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EOSDIS Maintenance and Development Project

Training Material for the EMD Project
Volume 9: Data Distribution

Revision 02

July 2006

Raytheon Company
Upper Marlboro, Maryland

Training Material for the EMD Project
Volume 9: Data Distribution

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Preface

This document is a formal contract deliverable. It requires Government review and approval within 45 business days. Changes to this document will be made by document change notice (DCN) or by complete revision.

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Abstract

This is Volume 9 of a series of lessons containing the training material for the Earth Observing System Data and Information System (EOSDIS) Maintenance and Development (EMD) Project. This lesson provides a detailed description of the process required for data distribution.

***Keywords**:* training, instructional design, course objective, distribution, data distribution, DDIST, Product Distribution System, Order Management Subsystem, OMS, Order Manager, Release 7, Synergy IV, Synergy V.

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Contents

Preface

Abstract

Introduction

Identification 1

Scope 1

Purpose 1

Status and Schedule 1

Organization 1

Related Documentation

Parent Documents 3

Applicable Documents 3

Information Documents 3

Information Documents Referenced 3

Information Documents Not Referenced 4

Data Distribution Overview

Lesson Overview 5

Lesson Objectives 5

Importance 17

Distribution Concepts

System Context 19
Order Manager Subsystem (OMS) 25
HDF-EOS to GeoTIFF Conversion Tool (HEG) 29
Data Distribution (DDIST) 29
Storage Management (STMGT) 30
Science Data Server (SDSRV) 34
The Data Distribution Process 35

Logging in to System Hosts

Logging in to System Hosts 39

Launching the Data Distribution Operator and Storage Management Control GUIs

Launching the Data Distribution Operator and Storage Management Control GUIs 43

Monitoring/Controlling Distribution Requests

Monitoring/Controlling Data Distribution Requests 47
Configuring Data Distribution Polling 51
Filtering Data Distribution Requests 53
Changing the Priority of Data Distribution Requests 57
Suspending/Resuming Data Distribution Requests 58
Canceling Data Distribution Requests 60

Modifying Preambles

Modifying Preambles 63

Configuring Storage Management Polling and Deleting Files from Cache

Configuring Storage Management Polling 69
Deleting Files from Cache 70
Viewing Storage Management Event Log Information 74

Monitoring Storage Management Server Operations

Request Status 79
Monitoring Storage Management Server Operations 79

Launching the Order Manager GUI

Launching the Order Manager GUI 85

Monitoring/Controlling Order Manager Operations

Order Manager Activities 93
Viewing Open Intervention Information on the OM GUI 96
Setting Refresh Options on OM GUI Pages 103
Responding to an Open Intervention 105
Monitoring/Controlling Distribution Request Information on the OM GUI 115
Filtering Data Displayed on the Distribution Requests Pages 129
Changing the Priority of a Distribution Request Using the OM GUI 136
Suspending, Resuming, Canceling, Resubmitting, or Stopping a Distribution Request Using the OM GUI 138
Editing Values Assigned to FtpPush Parameters 144
Annotating a Physical Media Distribution (PMD) Request from the Distribution Request Details Page 146
Viewing Open HEG Intervention Information on the OM GUI 147
Responding to an Open HEG Intervention 153
Viewing Pending HEG Granules 158
Viewing Operator Alerts on the OM GUI 161

Viewing Completed Operator Actions and Interventions on the OM GUI 165
Filtering Data Displayed on the Completed Operator Actions and Interventions Page 171
Viewing Historical Distribution Requests on the OM GUI 173
Viewing and Responding to Suspended FTP Push Distribution Destinations 176
Viewing and Responding to Destination Details on the OM GUI 180
Checking/Modifying OM Queue Status 183
Checking/Modifying HEG Order Status 188
Checking Staging Status 190
Checking/Modifying Values Assigned to OM Configuration Parameters 194
Checking/Modifying Values Assigned to Aging Parameters 195
Checking/Modifying Values Assigned to OMS Server or Database Parameters 198
Checking/Modifying Values Assigned to Media Parameters 202
Checking/Modifying Values Assigned to Media Creation Parameters 207
Checking/Modifying FTP Push Policy Configuration 210
Adding Destinations to the Frequently Used Destinations List 216
Modifying Values Assigned to Parameters of Frequently Used Destinations 223
Using OM GUI Help 227
Viewing the OM GUI Log 228
Viewing PMD Open Intervention Information on the OM GUI 232
Responding to a PMD Open Intervention 239
Checking/Modifying PMD Device Configuration 246
Filtering Data Displayed on the PMD Device Configuration Page 258
Checking/Modifying PMD Printer Configuration 259
Checking/Modifying PMD Production Module Configuration 263
Checking PMD Reports 268
Monitoring/Controlling PMD Media Creation Using the OM GUI 271
Activating PMD Requests 280
Activating PMD Requests 280
Failing a PMD Request 285
Annotating a PMD Action 288

Mounting Media for PMD Production 291
Confirming Mount Media for PMD 291
Failing Mount Media for PMD 295
Collecting Media for PMD QC 298
Confirming Media Collection Complete for PMD 299
Failing PMD Media Collection 302
Activating Media for QC 305
Activating QC for PMD Requests 305
Mounting Media for PMD QC 309
Assembling PMD Packages 309
Marking PMD Request Shipped 310
Confirming PMD Media Dismounted 313
Confirming PMD Package Assembled 317
Marking PMD Package Not Assembled 320
Printing PMD Outputs 324

Cleanup Manager

Error! Bookmark not defined.Using the Order Manager Command Line Utility

Order Manager Command Line Utility 328
Running the OM Command Line Utility 328
Preparing Input Files for Use with the OM Command Line Utility 328
Running the OM Command Line Utility 332

Using the OMS Configuration Script (OMS Configuration CI)

OMS Configuration Script (OMS Configuration CI) Activities 336
Starting the OMS Configuration CI 336
Preparing Input Files for Use with the OMS Configuration CI 336
Starting the OMS Configuration CI 341

Using the OMS Configuration CI 343
Processing Input Files Specified for Synergy III Exceptions 344
Configuring How Long Order-Tracking Information is Kept in the OMS Database 347
Switching Between Synergy IV and Synergy III Operations 353
Getting OMS Configuration CI Help 355

Tuning Data Server Subsystem Parameters

Tuning Data Server Subsystem Configuration Parameters 358
Modifying System Parameters in the Configuration Registry Database 358
Tuning System Parameters in the Storage Management and Data Distribution Database 361

Tuning Order Manager Subsystem and Data Pool Parameters

Tuning Order Manager Subsystem and Data Pool Configuration Parameters 390
Staging Policies 391
Preventing a Set of Distribution Requests from Monopolizing Archive Tape Drives 392
Adjusting the Pace of Staging 395
Throttling Archive Staging for Output Devices and FTP Connections 399
Ensuring the Staging of Low-Priority Requests at a Reasonable Pace 399
Ensuring That High-Priority Requests Are Expedited 401
Reserving Enough Tape Drives for Non-OMS/Non-DPL-Related Activities 403
Managing Data Pool In-Cache and From-Tape Insert Processes Efficiently 404
Optimizing Tape Archive Resources 405
Summary 406
OMS Database Cleanup Guidelines 406
Removal of Completed OMS Actions, Interventions and Notifications 406
Removal of Order-Tracking Information for Completed Orders 407

Troubleshooting DDIST and Order Manager GUI Problems

Trouble Symptoms 408
Fault Recovery 409
Fault Handling 410
Client Crash and Restart 412

Server Crash and Restart 413
Request Resubmission 415
Troubleshooting a DDIST, STMGT, or Order Manager GUI Failure 417
DDIST Troubleshooting Procedures 477
Checking Connections to Hosts/Servers 478
Recovering from a Data Distribution Failure 479
Responding to Requests that Exceed the Distribution Request Threshold 480
Checking the Connection to the Remote FTP Host 481
Handling an Acquire Failure 485
Checking Log Files 504
Checking Database Connections 507
Recovering from Order Manager Failures 511
Determining the Permissions for Creating an Ftp Pull Subdirectory 516
Notes Concerning the OMS Database 517
Recovering from HEG Failures 518
Troubleshooting a HEG Failure 518
Checking HEG Server Log Files 536
Checking Files in the HEG Tempfiles Directory 548

Practical Exercise

Logging in to System Hosts 553
Launching the Data Distribution Operator and Storage Management Control GUIs 553
Monitoring/Controlling Data Distribution Requests 554
Modifying Preambles 554
Configuring Storage Management Polling 555
Deleting Files from Cache 555
Viewing Storage Management Event Log Information 555
Monitoring Storage Management Server Operations 556
Launching the OM GUI 556
Viewing Open Intervention Information on the OM GUI 556
Responding to an Open Intervention 557

Monitoring/Controlling Distribution Request Information on the OM GUI 557
Changing the Priority of a Distribution Request Using the OM GUI 558
Suspending, Resuming, Canceling, or Resubmitting a Distribution Request Using the OM GUI 558
Editing FtpPush Parameters 559
Viewing Open HEG Intervention Information on the OM GUI 559
Responding to an Open HEG Intervention 559
Viewing Pending HEG Granules on the OM GUI 560
Viewing Operator Alerts on the OM GUI 560
Viewing a Completed Intervention 560
Viewing and Responding to Suspended Ftp Push Distribution Destinations 561
Checking/Modifying OM Queue Status 561
Checking/Modifying HEG Order Status 562
Checking Staging Status 562
Checking/Modifying OM Configuration Parameters 562
Adding a Destination to the Frequently Used Destinations List 563
Viewing the OM GUI Log 563
Viewing PMD Open Intervention Information on the OM GUI 564
Responding to a PMD Open Intervention 564
Checking and Modifying PMD Device Configuration 564
Monitoring/Controlling PMD Media Creation on the OM GUI 565
Preparing an Input File for Use with the OMS Configuration CI 565
Processing an Input File Specified for Synergy III Exceptions 566
Configuring How Long Order-Tracking Information is Kept in the OMS Database 566
Switching between Synergy IV and Synergy III Operations 566
Modifying System Parameters 567
Troubleshooting DDIST Problems 567
Troubleshooting OM GUI Problems 567

Slide Presentation

Slide Presentation Description 569

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Introduction

Identification

Training Material Volume 9 is part of Contract Data Requirements List (CDRL) Item 23, which is a required deliverable under the Earth Observing System Data and Information System (EOSDIS) Maintenance and Development (EMD) Contract (NAS5-03098).

Scope

Training Material Volume 9 describes the process and procedures for data distribution. This lesson is designed to provide the operations staff with sufficient knowledge and information to satisfy all lesson objectives.

Purpose

The purpose of this Student Guide is to provide a detailed course of instruction that forms the basis for understanding data distribution. Lesson objectives are developed and will be used to guide the flow of instruction for this lesson. The lesson objectives will serve as the basis for verifying that all lesson topics are contained within this Student Guide and slide presentation material.

Status and Schedule

This lesson module provides detailed information about training for the current baseline of the system. Revisions are submitted as needed.

Organization

This document is organized as follows:

Introduction:	The Introduction presents the document identification, scope, purpose, and organization.
Related Documentation:	Related Documentation identifies parent, applicable and information documents associated with this document.
Student Guide:	The Student Guide identifies the core elements of this lesson. All Lesson Objectives and associated topics are included.
Slide Presentation:	Slide Presentation is reserved for all slides used by the instructor during the presentation of this lesson.

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Related Documentation

Parent Documents

The parent documents are the documents from which the EMD Training Material's scope and content are derived.

423-41-01	Goddard Space Flight Center, EOSDIS Core System (ECS) Statement of Work
423-46-03	EMD Task 101 Statement of Work For ECS SDPS Maintenance
423-46-02	Contract Data Requirements Document for EMD Task 101 ECS SDPS Maintenance

Applicable Documents

The following documents are referenced within this EMD Training Material, or are directly applicable, or contain policies or other directive matters that are binding upon the content of this document:

420-05-03	Goddard Space Flight Center, Earth Observing System (EOS) Performance Assurance Requirements for the EOSDIS Core System (ECS)
423-41-02	Goddard Space Flight Center, Functional and Performance Requirements Specification for the Earth Observing System Data and Information System (EOSDIS) Core System (ECS) (ECS F&PRS)
423-46-01	Goddard Space Flight Center, Functional and Performance Requirements Specification for the Earth Observing System Data and Information System (EOSDIS) Core System (ECS) Science Data Processing System (EMD F&PRS)

Information Documents

Information Documents Referenced

The following documents are referenced herein and amplify or clarify the information presented in this document. These documents are not binding on the content of the EMD Training Material.

505-41-30	Interface Control Document between EOSDIS Core System (ECS) and the Version 0 System for Interoperability
609-EMD-001	Release 7.11 Operations Tools Manual for the EMD Project
611-EMD-001	Release 7.11 Mission Operation Procedures for the EMD Project

910-TDA-022 Custom Code Configuration Parameters for ECS

Information Documents Not Referenced

The following documents, although not referenced herein and/or not directly applicable, do amplify or clarify the information presented in this document. These documents are not binding on the content of the EMD Training Material.

305-EMD-001	Release 7.11Segment/Design Specification for the EMD Project
311-EMD-001	Release 7.11Data Management Subsystem (DMS) Database Design and Database Schema Specifications for the EMD Project
311-EMD-002	Release 7.11INGEST (INS) Database Design and Schema Specifications for the EMD Project
311-EMD-003	Release 7.11Planning and Data Processing Subsystem Database Design and Schema Specifications for the EMD Project
311-EMD-004	Release 7.11Science Data Server Database Design and Schema Specifications for the EMD Project
311-EMD-005	Release 7.11Storage Management and Data Distribution Subsystems Database Design and Database Schema Specifications for the EMD Project
311-EMD-006	Release 7.11Subscription Server Database Design and Schema Specifications for the EMD Project
311-EMD-007	Release 7.11Systems Management Subsystem Database Design and Schema Specifications for the EMD Project
311-EMD-008	Release 7.11Registry Database Design and Schema Specifications for the EMD Project
311-EMD-010	Release 7.11NameServer Database Design and Schema Specifications for the EMD Project
311-EMD-011	Release 7.11Order Manager Database Design and Database Schema Specifications for the EMD Project
311-EMD-012	Release 7.11Spatial Subscription Server (SSS) Database Design and Schema Specifications for the EMD Project
311-EMD-013	Release 7.11Data Pool Database Design and Schema Specifications for the EMD Project
313-EMD-001	Release 7.10Internal Interface Control Document for the EMD Project
508-EMD-001	ACRONYMS for the EOSDIS Maintenance and Development (EMD) Project
152-TP-003	Glossary of Terms for the EOSDIS Core System (ECS) Project

Data Distribution Overview

Lesson Overview

This lesson will provide you with the complete process by which the Distributed Active Archive Center (DAAC) personnel perform data distribution, including order management using the Order Manager (OM) graphical user interface (GUI). The processes described in the lesson apply to Distribution Technicians. The procedures involved in data distribution through the Data Distribution (DDIST) Computer Software Configuration Item (CSCI) include such tasks as monitoring data distribution requests; changing the priority of a distribution request; canceling, suspending and/or resuming a distribution request; unloading/loading tape stackers. The procedures involved in OM GUI operation include such tasks as launching the OM GUI, responding to an open intervention, viewing distribution request information, viewing a completed intervention, and checking OM queue status.

Lesson Objectives

Overall Objective - The overall objective of the Data Distribution lesson is for personnel involved in maintenance and operation of the Earth Observing System Data and Information System (EOSDIS) Core System (ECS) to develop proficiency in the procedures that apply to data distribution.

Condition - The student will be given oral or written information and requirements for performing data distribution activities, access to the Data Server Subsystem, access to the OM GUI, a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - The student will perform data distribution activities in accordance with the prescribed procedures without error.

Specific Objective 1 - The student will describe the general functions and processes associated with data distribution (in the context of OMS and DDIST operations).

Condition - The student will be given written or oral questions concerning the general functions and processes associated with data distribution.

Standard - The student will state without error the general functions and processes associated with data distribution in accordance with the lesson content and the applicable procedures.

Specific Objective 2 - The student will perform the steps involved in logging in to system hosts.

Condition - The student will be given a statement of the requirements for logging in to system hosts, access to the Data Server Subsystem (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will access the command shell, set the DISPLAY environmental variable, and log in to the specified host using secure shell and the specified user ID.

Specific Objective 3 - The student will perform the steps involved in launching the Data Distribution Operator graphical user interface (GUI) and the Storage Management Control GUI.

Condition - The student will be given a statement of the requirements for launching the Data Distribution Operator and Storage Management Control GUIs, access to the Data Server Subsystem (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will log in to the appropriate host using secure shell, enter the command to start the Data Distribution Operator GUI in the specified mode, and enter the command to start the Storage Management Control GUI in the specified mode.

Specific Objective 4 - The student will perform the steps involved in monitoring/controlling data distribution requests, including configuring data distribution polling, filtering data distribution requests, changing the priority of distribution requests, suspending/resuming distribution requests, and canceling distribution requests.

Condition - The student will be given a statement of the requirements for monitoring/controlling data distribution requests, access to the previously launched Data Distribution Operator GUI in the Data Server Subsystem (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will monitor/control data distribution requests (including configuring data distribution polling, filtering requests, and changing the status of distribution requests as directed) and respond to questions concerning the current status of distribution requests.

Specific Objective 5 - The student will perform the steps involved in modifying an e-mail preamble applicable to data distribution.

Condition - The student will be given a statement of the requirements for modifying an e-mail preamble applicable to data distribution, access to the previously launched Data Distribution Operator GUI in the Data Server Subsystem (through a workstation or X terminal), a copy of

609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will select the Preamble Editor tab of the Data Distribution Operator GUI, select the appropriate media type, select the appropriate preamble type, edit the preamble text, and save the edited preamble.

Specific Objective 6 - The student will perform the steps involved in configuring Storage Management polling functions.

Condition - The student will be given a statement of the requirements for configuring Storage Management polling functions, access to the previously launched Storage Management Control GUI in the Data Server Subsystem (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will select the appropriate option from the pull-down menu on the Storage Management Control GUI, set the Operator Notification Timer and/or Cache Statistics Timer to the appropriate polling states as directed, enter database polling rates as directed, set the error retry rate as directed, and apply the modifications.

Specific Objective 7 - The student will perform the steps involved in deleting files from cache.

Condition - The student will be given a statement of the requirements for deleting files from cache, access to the previously launched Storage Management Control GUI in the Data Server Subsystem (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will select the Cache Stats. tab on the Storage Management Control GUI, select the cache containing the files to be deleted, select the file(s) to be deleted from the cache, and mark the file(s) for deletion.

Specific Objective 8 - The student will perform the steps involved in viewing storage management event log information.

Condition - The student will be given a statement of the requirements for viewing storage management event log information, access to the previously launched Storage Management Control GUI in the Data Server Subsystem (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will select the Event Logging tab of the Storage Management Control GUI, enter the defining characteristic(s) of the event, search the event log for events that meet the

specified criteria, observe event information displayed in the Event Log table, and respond to questions concerning the event information displayed in the Event Log table.

Specific Objective 9 - The student will perform the steps involved in monitoring storage management server operations.

Condition - The student will be given a statement of the requirements for monitoring storage management server operations, access to the Data Server Subsystem (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will monitor storage management servers (including filtering requests) and respond to questions concerning the current status of storage management requests.

Specific Objective 10 - The student will perform the steps involved in launching the Order Manager (OM) GUI.

Condition - The student will be given a statement of the requirements for launching the OM GUI, access to system hosts (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will log in to an appropriate host using secure shell, enter the command to start the Netscape browser, enter the URL to access the OM GUI in the specified mode, and enter the appropriate user name and password in the security dialogue box.

Specific Objective 11 - The student will perform the steps involved in viewing open intervention information on the OM GUI.

Condition - The student will be given a statement of the requirements for viewing open intervention information on the OM GUI, access to the previously launched OM GUI (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will use the OM GUI to select the Open Interventions link and the Open Intervention Detail page for a specific open intervention and will respond to questions concerning the intervention.

Specific Objective 12 - The student will perform the steps involved in responding to an open intervention using the OM GUI.

Condition - The student will be given a statement of the requirements for responding to an open intervention using the OM GUI, access to the previously launched OM GUI (through a

workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will use the OM GUI to select the Open Interventions link, select the specified intervention, assign self to work on the intervention, select the appropriate attributes for the intervention, apply the attributes, and confirm the disposition of the intervention.

Specific Objective 13 - The student will perform the steps involved in monitoring and controlling distribution requests on the OM GUI.

Condition - The student will be given a statement of the requirements for monitoring and controlling distribution request information on the OM GUI, access to the previously launched OM GUI (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will use the OM GUI to select the Distribution Requests link and respond to questions concerning distribution request status, change the priority of a distribution request (if applicable), suspend, resume, cancel, resubmit, or stop a distribution request (if applicable), view open intervention information (if applicable), edit ftp push parameters (if applicable), view operator alerts (if applicable), view to staging requests (if applicable), and/or view ftp push distribution requests (if applicable).

Specific Objective 14 - The student will perform the steps involved in changing the priority of a distribution request using the OM GUI.

Condition - The student will be given a statement of the requirements for changing the priority of a distribution request using the OM GUI, access to the previously launched OM GUI (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will use the OM GUI to select the priority from the option button in the Priority column of the row associated with the specified request and apply the selected priority.

Specific Objective 15 - The student will perform the steps involved in suspending, resuming, canceling, resubmitting, or stopping a distribution request using the OM GUI.

Condition - The student will be given a statement of the requirements for suspending, resuming, canceling, resubmitting, or stopping a distribution request using the OM GUI, access to the previously launched OM GUI (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will use the OM GUI to click on the appropriate button in the Action column of the row associated with the request, respond to the applicable dialogue box(es), initiate an intervention to resubmit the specified request (if resubmitting a request), specify the appropriate attributes of the intervention as specified in the requirements (if resubmitting a request), and confirm the disposition of the intervention (if resubmitting a request).

Specific Objective 16 - The student will perform the steps involved in editing ftp push parameters.

Condition - The student will be given a statement of the requirements for editing ftp push parameters, access to the previously launched OM GUI (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will use the OM GUI to select the applicable Request ID in the Distribution Requests table (if necessary), select the Edit FtpPush Parameters button on the Distribution Request Detail page (if necessary), enter appropriate values in the text boxes (as necessary), and select the applicable change button.

Specific Objective 17 - The student will perform the steps involved in viewing open HDF-EOS to GeoTIFF Conversion Tool (HEG) intervention information on the OM GUI.

Condition - The student will be given a statement of the requirements for viewing open HEG intervention information on the OM GUI, access to the previously launched OM GUI (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will use the OM GUI to select the HEG Interventions link and the HEG Intervention Detail page for a specific HEG intervention and will respond to questions concerning the intervention.

Specific Objective 18 - The student will perform the steps involved in responding to an open HEG intervention using the OM GUI.

Condition - The student will be given a statement of the requirements for responding to an open HEG intervention using the OM GUI, access to the previously launched OM GUI (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will use the OM GUI to select the HEG Interventions link, select the specified intervention, assign self to work on the intervention, select the appropriate disposition for the intervention, and confirm the disposition of the intervention.

Specific Objective 19 - The student will perform the steps involved in viewing pending HEG granules on the OM GUI.

Condition - The student will be given a statement of the requirements for viewing pending HEG granules on the OM GUI, access to the previously launched OM GUI (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will use the OM GUI to select the Pending HEG Granules link and will respond to questions concerning specific granules as displayed on the Pending HEG Granules page.

Specific Objective 20 - The student will perform the steps involved in viewing operator alerts on the OM GUI.

Condition - The student will be given a statement of the requirements for viewing operator alerts on the OM GUI, access to the previously launched OM GUI (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will use the OM GUI to select the Operator Alerts link, respond to questions concerning specific alerts as displayed on the Operator Alerts page, select the corresponding details link in the Alert Info column, and respond to questions concerning alert details as displayed on the detail page.

Specific Objective 21 - The student will perform the steps involved in viewing a completed operator action or intervention using the OM GUI.

Condition - The student will be given a statement of the requirements for viewing a completed operator action or intervention using the OM GUI, access to the previously launched OM GUI (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will use the OM GUI to select the Request Management link, select the Completed Operator Actions & Interventions link, and respond to questions concerning a specified completed action or intervention as displayed on the Completed Operator Actions and Interventions page.

Specific Objective 22 - The student will perform the steps involved in viewing and responding to suspended ftp push distribution destinations using the OM GUI.

Condition - The student will be given a statement of the requirements for viewing and responding to suspended ftp push distribution destinations using the OM GUI, access to the previously launched OM GUI (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will use the OM GUI to select the FtpPush Monitor link, select the Suspended Destinations link, respond to questions concerning the information displayed on the Suspended Destinations page, select the Resume button to resume a suspended destination, either enter the destination name (for a destination to be suspended) in the Destination Name text box or type the host name in the FTP Node text box, and select the Suspend button to suspend an active destination.

Specific Objective 23 - The student will perform the steps involved in checking and modifying OM queue status using the OM GUI.

Condition - The student will be given a statement of the requirements for checking and modifying OM queue status using the OM GUI, access to the previously launched OM GUI (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will use the OM GUI to select the OM Status Pages link, select the OM Queue Status link, respond to questions concerning OM queue status, select the appropriate state from the correct Change State option button as directed, and apply the state change(s).

Specific Objective 24 - The student will perform the steps involved in checking and modifying HEG order status using the OM GUI.

Condition - The student will be given a statement of the requirements for checking and modifying HEG order status using the OM GUI, access to the previously launched OM GUI (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will use the OM GUI to select the HEG Order Status link, and respond to questions concerning HEG order status.

Specific Objective 25 - The student will perform the steps involved in checking staging status.

Condition - The student will be given a statement of the requirements for checking staging status, access to the previously launched OM GUI (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will use the OM GUI to select the OM Status Pages link, select the Media Type link or FTP Push Destination link as directed, and respond to questions concerning staging status as displayed on the staging status pages.

Specific Objective 26 - The student will perform the steps involved in checking and modifying OM configuration parameters.

Condition - The student will be given a statement of the requirements for checking and modifying OM configuration parameters, access to the previously launched OM GUI (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will use the OM GUI to select the OM Configuration link, select the Aging Parameters, Server/Database, Media or FTP Push Policy link as directed, respond to questions concerning configuration parameters as displayed on the configuration parameters pages, enter the new value(s) in the text entry box(es) for the relevant parameter(s), and apply the new value(s).

Specific Objective 27 - The student will perform the steps involved in adding a destination to the frequently used destinations list.

Condition - The student will be given a statement of the requirements for adding a destination to the frequently used destinations list, access to the previously launched OM GUI (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will use the OM GUI to select the OM Configuration link, select the FTP Push Policy link, select the Add a Destination button, enter value(s) in the text entry box(es) for the relevant attribute(s)/parameter(s) as directed, select the retry mode from the option button as directed, enter the applicable text in the Notes text box as directed, apply the values entered for the new destination, and confirm the new destination.

Specific Objective 28 - The student will perform the steps involved in viewing the OM GUI log.

Condition - The student will be given a statement of the requirements for viewing the OM GUI log, access to the previously launched OM GUI (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will use the OM GUI to select the Logs link, select the OM GUI Log Viewer link, enter the appropriate number of lines to be displayed (as directed), initiate viewing of the log, and respond to questions concerning entries in the OM GUI log.

Specific Objective 29 - The student will perform the steps involved in viewing PMD open intervention information on the OM GUI.

Condition - The student will be given a statement of the requirements for viewing PMD open intervention information on the OM GUI, access to the previously launched OM GUI (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will use the OM GUI to select the Physical Media Distribution Open Interventions link and the PMD Open Intervention Detail page for a specific open intervention and will respond to questions concerning the intervention.

Specific Objective 30 - The student will perform the steps involved in responding to a PMD open intervention using the OM GUI.

Condition - The student will be given a statement of the requirements for responding to a PMD open intervention using the OM GUI, access to the previously launched OM GUI (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will use the OM GUI to select the Physical Media Distribution Open Interventions link, select the specified intervention, assign self to work on the intervention, select the appropriate disposition for the intervention, and confirm the disposition of the intervention.

Specific Objective 31 - The student will perform the steps involved in checking and modifying PMD device configuration.

Condition - The student will be given a statement of the requirements for checking and modifying PMD device configuration, access to the previously launched OM GUI (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will use the OM GUI to select the Physical Media Distribution Device Configuration link, respond to questions concerning device configuration as displayed on the Physical Media Distribution Device Configuration page, and change the on-line or off-line status of a device (as directed).

Specific Objective 32 - The student will perform the steps involved in monitoring and controlling PMD media creation on the OM GUI.

Condition - The student will be given a statement of the requirements for monitoring and controlling PMD media creation on the OM GUI, access to the previously launched OM GUI

(through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will use the OM GUI to select the Media Creation Actions link and respond to questions concerning PMD request status, respond to system prompts to activate a request, mount media for production, collect media for QC, activate media for QC, mount media for QC, and assemble the package.

Specific Objective 33 - The student will perform the steps involved in preparing an input file for use with the OMS Configuration CI.

Condition - The student will be given a statement of the requirements for preparing an input file for use with the OMS Configuration CI, access to system hosts (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will access a terminal window logged in to the Sun Consolidation Internal host, enter the path to the "utilities" directory, use text editor commands to create a file that specifies the relevant values (as directed) to be sent to the OMS.

Specific Objective 34 - The student will perform the steps involved in processing an input file specified for Synergy III exceptions.

Condition - The student will be given a statement of the requirements for processing an input file specified for Synergy III exceptions, access to system hosts (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will access a terminal window logged in to the Sun Consolidation Internal Server host, enter the path to the "utilities" directory, enter the command to start the OMS Configuration CI in the specified mode with the appropriate options for the specified exceptions, and respond appropriately to menu prompts.

Specific Objective 35 - The student will perform the steps involved in configuring how long order-tracking information is kept in the OMS database.

Condition - The student will be given a statement of the requirements for configuring how long order-tracking information is kept in the OMS database, access to system hosts (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will access a terminal window logged in to the Sun Consolidation Internal Server host, enter the path to the "utilities" directory, enter the command to start the OMS Configuration CI in the specified mode with the appropriate options for order-tracking information retention, and respond appropriately to menu prompts.

Specific Objective 36 - The student will perform the steps involved in switching between Synergy IV and Synergy III operations.

Condition - The student will be given a statement of the requirements for switching between Synergy IV and Synergy III operations, access to system hosts (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will access a terminal window logged in to the Sun Consolidation Internal Server host, enter the path to the "utilities" directory, enter the command to start the OMS Configuration CI in the specified mode with the appropriate options for switching between Synergy IV and Synergy III operations, respond appropriately to menu prompts (but not actually switch between Synergy IV and Synergy III), and describe how to complete the switch between Synergy IV and Synergy III operations.

Specific Objective 37 - The student will perform the steps involved in modifying system parameters in database tables.

Condition - The student will be given a statement of the requirements for modifying system parameters in database tables, access to the Data Server Subsystem (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will log in to the appropriate host using secure shell and use the appropriate GUI, script, or interactive structured query language (isql) commands to modify the value assigned to the parameter in a database table.

Specific Objective 38 - The student will perform the steps involved in troubleshooting DDIST problems.

Condition - The student will be given a statement of the requirements for troubleshooting data distribution problems, access to the Data Server Subsystem (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will review the trouble symptoms, respond to requests that exceed the

distribution request threshold (if applicable), check for an acquire failure, check appropriate log files (as necessary), take action to correct the problem(s), verify that distribution request processing has resumed, and respond to questions concerning the possible cause(s) of the problem.

Specific Objective 39 - The student will perform the steps involved in troubleshooting Order Manager (OM) GUI problems.

Condition - The student will be given a statement of the requirements for troubleshooting OM GUI problems, access to the OM GUI (through a workstation or X terminal), a copy of 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-001, *Release 7.11Mission Operation Procedures for the EMD Project*.

