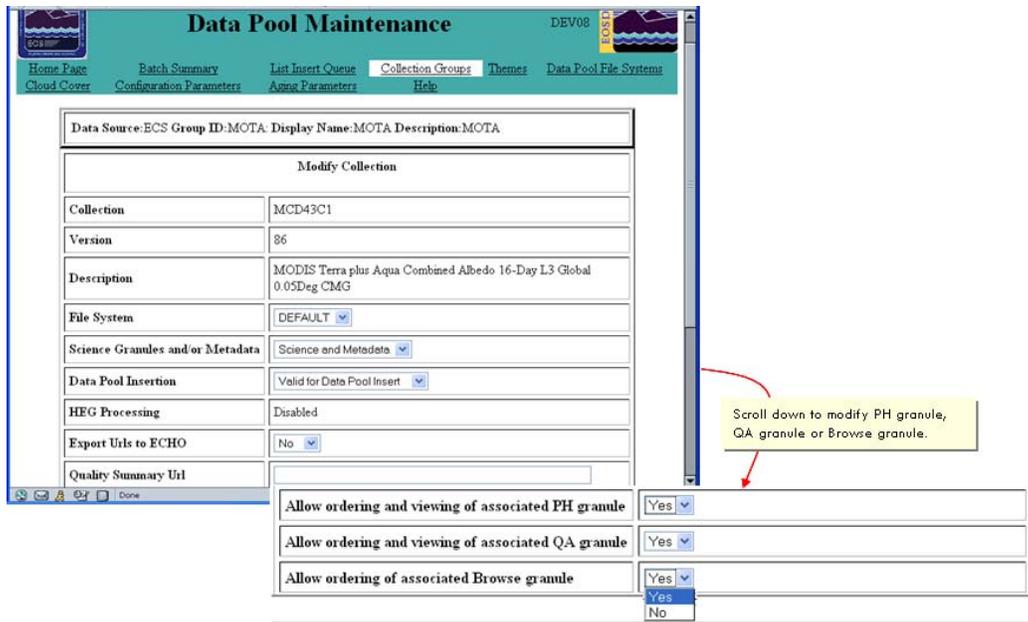


Figure 13.8-10. Modify Collection Page

NOTE: On the ECS collection version of the **Modify Collection** page, the **Collection**, **Version**, **Description**, **Spatial Search Type**, and **HEG Processing** fields cannot be edited.

- 6 To select a file system option (if applicable), click on the appropriate choice from the **File System** option list.
- 7 To select a Science Granules and/or Metadata option, click on the appropriate choice from the Science Granules and/or Metadata option list.
 - **Science and Metadata** is the default option.
- 8 To select a data pool insertion option, click on the appropriate choice from the Data Pool Insertion option list.
 - **Invalid for data pool** is the default option.
 - **Valid for data pool** must be selected if the collection is to be eligible for insertion into the Data Pool.
- 9 To select an ECHO export option, click on the appropriate choice from the **Export Urls to ECHO** option list.
 - **No** is the default option.
 - **Yes** must be selected if collection URLs are to be eligible for export to ECHO.
- 10 To select option to **Allow ordering and viewing of associated PH granule, QA granule, HDF Map, and/or Browse granule**, click the appropriate choice:
 - **No** to disable ordering or viewing of granule.

- **Yes** to enable ordering or viewing of granule.
- 11** If the collection is to be linked to a quality summary web site, enter the URL in the **Quality Summary Url** text entry field.
- Ensure that **http://** is included in the **Quality Summary Url** text entry field.
- 12** To select a global coverage option, click on the appropriate choice from the **Global Coverage** option list.
- **Yes** indicates no spatial searches for the collection.
 - **No** indicates that spatial searches are allowed for the collection.
- 13** To select a day/night coverage option, click on the appropriate choice from the **Day/Night Coverage** option list.
- **Yes** indicates that day/night searches are allowed for the collection.
 - **No** indicates that the collection is excluded from day/night searches.
- 14** To select a 24-hour coverage option, click on the appropriate choice from the **24 Hour Coverage** option list.
- **Yes** indicates that the collection is excluded from time of day searches.
 - **No** indicates that time of day searches are allowed for the collection.
- 15** To select a cloud cover type and source option, click on the appropriate choice from the **Cloud Cover Type & Source** option list.
- All cloud cover information in the Data Pool database is listed.
 - If the desired cloud cover type/source is not listed, it can be entered using the procedure **Add New Cloud Cover Information Using the DPM GUI** (previous section of this lesson).
- 16** To view details of cloud cover type and source, click on the **View Details** link adjacent to the **Cloud Cover Type & Source** option list.
- 17** Click on the **Apply Change** button.
- The new collection information is entered in the Data Pool database.
 - The **List of Collection** page is displayed with the new collection information.