Standard - In accordance with the lesson content, the applicable procedure, and the statement of requirements the student will review the trouble symptoms, Respond to Order Manager GUI user messages (as necessary), check the OM GUI log (as necessary), take action to correct the problem(s), verify that the problem(s) has (have) been corrected, and respond to questions concerning the possible cause(s) of the problem.

Importance

This lesson applies to students who will be Distributed Active Archive Center (DAAC) Distribution Technicians. The lesson will provide them with the knowledge and skills needed when performing their assigned tasks. Those tasks include the following types of activities:

- Launching the Data Distribution Operator and Storage Management Control GUIs.
- Monitoring/controlling data distribution requests.
- Modifying packing list and e-mail preambles.
- Configuring Storage Management polling.
- Deleting files from cache.
- Viewing Storage Management Event Log information.
- Monitoring Storage Management server operations.
- Launching the Order Manager GUI.
- Monitoring/controlling Order Manager operations.
- Using the OMS configuration script (OMS Configuration CI)
- Modifying system parameters.
- Troubleshooting DDIST problems.

The lesson describes why and how the activities are performed. Consequently, the students will become aware of what tasks they will be performing on the job and how to accomplish those tasks.

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Distribution Concepts

System Context

Data distribution is accomplished at the Distributed Active Archive Centers (DAACs). The people involved in data distribution activities are Distribution Technicians.

The Context Diagram (Figure 1) shows the relationships among subsystems within the Science Data Processing component of the system. The Order Manager Subsystem (OMS) manages all the orders for data arriving via either the V0 Gateway (GTWAY), the Machine-to-Machine Gateway, the Data Pool Web Access GUI, the Spatial Subscription Server (NBSRV), or the Science Data Server (SDSRV) Command Line Interface (SCLI).

The OMS performs validation of the orders it receives and dispatches each validated request to the appropriate order-fulfillment service. The OMS manages distribution of data from the Data Pool (DPL) by FtpPush, FtpPull, or the following types of physical media:

- 8mm tape cartridges.
- Digital Linear Tape (DLT).
- Compact disk (CD).
- DVD (formerly “digital video disk” or “digital versatile disk” now referred to as just "DVD").

The DSS, which manages access to the data archive, is key to distribution of data that are not in the Data Pool as well as performing several other functions (e.g., inserting data into the archive).

The context diagram (Figure 1) shows a generalized (high-level) view of the system. The Order Manager Subsystem (OMS) architecture diagram (Figure 2) illustrates the relationship of the Order Manager with the various subsystems on both the input (order-receiving) and output (order-dispatching) sides of order management. The Data Distribution (DDIST), Storage Management (STMGT), and Science Data Server (SDSRV), architecture diagrams (Figures 3 through 5 respectively) focus on the individual computer software configuration items (CSCIs) of the Data Server Subsystem and their relationships with each other and with other subsystems.

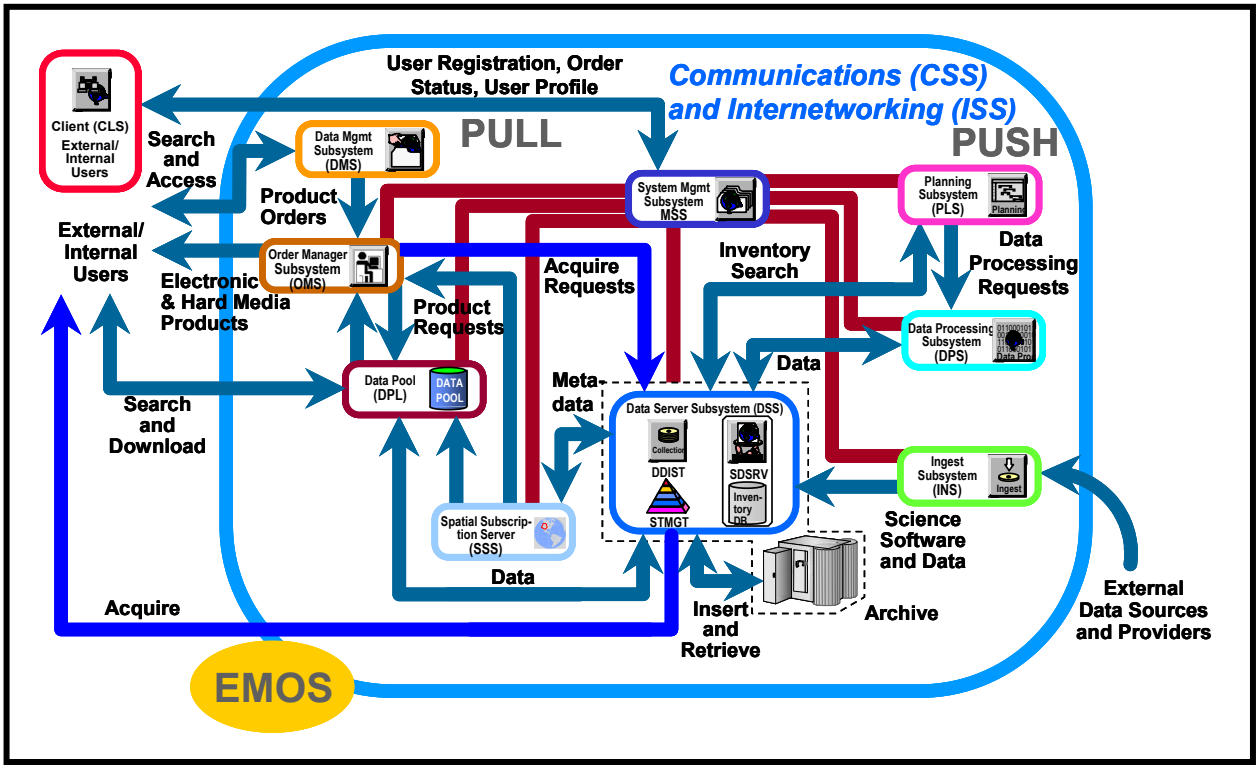

Figure 1. Context Diagram

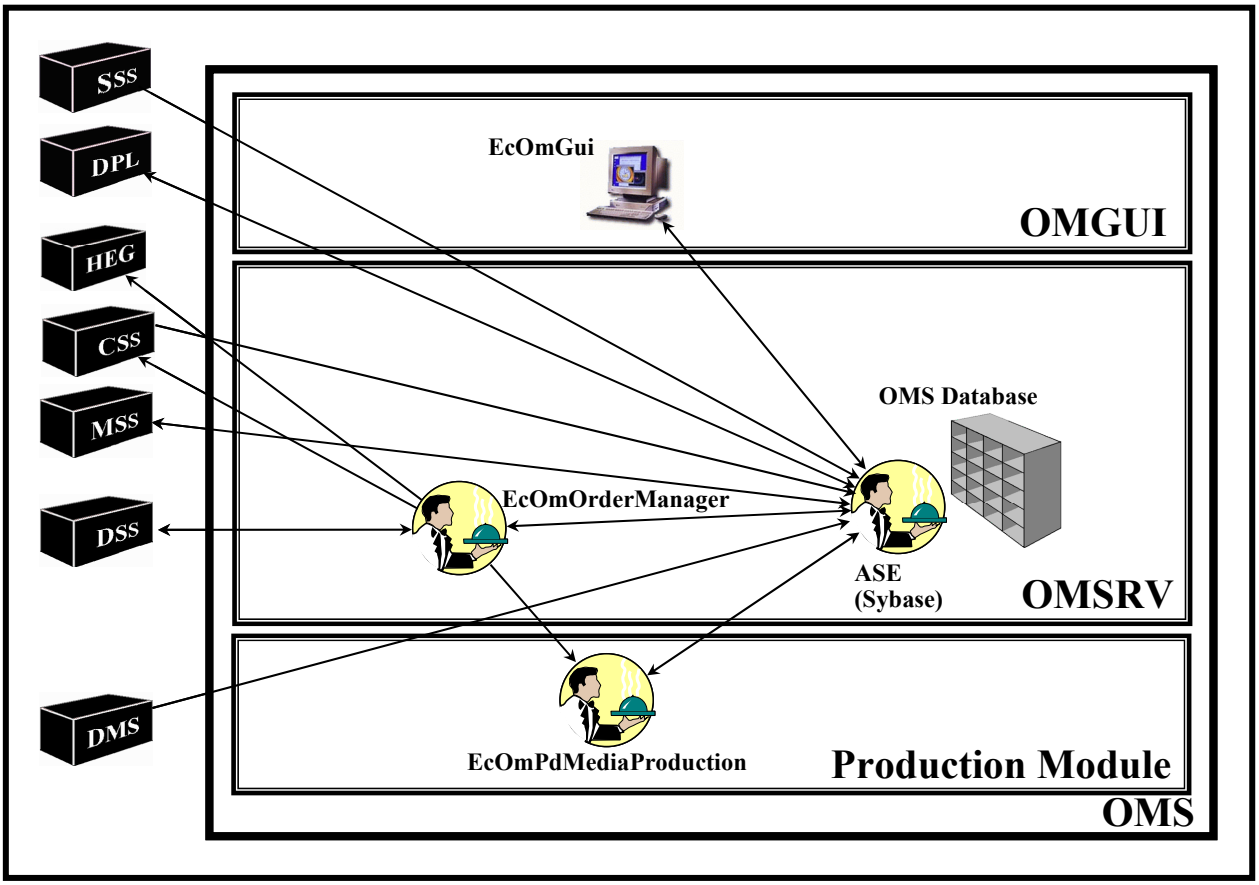

Figure 2. Order Manager Subsystem (OMS) Architecture

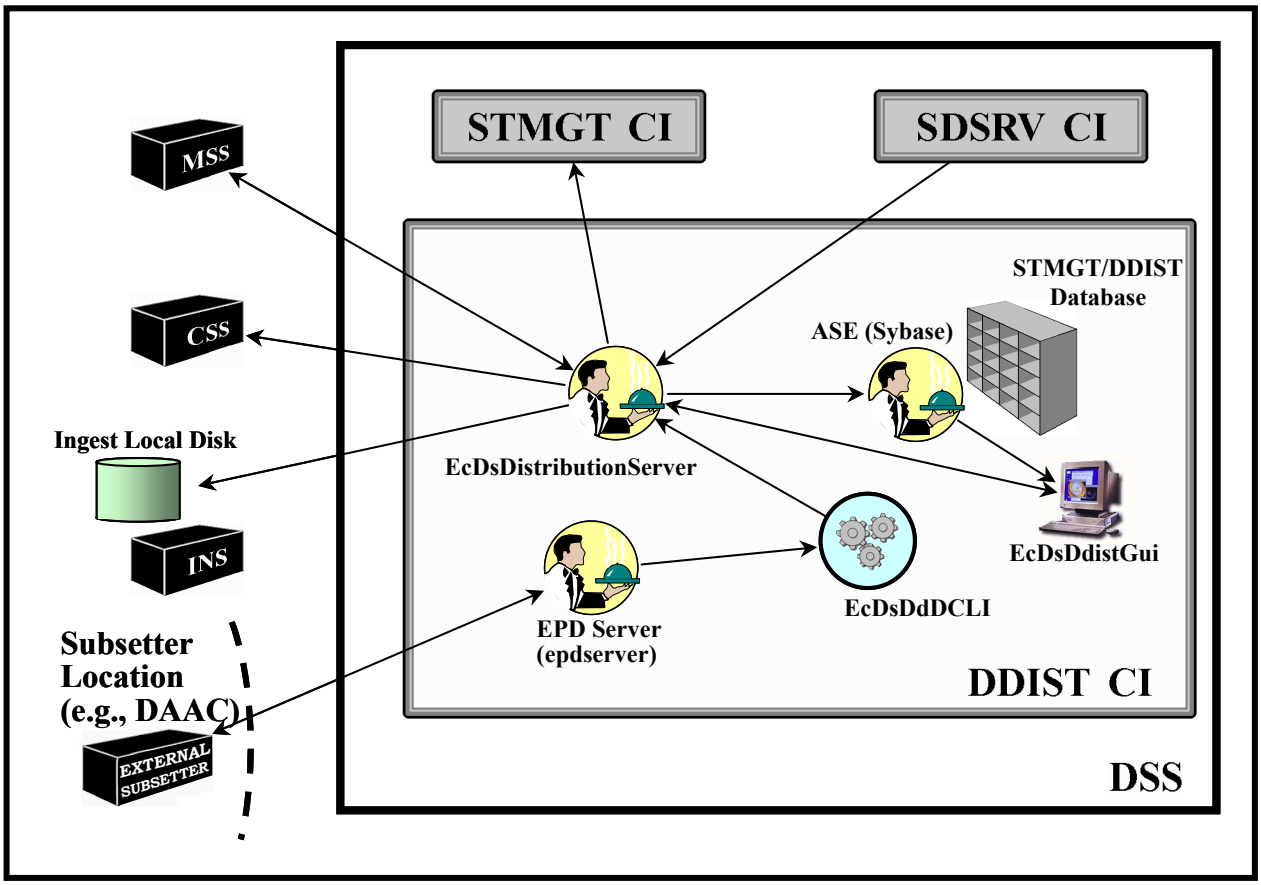

Figure 3. DSS Data Distribution (DDIST) CSCI Architecture

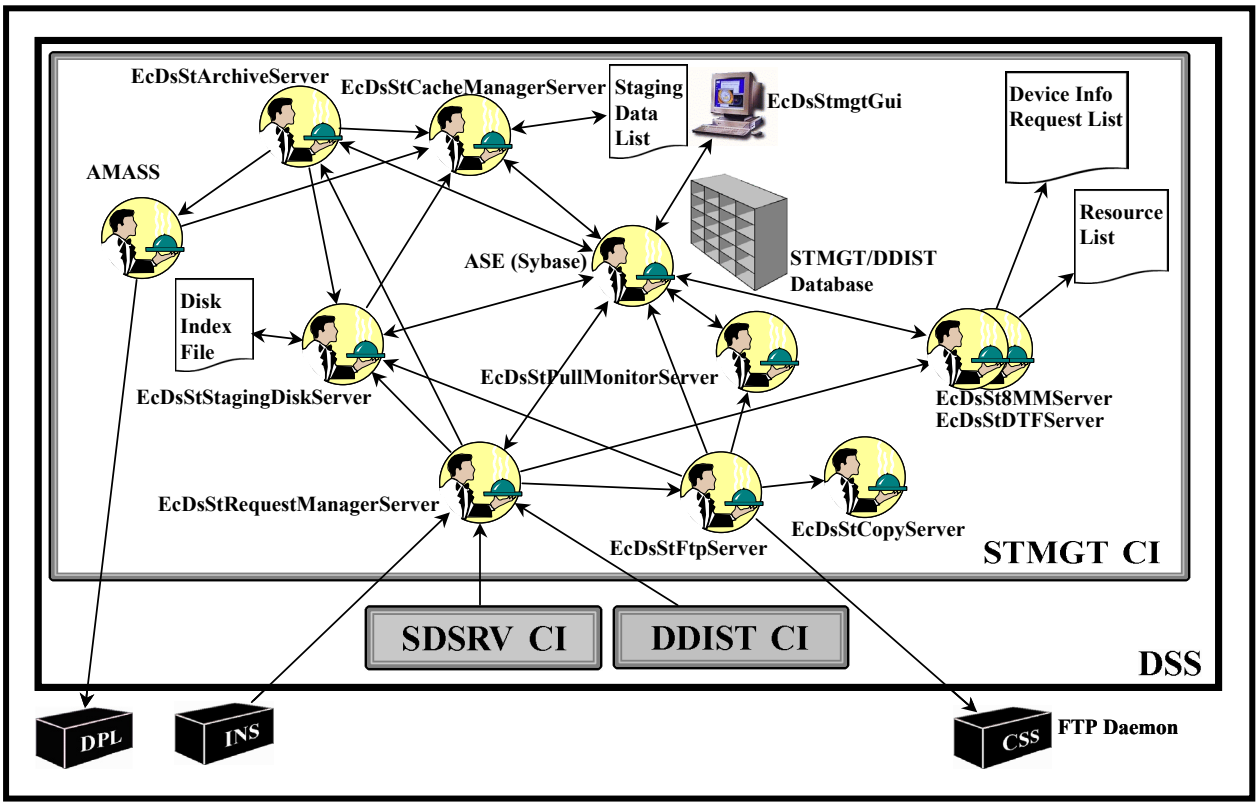

Figure 4. DSS Storage Management (STMGT) CSCI Architecture

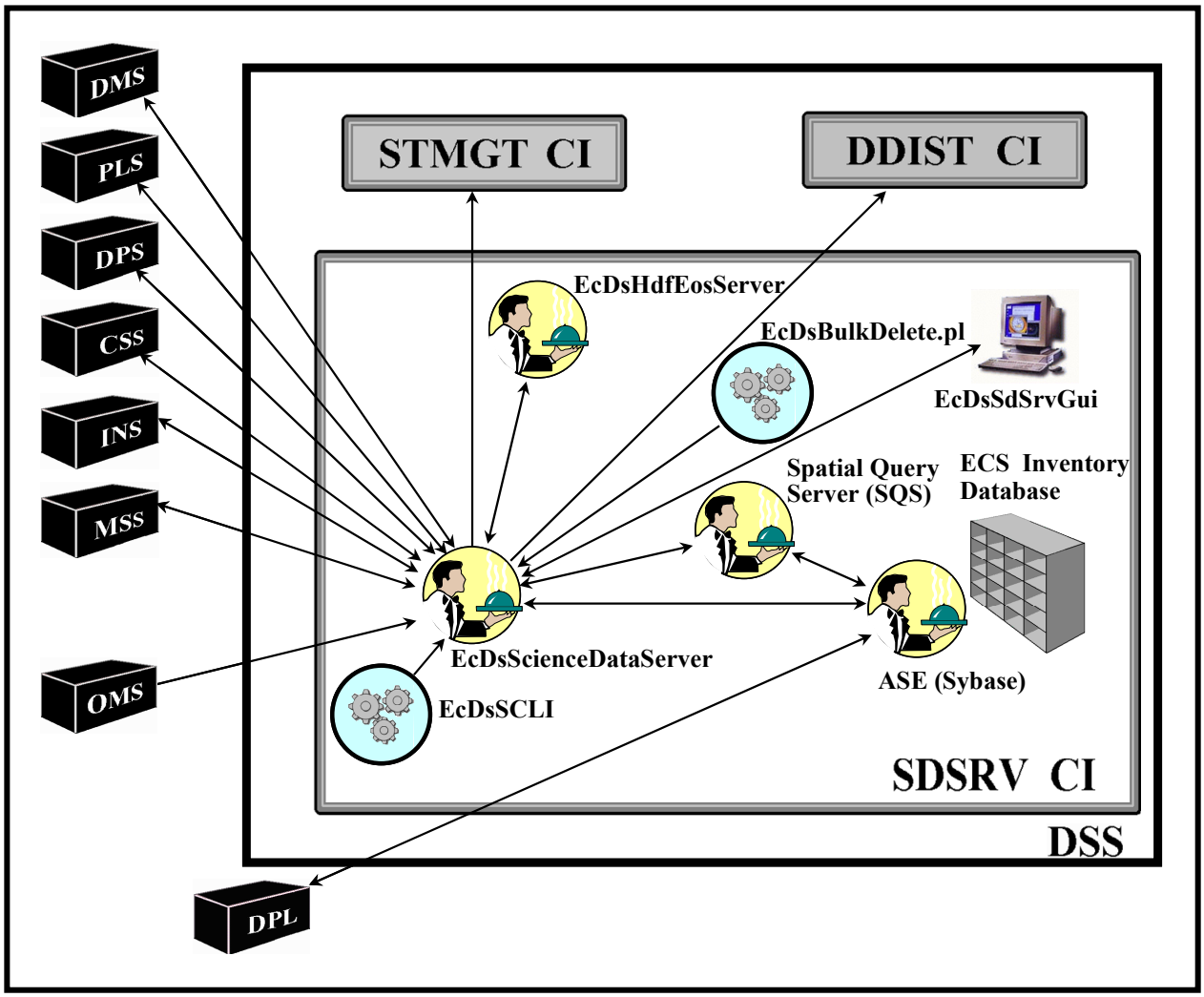

Figure 5. DSS Science Data Server (SDSRV) CSCI Architecture

Order Manager Subsystem (OMS)

The Order Manager Subsystem (OMS) performs the following functions:

- Manages all the orders arriving via either the V0 Gateway (GTWAY), the Machine-to-Machine Gateway, the Data Pool Web Access GUI [including hard-media orders and HDF-EOS to GeoTIFF Conversion Tool (HEG) orders], the Spatial Subscription Server (NBSRV), or the SCLI.
- Performs validation of the orders it receives before submitting the applicable requests to the order-fulfilling services.
- Queues HEG requests and dispatches individual line items to HEG services, which subset the individual line items.
- If the media type or Earth Science Data Types (ESDTs) of a request are configured for Synergy III processing mode or the order manager server is configured for Synergy III mode, dispatches each validated request to SDSRV.
  - The implementation of the Release 7.11 bulk browse capability (which affects the ECSBBR data type) removed the need for Synergy III processing by ESDT. (ECSBBR was the last ESDT requiring a Synergy III exception.)
  - Until OMS distribution via scp has been implemented, any DAAC supporting scp distribution requires a media type exception (Synergy III processing) for scp requests.
- Normally OMS stages each order to Data Pool storage (and creates links from staged files to the FtpPull directory in the Data Pool storage if the distribution type is FtpPull), distributes the order to the appropriate service (i.e., Production Module or OMS Ftp Driver) depending on whether distribution type is media or FtpPush, then sends a Distribution Notice to the end user when the order is considered shipped.
  - If the distribution type is FtpPull, OMS stages each order to Data Pool storage and creates links from staged files to the FtpPull directory in the Data Pool storage.
  - If the ESDT is ECSBBR and OMS has been reconfigured to remove the OMS exception for that collection, OMS submits an insert request for the ECSBBR granule to the DPL CI. DPL stages the cross-reference file in the Data Pool hidden directory structure. Then OMS executes the OMS Bulk Browse Utility, which extracts the browse cross-reference and copies into the Data Pool Storage Area Network (SAN) any relevant browse granule files that don't reside there already. The utility updates the file list for the granule in OMS to include the new files. Then OMS performs the remainder of the distribution as usual. To OMS the granule looks no different than any other multi-file granule. To DPL the granule looks like a single-file granule of the ECSBBR collection.

The orders that arrive via the V0 Gateway are those that have been submitted by EDG, EOSDIS ClearingHOuse (ECHO), or ASTER Ground Data System (GDS) users.

- The OMS has no involvement with other types of orders (e.g., input data for Data Processing) that do not come from either the V0 Gateway the Machine-to-Machine Gateway, the Data Pool Web Access GUI [including hard-media orders and HEG orders], the Spatial Subscription Server, or the SCLI.

If a request does not pass validation, an "intervention" is created and the request is held until it has been reviewed by a DAAC technician.

- The intent is to catch many of the kinds of exceptions or errors that have caused requests to fail or be suspended during downstream request processing.
  - Such problems include very large orders and inappropriate media selections (given the size of the order).
- A DAAC technician reviews each intervention and either modifies the request (so it will be likely to succeed) or terminates the request (if it can't be made to succeed).
  - In either case negative effects on downstream processing are less likely to occur.

If errors are encountered during processing or shipping, the DAAC technician can cancel or resubmit the affected request using the Order Manager GUI.

The OMS has the following four major components (as shown in Figure 2):

- Order Manager Server.
  - Server that processes data requests from ordering services; e.g., the V0 Gateway or the Spatial Subscription Server (NBSRV).
  - Dispatches the requests to order-fulfillment services; e.g., Science Data Server (SDSRV) or ftp daemon.
  - Generates packaging and shipping artifacts for OMS-managed physical media distribution.
    - Packing lists.
    - Shipping labels.
    - E-mail distribution notices.
- Sybase ASE Server.
  - COTS software application that handles order management-related interactions (including insertion and retrieval of data) with the Order Management database.
- Order Manager (OM) GUI.
  - GUI that allows operators to view and modify requests that the Order Manager Server has placed on hold because they require operator intervention.

  - In addition, the GUI allows operators to suspend, resume, cancel, resubmit, or change the priority of requests.

- Production Module (EcOmPdMediaProduction).
  - Transfers digital products to any of the following types of physical media:
    - CD-ROM.
    - DVD-ROM.
    - High-density 8mm tape.
    - DLT 7000c.
  - Prints labels and inserts for physical media distribution:
    - Tape labels.
    - CD-ROM and DVD-ROM labels (printed on the disks).
    - Jewel-case inserts.
- OMS Bulk Browse Utility.
  - Extracts the browse cross-reference (after DPL has staged the ECSBBR cross-reference file in the Data Pool hidden directory structure) and copies into the Data Pool (SAN) any browse granule files that are not there already.
    - Browse granule files are copied in the original Browse format (i.e., HDF not jpeg).
  - Updates the file list for the granule in OMS to include the files copied to the Data Pool.

The following scripts in the /usr/ecs/*MODE*/CUSTOM/WWW/OMS/cgi-bin directory on the Data Pool Server host implement the **OM GUI** (but are not invoked directly by Distribution personnel):

- EcCoLogin.pl
- EcCoShutDown.pl
- EcOmGuiAgingConfig.pl
- EcOmGuiAlerts.pl
- EcOmGuiCloseConfirmation.pl
- EcOmGuiCompletedInterv.pl
- EcOmGuiCompletedIntervDetail.pl
- EcOmGuiConfigureFtpPush.pl

- EcOmGuiConfigureFtpPushDetail.pl
- EcOmGuiConfirmActions.pl
- EcOmGuiDBConfig.pl
- EcOmGuiDistributionRequestDetail.pl
- EcOmGuiDistributionRequests.pl
- EcOmGuiDistributionRequestsFilters.pl
- EcOmGuiEcsOrder.pl
- EcOmGuiEditFtpPushParameters.pl
- EcOmGuiEnvPerl
- EcOmGuiError.pl
- EcOmGuiFtpPushDestinationsDetail.pl
- EcOmGuiFtpSuspendedDestinations.pl
- EcOmGuiHelp.pl
- EcOmGuiHome.pl
- EcOmGuiHomePage.pl
- EcOmGuiLogViewer.pl
- EcOmGuiMediaConfig.pl
- EcOmGuiNav.pl
- EcOmGuiOpenInterv.pl
- EcOmGuiOpenIntervDetail.pl
- EcOmGuiOpenIntervDetailApplyAll.pl
- EcOmGuiQueueStatus.pl
- EcOmGuiServerStatistics.pl
- EcOmGuiStagingStatus.pl
- EcOmGuiUserProfile.pl

Distribution personnel start the OMS Configuration Command Line Interface (OMS Configuration CI) using following start-up script that is available in the /usr/ecs/*MODE*/CUSTOM/utilities directory on the Sun Consolidation Internal Server host:

- EcOmConfig.pl

Distribution personnel start the Order Manager Command Line Utility using the following start-up script that is available in the /usr/ecs/*MODE*/CUSTOM/utilities directory on the Sun Consolidation Internal Server host:

- EcOmSrCliDriverStart

HDF-EOS to GeoTIFF Conversion Tool (HEG)

Distribution of data from the Data Pool is supported by the HDF-EOS to GeoTIFF Conversion Tool (HEG). There are two versions of HEG:

- Data Pool HEG.
- Standalone HEG.

The Standalone HEG is a tool that an end user downloads and runs on his/her own workstation to convert EOS data products on the workstation from one format to another. The Data Pool HEG, which is accessed through the DAAC **Data Pool Web Access GUI** interface, is used to convert EOS data products before they are downloaded or shipped from the DAAC.

With the implementation of Synergy V (Release 7.10) many of the Data Pool HEG functions that previously had been controlled through the Data Pool (e.g., tracking of HEG orders) were transferred to the **OM GUI**. However, each Data Pool collection's eligibility for HEG processing is still enabled or disabled using the **DPM GUI**.

Data Distribution (DDIST)

The DDIST CSCI is the part of Science Data Processing (SDP) that manages the distribution of data products to requesters, whether they are internal or external to SDP. The Distribution Technician uses DDIST when monitoring and controlling the distribution of data products. The Distribution technician has access to DDIST primarily through the Data Distribution Operator graphical user interface (GUI).

DDIST has the following five major components (as shown in Figure 3):

- Data Distribution Operator GUI (EcDsDdistGui).
  - GUI that allows the technician to track and manipulate distribution requests through GUI controls and database information.
- Distribution Server (EcDsDistributionServer).
  - Server that provides the control and coordination for data distribution through request processing.
- Sybase Adaptive Server Enterprise (ASE) Server.
  - Commercial off-the-shelf (COTS) software application that handles the request list and has a set of stored procedures that updates the request configuration, provides the request configuration to GUI operations and checkpoints the state of the CSCI for fault recovery purposes.

- External Product Dispatcher (EPD).
  - Receives products from external subsetter and transfers them via DDIST Command Line Interface (DCLI) to DDIST (i.e., the Distribution Server).
- DDIST Command Line Interface (DCLI).
  - Submits distribution requests for distribution of externally subsetted products.

Distribution personnel use the following start-up script that is available in the /usr/ecs/*MODE*/CUSTOM/utilities directory on the Operations Workstation:

- EcDsDdistGuiStart.
  - Launches the Data Distribution Operator GUI.

The following start-up scripts in the /usr/ecs/*MODE*/CUSTOM/utilities directory on the Distribution Server host (Sun internal server host) are typically called by other applications and are not normally invoked directly by Distribution personnel:

- EcDsDataDistributionAppStart.
- EcDsDdStart.
- EcDsDistributionServerStart.
  - Starts the Distribution Server.

In addition to the preceding start-up scripts the following scripts are available in the /us/ecs/*MODE*/CUSTOM/utilities directory on the Distribution Server host (Sun internal server host):

- DsDdSendMailPl.pl.
- EcDsDdPTEdit.pl.
  - Obsolete Perl script that used to allow system operators to change the threshold for the number of threads that could be active for each priority level of distribution requests.

Storage Management (STMGT)

The STMGT CSCI manages all physical storage resources for all DSS components including the following items:

- Tape robotic archive.
- Random Array of Inexpensive Disks (RAID) disk cache.
- On-line storage.
- Peripheral devices (e.g., various types of magnetic tape drives) used for ingesting data.

During the distribution of data, STMGT provides DDIST and SDSRV with interfaces that copy files out of the archive and allocate magnetic disk space for staging the files. In addition, STMGT provides DDIST with interfaces that copy files for electronic distribution. Furthermore, STMGT maintains a user pull area that supports electronic pull distribution.

STMGT has the following major components (as shown in Figure 4):

- Archive Server (EcDsStArchiveServer).
  - Server that provides access to stored data.
  - There can be multiple archive servers running at a given site, each with its own type of data or storage medium.
- Staging Servers.
  - Cache Manager Server (EcDsStCacheManagerServer) - Server that manages a group of data files that have been retrieved from the archive and placed into a cache area on staging disk; it maintains a list of the data files so that subsequent data retrieval requests are fulfilled immediately without requiring an additional archive access.
  - Pull Monitor (EcDsStPullMonitorServer) [The pull monitor is just a symbolic link to the Cache Manager Server binary executable image.] - Server that manages the files in the user pull area; deletes files as they are retrieved (i.e., electronically "pulled") from the user pull area by respective users or as the files become stale (their time-out periods expire).
  - Staging Disk Server (EcDsStStagingDiskServer) - Server that manages shared disk space; it allows clients to allocate disk space and reserve files between staging directories and from non-staging to staging directories.
- Resource Managers.
  - 8mm Server (EcDsSt8MMServer) - Server that schedules access to the 8mm cartridge tape drives used by Ingest; maintains a request queue based on priority and time of request receipt.
  - DTF-2 Server (EcDsStDTFServer) - Server that schedules access to the DTF-2 (second-generation Sony Digital Tape Format) cartridge tape drive(s); maintains a request queue.
  - FTP Server (EcDsStFtpServer) - Server that schedules access for Ingest or distribution file transfer protocol (ftp); maintains a request queue.
  - Copy Server (EcDsStCopyServer) - Server that executes secure copy (scp) distribution requests on behalf of EcDsStFtpServer.
- Storage Management Request Manager (EcDsStRequestManagerServer).
  - Routes requests to the appropriate server for servicing.

  - Provides the primary point of detection and recovery for unexpected client or server termination.

- Storage Management Control GUI (EcDsStmgtGui).
  - GUI to the Storage Management/Data Distribution shared database; allows the technician to set parameters and configurations that control the STMGT servers.
- Sybase ASE Server.
  - COTS software application that handles insertion and retrieval of data concerning storage management activities into/from the STMGT/DDIST database.
- Archival Management and Storage System (AMASS).
  - COTS software application that supports the functioning of the data repository hardware (e.g., archive robotics).

Distribution personnel use the following start-up script that is available in the /usr/ecs/*MODE*/CUSTOM/utilities directory on the Operations Workstation:

- EcDsStmgtGuiStart.
  - Launches the Storage Management Control GUI.

The following start-up scripts in the /usr/ecs/*MODE*/CUSTOM/utilities directory on the Ingest Server host, Access/Process Coordinators (APC) Server host, Distribution Server host (Sun internal server host), and/or File and Storage Management System (FSMS) Server host are typically called by other applications and are not normally invoked directly by Distribution personnel:

- EcDsStFtpServerStart.
  - Starts the ftp server.
- EcDsStStagingDiskServerStart.
  - Starts a staging disk server.
- EcDsStStart.
  - Starts DSS storage management.
- EcDsStStorageMgmtAppStart.
  - Starts DSS storage management (old form of EcDsStStart).
- EcDsStArchiveServerStart.
  - Starts an archive server.

- EcDsStCacheManagerServerStart.
  - Starts a cache manager server.
- EcDsStRequestManagerServerStart.
  - Starts the Request Manager.
- EcDsSt8MMServerStart.
  - Starts the 8mm Server.
- EcDsStDLTServerStart.
  - Starts the DLT Server.
- EcDsStCDROMServerStart.
  - Starts the CD Server.

In addition to the preceding applications the following scripts are available in the /us/ecs/*MODE*/CUSTOM/utilities directory on a variety of hosts, including the APC Server host, and/or FSMS Server host:

- EcDsCheckArchive.
- EcDsStConfigVolGrps.
- EcDsStDbBuild.
  - Creates and empties database and pre-loads initialization data.
- EcDsStDbDrop.
- EcDsStDbDump.
  - Dumps the database to a backup device.
- EcDsStDbDumpTrans.
- EcDsStDbLoad.
  - Restores the database from a backup copy.
- EcDsStDbLoadTrans.
- EcDsStDbPatch.
  - Upgrades a Release 4.0 Drop 4P database to Drop 4PL.
- EcDsStFilesPerTapeUtility.
- EcDsStVolGrpCreateMain.pl.

Science Data Server (SDSRV)

The SDSRV CSCI is the part of the Data Server Subsystem that issues requests to the STMGT and DDIST CSCIs to perform storage and distribution services in support of the processing of service requests, such as insertion of data into the archive or distribution of data products to requesters (including other subsystems). Among the services that SDSRV provides to other parts of the system is searching the inventory database to determine whether particular granules are available in the archive. For example, the Machine-to-Machine Gateway does searches through the Science Data Server even when it places its orders through the OMS instead of the SDSRV. That means the Science Data Server must be running in order for the Machine-to-Machine Gateway to operate correctly whether the Machine-to-Machine Gateway is configured to submit its orders to the OMS or SDSRV.

SDSRV has the following major components (as shown in Figure 5):

- Science Data Server (EcDsScienceDataServer).
  - Server responsible for managing collections of Earth Science and related data and for servicing requests for the storage, search, retrieval, and manipulation of data within those collections.
- Hierarchical Data Format (HDF) EOS Server (EcDsHdfEosServer).
  - Server that provides science data subsetting capabilities for Earth Science data that have been configured with a subsetting service.
- Granule Deletion Administration Tool (EcDsGranuleDelete).
  - Provides a command line operator interface for deleting granules either in both the inventory and the archive or just the archive.
  - The associated Production History (PH), Quality Assessment (QA) and Browse granules can also be deleted.
- Science Data Server GUI (EcDsSdSrvGui).
  - GUI that allows the operator to monitor active EcDsScienceDataServer requests and receive descriptor files and dynamic link libraries (dll) for configuring Earth Science Data Types (ESDTs) in the EcDsScienceDataServer.
- Science Data Server (SDSRV) Command Line Interface (SCLI) (EcDsSCLI).
  - Provides a command line interface that receives requests (via product request parameter files) for acquiring granules from the archive.
  - Supports the S4PM [reprocessing system for Moderate-Resolution Imaging Spectroradiometer (MODIS) data].

- Autometric Spatial Query Server (SQS).
  - COTS software application that provides the capability to manage spatial data types of earth science catalog metadata (including specialized spatial searches) for the Science Data Processing Segment (SDPS).
- Sybase Adaptive Server Enterprise (ASE) Server.
  - COTS software application that provides the management of spatial data types of an earth science catalog of metadata for the SDPS. Includes capabilities for searching and storing the catalog.

The following start-up script is available in the /usr/ecs/*MODE*/CUSTOM/utilities directory on the Operations Workstation:

- EcDsSdSrvGuiStart.
  - Launches the Science Data Server GUI.

The following scripts are available in the /us/ecs/*MODE*/CUSTOM/utilities directory on the SDSRV Server host (Sun internal server host):

- EcTsDsClientDriverStart.
- EcDsSrConvertEvt.
- EcDsSrDbBuild.
- EcDsSrDbDrop.
- EcDsSrDbDump.
- EcDsSrDbLoad.
- EcDsSrDbMigrate.
- EcDsSrDbPatch.
- EcDsSrDbValids.

The Data Distribution Process

Data Distribution is a process of retrieving archived data and providing the data to requesters in response to the orders they submit. The requesters may be classified in either of the following two categories:

- External to the system.
  - For example, scientists at Science Computing Facilities (SCFs) may have standing orders for the data products that are processed using their science software.

- Internal to the system.
  - For example, the Data Processing Subsystem depends on Data Distribution to distribute copies of archived science software and input data in support of data processing.

Data retrieved from the archives can be distributed to requesters using any of the following three general methods:

- Electronic pull.
- Electronic push.
- Hard (physical) media distribution on disks or tape cartridges.

The method of data distribution is dictated by the nature of the data distribution request. (The requester specifies the distribution method when ordering or subscribing to the data.)

If the requester specifies distribution in the electronic "pull" mode, data not already in the Data Pool are retrieved from the archive and placed in the Data Pool. The requester is notified that the data are available for retrieval from the particular location for a set period of time. The requester initiates a file transfer procedure (ftp "get") to move the data electronically (over a communications network) to the requester's own system.

In response to a request for distribution in the electronic "push" mode, data are retrieved from the archive (if not already in the Data Pool) and placed in the Data Pool. Then the data are transferred electronically (via ftp "put") to the requester's designated storage location (specified in the distribution request) under the control of the data server. The requester is notified when the data push has been completed.

If the requester submits a request for hard media distribution, OMS copies the data and metadata files from the Data Pool to the media. The OMS sends an e-mail distribution notice (order shipment notification) in standard format to the requester's e-mail address (as specified in the original order).

In general, data distribution operations proceed as follows:

- Electronic Pull:
  - A requester connects to the system and performs a search [e.g., using the EOS Data Gateway (EDG)] for a specific data product.
  - When the system notifies the requester that the product has been found, the requester submits an order for a "pull" of the data using ftp.
  - OMS validates the request (e.g., determines whether the specified distribution medium is appropriate for the quantity of data).
  - OMS queues an insert action in the Data Pool database for each granule of a request that is not found to be on Data Pool disk.

  - The Data Pool (DPL) queues a granule-staged action in the OMS database with status. (DPL notifies OMS when each granule has been staged.)
  - OMS builds and sends an e-mail notification to the requester stating that the order has been filled.
  - The requester pulls (transfers) the data by ftp from the Data Pool disk (from the location specified in the e-mail notification) to the requester's own system. (User directories have links to staged granules.)

- Electronic Push:
  - A requester connects to the system and performs a search for a specific data product.
  - When the system notifies the requester that the product has been found, the requester submits an order for an ftp push of the data. The requester supplies all the necessary system, path, and security information to enable the requested data to be placed in a directory on the requester's system.
  - OMS validates the request (e.g., determines whether the specified distribution medium is appropriate for the quantity of data).
  - OMS queues an insert action in the Data Pool database for each granule of a request that is not found to be on Data Pool disk.
  - The Data Pool (DPL) queues a granule-staged action in the OMS database with status. (DPL notifies OMS when each granule has been staged.)
  - OMS requests the ftp daemon to ftp the granule(s) to the requester.
  - OMS builds and sends an e-mail notification to the requester stating that the order has been filled.
- Physical Media Distribution:
  - A requester connects to the system and performs a search for a specific data product.
  - The requester submits an order for a shipment of specific data on a physical medium.
  - OMS validates the request (e.g., determines whether the specified distribution medium is appropriate for the quantity of data).
  - OMS queues an insert action in the Data Pool database for each granule of a request that is not found to be on Data Pool disk.
  - The Data Pool (DPL) queues a granule-staged action in the OMS database with status. (DPL notifies OMS when each granule has been staged.)

- Order Manager Server forwards the order to the Production Module (EcOmPdMediaProduction).
- The OMS production software (EcOmPdModule) runs twice during media production; i.e., once for media preparation and again for media creation.
- The production module transfers the data from the Data Pool to the specified physical medium.
- OMS e-mails a data distribution notice (order shipment notification) to the user.
- The OMS updates the order-tracking database to completed status.

Logging in to System Hosts

Logging in to System Hosts

Logging in to system hosts is accomplished from a UNIX command line prompt. It is an initial set of steps that is performed when accomplishing many other Data Distribution tasks.

Logging in to system hosts starts with the assumption that the applicable hosts are operational and the Distribution Technician has logged in to a workstation or X-term that has access to the applicable network in the system.

Logging in to System Hosts

NOTE: Commands in Steps 1 and 2 are typed at a UNIX system prompt.

1 At the UNIX command line prompt type **setenv DISPLAY *clientname*:0.0** then press the **Return/Enter** key.

- 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 typing **/tools/bin/ssh *hostname*** then press **Return/Enter**.

- 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 x0acs06 as user cmops type **/tools/bin/ssh -l cmops x0acs06** then press **Return/Enter**.
- An alternative method of logging in with a different user ID is to type the command in the format **/tools/bin/ssh *userid@hostname***. For example:

  /tools/bin/ssh cmops@x0acs06

- 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 x0acs06

  - or -

  ssh -l cmops x0acs06

  - or -

  ssh cmops@x0acs06

- Examples of Sun internal server host names include **e0acs11**, **g0acs11**, **l0acs03**, and **n0acs04**.
- Examples of Sun external server host names include **e0ins01, g0ins01, l0ins01**, and **n0ins02**.
- Examples of APC Server host names include **e0acg11**, **g0acg01**, **l0acg02**, and **n0acg01**.
- Examples of FSMS Server host names include **e0drg11**, **g0drg01**, **l0drg01**, and **n0drg01**.
- Examples of Operations Workstation host names include **e0acs12**, **g0acs02**, **l0acs01**, and **n0acs03**.
- Examples of Ingest Server host names include **e0icg11, g0icg01, l0acg02**, and **n0acg01**.
- 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, type your ***passphrase*** then press **Return/Enter**.

- 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, type your ***password*** then press **Return/Enter**.

- A command line prompt is displayed.
- Log-in is complete.

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Launching the Data Distribution Operator and Storage Management Control GUIs

Launching the Data Distribution Operator and Storage Management Control GUIs

The following software applications are associated with Data Distribution:

- Data Distribution Operator GUI (EcDsDdistGui).
- Distribution Server (EcDsDistributionServer).
- Sybase ASE Server.

In addition, Data Distribution depends on a number of related servers, especially the Science Data Server and Storage Management servers, to participate in the distribution of data from the archive.

The following software applications are associated with Storage Management:

- Storage Management Control GUI (EcDsStmgtGui).
- Archive Server (EcDsStArchiveServer).
- Cache Manager Server (EcDsStCacheManagerServer).
- Pull Monitor (EcDsStPullMonitorServer).
- Staging Disk Server (EcDsStStagingDiskServer).
- 8mm Server (EcDsSt8MMServer).
- FTP Server (EcDsStFtpServer).
- Storage Management Request Manager (EcDsStRequestManagerServer).
- Sybase ASE Server.
- Archival Management and Storage System (AMASS).

The Storage Management Control GUI can be used in distribution operations to monitor cache (e.g., pull area) statistics. Access to the GUIs must be gained through the use of UNIX commands.

Launching the Data Distribution Operator and Storage Management Control GUIs starts with the assumption that the applicable servers are running and the Distribution Technician has logged in to the system.

1 Access a terminal window logged in to the Operations Workstation.

- Examples of Operations Workstation host names include **e0acs12**, **g0acs02**, **l0acs01,** and **n0acs03**.
- For detailed instructions refer to the procedure for **Logging in to System Hosts** (preceding section of this lesson).

2 Type **cd /usr/ecs/*MODE*/CUSTOM/utilities** then press **Return/Enter**.

- Change directory to the directory containing the Data Distribution Operator GUI and Storage Management Control GUI start-up scripts (e.g., EcDsDdistGuiStart, EcDsStmgtGuiStart).
- The ***MODE*** will most likely be one of the following operating modes:
  - OPS (for normal operation).
  - TS1 (for SSI&T).
  - TS2 (new version checkout).
- Note that the separate subdirectories under /usr/ecs apply to different operating modes.

3 Type **EcDsDdistGuiStart *MODE*** then press **Return/Enter**.

- The **Data Distribution Operator GUI Distrib'n Requests** tab (Figure 6) is displayed.

4 Type **EcDsStmgtGuiStart *MODE*** then press **Return/Enter**.

- The **Storage Management Control** GUI **Storage Config.** tab (Figure 7) is displayed.

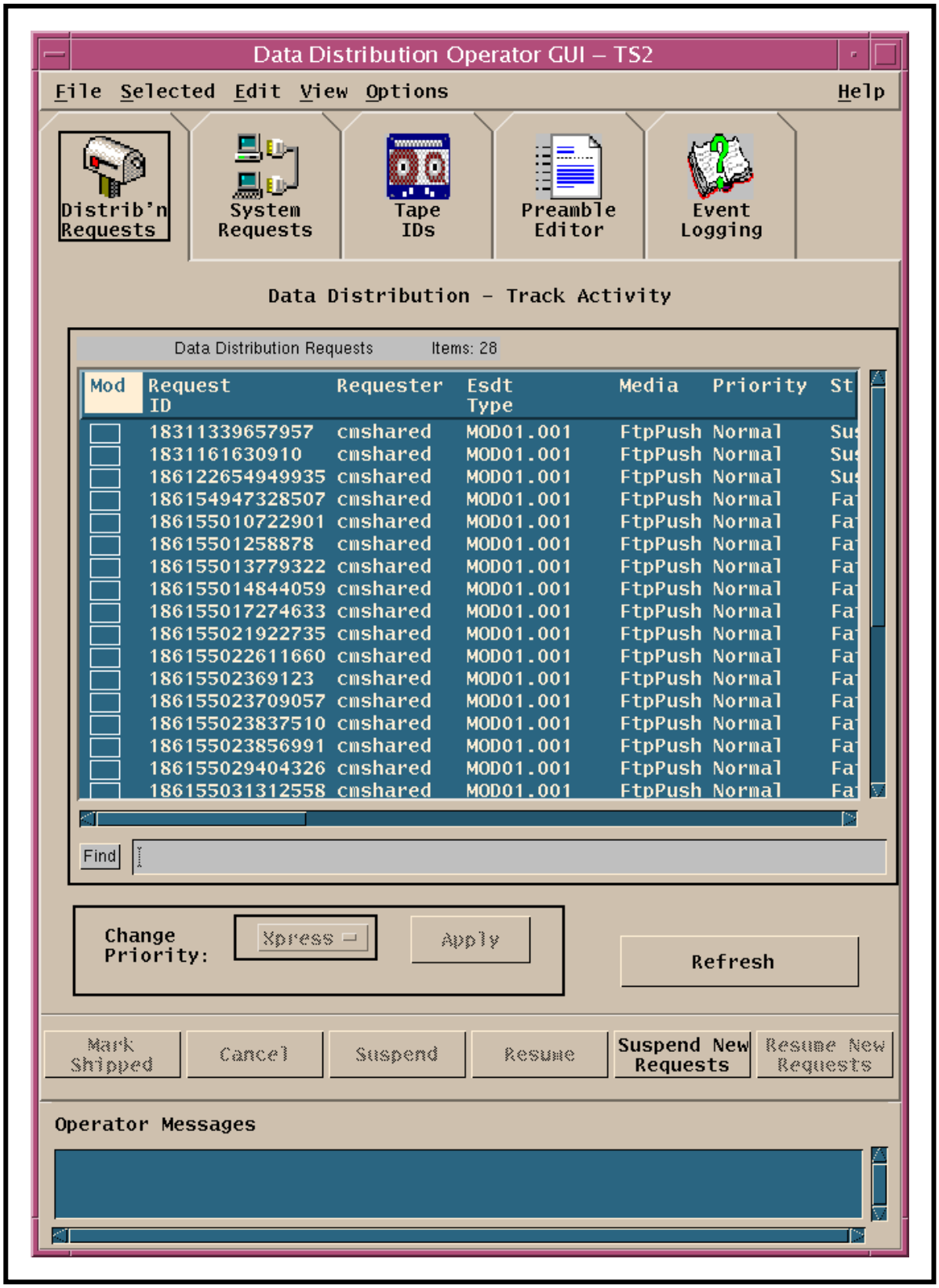

Figure 6. Distrib'n Requests Tab (Data Distribution Operator GUI)

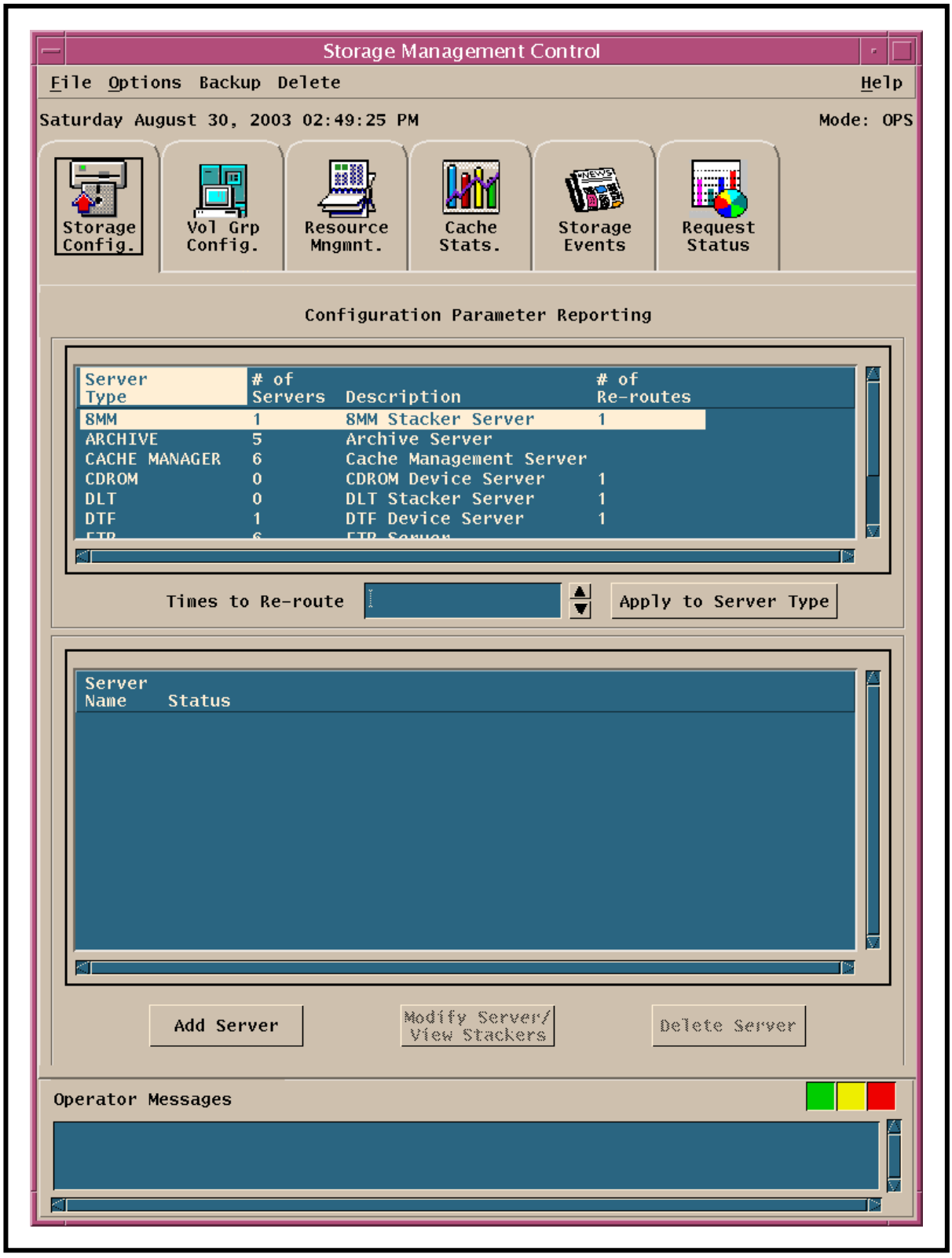

Figure 7. Storage Config. Tab (Storage Management Control GUI)

Monitoring/Controlling Distribution Requests

Monitoring/Controlling Data Distribution Requests

Data Distribution activities are monitored and controlled using the **Data Distribution Operator GUI** and the **Storage Management Control** GUI. The **Data Distribution Operator GUI** has the following five tabs:

- **Distrib'n Requests** [for monitoring/controlling distribution requests].
- **System Requests** [not currently functional].
- **Hard Media** [obsolete].
- **Preamble Editor** [for editing packing lists and other messages to requesters].
- **Event Logging** [not currently functional].

The **Storage Management Control** GUI has the following six tabs:

- **Storage Config.** [for configuring Storage Management components].
- **Vol Grp Config.** [for configuring archive volume groups].
- **Resource Mngmnt.** [for monitoring/controlling media resources].
- **Cache Stats.** [for monitoring/controlling the contents of various caches].
- **Storage Events** [for searching for events in the Event Log].
- **Request Status** [for displaying the status of requests in Storage Management].

The Distribution Technician monitors and manages data distribution requests primarily via the **Data Distribution - Track Activity** window of the **Distrib'n Requests** tab (Figure 6) on the **Data Distribution Operator GUI**. From the **Data Distribution - Track Activity** window the DAAC Distribution Technician can perform the following functions:

- View data distribution requests.
- Change the priority of a selected distribution request.
- Cancel or suspend a request.
- Resume processing of a suspended request.
- Filter on all or specific requests by...
  - Request ID.

- Requester.
- All Requests.
- Media Type.
- State (current status).

The **Data Distribution - Track Activity** window displays the following information for each data distribution request:

- Mod [contains a check mark if the request has been selected/modified (e.g., suspended) by the operator during the current session].
- Request ID.
- Requester.
- Esdt Type.
- Media [type].
- Priority.
- State [current state of the request].
- Status Mnemonic [message indicating there is an operator message attached to the request].
- Submission Time [(and date) GMT].
- End Time [(and date) GMT].
- Overdue ["Yes" if the specified number of hours is exceeded]
- Total Size [of the request] (bytes).
- Media # Completed.
- # of Media.
- # of Granule.
- # of Files.
- Order ID.
- Ordered State [the next state that the request should have (based on operator input)].
- User String [comment supplied by the requester].

The procedure for monitoring data distribution requests starts with the assumption that all applicable servers and the **Data Distribution Operator GUI** are currently running and the **Distrib'n Requests** screen (Figure 6) is being displayed.

1 Configure polling as described in the procedure for **Configuring Data Distribution Polling** (subsequent section of this lesson).

2 Observe information displayed on the **Distrib'n Requests** tab of the **Data Distribution Operator GUI**.

- By default, all current distribution requests are shown in the **Data Distribution Requests** list of the **Data Distribution - Track Activity** window (**Distrib'n Requests** tab).
- Note that Data Distribution controls much of the data retrieval from the archive (excluding retrieval for Data Pool insert); therefore, there may be a lot of activity on the **Data Distribution - Track Activity** screen, especially if data processing is operating at or near capacity.
  - Consequently, it may be useful to restrict the number of distribution requests displayed by filtering them as described in the next step of this procedure.
- Horizontal and vertical scroll bars allow viewing data that are not readily visible in the window.
- Clicking on any of the column headers of the **Data Distribution - Track Activity** screen causes the listed requests to be sorted in order by the column selected.
  - For example, clicking on the **Submission Time** column header causes the requests to be listed in the order in which the requests were submitted (i.e., oldest first).
- The **Refresh** button provides a means of updating the data on the screen.
- Selecting **View → Refresh** from the pull-down menu is an alternative means of updating the data on the screen.
- The **Find** button provides a means of performing a keyword search of the distribution requests.
  - A keyword search is performed by typing relevant text in the text entry box to the right of the **Find** button then clicking on the **Find** button.
    - Request(s) that have the search text are highlighted.

- The **Operator Messages** field at the bottom of the GUI displays messages concerning events occurring in distribution operations.
  - Error messages are described in Table 7 and Table 8 of the **Troubleshooting a DDIST, STMGT, or Order Manager GUI Failure** section (subsequent section of this lesson).
- To select (highlight) all requests being displayed in the **Data Distribution - Track Activity** window choose **Selected → Select All** from the pull-down menu.
- To deselect all highlighted requests being displayed in the **Data Distribution - Track Activity** window choose **Selected → Deselect All** from the pull-down menu.
- To access more detailed information concerning the status of a distribution request highlight the distribution request in the **Data Distribution - Track Activity** window then select **View→ Detailed** from the pull-down menu.
  - The detailed information is displayed in the **Operator Messages** field at the bottom of the GUI.

3 If the list of data distribution requests shown in the **Data Distribution - Track Activity** window needs to be filtered, perform the procedure for **Filtering Data Distribution Requests** (subsequent section of this lesson).

4 Observe data distribution requests displayed in the **Data Distribution Requests** list.

5 If it becomes necessary to change the priority of a data distribution request, perform the procedure for **Changing the Priority of Data Distribution Requests** (subsequent section of this lesson).

6 If it becomes necessary to either suspend a data distribution request or resume processing of a suspended request, perform the procedure for **Suspending/Resuming Data Distribution Requests** (subsequent section of this lesson).

7 If it becomes necessary to cancel a data distribution request, perform the procedure for **Canceling Data Distribution Requests** (subsequent section of this lesson).

8 If the system creates an open intervention with respect to a request (e.g., due to the failure of a request), go to the procedure for **Viewing Open Intervention Information on the OM GUI** (subsequent section of this lesson).

9 If it becomes necessary to reprocess or check on a data distribution request that has failed, been cancelled, or been shipped, perform the procedure for **Monitoring/Controlling Distribution Request Information on the OM GUI** (subsequent section of this lesson).

10 If there is a data distribution failure, perform the applicable procedure(s) in the **Troubleshooting DDIST and Order Manager GUI Problems** section of this lesson.

11 Repeat Steps 3 through 10 as necessary to monitor data distribution requests.

12 If it becomes necessary to exit from the **Data Distribution Operator GUI** select **File → Exit** from the pull-down menu.

Configuring Data Distribution Polling

The procedure for **Configuring Data Distribution Polling** is performed as part of the procedure for **Monitoring/Controlling Data Distribution Requests** (previous section of this lesson). The **Data Distribution Operator GUI Options** menu provides the Distribution Technician with a means of switching the Data Distribution database polling function on or off. In addition, there are several parameters that the technician can modify:

- DDist Polling Rate.
  - How often (in seconds) the system updates the information displayed in the **Data Distribution - Track Activity** window.
- Error Retry Rate.
  - Amount of time (in seconds) that the system waits before trying to poll the Data Server after a failed attempt.
- Select Confirmation Min.
  - Number of records that triggers a confirmation dialogue box for a selected action.
- Overdue Limit.
  - Time limit (in hours) for declaring requests "overdue."

The procedure for configuring data distribution polling starts with the assumption that all applicable servers and the **Data Distribution Operator GUI** are currently running and the **Data Distribution - Track Activity** window (Figure 6) on the **Distrib'n Requests** tab is being displayed.

Configuring Data Distribution Polling

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1 Select **Options → System Settings** from the pull-down menu.

- The **Refresh Options** dialogue box (Figure 8) is displayed.

2 To change the DDist Polling state (from off to on or vice versa), click on the **DDist Polling On** button.

- If the button does not have a check mark in it, clicking on it turns DDist Polling on.

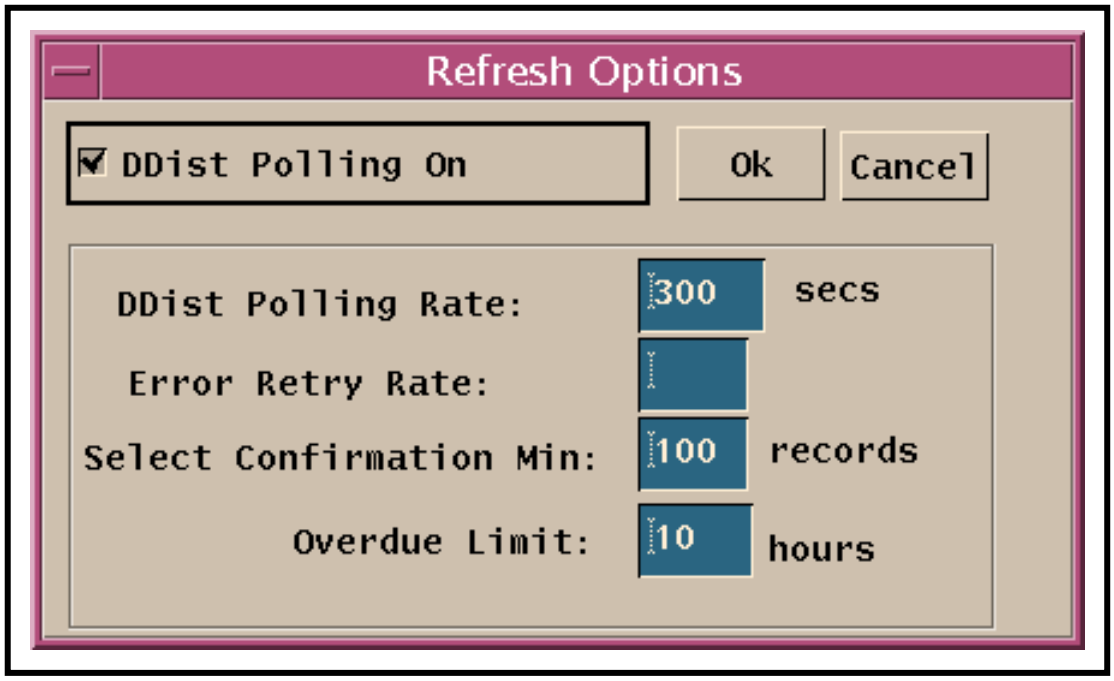

Figure 8. Refresh Options Dialogue Box

- If the button already has a check mark in it, clicking on it turns DDist Polling off.

3 To change the polling rate type the desired value (in seconds) in the **DDist Polling Rate** field.

- The default value is 30 seconds.

4 To specify an error retry rate, type the desired value (in seconds) in the **Error Retry Rate** field.

5 To specify a number of records that would trigger a confirmation dialogue box if selected, type the desired value (i.e., number of records) in the **Select Confirmation Min** field.

- When specifying a common action for a multiple requests that have been highlighted (e.g., when "resuming" a large group of suspended requests), a dialogue box is displayed to confirm that the action should be applied to all of the requests in the group.
- The **Select Confirmation Min** field specifies the minimum number of records for displaying the confirmation dialogue box.
  - The default value is 100.
    - If 100 requests (or more) are selected for a particular action, a dialogue box is displayed to confirm the action.

- If 99 requests (or fewer) are selected for a particular action, no confirmation dialogue box is displayed.

6 To specify a time limit for declaring requests "overdue," type the desired value (in hours) in the **Overdue Limit** field.

- Requests that exceed the number of hours specified in the **Overdue Limit** field are marked "Yes" in the **Overdue** column on the **Data Distribution - Track Activity** window.

7 When the appropriate data have been entered in the **Refresh Options** dialogue box fields, click on the appropriate button.

- **Ok** - to apply the selections and dismiss the **Refresh Options** dialogue box.
- **Cancel** - to dismiss the **Refresh Options** dialogue box without applying the selections.

8 Return to the procedure for **Monitoring/Controlling Data Distribution Requests**.

Filtering Data Distribution Requests

The procedure for **Filtering Data Distribution Requests** is performed as part of the procedure for **Monitoring/Controlling Data Distribution Requests** (previous section of this lesson). The **Data Distribution Operator GUI** provides the Distribution Technician with a means of filtering data distribution requests.

The distribution requests to be displayed in the **Data Distribution Requests** list (**Data Distribution - Track Activity** window shown in Figure 6) can be filtered using the **Distribution Filter Requests** dialogue box. The filtering can be done on the basis of the following criteria, either individually or in combination:

- Request ID.
- Requester.
- Media Type.
- State [of the request].

The procedure for filtering data distribution requests starts with the assumption that all applicable servers and the **Data Distribution Operator GUI** are currently running and the **Data Distribution - Track Activity** window (Figure 6) on the **Distrib'n Requests** tab is being displayed.

1 Select **View → Filter** from the pull-down menu.

- The **Distribution Filter Requests** dialogue box (Figure 9) is displayed.
- Perform as many of the following steps as necessary depending on the criteria for filtering distribution requests:
  - Request ID - Step 2.
  - Requester - Step 3.
  - All Requests - Step 4.
  - Media Type - Step 5.
  - State - Step 6.

2 If a specific distribution request is desired and the request ID is known, first click on the **Request ID** radio button, then click in the adjacent text box and type the request ID.

3 If data distribution requests submitted by a particular requester are desired, first click on the **Requester** radio button, then click in the adjacent text box and type the requester's identification.

- In the text box the requester must be identified exactly as known to the Data Server Subsystem.

4 If all data distribution requests are to be displayed in the **Data Distribution Requests** list, click on the **All Requests** radio button.

- The **All Requests** button is particularly useful for restoring the **Data Distribution Requests** list after reviewing a previously filtered set of requests.
- Go to Step 7.

5 If a list of data distribution requests filtered by media type(s) is needed, in the **Media Type** section of the **Filter Requests** dialogue box click on the type(s) of media to be displayed in the **Data Distribution - Track Activity** window.

- The following types of media are listed in the **Media Type** section of the **Filter Requests** dialogue box:
  - **8 MM** (tape) (not relevant - handled through OMS not DDIST).
  - **CDROM** (Compact Disk – Read-Only Memory (not relevant - handled through OMS not DDIST).

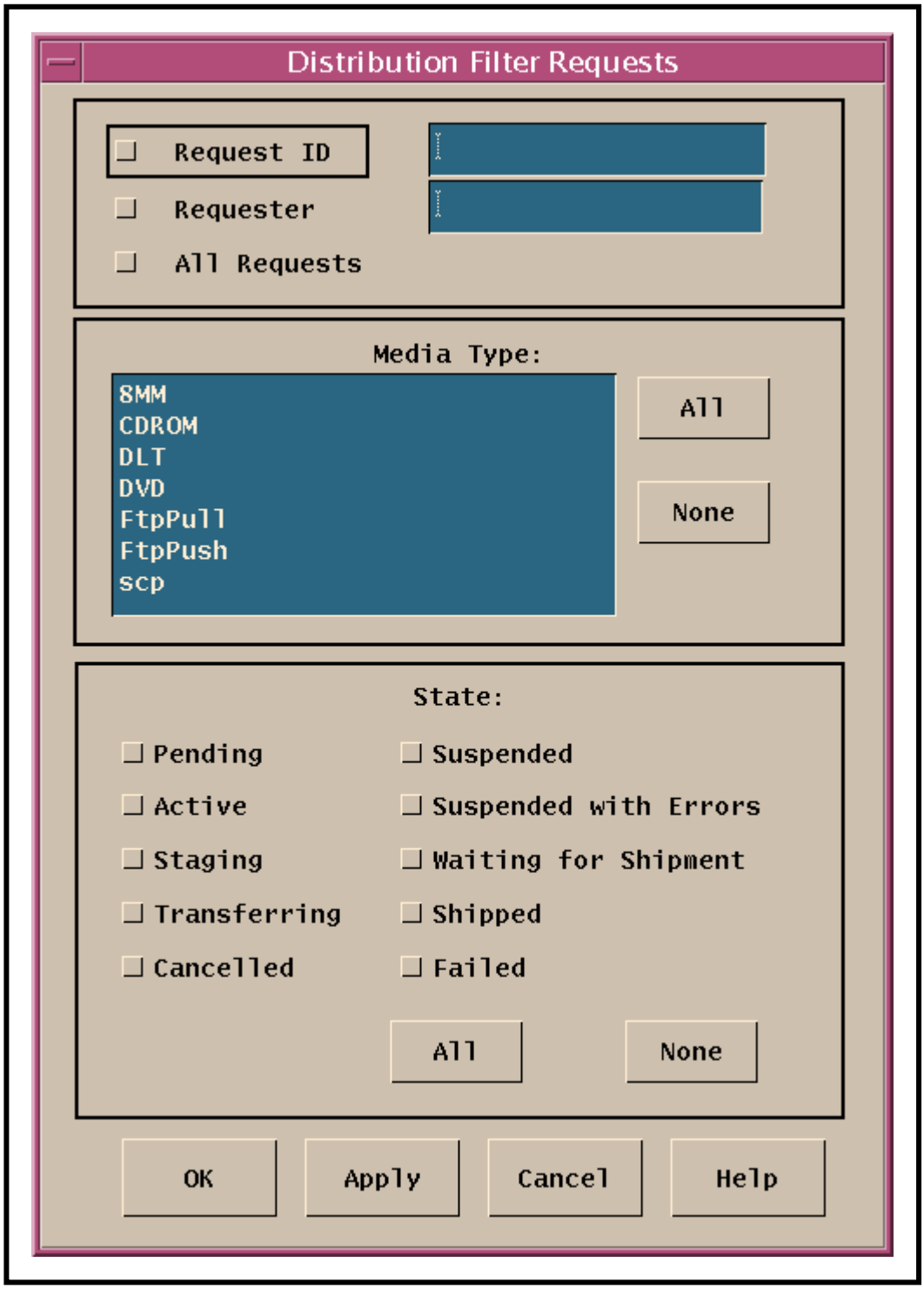

Figure 9. Distribution Filter Requests Dialogue Box

- **DLT** (Digital Linear Tape) (not relevant - handled through OMS not DDIST).
- **DVD** (not relevant - handled through OMS not DDIST)**.**
- **FtpPull.**
- **FtpPush.**
- **scp** (secure copy distribution)**.**

- In addition, buttons for the following media selections are available:
  - **All.**
  - **None.**
- If other filters (e.g., requester or state) are to be applied, the **Apply** button may be clicked to implement the media type filter and leave the **Filter Requests** dialogue box open.

6 If a list of data distribution requests filtered by state(s) is needed, click on the applicable button(s) in the **State** section of the **Filter Requests** dialogue box.

- Radio buttons corresponding to the following states are available:
  - **Pending.**
  - **Active.**
  - **Staging.**
  - **Transferring.**
  - **Cancelled.**
  - **Suspended.**
  - **Suspended with Errors.**
  - **Waiting for Shipment.**
  - **Shipped.**
  - **Failed.**
- In addition, the following state selections are available:
  - **All.**
  - **None.**
- If other filters (e.g., requester or media type) are to be applied, the **Apply** button may be clicked to implement the state filter and leave the **Filter Requests** dialogue box open.

7 When all filter criteria have been selected, click on the appropriate button:

- **OK** - to implement the selections and dismiss the **Distribution Filter Requests** dialogue box.
  - The **Data Distribution - Track Activity** window (Figure 6) reappears; only requests that meet the specified filter criteria appear in the list.
- **Apply** - to implement the selections without dismissing the **Distribution Filter Requests** dialogue box.
  - The **Distribution Filter Requests** dialogue box remains open.
- **Cancel** - to dismiss the **Distribution Filter Requests** dialogue box without implementing the selections.
  - The previously available **Data Distribution Requests** list is shown in the **Data Distribution - Track Activity** window (Figure 6).

8 Return to the procedure for **Monitoring/Controlling Data Distribution Requests**.

Changing the Priority of Data Distribution Requests

The procedure to **Change the Priority of Data Distribution Requests** is performed as part of the **Monitor/Control Data Distribution Requests** procedure (previous section of this lesson). The **Change Priority** area of the **Data Distribution - Track Activity** window (Figure 6) on the **Data Distribution Operator GUI** allows the Distribution Technician to change the priority of data distribution requests.

The procedure for changing the priority of data distribution requests starts with the assumption that all applicable servers and the **Data Distribution Operator GUI** are currently running and the **Data Distribution - Track Activity** window (Figure 6) on the **Distrib'n Requests** tab is being displayed.

Changing the Priority of Data Distribution Requests

---

1 If the list of data distribution requests shown in the **Data Distribution - Track Activity** window needs to be filtered to include the distribution request for which the priority is to be changed, perform the procedure for **Filtering Data Distribution Requests**.

2 Highlight the distribution request to be assigned a different priority by clicking on its entry in the **Data Distribution Requests** list.

3 Click and **hold** the **Change Priority** option button to display a menu of priorities, move the mouse cursor to the desired selection (highlighting it), then release the mouse button.

- The following priority codes are available:
  - **Xpress.**
  - **Vhigh.**
  - **High.**
  - **Normal.**
  - **Low.**
- Selected code is displayed on the **Change Priority** option button when the mouse button is released.

4 To implement the priority change click on the **Apply** button to the right of the priority option button.

5 Click on the **Refresh** button to update the data displayed on the screen.

- Priority of the request, as displayed in the **Priority** column of the **Data Distribution Requests** list, changes from its original value to the newly selected priority.
- A check mark is displayed in the **Mod** column of the **Data Distribution Requests** list to indicate that the request has been changed.

6 Repeat the preceding steps as necessary to change the priority of additional data distribution requests.

7 Return to the procedure for **Monitoring/Controlling Data Distribution Requests**.

Suspending/Resuming Data Distribution Requests

Under certain circumstances it may be advisable to suspend the processing of a data distribution request and resume it at a later time. For example, if there is a very large request that is taking up resources and causing other requests to back up waiting (especially requests from data processing that must be filled to allow processing to proceed), the request should be suspended. Processing of the request might be resumed at a time when the demand on data distribution was relatively light. Another example is that of a request that has been suspended by the system due to a system error. Processing of the request should be resumed after the conditions that caused the error have been corrected.

The procedure for **Suspending/Resuming Data Distribution Requests** is performed as part of the procedure for **Monitoring/Controlling Data Distribution Requests** (previous section of this lesson). The **Data Distribution Operator GUI** provides the Distribution Technician with a means of suspending or resuming data distribution requests.

Use the procedure that follows to suspend or resume processing of data distribution requests. The procedure starts with the assumption that all applicable servers and the **Data Distribution Operator GUI** are currently running and the **Data Distribution - Track Activity** window (Figure 6) on the **Distrib'n Requests** tab is being displayed.

Suspending/Resuming Data Distribution Requests

---

1 If the list of data distribution requests shown in the **Data Distribution - Track Activity** window needs to be filtered to include the distribution request to be suspended or resumed, perform the procedure for **Filtering Data Distribution Requests**.

2 To **suspend** requests, perform Steps 3 through 6; to **resume** suspended requests, go to Step 7.

3 If all new requests displayed in the **Data Distribution Requests** list are to be suspended, click on the **Suspend New Requests** button.

- The data distribution requests are suspended.
- Go to Step 5.

4 If a single request displayed in the **Data Distribution Requests** list is to be suspended, first click on the corresponding row in the **Data Distribution Requests** list to highlight the request, then click on the **Suspend** button.

- The selected data distribution request is suspended.

5 Click on the **Refresh** button to update the data displayed on the screen.

- Status of request(s), as displayed in the **State** column of the **Data Distribution Requests** list, change(s) from original value to "Suspended."
- Check mark(s) is (are) displayed in the **Mod** column of the **Data Distribution Requests** list to indicate that changes have been made to the request(s).

6 If there are no suspended requests to be resumed at this time, return to the procedure for **Monitoring/Controlling Data Distribution Requests**.

7 If processing of all new requests displayed in the **Data Distribution Requests** list is to be resumed, click on the **Resume New Requests** button.

- The data distribution requests resume processing.
- Go to Step 9.

8 If processing of a single request displayed in the **Data Distribution Requests** list is to be resumed, first click on the corresponding row in the **Data Distribution Requests** list to highlight the request, then click on the **Resume** button.

- The selected data distribution request resumes processing.

9 Click on the **Refresh** button to update the data displayed on the screen.

- Status of request(s), as displayed in the **State** column of the **Data Distribution Requests** list, changes from "Suspended" to whatever state(s) is (are) appropriate for the continuation of request processing (depending on each request's status when it was suspended).
- Check mark(s) is (are) displayed in the **Mod** column of the **Data Distribution Requests** list to indicate that changes have been made to the request(s).

10 Return to the procedure for **Monitoring/Controlling Data Distribution Requests**.

Canceling Data Distribution Requests

The procedure for **Canceling Data Distribution Requests** is performed as part of the procedure for **Monitoring/Controlling Data Distribution Requests** (previous section of this lesson). The **Data Distribution Operator GUI** provides the Distribution Technician with a means of canceling data distribution requests.

The procedure for canceling data distribution request processing starts with the assumption that all applicable servers and the **Data Distribution Operator GUI** are currently running and the **Data Distribution - Track Activity** window (Figure 6) on the **Distrib'n Requests** tab is being displayed.

Canceling Data Distribution Requests

---

1 If the list of data distribution requests shown on the **Data Distribution - Track Activity** window needs to be filtered to include the distribution request to be canceled, perform the procedure for **Filtering Data Distribution Requests**.

2 To cancel a request first click on the corresponding row in the **Data Distribution Requests** list to highlight the desired request.

3 Click on the **Cancel** button near the bottom of the **Distrib'n Requests** tab.

- The selected data distribution request is canceled.

4 Click on the **Refresh** button to update the data displayed on the screen.

- Status of the request, as displayed in the **State** column of the **Data Distribution Requests** list, changes from its original value to "Canceled."
- A check mark is displayed in the **Mod** column of the **Data Distribution Requests** list to indicate that the request has been changed.

5 Return to the procedure for **Monitoring/Controlling Data Distribution Requests**.

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Modifying Preambles

The **Preamble Editor** tab (Figure 10) on the **Data Distribution Operator GUI** allows the Distribution Technician to review and/or modify the text of preambles to the following types of documents:

- Packing list.
- Successful e-mail.
- Failed e-mail.

The preambles are accessible in the **/usr/ecs/*MODE*/CUSTOM/data/DSS** directory on the Distribution Server host (Sun internal server host). The directory contains preambles for the different types of distribution. Figure 11 is a sample of the "ftp push successful e-mail" preamble file (EcDsDdFtpPushEMSuccessPreamble.txt).

The following three types of distribution only are currently relevant to DDIST distribution:

- Ftp pull.
- Ftp push.
- Secure distribution (scp).

Consequently, preambles for those types of distribution are the only preambles that are currently applicable.

The procedure for modifying preambles starts with the assumption that all applicable servers and the **Data Distribution Operator GUI** are currently running and the **Data Distribution - Track Activity** window (Figure 6) on the **Distrib'n Requests** tab is being displayed.

Modifying Preambles

1 Click on the **Data Distribution Operator GUI Preamble Editor** tab.

- The **Preamble Editor** screen (Figure 10) is displayed.

2 Select (highlight) the media type for which the preamble is to be modified by clicking on the corresponding row in the **Media Type** window.

- The following media types are listed:
  - **8mm.**

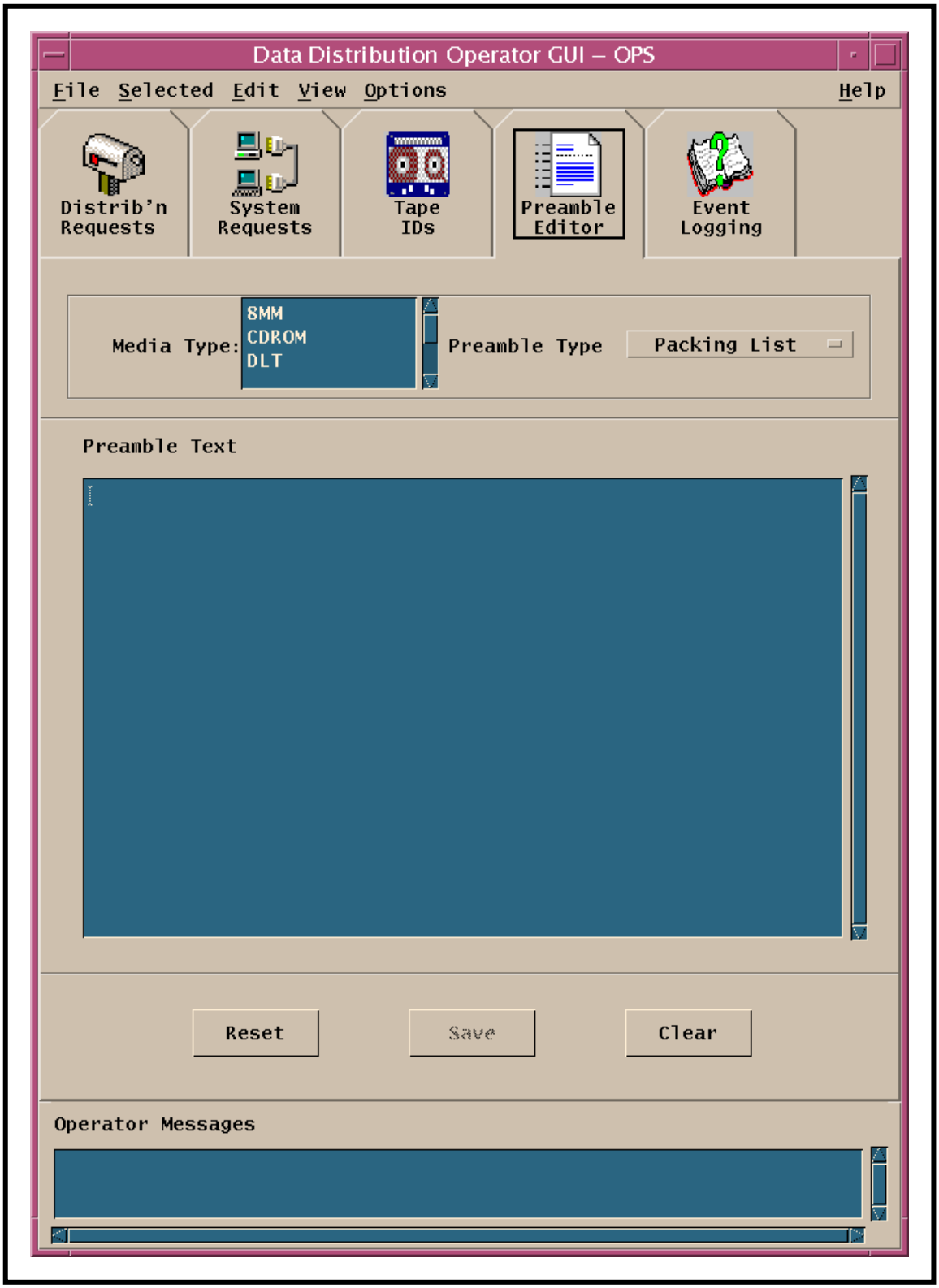

Figure 10. Preamble Editor Tab (Data Distribution Operator GUI)

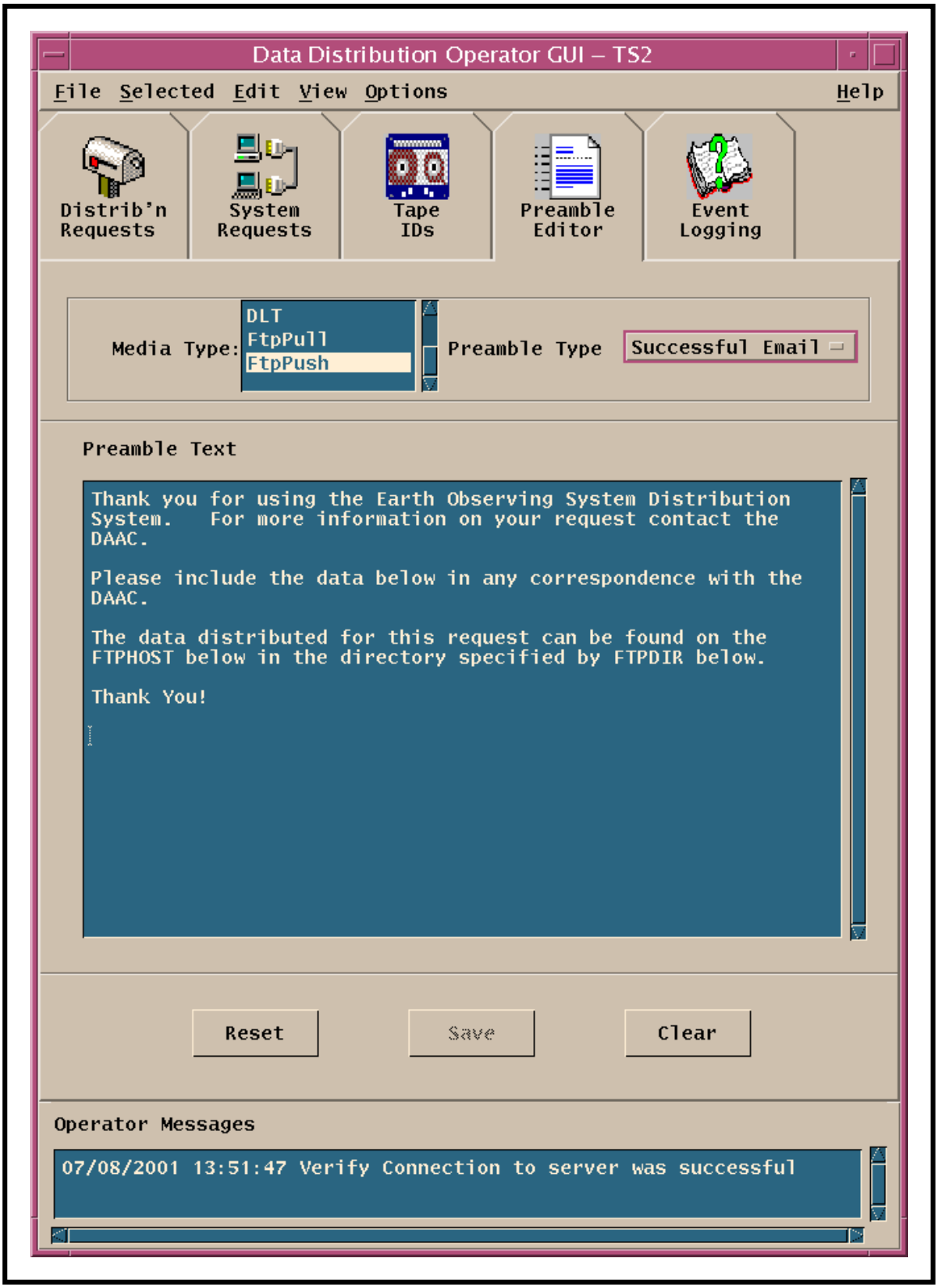

Figure 11. Sample FTP Push Successful E-Mail Preamble

- **CDROM.**
- **DLT.**
- **DVD.**
- **FtpPull.**
- **FtpPush.**
- **scp.**

- The selected media type is highlighted.

3 Click and hold the **Preamble Type** option button to display a menu of types of preambles, move the mouse cursor to the desired selection (highlighting it), then release the mouse button.

- The following preamble types are listed:
  - **Packing List.**
  - **Successful Email.**
  - **Failed Email.**
- The selected preamble type is displayed on the **Preamble Type** option button.
- The selected preamble is displayed in the **Preamble Text** window.
  - If the **Preamble Text** window is blank, either there is no current preamble of the specified type or the preamble file is empty. Proceed to Step 4 and create a new preamble.

4 Click in the **Preamble Text** window and type modifications to the preamble text as necessary.

- The following editing functions are available from the **Edit** pull-down menu or by clicking on the right mouse button:
  - **Cut.**
  - **Copy.**
  - **Paste.**

5 Click on the appropriate button from the following selections:

- **Save** - to save the preamble text as modified.
- **Reset** - to discard any changes and revert to the original (unmodified) preamble text.

Figure 12. Preamble Save Confirmation Dialogue Box

- **Clear** - to remove all text from the **Preamble Text** window.
  - When the **Clear** button has been selected, a **Preamble Save Confirmation Dialogue Box** (Figure 12) is displayed.

6 If the **Preamble Save Confirmation Dialogue Box** is displayed, click on the appropriate button from the following selections:

- **Yes** - to save the preamble text as modified.
- **No** - to revert to the original (unmodified) preamble text.

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Configuring Storage Management Polling and Deleting Files from Cache

Configuring Storage Management Polling

The **Storage Management Control** GUI **Options** menu provides the Distribution Technician with a means of switching the **Operator Notification Timer Polling** on or off: In addition, the technician can modify the following parameters:

- Database Polling Rate.
  - How often (in seconds) the system updates the information displayed on the GUI.
- Error Retry Rate.
  - Amount of time (in seconds) that the system waits before trying to poll the database server after a failed attempt.

The procedure for configuring storage management polling starts with the assumption that all applicable servers and the **Storage Management Control** GUI are currently running and the **Storage Config.** tab (Figure 7) is being displayed.

Configuring Storage Management Polling

1 Select **Options → System Settings** from the pull-down menu.

- The **Session Settings** dialogue box (Figure 13) is displayed.

2 To change the **Operator Notification Timer Polling** state (from off to on or vice versa), click on the **Polling** button.

- If **OFF** is displayed in the **Polling** field , clicking on the adjacent button turns Polling on.
- If **ON** is displayed in the **Polling** field , clicking on the adjacent button turns Polling off.

3 To change the database polling rate, type the desired value (in seconds) in the **Database Polling Rate** field.

- The default value is 30 seconds.

4 To change the error retry rate, type the desired value (in seconds) in the **Error Retry Rate** field.

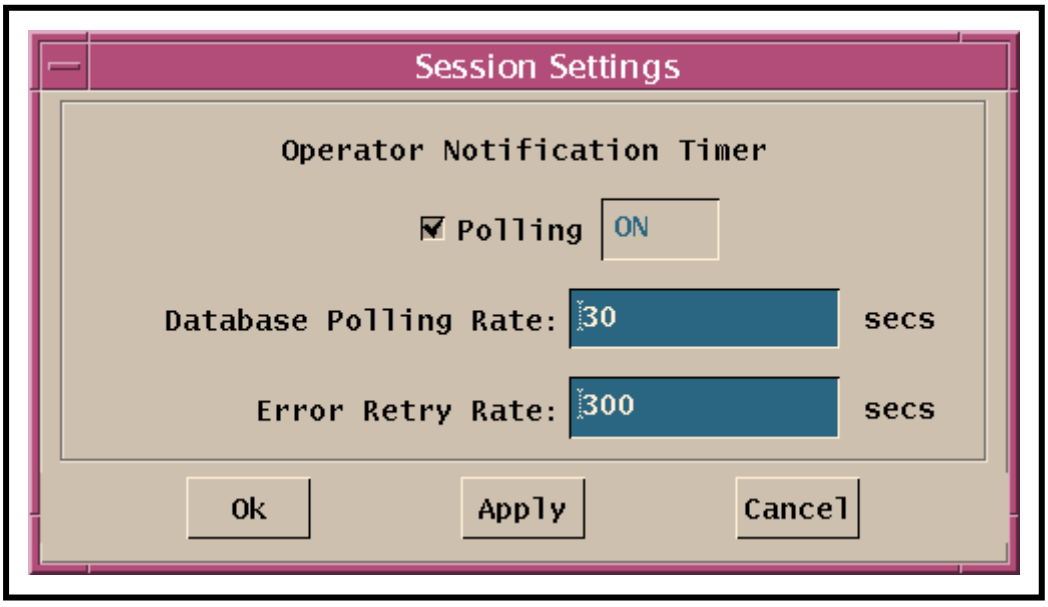

Figure 13. Session Settings Dialogue Box

5 When the appropriate data have been entered in the **Session Settings** dialogue box fields, click on the appropriate button.

- **Ok** - to apply the selections and dismiss the **Session Settings** dialogue box.
- **Apply** - to apply the selections without dismissing the **Session Settings** dialogue box.
- **Cancel** - to dismiss the **Session Settings** dialogue box without applying the selections.

Deleting Files from Cache

The **Storage Management Control** GUI's **Cache Stats.** tab displays all of the files that are in the cache areas, including the Pull Monitor and other staging areas. The data displayed on the **Cache Stats.** tab reports general statistics on the selected cache and allows the operator to manually delete expired files in cache areas.

A just-enough-cache cleanup strategy is used in Storage Management. A principal effect of the strategy is that caches (including the Pull Area) generally remain full because each cache manager (including the cache manager that is configured as the Pull Monitor or Pull Area Manager) automatically identifies and removes just enough old files to accommodate new ones. Consequently, it is likely that manual cache cleanup will not be performed very often. The procedure that follows is provided as a guide for those rare occasions when it is necessary to manually delete files from cache.

The procedure for deleting files from cache starts with the assumption that all applicable servers and the **Storage Management Control** GUI are currently running and the **Storage Config.** tab (Figure 7) is being displayed.

Deleting Files from Cache

1 Click on the **Storage Management Control** GUI **Cache Stats.** tab.

- The **Cache Stats.** tab (Figure 14) is displayed.

2 To define the size of a "page" of data displayed in the **Cache Information** table on the **Cache Stats.** tab type the number of rows per page in the **Max Rows Returned** text box.

- **Max Rows Returned** defines the size of a "page" of data displayed in the **Cache Information** table on the **Cache Stats.** tab.
  - For example, setting **Max Rows Returned** to 50 would cause data to be displayed in the **Cache Information** table in pages (groups) of 50 rows of data.
  - If there were 500 files in the selected cache and **Max Rows Returned** were set to 50, there would be 10 pages of data available for display, with the first 50 items being displayed in the **Cache Information** table.
  - The **Prev** and **Next** buttons provide means of displaying additional pages of data.

3 To view the contents of a particular cache (e.g., **FTP Pull Cache**) click and hold on the option button to the right of the **Cache** field, move the mouse cursor to the desired selection (highlighting it), then release the mouse button.

- The selected cache is displayed in the **Cache** field of the **Cache Stats.** tab.
- The following cache statistics are displayed in the **Cache Statistics** area:
  - **Current Utilization.**
  - **Used Space (Blocks).**
  - **Free Space (Blocks).**
  - **Total Space (Blocks).**
  - **Number of Resident Files.**
  - **Maximum File Size (Blocks).**
  - **Minimum File Size (Blocks).**
  - **Average File Size (Blocks).**

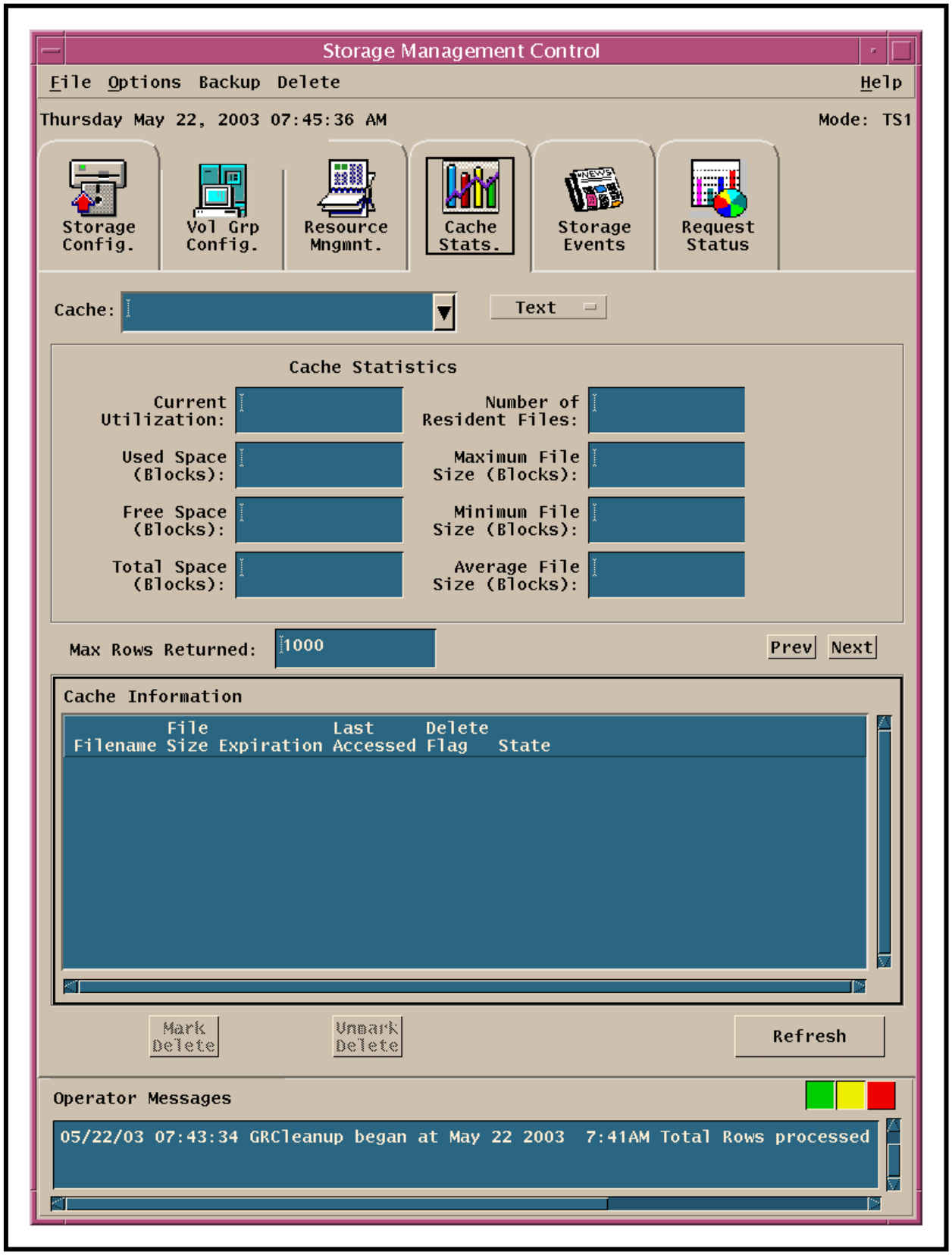

Figure 14. Storage Management Control GUI's Cache Stats. Tab

- The following information concerning the files in the selected cache is listed in the **Cache Information** table:
  - **Filename.**
  - **File Size.**
  - **Expiration** [date/time]**.**
  - **Last Accessed.**
  - **Delete Flag** [displays either **N** or **Y**]**.**
  - **State.**

NOTE: The only view currently accessible using the **Text** (view) option button is **Text**. The **Graphic** view is not currently available.

4 Observe cache statistics/information displayed on the **Cache Stats.** tab.

- As previously mentioned, cache statistics are displayed in the **Cache Statistics** area of the GUI and information concerning the files in the selected cache is listed in the **Cache Information** table.
- The **Refresh** button can be used to update the data on (refresh) the screen.
- The **Prev** and **Next** buttons provide means of displaying additional pages of data.
- The **Operator Messages** field at the bottom of the GUI displays messages concerning events (i.e., information, warnings, or errors) occurring in **Storage Management Control** GUI operations.
  - Error messages are described in Table 8 of the **Troubleshooting a DDIST, STMGT, or Order Manager GUI Failure** section (subsequent section of this lesson).

5 If deleting files, click on the row(s) corresponding to the file(s) to be deleted in the **Cache Information** table on the **Cache Stats.** tab.

- Multiple rows may be selected.

6 If deleting files, click on the **Mark Delete** button near the bottom of the **Cache Stats.** tab.

- **Y** is displayed in the **Delete Flag** field for the row in the **Cache Information** table.

7 If any file that should be left in the cache has been inadvertently marked **Delete**, first click on the row corresponding to the file then click on the **Unmark Delete** button near the bottom of the **Cache Stats.** tab.

- **N** is displayed in the **Delete Flag** field for the row in the **Cache Information** table.

8 If it becomes necessary to exit from the **Storage Management Control** GUI, select **File → Exit** from the pull-down menu.

Viewing Storage Management Event Log Information

The **Storage Events** tab (**Storage Management Control** GUI) provides the Distribution Technician with the ability to search the Event Log and obtain reports on events that have occurred in Storage Management. It is possible to review the following information concerning any particular Storage Management event:

- Number.
- Date.
- Level.
- Type.
- Message.

The following search criteria can be used individually or in combination to view entries in the Event Log:

- Date Interval.
- Event Type.
- Event Level.
- Message.

The procedure for viewing Storage Management Event Log information starts with the assumption that all applicable servers and the **Storage Management Control** GUI are currently running and the **Storage Config.** tab (Figure 7) is being displayed.

Viewing Storage Management Event Log Information

1 Click on the **Storage Management Control** GUI **Storage Events** tab.

- The **Storage Events** screen (Figure 15) is displayed.
- If Event Log entries are to be displayed on the basis of a particular….
  - Time period, perform Step 2. (If no time period is specified, log entries for the current day will be displayed.)
  - Event type, perform Step 3.

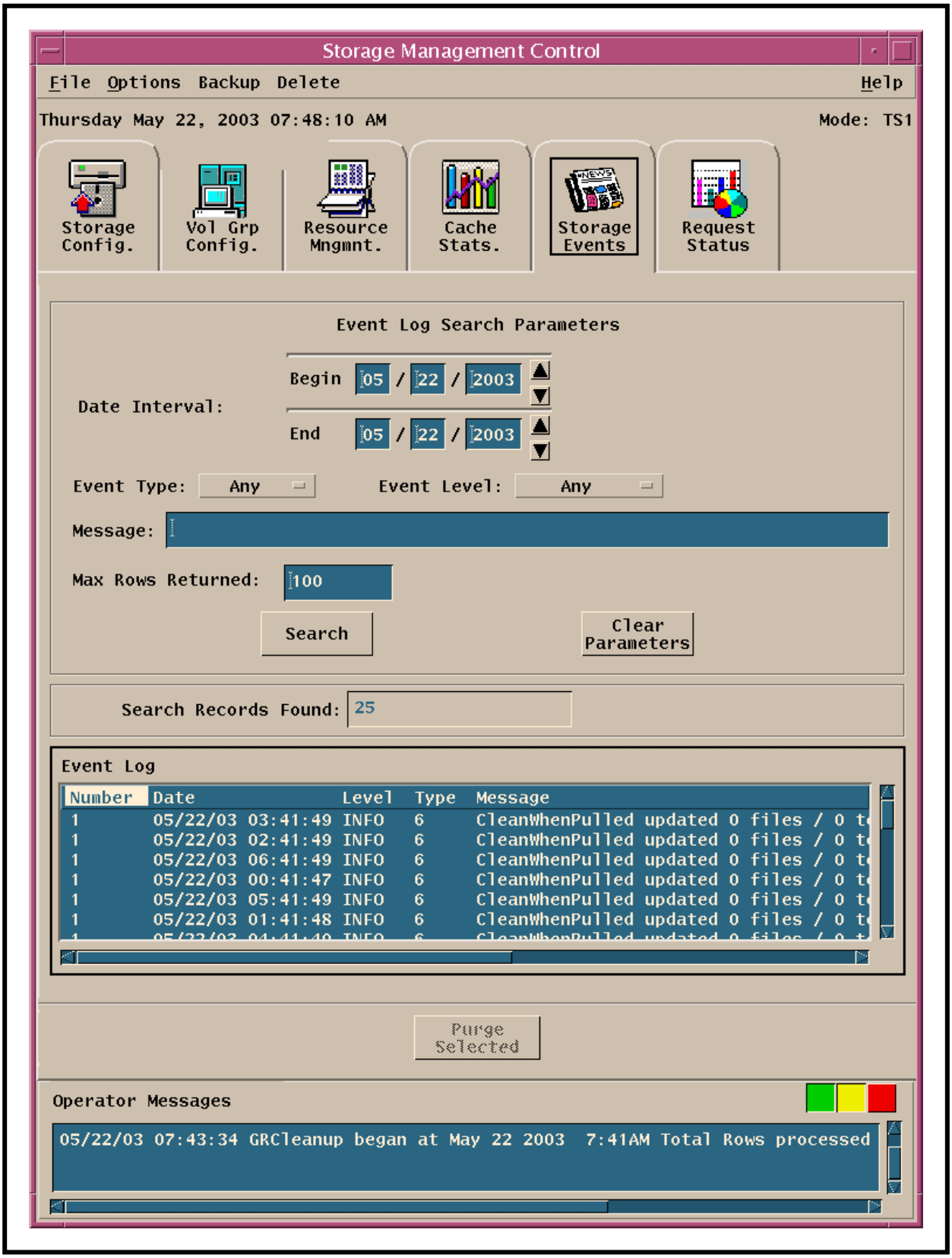

Figure 15. Storage Events Screen

- Event level, perform Step 4.
- Message, perform Step 5.

- Any of the preceding criteria (time period, event type, event level, or message) may be used individually or in combination to view entries in the Event Log.

2 To view Event Log entries for a particular **time period**, click in the appropriate **Date Interval: Begin**, and/or **Date Interval: End** field, and type the appropriate numerical values in ***MM/DD/YYYY*** format.

- The **Tab** key may be pressed to move from field to field.
- Another method of changing date settings (other than typing the numbers) is to click in each of the date fields in turn and click on the up/down buttons adjacent to the **Date Interval** fields until the correct date is indicated.

3 To view log entries for a particular **event type**, click and hold on the **Event Type** option button, move the mouse cursor to the desired selection (highlighting it), then release the mouse button.

- The selected event type is displayed on the **Event Type** option button.
- The following event types are displayed on the **Event Type** option button:
  - **Any.**
  - **Device.**
  - **Cache.**
  - **Software.**
  - **COTS.**
  - **Sybase.**
  - **Pulldisk.**
  - **Unknown.**

4 To view log entries for a particular **event level**, click and hold on the **Event Level** option button, move the mouse cursor to the desired selection (highlighting it), then release the mouse button.

- The selected event level is displayed on the **Event Level** option button.
- The following event levels are displayed on the **Event Level** option button:
  - **Any.**
  - **Information.**

- **Warning.**
- **Error.**
- **Severe.**
- **Fatal.**
- **Unknown.**

5 To view log entries for a particular **message** type the relevant message in the **Message** field.

6 Click on the **Search** button to search the event log for events that meet the specified criteria.

- The search results are displayed in the **Event Log** table of the **Storage Management Control** GUI **Storage Events** tab (Figure 15).

7 Observe event information displayed in the **Event Log** table.

- Log entries are displayed in the **Event Log** table of the GUI.
- Clicking on any of the column headers of the **Event Log** table causes the listed events to be sorted in order by the column selected.
  - For example, clicking on the **Message** column header causes the events to be listed in alphabetical order by message text.
- The **Operator Messages** field at the bottom of the GUI displays messages concerning events (i.e., information, warnings, or errors) occurring in **Storage Management Control** GUI operations.
  - Error messages are described in Table 8 of the **Troubleshooting a DDIST, STMGT, or Order Manager GUI Failure** section (subsequent section of this lesson).

8 To clear entries in the Event Log Search Parameter fields, click on the **Clear Parameters** button.

- Entries in the Event Log Search Parameter fields are cleared.

9 To purge entries from the Event Log, first click on the row corresponding to the event to be deleted in the **Event Log** table then click on the **Purge Selected** button.

- Multiple entries may be selected.
- Selected entries are deleted from the Event Log.

10 If a new Event Log search is to be performed on the basis of a particular….

- time period, return to Step 2.
- event type, return to Step 3.
- event level, return to Step 4.
- message, return to Step 5.

11 If it becomes necessary to exit from the **Storage Management Control** GUI select **File → Exit** from the pull-down menu.

Monitoring Storage Management Server Operations

Request Status

The **Request Status** tab (Figure 16) on the **Storage Management Control** GUI provides the Distribution Technician with the ability to monitor processing activity in all of the storage management servers for a given mode. The **Request Status Information** table lists the requests that are currently being serviced by storage management servers and those that have been completed within the last 24 hours. It is possible to review the following information concerning any particular storage management request:

- Operation [type of operation represented by the request].
- Request ID.
- Progress [stage of processing on which the request is currently working (may include a numeric progress indication)].
- Status.
- Priority.
- When Submitted [time and date when the request was received by the Storage Management server that is responsible for the request].
- Last Updated [time and date when the status was last updated for the request].

Using the **Request Status** tab the Distribution Technician can detect stalled requests or servers that appear to be idle.

Monitoring Storage Management Server Operations

The procedure for monitoring storage management server operations starts with the assumption that all applicable servers and the **Storage Management Control** GUI are currently running and the **Storage Config.** tab (Figure 7) is being displayed.

Monitoring Storage Management Server Operations

1 Click on the **Storage Management Control** GUI **Request Status** tab.

- The **Request Status** tab (Figure 16) is displayed.

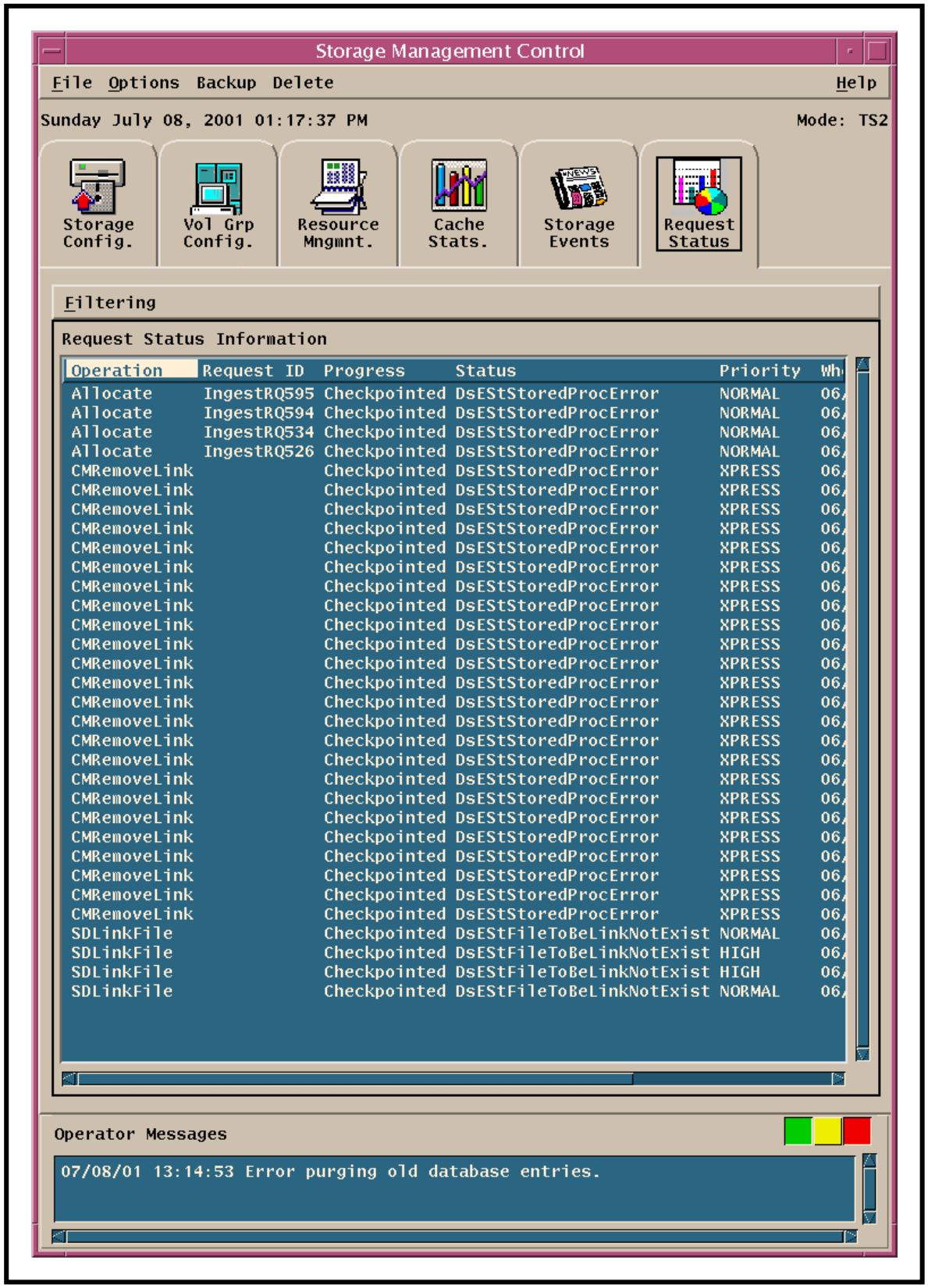

Figure 16. Request Status Tab (Storage Management Control GUI)

2 Observe information displayed on the **Request Status** tab of the **Storage Management Control** GUI.

- The **Request Status Information** table displays the following information:
  - Operation.
  - Request ID.
  - Progress.
  - Status.
  - Priority.
  - When Submitted.
  - Last Updated.
- By default, all storage management server requests for the last 24 hours are shown in the **Request Status Information** table of the **Request Status** tab.
- Note that virtually all data inserted into or retrieved from the archive is controlled by storage management servers; consequently there may be a lot of activity on the **Request Status** tab.
  - Consequently, it may be useful to restrict the number of requests displayed by filtering them as described in the next step of this procedure.
- Clicking on any of the column headers of the **Request Status Information** table causes the listed requests to be sorted in order by the column selected.
  - For example, clicking on the **Last Updated** column header causes the requests to be listed in order from the least recently updated to the most recently updated.
- The **Operator Messages** field at the bottom of the GUI displays messages concerning events (i.e., information, warnings, or errors) occurring in **Storage Management Control** GUI operations.
  - Error messages are described in Table 8 of the **Troubleshooting a DDIST, STMGT, or Order Manager GUI Failure** section (subsequent section of this lesson).

3 If the list of Storage Management requests shown in the **Request Status Information** table needs to be filtered, make the appropriate selection from the following choices listed on the **Filtering** pull-down menu:

- **Server.**
  - Controls what activity is displayed by limiting the list to the requests being/having been serviced by a specific server.

- Selecting **All** displays all requests throughout the Storage Management CSCI.
- Other selections include the individual archive servers, cache manager servers, ftp servers, request manager server, and staging disk servers.

- **Operation.**
  - Allows the Distribution Technician to focus on a specific type of operation.
  - The list of operations is dynamically generated to reflect those operations for which requests are currently in queue, for example (among others):
    - All.
    - scp.
    - CMLink.
    - ArStore.
    - FtpPull.
    - FtpPush.
- **Processing State.**
  - Allows the Distribution Technician to differentiate among requests that are being actively processed; have been completed, either successfully or to a retryable error state; or have been suspended and are awaiting the outcome of another event.
  - The following selections are available:
    - All.
    - Processing.
    - Suspended.
    - Completed.
- **Submitter.**
  - Allows the Distribution Technician to see the status of requests submitted by a specific client process.
  - The list of possible clients is dynamically generated to reflect the list of clients with outstanding requests for example (among others):
    - All.
    - DSDD.

- SDSV.
- this.
- [ftp server].
- [archive server].
- [staging disk server].

4 Observe the Storage Management requests displayed in the **Request Status Information** table.

5 Repeat Steps 3 and 4 as necessary to monitor Storage Management requests.

6 If it becomes necessary to exit from the **Storage Management Control** GUI select **File → Exit** from the pull-down menu.

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Launching the Order Manager GUI

Launching the Order Manager GUI

The **OM GUI** provides system operators with access to the Order Manager database. The GUI is based on web standards. It performs most of its functions by accessing the database directly, in contrast to most current system operator GUIs, which interface with servers. The GUI allows operators to view and modify requests that the Order Manager Server has placed on hold because they require operator intervention. In addition, operators can resubmit requests or portions of a request that failed.

The **OM GUI** incorporates many of the functions of the **Data Distribution Operator GUI** with the expectation that the **OM GUI** can provide an efficient, centralized interface. Note that the **Data Distribution Operator GUI** is still functional, as is the **ECS Data Order Tracking** GUI, which also shares a number of functions with the **OM GUI**.

New operator GUI security standards require the following two levels of permissions for the **OM GUI**:

- Full Capability.
- Limited Capability.

Full-capability operators have the ability to configure parameters and perform all other actions that can be accomplished with the **OM 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.

This lesson provides instruction in the full-capability version of the **OM GUI**. The functions that are not available to limited-capability operators are identified in this document.

The **OM GUI** provides both full-capability and limited-capability operators with the ability to perform the following functions:

- Monitor for operator interventions and physical media distribution (PMD) interventions.
- View completed operator actions and interventions.
- View lists of all distribution requests, ftp push distribution requests, staging distribution requests, or historical distribution requests.
- Filter distribution requests by combinations of order id, request id, status, destination, media type, user id, first name, last name, e-mail address, or creation time.
- View detailed distribution request information.
- View details of an ECS order.

- View the profile of a user associated with an ECS order.
- View suspended ftp push destinations.
- View details for suspended ftp push destinations including ftp push operations that caused the suspension and ftp push requests that are not in a terminal state.
- View bundling order information (link to the **Spatial Subscription Server GUI**).
- Monitor for interventions associated with HDF-EOS to GeoTIFF Conversion Tool (HEG) processing.
- View pending HEG granules.
- Check HEG order status.
- Monitor for operator alerts caused by ftp push operations, data pool file system errors, archive server errors, or archive tape errors.
- Monitor processing queue states.
- Monitor staging states.
- Monitor the current staging status by media type or ftp push destination.
- View OM server, OM database, and HEG parameters.
- View settings for each media type.
- View PMD device, printer, and production module configurations.
- Get general and context-based help for all **OM GUI** functions.

In addition to the preceding actions, full-capability operators can perform the following actions:

- Modify request parameter values associated with operator interventions and PMD interventions.
- Perform the following actions with respect to distribution requests (as appropriate):
  - Resubmit.
  - Suspend.
  - Resume.
  - Cancel.
  - Stop.
- Resume suspended ftp push destinations.
- Suspend/resume processing queue states.
- Suspend/resume staging states.

- Respond to open HEG interventions.
- Modify HEG order status.
- Configure OM server, OM database, and HEG parameters.
- Configure the aging parameters for each ECS priority level.
- Configure settings for each media type.
- Define and configure ftp push destinations, as well as the "policies" for those destinations.
- Configure PMD devices, printers, and production modules.
- Perform the following actions with respect to PMD requests (as appropriate):
  - Activate.
  - Fail.
  - Annotate.
  - Confirm mount media.
  - Fail mount media.
  - Confirm media collection complete.
  - Fail media collection.
  - Activate QC
  - Mark shipped.
  - Confirm media dismounted.
  - Confirming package assembled.
  - Mark package not assembled.
  - Print outputs.
- .

For Synergy V, the **OM GUI** is certified for use with any browser supporting the **Mozilla 5** standard. Many modern browsers support the standard, including **Netscape 7+**, **Firefox**, and others. The **OMS GUI** was not designed to work with **MS Internet Explorer** or older versions of **Netscape**. **JavaScript** is an integral part of the **OM GUI**, and as such it must be enabled in the client browser.

Launching the **OM GUI** starts with the assumption that the Distribution Technician has logged in to the system.

1 Access a terminal window logged in to a host (e.g., the Operations Workstation or Sun external server) that has access to the Netscape web browser.

- Examples of Operations Workstation host names include **e0acs12**, **g0acs02**, **l0acs01,** and **n0acs03**.
- Examples of Sun external server host names include **e0ins01**, **g0ins01**, **l0ins01,** and **n0ins02**.
- For detailed instructions refer to the procedure for **Logging in to System Hosts** (preceding section of this lesson).

2 Type **netscape &** then press **Return/Enter**.

- It may be necessary to type the path as well as the netscape command (e.g., **/tools/bin/netscape &**).
- 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 Netscape web browser (Figure 17) is displayed.

3 If a bookmark has been created for the **OM GUI**, select the appropriate bookmark from those listed on the browser's **Bookmarks** button (or the **Communicator → Bookmarks** pull-down menu).

- The security login **Prompt** (Figure 18) is displayed.

4 If no bookmark has been created for the **OM GUI**, type **http://*host*:*port*** in the browser's **Location (Go To)** field then press **Return/Enter**.

- For example:

  http://x0dps01.daac.ecs.nasa.gov:54321

- The security login **Prompt** (Figure 18) is displayed.

5 Type the appropriate user name in the **User Name** box of the security login **Prompt**.

6 Type the appropriate password in the **Password** box of the security login **Prompt**.

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

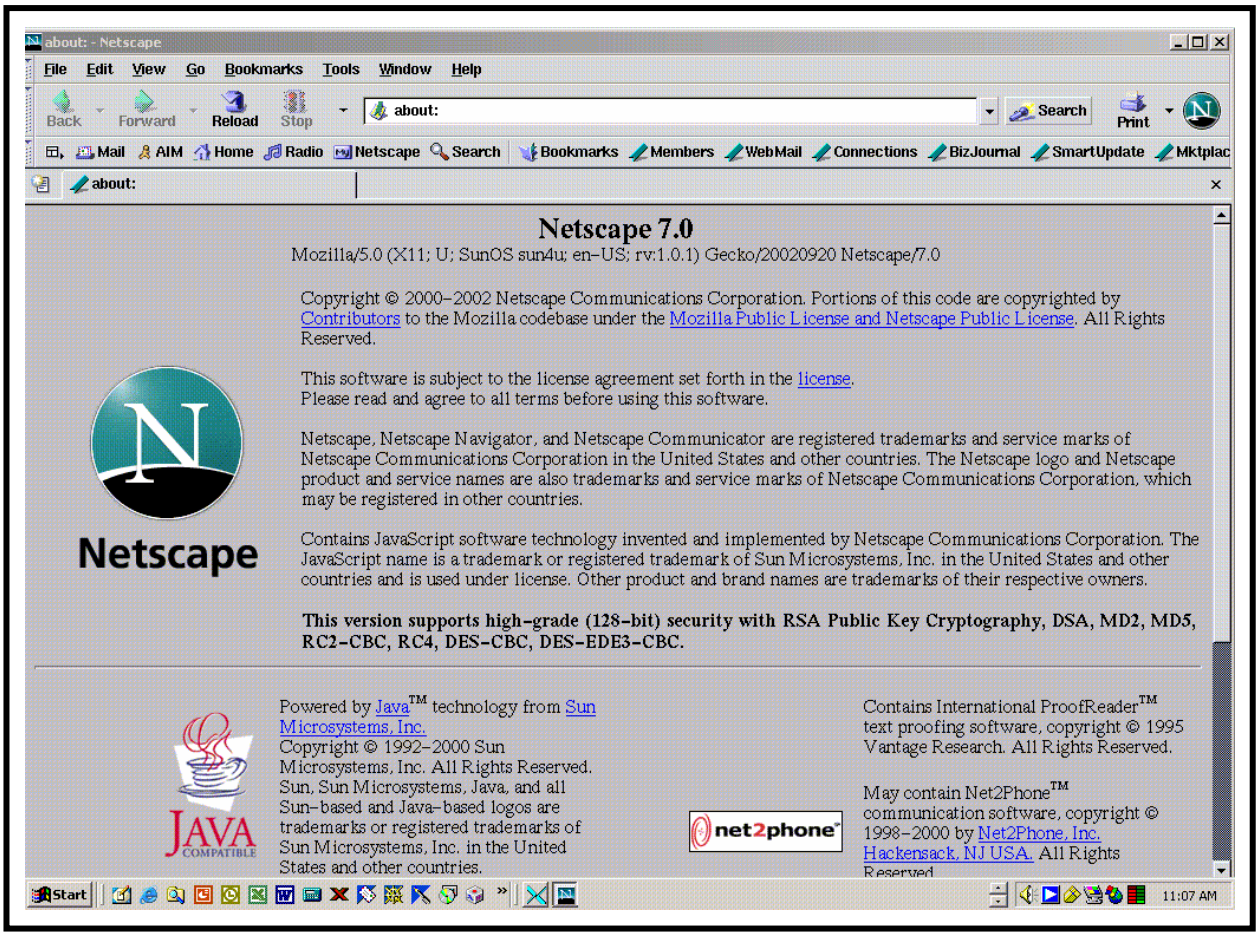

Figure 17. Netscape Web Browser

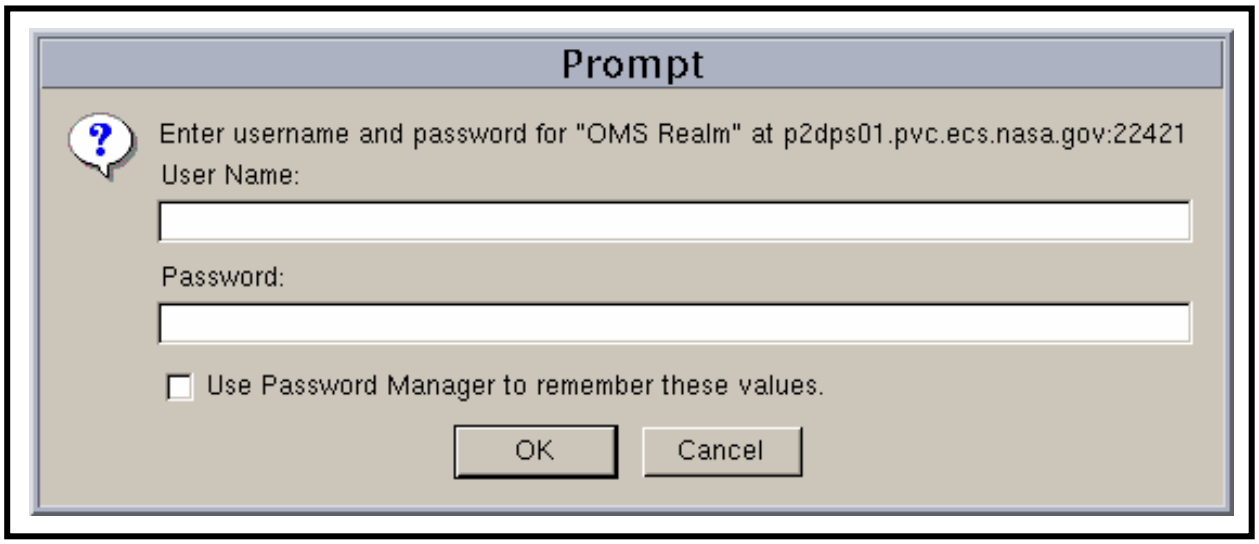

Figure 18. Security Login Prompt

7 Click on the appropriate button from the following selections:

- **OK** - to complete the log-in and dismiss the dialogue box.
  - The dialogue box is dismissed.
  - The **Order Manager Page** [“**Home” Page**] (Figure 19) is displayed.
- **Cancel** - to dismiss the dialogue box without logging in.
  - The dialogue box is dismissed.
  - The Netscape web browser (Figure 17) is displayed.

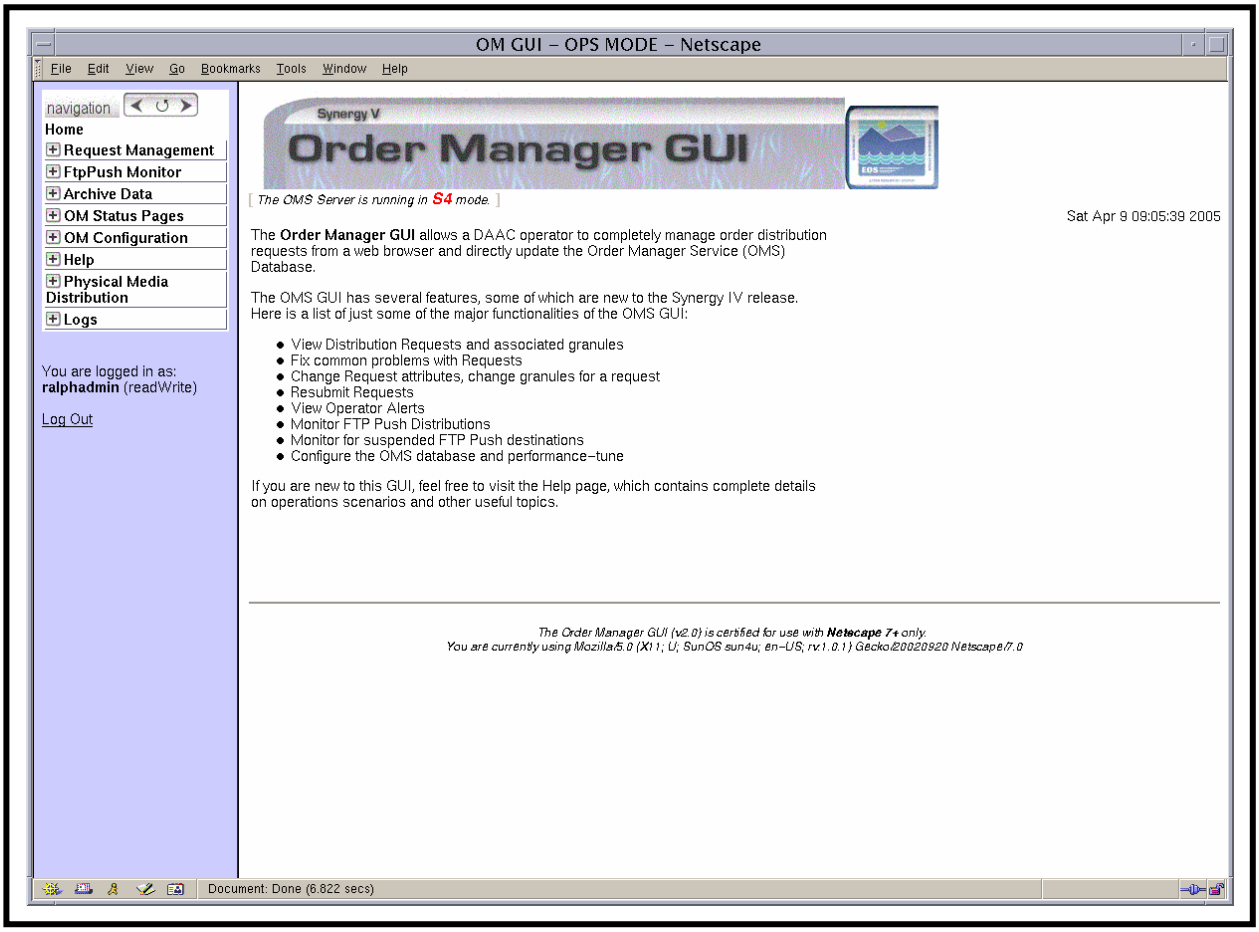

Figure 19. Order Manager Page ["Home" Page]

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Monitoring/Controlling Order Manager Operations

Order Manager Activities

Order Manager activities in which the Distribution Technician is likely to be involved are performed using the following **OM GUI** pages:

- **Request Management.**
  - **Open Interventions.**
  - **HEG Interventions.**
  - **Completed Actions & Interventions.**
  - **Distribution Requests.**
  - **FTP Push Requests.**
  - **Staging Requests.**
  - **Operator Alerts.**
- **FtpPush Monitor.**
  - **FTP Push Requests.**
  - **Suspended Destinations.**
- **Archive Data.**
  - **Historical Distribution Requests.**
- **OM Status Pages.**
  - **OM Queue Status.**
  - **HEG Order Status.**
  - **Staging Status:**
    - **Media Type.**
    - **FTP Push Destination.**
  - **Pending HEG Granules.**

- **OM Configuration.**
  - **Aging Parameters.**
  - **Server/Database.**
    - **[All].**
    - **[queue parms].**
    - **[cleanup parms].**
    - **[email parms].**
    - **[staging parms].**
    - **[partition parms].**
    - **[misc. parms].**
    - **[HEG parms].**
  - **Media.**
  - **Media Creation.**
  - **FTP Push Policy.**
- **Help.**
  - **About HelpOnDemand.**
  - **Help.**
- **Physical Media Distribution.**
  - **Open Interventions.**
  - **Device Configuration.**
  - **Printer Configuration.**
  - **PM Configuration.**
  - **Reports.**
  - **Media Creation Actions.**
- **Logs.**
  - **OM GUI Log Viewer.**

The full-capability operator performs the following tasks when monitoring and controlling Order Manager operations using the **OM GUI**:

- **Viewing Open Intervention Information on the OM GUI**
- **Setting Refresh Options on OM GUI Pages**
- **Responding to an Open Intervention**
- **Monitoring/Controlling Distribution Request Information on the OM GUI**
- **Filtering Data Displayed on the Distribution Requests Pages**
- **Changing the Priority of a Distribution Request Using the OM GUI**
- **Suspending, Resuming, Canceling, Resubmitting, or Stopping a Distribution Request Using the OM GUI**
- **Editing Values Assigned to FtpPush Parameters**
- **Annotating a Physical Media Distribution (PMD) Request from the Distribution Request Details Page**
- **Viewing Open HEG Intervention Information on the OM GUI**
- **Responding to an Open HEG Intervention**
- **Viewing Pending HEG Granules**
- **Viewing Operator Alerts on the OM GUI**
- **Viewing Completed Operator Actions and Interventions on the OM GUI**
- **Filtering Data Displayed on the Completed Operator Actions and Interventions Page**
- **Viewing Historical Distribution Requests on the OM GUI**
- **Viewing and Responding to Suspended FTP Push Distribution Destinations**
- **Viewing and Responding to Destination Details on the OM GUI**
- **Checking/Modifying OM Queue Status**
- **Checking/Modifying HEG Order Status**
- **Checking Staging Status**
- **Checking/Modifying Values Assigned to Aging Parameters**
- **Checking/Modifying Values Assigned to OMS Server or Database Parameters**
- **Checking/Modifying Values Assigned to Media Parameters**
- **Checking/Modifying Values Assigned to Media Creation Parameters**

- **Checking/Modifying FTP Push Policy Configuration**
- **Adding Destinations to the Frequently Used Destinations List**
- **Modifying Values Assigned to Parameters of Frequently Used Destinations**
- **Viewing the OM GUI Log**
- **Viewing PMD Open Intervention Information on the OM GUI**
- **Responding to a PMD Open Intervention**
- **Checking/Modifying PMD Device Configuration**
- **Filtering Data Displayed on the PMD Device Configuration Page**
- **Checking/Modifying PMD Printer Configuration**
- **Checking/Modifying PMD Production Module Configuration**
- **Checking PMD Reports**
- **Monitoring/Controlling PMD Media Creation Using the OM GUI**
- **Activating PMD Requests**
- **Failing a PMD Request**
- **Annotating a PMD Action**
- **Confirming Mount Media for PMD**
- **Failing Mount Media for PMD**
- **Confirming Media Collection Complete for PMD**
- **Failing PMD Media Collection**
- **Activating QC for PMD Requests**
- **Marking PMD Request Shipped**
- **Confirming PMD Media Dismounted**
- **Confirming PMD Package Assembled**
- **Marking PMD Package Not Assembled**
- **Printing PMD Outputs**

Viewing Open Intervention Information on the OM GUI

The **Open Interventions** page (Figure 20) provides the full-capability operator with a means of viewing and responding to open interventions. (The limited-capability operator can view but cannot work on (respond to) open interventions.)

The procedure for viewing open intervention information on the **OM GUI** starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

Viewing Open Intervention Information on the OM GUI

---

1 If it has not been expanded already, click on the **Request Management** link in the navigation frame of the **OM GUI**.

- The **Request Management** menu is expanded.

2 Click on the **Open Interventions** link in the navigation frame of the **OM GUI**.

- The **Open Interventions** page (Figure 20) is displayed.
- The **Listing** table has the following columns:
  - **Order Id.**
  - **Request Id.**
  - **Media.**
  - **Status.**
  - **Worked by.**
  - **Created.**
  - **Acknowledged.**
  - **Explanation(s).**

3 Observe information displayed in the **Listing** table of the **Open Interventions** page.

- The **Show _____ rows at a time** window provides a means of selecting the maximum number of rows of data to be displayed at a time.
  - For example, if **Show _____ rows at a time** is being displayed, selecting **50** from the option button would result in the display of a page of data containing up to 50 rows of data.

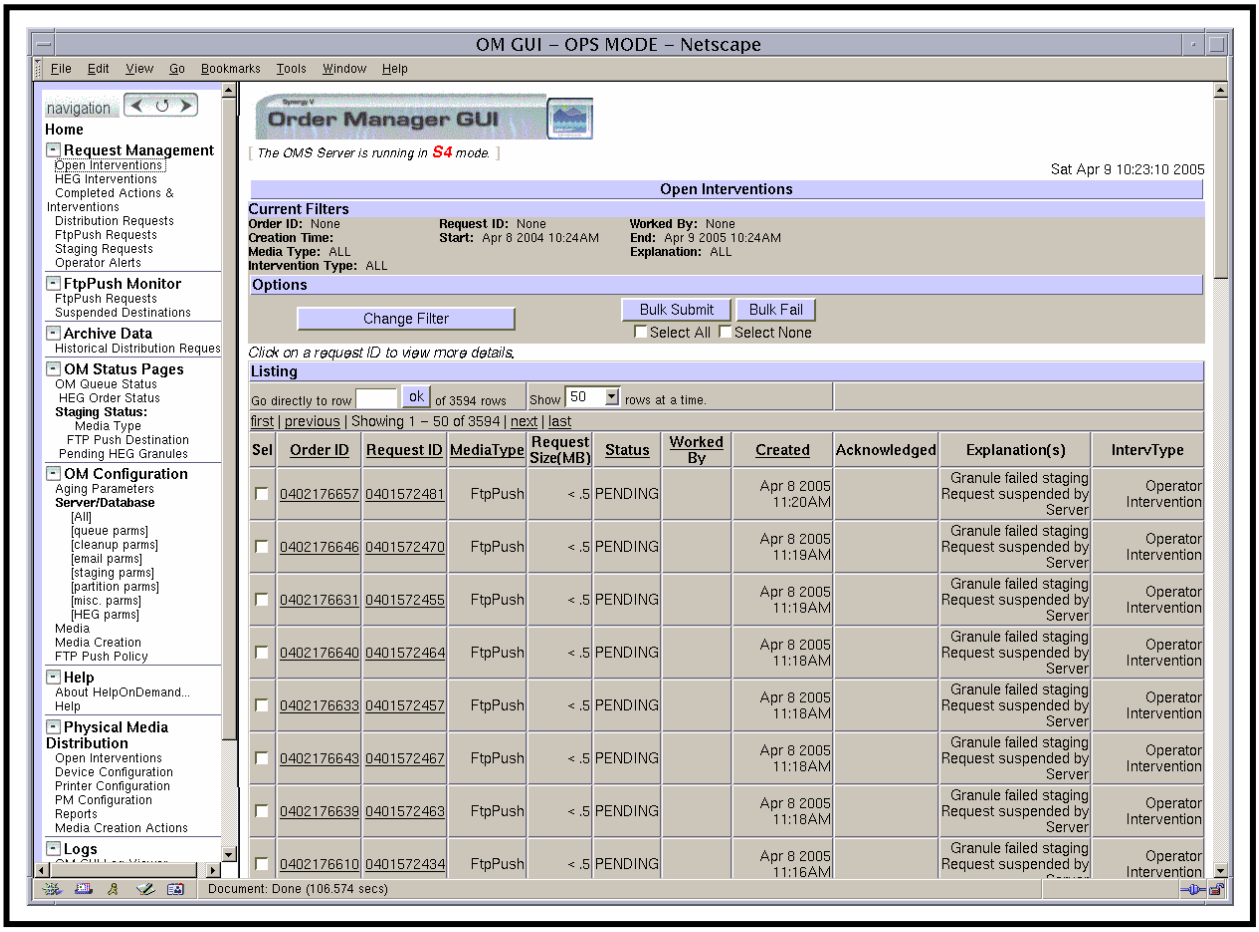

Figure 20. Open Interventions Page

- Clicking on a link (underlined word) in the column header row of the table causes table contents to be sorted on that column.
  - For example, clicking on the **Created** link causes the table to be organized by "Creation Time," with the most recent request requiring intervention in the top row of the table.
- Clicking on a specific Order ID brings up a screen containing more detailed data concerning that particular order.
  - The **ECS Order** page (Figure 21) displays the following types of data concerning the order:
    - **Request ID(s).**
    - **Order Type.**
    - **Order Source.**

- **Ext. RequestId.**
- **Receive Date.**
- **Last Update.**
- **Description.**
- **Start Date.**
- **User ID.**
- **Status.**
- **Ship Date.**
- **Order Home DAAC.**

– If the order is a bundled order (Order Type "Bundled Order" or "BO"), the **ECS Order** page includes a link to the **Spatial Subscription Server GUI**.

– Clicking on the ← icon in the **OM GUI** navigation frame causes the **Open Interventions** page to be redisplayed.

- Clicking on a specific Request ID in the **Listing** table of the **Open Interventions** page brings up a screen containing detailed data concerning the intervention for that particular request (refer to Steps 3 and 4).
- Horizontal and vertical scroll bars appear when necessary to allow viewing data that are not readily visible in the window.
- If **AutoRefresh** is **ON**, the **Open Interventions** page refreshes automatically as often as specified in the **Refresh screen every *x* minutes** window.

  – If a different refresh option is preferred, perform the procedure for **Setting Refresh Options on OM GUI Pages** (subsequent section of this lesson).

- To manually update (refresh) the data on the screen, click on the ↻ icon in the **OM GUI** navigation frame.
- The Netscape browser **Edit → Find in Page** menu provides a means of performing a keyword search of the data currently being displayed on the screen.
- The **first**, **previous**, **next**, and **last** links provide means of displaying additional pages of data.

4 Click on a specific Request ID in the **Listing** table of the **Open Interventions** page to bring up a screen containing detailed data concerning the intervention for that particular request.

- For example, clicking on Request ID **0401572481** brings up an **Open Intervention Detail** page (i.e., **Intervention for Request 0401572481**) (Figure 22).

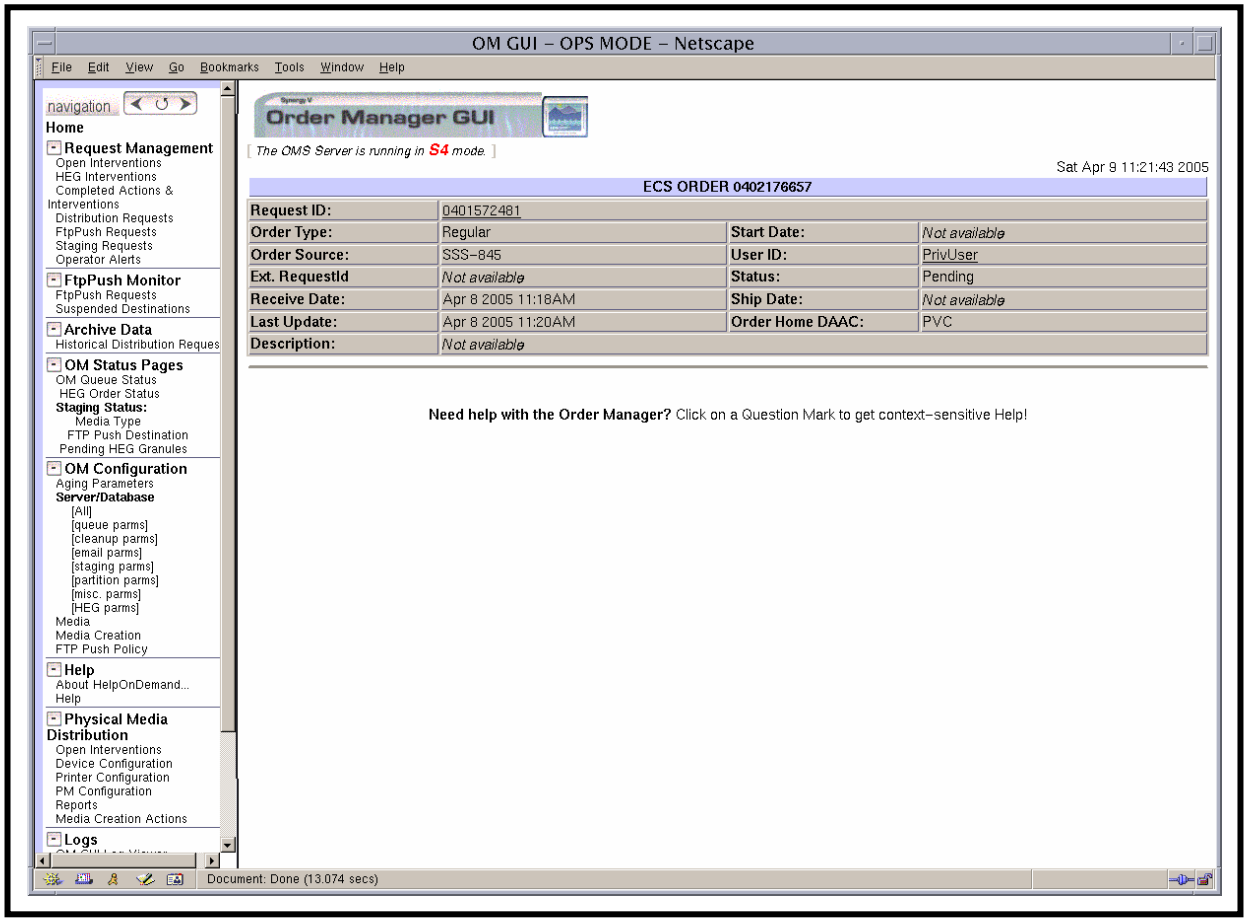

Figure 21. ECS Order Page

5 Observe information displayed on the **Open Intervention Detail** page (Figure 22).

- The following items are displayed on the **Open Intervention Detail** page (Figure 22).
  - **User ID.**
  - **email.**
  - **Order ID.**
  - **Request ID.**
  - **Size (est, MB).**
  - **Media Type.**
  - **Priority.**
  - **Explanation(s).**

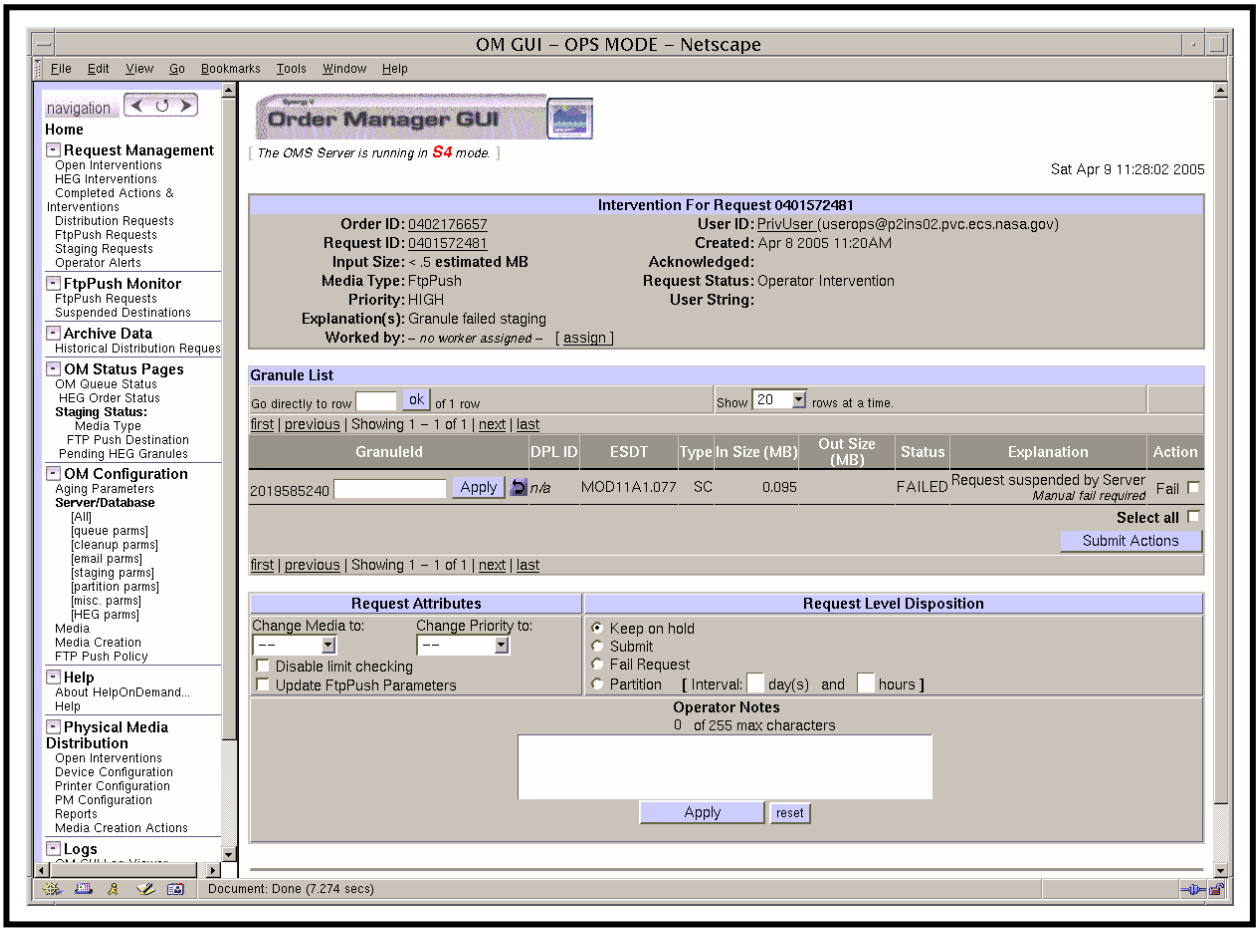

Figure 22. Open Intervention Detail (Intervention for Request X) Page

- **Worked by.**
- **Created.**
- **Acknowledged.**
- **Status.**
- **User String:**
- **Worked by:**
- **assign** link or **change** link.
- **Granule List.**
  - **DBID**, text box (for entering new DBID), and **Apply** button (if applicable).
  - **ESDT *Type*.**

- **Size (MB).**
- **Status.**
- **Explanation.**
- **Action.**
- **Fail** button(s) (if applicable).

– **Request Attributes.**

- **Change Media to:** option button.
- **Change Priority to:** option button.
- **Disable limit checking** box.
- **Update FtpPush Parameters** box (if applicable; i.e., if the current distribution medium is ftp push).

– **Request Level Disposition.**

- **Keep on hold.**
- **Submit.**
- **Fail Request.**
- **Partition**
- (Partition) **Interval:** ***d*** **days** ***h*** **hours** boxes.

– **OPERATOR NOTES**.

- Text box (for entering comments).

– **Apply** button.

– **Reset** button.

- Clicking on the ← icon in the **OM GUI** navigation frame causes the **Open Interventions** page to be redisplayed.

6 To work on the intervention being displayed on the **Open Intervention Detail** page, perform the procedure for **Responding to an Open Intervention** (subsequent section of this lesson).

7 To view the details of another open intervention first click on the ← icon in the **OM GUI** navigation frame then return to Step 2.

- The **Open Intervention Detail** page (Figure 22) is dismissed.
- The **Open Interventions** page (Figure 20) is displayed.

8 To start the process of logging out (if applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

9 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  - The dialogue box is dismissed.
  - The Netscape browser is dismissed.
- **Cancel** - to dismiss the dialogue box without logging out.
  - The dialogue box is dismissed.
  - The **OM GUI** is displayed.

Setting Refresh Options on OM GUI Pages

Buttons at the bottom of **OM GUI** pages provide the Distribution Technician (whether full-capability or limited capability operator) with a means of setting refresh options.

The procedure for setting refresh options starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched.
- One of the following **OM GUI** pages is being displayed:
  - **Open Intervention.**
  - **Distribution Requests.**
  - **FTP Push Distribution Requests.**
  - **Staging Distribution Requests.**
  - **Operator Alerts.**
  - **OM Queue Status.**
  - **Staging Status by Media Type.**
  - **Staging Status by FTP Push Destination.**

1 Observe the **AutoRefresh Control Panel** at the bottom of the **OM GUI** page.

- One of the following **AutoRefresh** statuses is displayed:
  - **ON.**
  - **OFF.**

2 If applicable, click on the appropriate radio button in the **AutoRefresh Control Panel** at the bottom of the **OM GUI** page.

- The following **AutoRefresh** options are available:
  - **on.**
    - It is useful to "auto refresh" when working with current orders/requests that are expected to change status at any time and it is desirable to see the new status right away.
  - **off.**
    - It is useful to suspend refresh when a large volume of orders/requests is being processed and it is desirable to preserve the orders/requests displayed on the current screen.

3 To change the refresh rate (assuming **AutoRefresh** is **ON**), click on the **Refresh screen every *x* minutes** option button to display a menu of numbers of minutes then click on the desired selection.

- The following choices are available:
  - **1.**
  - **5.**
  - **10.**
  - **15.**
  - **30.**
  - **45.**
  - **60.**
- Selected number is displayed in the **Refresh screen every *x* minutes** window.

4 Return to the procedure that recommended setting refresh options on **OM GUI** pages.

Responding to an Open Intervention

The **Open Intervention Detail** page (Figure 22) provides the full-capability operator with a means of performing the following kinds of interventions (limited-capability operators are not allowed to work on open interventions):

- Select a different granule to replace a granule that is unavailable.
- Fail selected granule(s).
- Disable limit checking.
- Change the distribution medium for a request.
- Resubmit a request.
- Fail a request.
- Partition (divide) a request.

NOTE: The response to an intervention may require coordination between the Distribution Technician and a User Services representative, especially when determining a more suitable type of distribution medium, selecting a replacement granule, or taking any other action that would require contacting the person who submitted the order. In fact, depending on the circumstances and DAAC policy it may be appropriate for User Services to assume responsibility for the eventual disposition of some interventions.

The procedure for responding to an open intervention starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].
- The **Open Intervention Detail** page (Figure 22) is being displayed on the **OM GUI**.
  - If the **Open Intervention Detail** page (Figure 22) is not being displayed on the **OM GUI**, go to the procedure for **Viewing Open Intervention Information on the OM GUI** (preceding section of this lesson).

Responding to an Open Intervention

---

1 Observe the information displayed in the **Worked by** column of the **Open Intervention Detail** page (Figure 22).

- If the **Open Intervention Detail** page (Figure 22) is not being displayed on the **OM GUI**, go to the procedure for **Viewing Open Intervention Information on the OM GUI** (preceding section of this lesson).

- If someone is already working on the intervention, that person is identified in the **Worked by:** field of the **Open Intervention Detail** page.
  - In general working on an intervention is left to the person who has already been signed up to work on it unless the change is coordinated with that person or they are going to be unavailable (e.g., due to illness or vacation).
- If necessary (e.g., due to illness, vacation, or prior coordination), it is possible to override the assignment of a person to work on an intervention.

2 To assign oneself to work on the intervention, first click on the **assign** or **change** link in the **Worked by:** field on the **Open Intervention Detail** page.

- If someone has been assigned to work on the intervention a **change** link is displayed; if no one has been assigned to work on the intervention an **assign** link is displayed.
- Clicking on the assign or change link causes a text box to be displayed.

3 To continue the process of assigning oneself to work on the intervention, type the appropriate user ID in the text box displayed beside the **assign** or **change** link in the **Worked by:** field.

4 To continue the process of assigning oneself to work on the intervention, click on the green button with the checkmark next to the text box in the **Worked by:** field.

5 If no granule in the request is to be "failed" or if all granules in the request are to be "failed," skip Steps 6 through 11 and go to Step 12.

6 If a granule is to be replaced (e.g., because of an "Invalid UR/Granule Not Found" entry in the **Explanation** column of the **Granule List**), first type the Database ID (DBID) of the replacement granule in the **DBID** text box.

- The DBID for a replacement granule can be determined by doing a search using the EDG.

7 To continue the process of specifying a replacement granule, click on the **Apply** button associated with the DBID.

- A dialogue box is displayed to confirm the change to the granule.

8 To continue the process of specifying a replacement granule, click on the appropriate button from the following selections:

- **OK** - to confirm the specification of a replacement granule and dismiss the dialogue box.
  - The dialogue box is dismissed.
  - The **Open Intervention Detail** page (Figure 22) is displayed.
- **Cancel** - to dismiss the dialogue box without specifying a replacement granule.
  - The dialogue box is dismissed.

- The **Open Intervention Detail** page (Figure 22) is displayed.

9 If a granule is to be "failed" (e.g., because of an "Invalid UR/Granule Not Found" entry in the **Explanation** column of the **Granule List**), click on the **Fail** button in **Action** column of the row for the granule in the **Granule List**.

- A dialogue box is displayed to confirm the change to the granule.

NOTE: **"**Failing" a granule is a permanent action and cannot be canceled after having been confirmed.

10 To continue the process of failing a granule, click on the appropriate button from the following selections:

- **OK** - to confirm the failure of the granule and dismiss the dialogue box.
  - The dialogue box is dismissed.
  - The **Open Intervention Detail** page (Figure 22) is displayed.
- **Cancel** - to dismiss the dialogue box without failing the granule.
  - The dialogue box is dismissed.
  - The **Open Intervention Detail** page (Figure 22) is displayed.

11 Repeat Steps 6 through 10 (as necessary) to replace or fail any additional granules.

12 If limit checking should be disabled, click on the **Disable limit checking** box.

- If the **Disable limit checking** attribute is selected and subsequently applied, the request size limit checking is disabled.
- The **Disable limit checking** option makes it possible to override the standard media capacity limits for a particular media type and is most likely to be applied to a non-physical media type (i.e., ftp push, ftp pull, or scp).
- The **Disable limit checking** option can be used to bypass the request size checks if the request was either too small or too large.

13 If the distribution medium should be changed, click on the option button associated with the **Change Media to:** box to display a menu of media then click on the desired selection.

- The following choices are available:
  - **- -.**
  - **FtpPull.**
  - **FtpPush.**
  - **CDROM.**
  - **DLT.**

- **DVD.**
- **8MM.**
- **scp.**

- Selected medium is displayed in the **Change Media to:** box.

14 If the priority of the request should be changed, click on the option button associated with the **Change Priority to:** box to display a menu of priorities then click on the desired selection.

- The following choices may be available (the current priority will not be listed):
  - **- -.**
  - **LOW.**
  - **NORMAL.**
  - **HIGH.**
  - **VHIGH.**
  - **XPRESS.**
- Selected priority is displayed in the **Change Priority to:** box.

15 If the values assigned to ftp push parameters should be changed, click on the **Update FtpPush Parameters** box.

- The **Update FtpPush Parameters** option appears when applicable (i.e., when the current distribution medium for the request is ftp push).
  - The **Update FtpPush Parameters** option provides a means of editing the existing ftp push information when the intervention is closed.

16 If a note should be entered concerning the request (e.g., the reason for making a particular type of intervention), type the applicable text in the **OPERATOR NOTES** text box.

17 To select the disposition for the request click on the appropriate button from the following selections:

- **Keep on hold** - to delay applying any intervention action (keep the intervention open) and dismiss the **Open Intervention Detail** page.
  - Placing an intervention on hold does not allow changing the request's attributes, but saves the operator notes and allows opening the intervention at a later time (essentially, the intervention is being “saved”).
- **Submit** - to apply the intervention actions (if any) specified in the **Granule List** and **Request Attributes** sections of the **Open Intervention Detail** page and dismiss the **Open Intervention Detail** page.

- **Fail Request** - to fail the entire request (including all granules) and dismiss the **Open Intervention Detail** page.
- **Partition** - to start the process of partitioning a request that exceeds maximum request size.

18 If the **Partition** button was selected in the preceding step and distribution of the granules should be spread over a period of time, type the appropriate values in the **day(s)** and/or **hours** text box(es) to specify the time period.

NOTE: There are **Apply** and **Reset** buttons at the bottom of the **Open Intervention Detail** page. The **Reset** button does not cancel any changes made to the request or changes made to the DBIDs (changed or failed). It simply resets the form buttons for the **Request Level Disposition** section to their original states.

19 Click on the **Apply** button.

- A **Close Confirmation** page (Figure 23) is displayed.
  - The **Close Confirmation** page displays the actions to be taken; for example, the following types of actions may be listed:
    - **Disposition** [e.g., keep on hold, submit, fail, or partition].
    - **Limit Checking Disabled** [yes, no, or blank].
    - **New Media** [no, yes: (type), or blank].
    - **New Priority** [no, yes: (type), or blank].
  - If the intervention involved changing the medium from an electronic medium to a physical medium, text boxes for entering the following types of shipping information are displayed on the **Close Confirmation** page (as shown in Figure 24):
    - **Address 1**.
    - **Address 2**.
    - **Address 3**.
    - **City**.
    - **State/Province**.
    - **Country**.
    - **Zip/Postal Code**.

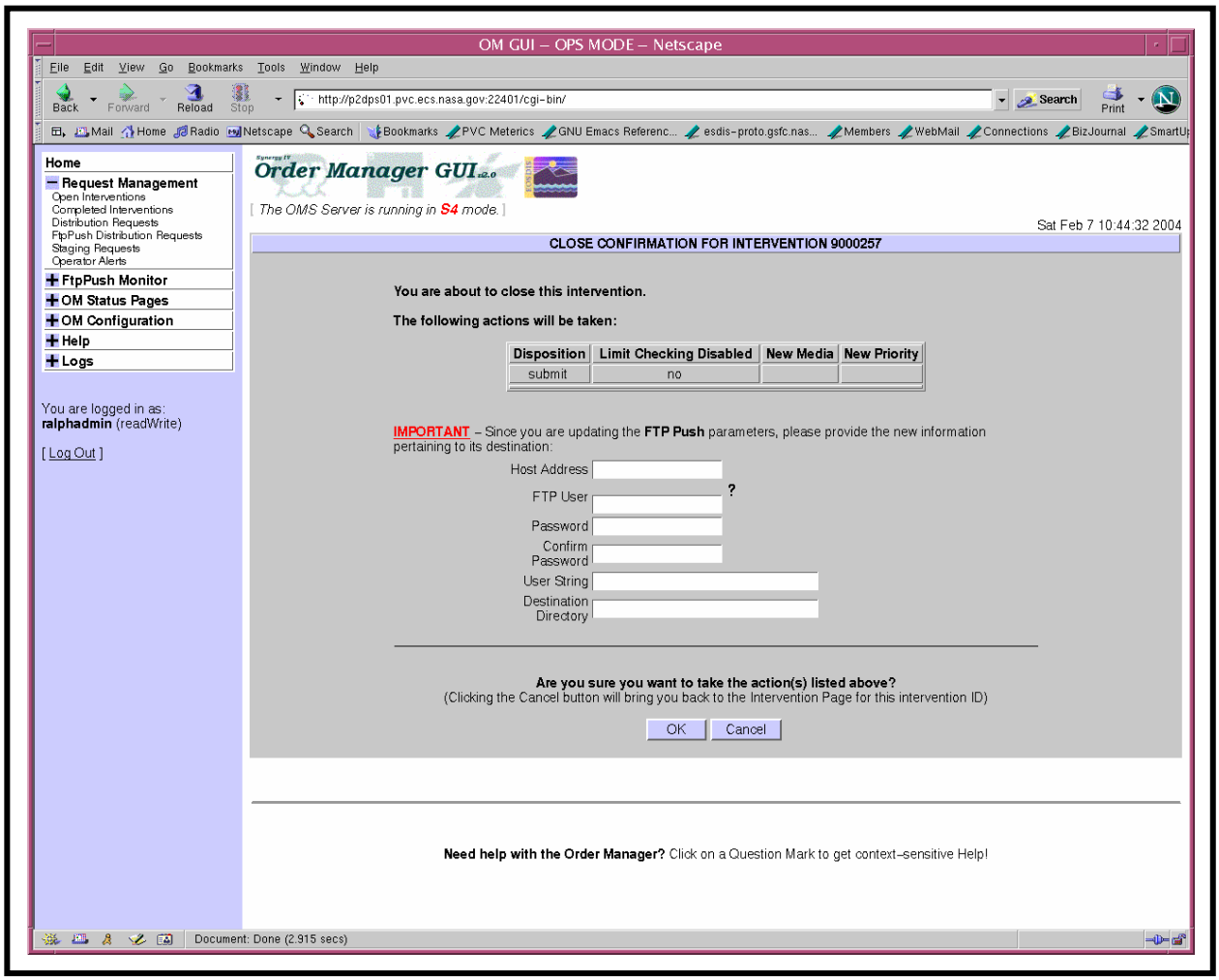

Figure 23. Close Confirmation (CLOSE CONFIRMATION FOR INTERVENTION X) Page (FTP Push)

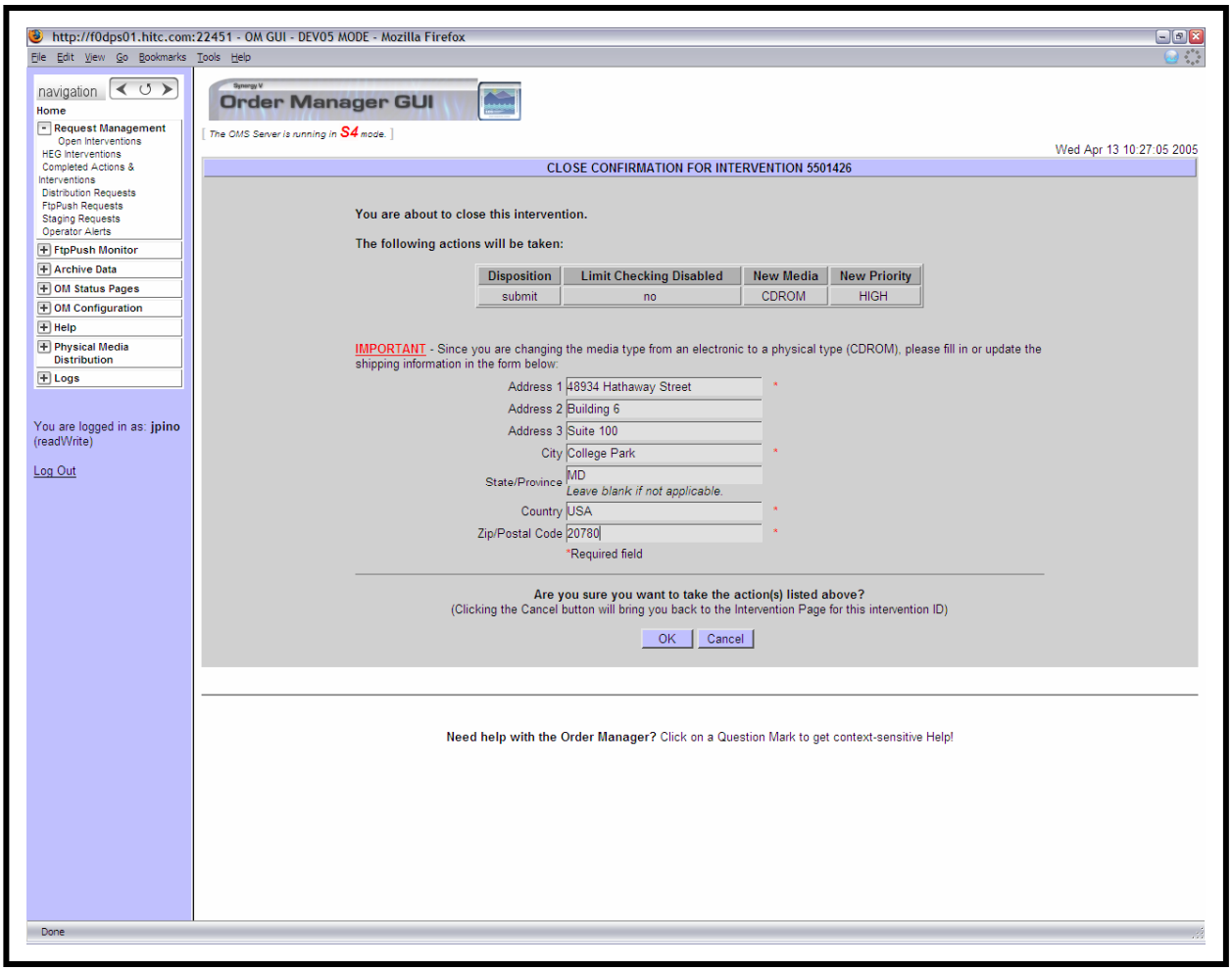

Figure 24. Close Confirmation (CLOSE CONFIRMATION FOR INTERVENTION X) Page (PMD)

- If the intervention involved changing the medium to ftp push or updating the values assigned to ftp push parameters, text boxes for the following ftp push parameters are displayed on the **Close Confirmation** page:
  - **Ftp node** [Destination host name].
  - **Ftp Address** [FTP user name].
  - **Password**.
  - **Confirm Password**.
  - **User String** [message to be sent to the user].
- **Destination Directory** [full path].

- If it was necessary to fail a request or granule(s) within a request, partition a request, or modify the granules in a request, the **Close Confirmation** page includes options for either appending additional text to the default e-mail message to be sent to the requester or choosing not to send an e-mail message to the requester.
  - An **Additional e-mail text** text box for appending text (if desired) to the standard e-mail text is displayed on the **Close Confirmation** page (as shown in Figure 25).
  - A **Don't send e-mail** box to suppress the sending of an e-mail message is displayed on the **Close Confirmation** page.

20 If the intervention involved changing the medium from an electronic medium to a physical medium, type appropriate values in the following text boxes:

- **Address 1.**
- **Address 2.**
- **Address 3.**
- **City.**
- **State/Province.**
- **Country.**
- **Zip/Postal Code.**

21 If the intervention involved changing the medium to ftp push or updating the values assigned to ftp push parameters, perform the procedure for **Editing Values Assigned to FtpPush Parameters** (subsequent section of this lesson).

22 If the intervention involved failing a request or granule(s) within a request, partitioning a request, or modifying the granules in a request, and additional text is to be appended to the corresponding standard e-mail text, type the appropriate text in the **Additional e-mail text** text box on the **Close Confirmation** page.

23 If the intervention involved failing a request or granule(s) within a request, partitioning a request, or modifying the granules in a request, and no e-mail message is to be sent, click on the **Don't send e-mail** box on the **Close Confirmation** page to suppress the sending of an e-mail message indicating request/granule failure.

- Unless the **Don't send e-mail** box is checked, an e-mail message indicating request/granule failure will be sent to the requester.

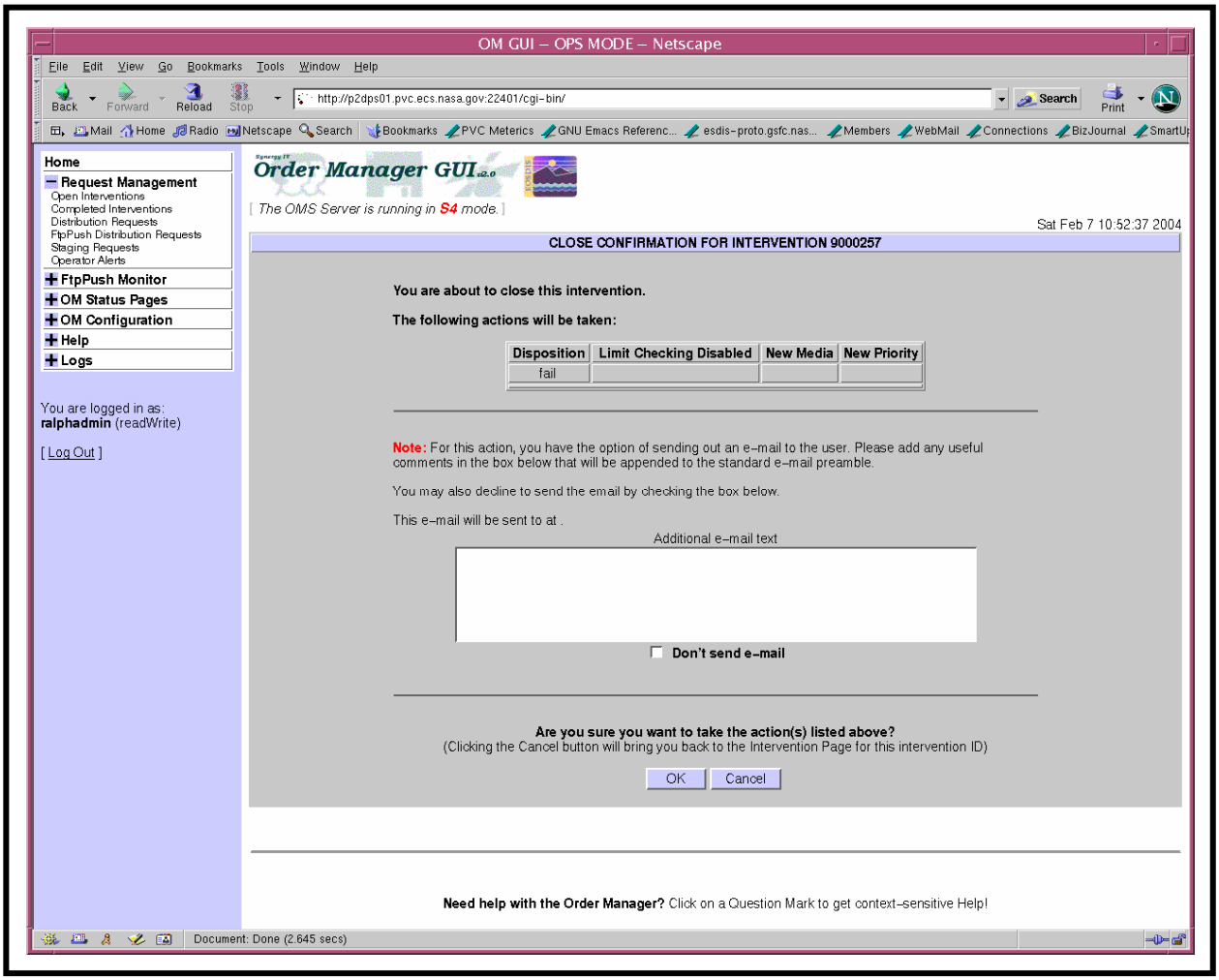

Figure 25. Close Confirmation Page Showing Additional E-Mail Text Box

24 Click on the appropriate button from the following selections:

- **OK** - to apply the specified intervention actions (if any) and dismiss the **Close Confirmation** page.
  - The **Close Confirmation** page is dismissed.
  - An **Intervention Closed** page (Figure 26) is displayed
- **Cancel** - to dismiss the **Close Confirmation** page without applying the specified intervention actions.
  - The **Close Confirmation** page is dismissed.
  - A warning dialogue box (Figure 27) is displayed with the message "WARNING: The disposition and actions you have taken for this intervention will be lost. Continue?"

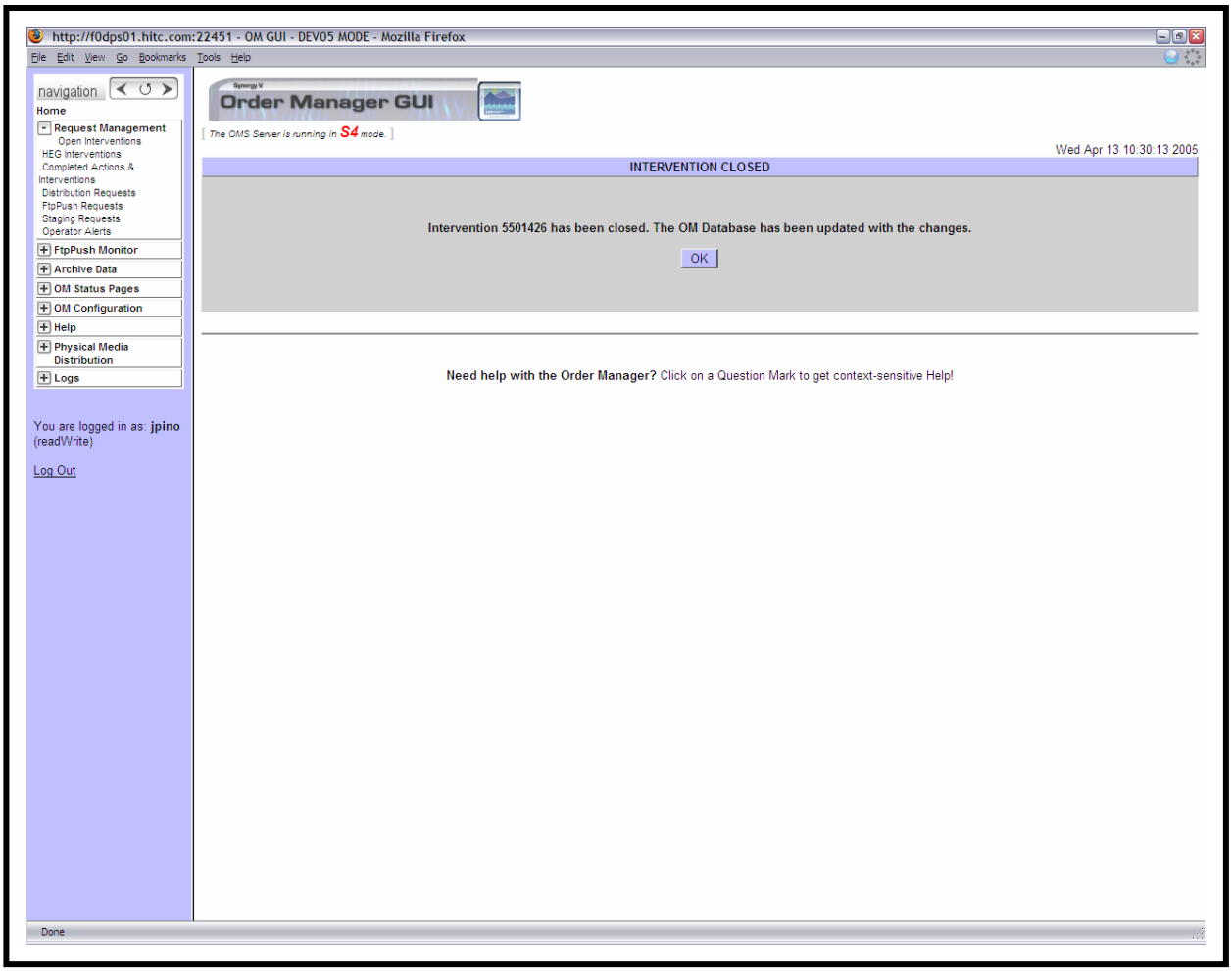

Figure 26. Intervention Disposition Page

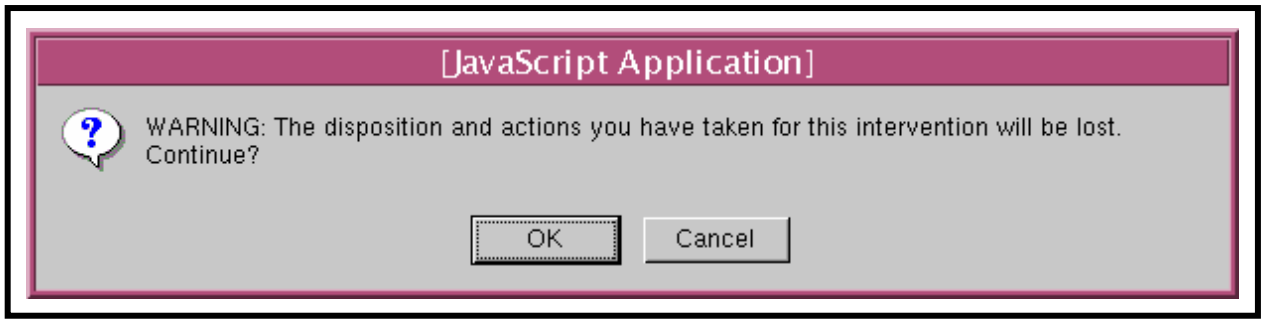

Figure 27. Continue Question Dialogue Box

25 If a warning dialogue box is displayed with the message "WARNING: The disposition and actions you have taken for this intervention will be lost. Continue?" click on the appropriate button from the following selections:

- **OK** - to dismiss the warning dialogue box and the **Close Confirmation** page and return to the **Open Intervention Detail** page (Figure 22).
- **Cancel** – to dismiss the warning dialogue box and return to the **Close Confirmation** page (Figure 23).

26 To exit from the **Intervention Closed** page (Figure 26), click on the **OK** button.

- The **Intervention Closed** page (Figure 26) is dismissed.
- The **Open Interventions** page (Figure 20) is displayed.

27 To start the process of logging out (if applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

28 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  - The dialogue box is dismissed.
  - The Netscape browser is dismissed.
- **Cancel** - to dismiss the dialogue box without logging out.
  - The dialogue box is dismissed.
  - The **OM GUI** is displayed.

Monitoring/Controlling Distribution Request Information on the OM GUI

The following three **OM GUI** pages provide the full-capability operator with a means of viewing distribution request information on the **OM GUI** and a means of taking actions with respect to distribution requests:

- **Distribution Requests** page (Figure 28).
- **Staging Distribution Requests** page (Figure 29).
- **FtpPush Distribution Requests** page (Figure 30).

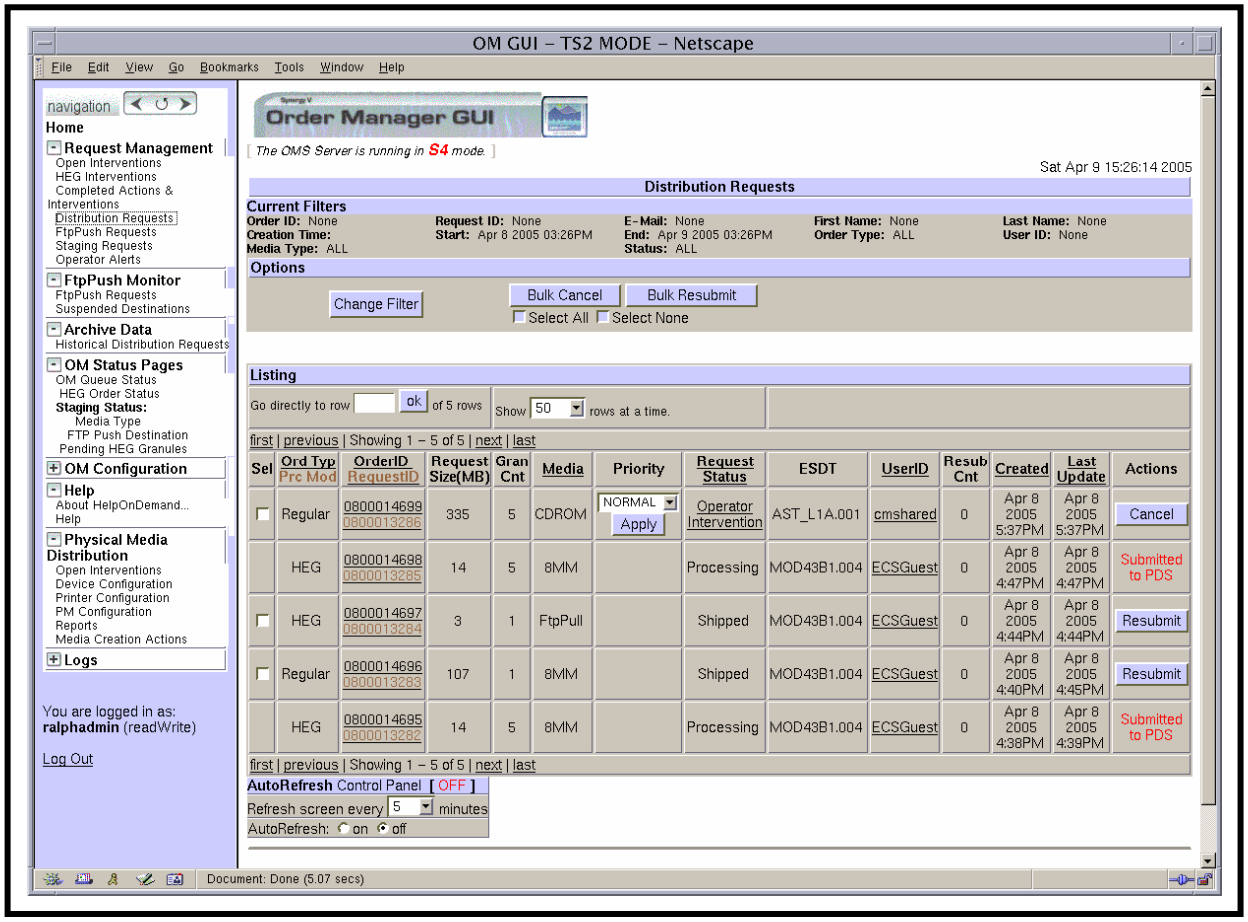

Figure 28. Distribution Requests Page

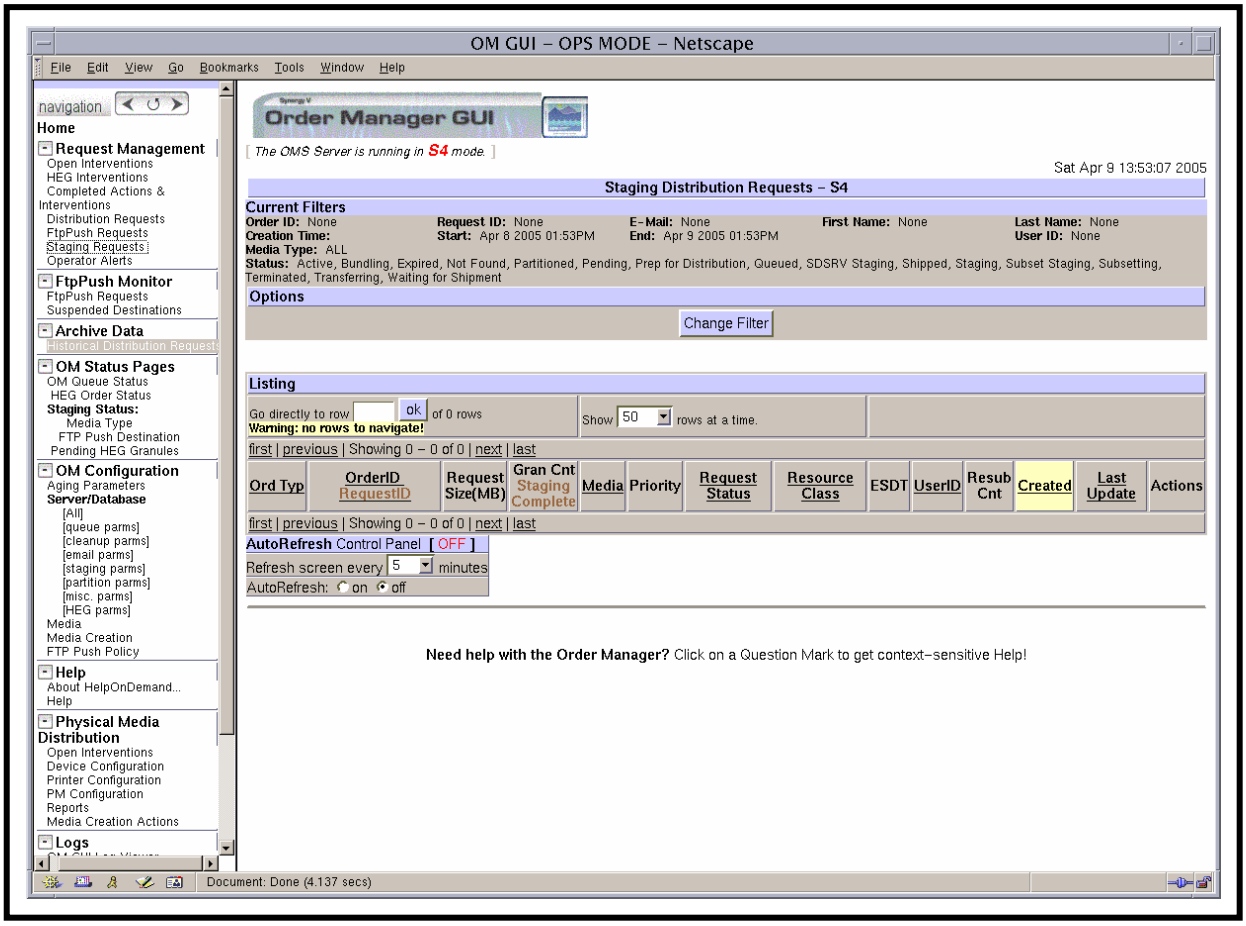

Figure 29. Staging Distribution Requests Page

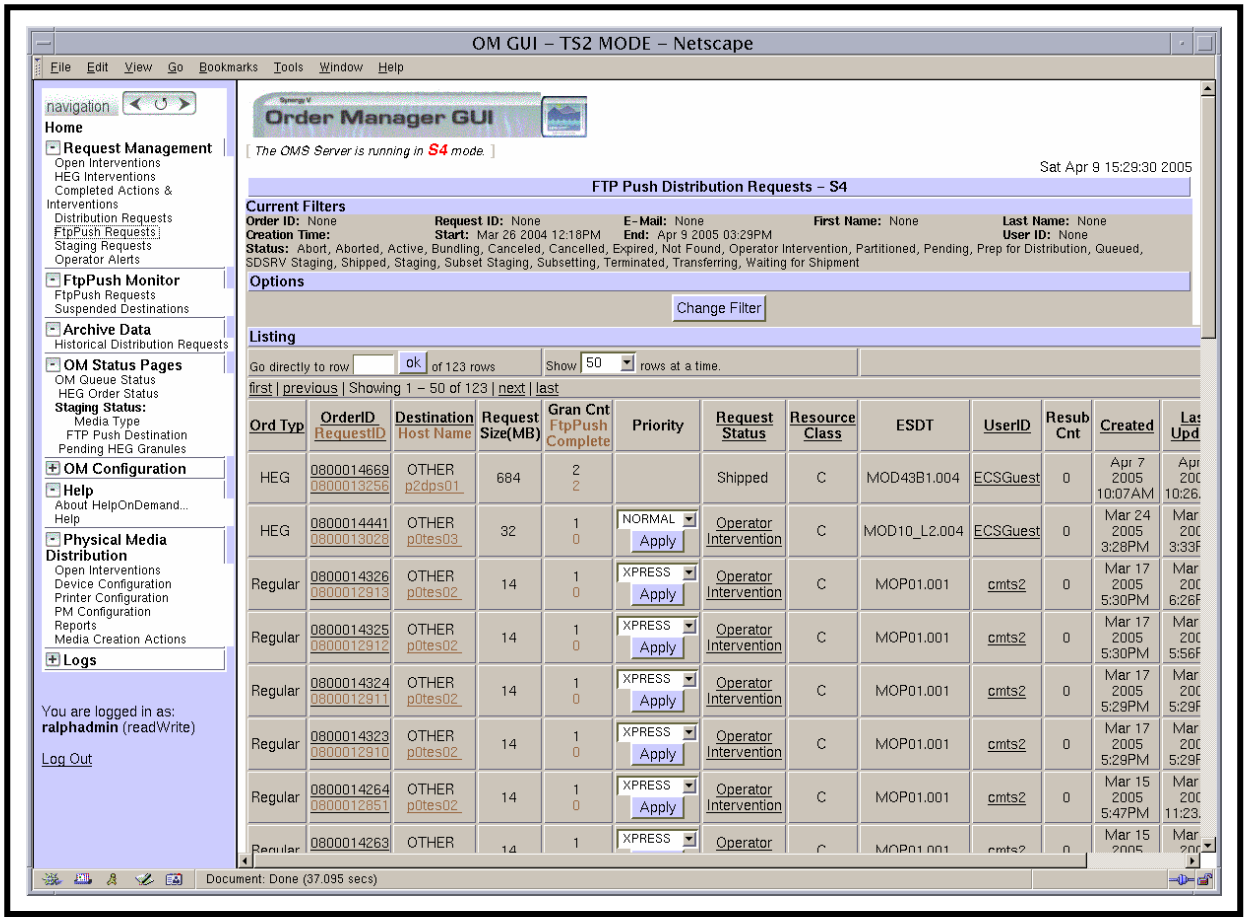

Figure 30. FtpPush Distribution Requests Page

The pages allow the full-capability operator to take the following kinds of actions with respect to distribution requests:

- Change the priority of a distribution request while granules for the request still need to be staged or while granules for the request still need to be pushed.
- Resubmit a request in a terminal state (e.g., aborted, cancelled, terminated, or shipped).
- Suspend a request that still needs to be staged or while granules for the request still need to be pushed.
- Resume a request that was suspended by the OM GUI operator or while the processing of new requests by the OMS is suspended.
- Cancel a request that is not in a terminal state and while granules for the request still need to be staged or pushed.

The limited-capability operator can use the **Distribution Requests** page to view distribution request information but is not allowed to take action on distribution requests.

The procedure for monitoring/controlling distribution request information on the **OM GUI** starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

Monitoring/Controlling Distribution Request Information on the OM GUI

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1 If it has not been expanded already, click on the **Request Management** link in the navigation frame of the **OM GUI**.

- The **Request Management** menu is expanded.

2 Click on the **Distribution Requests** link in the navigation frame of the **OM GUI**.

- The **Distribution Requests** page (Figure 28) is displayed.
- The **Current Filters** area of the **Distribution Requests** page describes how the current listing of distribution requests has been filtered.
  - It is important to check the filter settings when opening any of the distribution requests pages because changes to the filter settings tend to persist, even from one session to another.
  - To filter the **Distribution Requests Listing** in a different way, perform the procedure for **Filtering Data Displayed on the Distribution Requests Pages** (subsequent section of this lesson).
- The **Options** area of the **Distribution Requests** page has the following buttons and selection boxes:
  - **Change Filter** button [refer to the procedure for **Filtering Data Displayed on the Distribution Requests Pages** (subsequent section of this lesson)].
  - **Bulk Cancel** button [for canceling selected intervention(s)].
  - **Bulk Resubmit** button [for resubmitting selected intervention(s)].
  - **Select All Bulk** box [for selecting all eligible requests for either **Bulk Cancel** or **Bulk Resubmit**].
  - **Select None** box [for selecting none of the eligible requests for either **Bulk Cancel** or **Bulk Resubmit**].
- The **Listing** table has the following columns:
  - **Sel** [check boxes for marking items to be resubmitted or canceled].

- **Ord Typ/Prc Mod** [Order Type/Processing Mode]
  - Order types include “Regular,” “BO” (Bundled Order), “MM” (Machine-to-Machine Gateway), and “HEG” (HDF-EOS to GeoTIFF Conversion Tool).
- **OrderID/RequestID.**
- **Request Size (MB).**
- **Gran Cnt** [Granule Count].
- **Media.**
- **Priority.**
- **Request Status.**
- **ESDT.**
- **UserID.**
- **Resub Cnt** [Resubmit Count].
- **Created.**
- **Last Update.**
- **Actions** [Actions (e.g., Resubmit, Cancel, Suspend, or Resume) for which the request is eligible.].

3 Observe information displayed in the **Listing** table of the **Distribution Requests** page.

- The **Show _____ rows at a time** window provides a means of selecting the maximum number of rows of data to be displayed at a time.
  - For example, if **Show _____ rows at a time** is being displayed, selecting **50** from the option button would result in the display of a page of data containing up to 50 rows of data.
- Clicking on a link in the column header row of the table causes table contents to be sorted on that column.
  - For example, clicking on the **Created** link causes the table to be organized by date, with the most recent distribution request in the top row of the table.

- Clicking on a specific Order ID or Request ID brings up a screen containing more detailed data concerning that particular order (e.g., Figure 21) or request (e.g., Figure 31 or Figure 32).
  - For example, clicking on Order ID **0402176057** brings up an **ECS Order** page (i.e., **ECS ORDER 0402176057** - Figure 21) that displays the following types of data concerning the order:
    - **Request ID(s).**
    - **Order Type.**
    - **Order Source.**
    - **Ext. RequestId.**
    - **Receive Date.**
    - **Last Update.**
    - **Description.**
    - **Start Date.**
    - **User ID.**
    - **Status.**
    - **Ship Date.**
    - **Order Home DAAC.**
  - If the order is a bundled order (Order Type "Bundled Order" or "BO"), the **ECS Order** page includes a link to the **Spatial Subscription Server GUI**.
  - Clicking on the ← icon in the **OM GUI** navigation frame causes the **Request Management** page **Distribution Requests** page to be redisplayed.
  - For example, clicking on Request ID **0800013350** brings up a **Distribution Request Detail** page (i.e., **DISTRIBUTION REQUEST 0800013350 -** Figure 31) that displays the following types of data (as applicable) concerning the request:
    - **UserID.**
    - **E-mail.**
    - **Request Size (MB).**
    - **# Granules.**
    - **# Granules Staged.**
    - **# Granules FTP Pushed.**

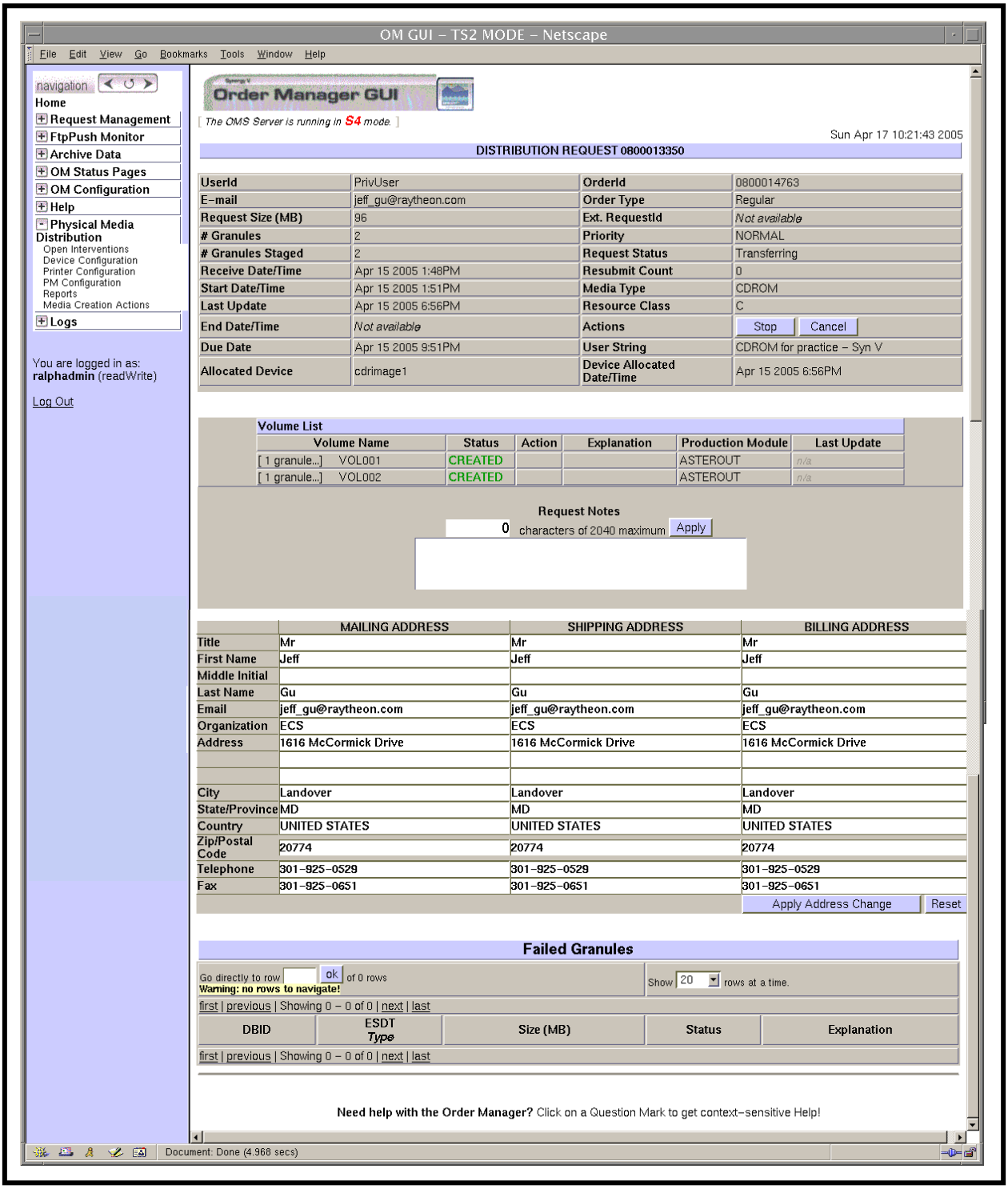

Figure 31. Distribution Request Detail (DISTRIBUTION REQUEST X) Page (Physical Media)

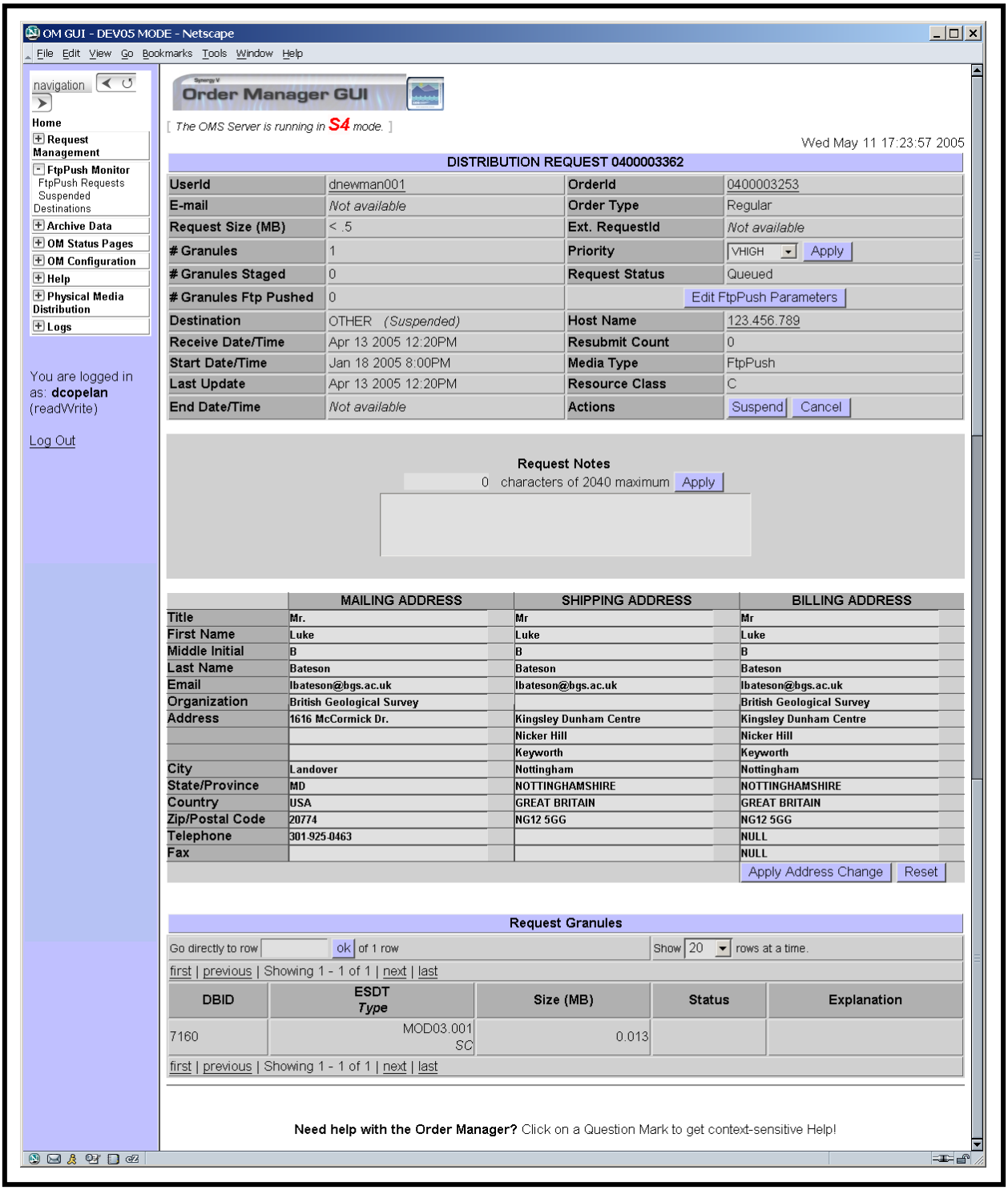

Figure 32. Distribution Request Detail (DISTRIBUTION REQUEST X) Page (Non-Physical Media)

- **Destination.**
- **Receive Date/Time.**
- **Start Date/Time.**
- **Last Update.**
- **End Date/Time.**
- **Due Date.**
- **Allocated Device.**
- **OrderId.**
- **Order Type.**
- **Ext. RequestId.**
- **Priority.**
- **Request Status.**
- **Destination.**
- **Edit FtpPush Parameters** [button].
- **Host Name.**
- **Resubmit Count.**
- **Media Type.**
- **Resource Class.**
- **Actions** [Action button(s) (e.g., **Resubmit**, **Stop**, **Cancel**, **Suspend**, and/or **Resume**)].
- **User String.**
- **Device Allocated Date/Time.**
- **Volume List: Volume Name; Status; Action; Explanation; Production Module; Last Update.**
- **Request Notes** [text box and **Apply** button].
- **Mailing Address: Title; First Name; Middle Initial; Last Name; Email; Organization; Address; City; State/Province; Country; Zip/Postal code; Telephone; Fax.**
- **Shipping Address: Title; First Name; Middle Initial; Last Name; Email; Address; City; State/Province; Country; Zip/Postal code; Telephone; Fax.**

        - **Billing Address: Title; First Name; Middle Initial; Last Name; Email; Organization; Address; City; State/Province; Country; Zip/Postal code; Telephone; Fax.**
        - **Request Granules/Failed Granules (e.g., DB ID; DPL ID; ESDT; Size (MB); Proc Mode; HEG Line Item; Volume Name; [Granule] Status; Completion Time; Explanation).**

- Clicking on a specific User ID brings up a screen that shows user profile information for that user, including the following types of data:
    - **Contact Information.**
        - **Name.**
        - **E-Mail Address.**
        - **Organization.**
        - **User ID.**
        - **User Verification Key.**
        - **Affiliation.**
        - **Project.**
        - **Home DAAC.**
        - **Primary area of study.**
    - **Account Information.**
        - **Date created.**
        - **Expiration date.**
        - **Privilege level.**
        - **NASA user.**
        - **Access privilege.**
        - **V0 Gateway user type.**
        - **V0 Gateway category.**
    - **Contact Address.**
        - **Address.**
        - **City.**
        - **State/Province.**
        - **Country.**

        - **Zip/Postal code.**
        - **Telephone.**
        - **Fax.**
    - **DAR [Data Acquisition Request] Information**
        - **Aster category.**
        - **DAR expedited data.**
    - **Shipping Address.**
        - **Title.**
        - **First Name.**
        - **Middle Initial.**
        - **Last Name.**
        - **Email.**
        - **Address.**
        - **City.**
        - **State/Province.**
        - **Country.**
        - **Zip/Postal code.**
        - **Telephone.**
        - **Fax.**
    - **Billing Address.**
        - [Same fields as **Shipping Address**]
- Horizontal and vertical scroll bars appear when necessary to allow viewing data that are not readily visible in the window.
- If **AutoRefresh** is **ON**, the **Distribution Requests** page refreshes automatically as often as specified in the **Refresh screen every *x* minutes** window.
    - If a different refresh option is preferred, perform the procedure for **Setting Refresh Options on OM GUI Pages** (preceding section of this lesson).
- To manually update (refresh) the data on the screen, click on the ↻ icon in the **OM GUI** navigation frame.
- The Netscape browser **Edit → Find in Page** menu provides a means of performing a keyword search of the data currently being displayed on the screen.

- The **first**, **previous**, **next**, and **last** links provide means of displaying additional pages of data.
- The **Go directly to row…** window provides a means of displaying a page of data starting with a particular row of the table.
  - For example, if **Go directly to row _____ of 415 rows** is being displayed, typing **315** in the window and clicking on the **ok** button would result in the display of a page of data containing rows 315 through 364.

4 If the list of distribution requests shown in the **Listing** table of the **Distribution Requests** page needs to be filtered (e.g., a request to be viewed is not listed in the table), perform the procedure for **Filtering Data Displayed on the Distribution Requests Pages** (subsequent section of this lesson).

5 Observe information displayed in the **Listing** table of the **Distribution Requests** page.

6 To change the priority of a distribution request (when applicable), perform the procedure for **Changing the Priority of a Distribution Request Using the OM GUI** (subsequent section of this lesson).

7 To either suspend a distribution request or resume processing of a suspended request (when applicable), perform the procedure for **Suspending, Resuming, Canceling, Resubmitting, or Stopping a Distribution Request Using the OM GUI** (subsequent section of this lesson).

8 To cancel a distribution request (when applicable), perform the procedure for **Suspending, Resuming, Canceling, Resubmitting, or Stopping a Distribution Request Using the OM GUI** (subsequent section of this lesson).

9 To review and/or respond to an open intervention for a particular distribution request first click on the **Open Intervention** link in the **Request Status** column for the request in the **Listing** table.

10 To review and/or respond to an open intervention go to the procedure for **Viewing Open Intervention Information on the OM GUI** (preceding section of this lesson).

11 To reprocess a distribution request that has failed, been cancelled, or been shipped (when applicable), perform the procedure for **Suspending, Resuming, Canceling, Resubmitting, or Stopping a Distribution Request Using the OM GUI** (subsequent section of this lesson).

12 To stop the processing of a Physical Media Distribution (PMD) request that is transferring or has at least one volume being verified, perform the procedure for **Suspending, Resuming, Canceling, Resubmitting, or Stopping a Distribution Request Using the OM GUI** (subsequent section of this lesson).

13 To edit the values assigned to ftp push parameters for a particular distribution request (when applicable), perform the procedure for **Editing Values Assigned to FtpPush Parameters** (subsequent section of this lesson).

14 To add a comment to a particular distribution request (when applicable), perform the procedure for **Annotating a Physical Media Distribution (PMD) Request from the Distribution Request Details Page** (subsequent section of this lesson).

15 To view operator alerts, perform the procedure for **Viewing Operator Alerts on the OM GUI** (subsequent section of this lesson).

16 To view the **Staging Distribution Requests** page, first (if it has not been expanded already) click on the **FtpPush Monitor** link in the navigation frame of the **OM GUI**.

- The **FtpPush Monitor** menu is expanded (as applicable).

17 To view the **Staging Distribution Requests** page click on the **Staging Requests** link in the navigation frame of the **OM GUI**.

- The **Staging Distribution Requests** page (Figure 29) is displayed.
- The **Staging Distribution Requests** page displays the same types of information (for each request in the list) and has the same kinds of links as the **Distribution Requests** page; however, the **Staging Distribution Requests** page has a couple of differences:
  - The **Resource Class** column shows each request's archive resource demand in terms of one of the following values:
    - **C** [Cheap].
    - **M** [Moderate].
    - **E** [Expensive].
  - Sorting the table by **Resource Class** (by clicking on the **Resource Class** column header) provides a convenient way to determine which request(s) is (are) having the most significant effects on archive resources. That may lead to suspending or canceling certain requests.
  - The **Gran Cnt/Staging Complete** column shows the number of granules associated with the request and the number of granules that have completed staging.

18 To view the **FtpPush Distribution Requests** page, first (if it has not been expanded already) click on either **Request Management** or the **FtpPush Monitor** link in the navigation frame of the **OM GUI**.

- The **Request Management** or **FtpPush Monitor** menu is expanded (as applicable).

19 To view the **FtpPush Distribution Requests** page click on the **FtpPush Distribution Requests** link in the navigation frame of the **OM GUI**.

- The **FtpPush Distribution Requests** page (Figure 30) is displayed.

- The **FtpPush Distribution Requests** page displays the same types of information (for each request in the list) and has the same kinds of links as the **Distribution Requests** page; however, there are several differences:
  - There is no **Media** column (all requests use the same type of medium – ftp push).
  - The **Destination** column shows the name of the destination.
  - The **Gran Cnt/FtpPush Complete** column shows the number of granules associated with the request and the number of granules that have completed ftp push.
  - The **Resource Class** column shows each request's archive resource demand (as on the **Staging Distribution Requests** page).
- To filter the list of distribution requests shown in the **Listing** table of the **FtpPush Distribution Requests** page perform the procedure for **Filtering Data Displayed on the Distribution Requests Pages** (subsequent section of this lesson).

20 If there is an **OM GUI** failure, perform the applicable procedure(s) in the **Troubleshooting DDIST and Order Manager GUI Problems** section of this lesson.

21 Repeat Steps 3 through 20 as necessary to monitor distribution requests.

22 To start the process of logging out (if applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

23 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  - The dialogue box is dismissed.
  - The Netscape browser is dismissed.
- **Cancel** - to dismiss the dialogue box without logging out.
  - The dialogue box is dismissed.
  - The **OM GUI** is displayed.

Filtering Data Displayed on the Distribution Requests Pages

The **Change Filter** buttons in the **Options** area of many different **OM GUI** pages [including the **Distribution Requests** page (Figure 28), **Staging Distribution Requests** page (Figure 29), or the **FtpPush Distribution Requests** page (Figure 30)] provide the Distribution Technician

(whether full-capability or limited capability operator) with a means of filtering data displayed on the screen.

The procedure for filtering data displayed on the **Distribution Requests** pages starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched.
- The **Distribution Requests** page (Figure 28), **Staging Distribution Requests** page (Figure 29), or the **FtpPush Distribution Requests** page (Figure 30) is being displayed.

Filtering Data Displayed on the Distribution Requests Pages

NOTE: By default, distribution requests are filtered by "creation time" within the last 24 hours, all statuses, and all media types. However, changes made to the filter settings tend to persist, even from one session to another. To restore the default filtering criteria click on the **Apply Defaults** button in the filter pop-up window.

NOTE: The session ID provides a means of tracking which GUI pages are accessed and what filter options are used during a particular session. Such data is especially important when several operators are using the OM GUI in the same mode at the same time. For example, an individual operator's previously selected filter options can be retrieved from the session data so the filter options do not have to be reentered every time the same type of search is performed.

1 Click on the **Change Filter** button in the **Options** area of the **Distribution Requests** page, **Staging Distribution Requests** page, or the **FtpPush Distribution Requests** page.

- A **Distribution Requests Filters** pop-up window (Figure 33) is displayed.
- The **Distribution Requests Filters** pop-up window contains fields for changing various filters.
  - The **Distribution Requests Filters**, **Staging Distribution Requests Filters**, and **FtpPush Distribution Requests Filters** pop-up windows are similar except the **FtpPush Distribution Requests Filters** pop-up window has no **Media Type Select List** window (because all requests on the page are ftp push requests).

NOTE: The pop-up window may not open enough to display all of the features of the filters. If the three buttons (i.e., **Set Defaults**, **Apply Defaults**, and **Close Window**) at the bottom of the window are not visible, click and hold on one of the bottom corners of the window and pull down with the mouse to expand the window and reveal the buttons.

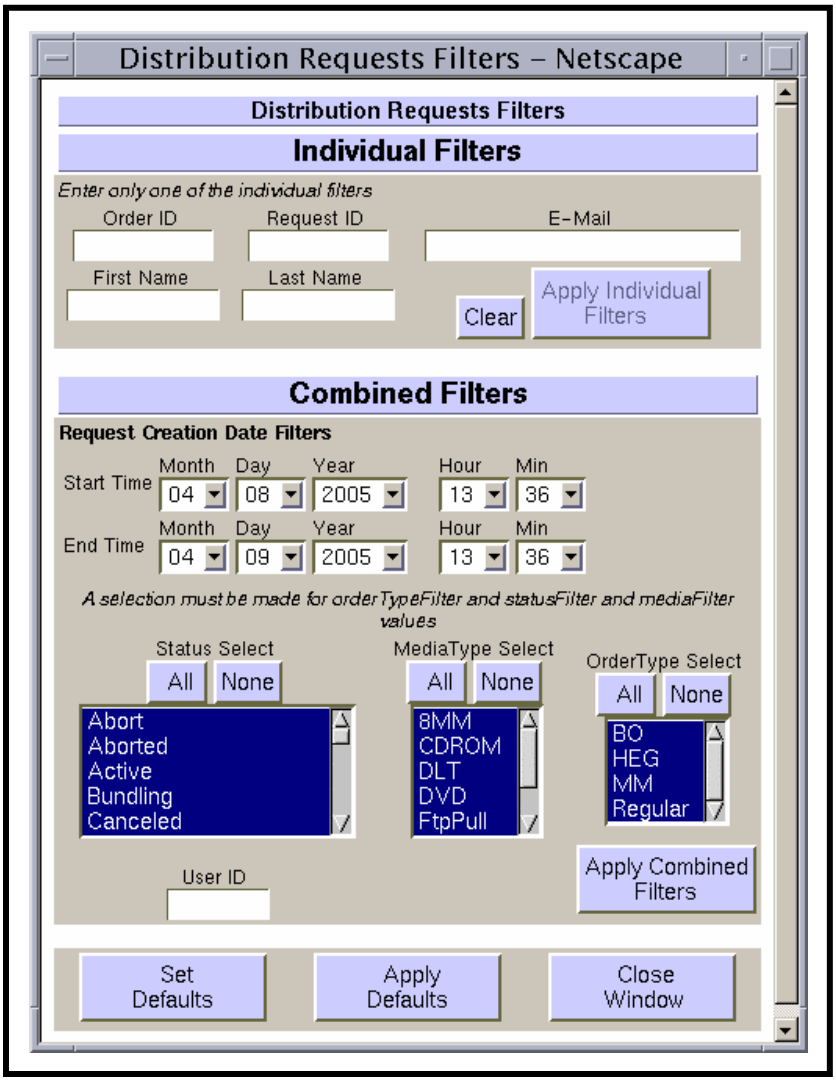

Figure 33. Distribution Requests Filters Pop-Up Window

2 If the distribution request(s) associated with a particular Individual Filter only should be displayed on the **Distribution Requests** page, **Staging Distribution Requests** page, or the **FtpPush Distribution Requests** page, type the ***value*** of the Order ID, Request ID, E-Mail, First Name, or Last Name in the appropriate text box.

- The following text boxes are available for Individual Filters:
  - **Order ID.**
  - **Request ID.**
  - **E-Mail.**
  - **First Name.**

- **Last Name.**

- If a value is entered in one of the text boxes in the preceding list, the other four text boxes are disabled.
  - To clear a field in which a value has been entered and enable all fields, either delete the entered value or click on the **Clear** button.

3 If a value was entered in one of the text boxes in Step 2, click on the **Apply Individual Filters** button.

- The **Distribution Requests** page, **Staging Distribution Requests** page, or the **FtpPush Distribution Requests** page refreshes.
- Only requests that meet the specified filter criteria appear in the **Listing** table.

NOTE: Whenever Combined Filters are applied, Status, Media Type, and Order Type options must be specified (except for the **FtpPush Distribution Requests** page filter, which has no Media Type filter because ftp push is assumed).

4 If the relevant distribution request(s) has (have) creation time outside the range indicated in the **Start Month**, **Start Day**, **Start Year**, **Start Hour**, **Start Minute**, **End Month**, **End Day**, **End Year**, **End Hour**, and **End Minute** boxes, as necessary click on each date/time option button to display a drop-down list of month, day, year, hour, or minute options then click on the desired selection.

- Selected number is displayed in each date/time box.
- Filtering by "Creation Time" may be combined with other filtering options (refer to Steps 5 through 9).

5 If distribution requests with particular status(es) only should be displayed on the **Distribution Requests** page, **Staging Distribution Requests** page, or the **FtpPush Distribution Requests** page, click on the desired status(es) in the **Status Select List** window to highlight or unhighlight them (while holding down either the **Shift** key or the **Ctrl** key if highlighting multiple selections).

- To quickly deselect all highlighted statuses, click on the **Status Select – None** button (clears all selections so individual statuses can be selected).
- To quickly select all statuses, click on the **Status Select – All** button (all items are highlighted).
- The following choices are available:
  - **Abort.**
  - **Aborted.**
  - **Active.**
  - **Bundling.**

  - **Canceled.**
  - **Cancelled.**
  - **Expired.**
  - **Not Found.**
  - **Operator Intervention.**
  - **Partitioned.**
  - **Pending.**
  - **Prep for Distribution.**
  - **Queued.**
  - **SDSRV Staging.**
  - **Shipped.**
  - **Subset Staging.**
  - **Staging.**
  - **Subsetting.**
  - **Terminated.**
  - **Transferring.**
  - **Waiting for Shipment.**
- Selected status(es) is (are) highlighted in the **Status Select List** window; undesired status(es) is (are) not highlighted in the **Status Select List** window.
- A vertical scroll bar allows viewing data that are not readily visible in the **Status Select List** window.
- Filtering by "Status" may be combined with other filtering options (refer to Steps 4 through 9).
  - Whenever Combined Filters are applied, Status, Media Type, and Order Type options must be specified (except for the **FtpPush Distribution Requests** page filter, which requires no Media Type because ftp push is assumed).
- If all filtering criteria have been selected, go to Step 9.

6 If distribution requests for particular type(s) of medium only should be displayed on the **Distribution Requests** page or the **Staging Distribution Requests** page, click on the desired medium/media in the **Media Type Select List** window to highlight or unhighlight them (while holding down either the **Shift** key or the **Ctrl** key if highlighting multiple selections).

- To quickly deselect all highlighted media, click on the **Media Type Select – None** button (clears all selections so individual media can be selected).
- To quickly select all media, click on the **Media Type Select – All** button (all items are highlighted).
- The following Media Type choices are available:
  - **FtpPull.**
  - **FtpPush.**
  - **CDROM.**
  - **DLT.**
  - **DVD.**
  - **8MM.**
  - **scp** [secure copy distribution].
- Selected medium/media is (are) highlighted in the **Media Type Select List** window; undesired medium/media is (are) not highlighted in the **Media Type Select List** window.
- A vertical scroll bar allows viewing data that are not readily visible in the **Media Type Select List** window.
- Filtering by "Media Type" may be combined with other filtering options (refer to Steps 4 through 9).
  - Whenever Combined Filters are applied, Status, Media Type, and Order Type options must be specified (except for the **FtpPush Distribution Requests** page filter, which requires no Media Type because ftp push is assumed).
- If all filtering criteria have been selected, go to Step 9.

7 If distribution requests for particular type(s) of order only should be displayed on the **Distribution Requests** page or the **Staging Distribution Requests** page, click on the desired order type in the **Order Type Select** list window to highlight or unhighlight them (while holding down either the **Shift** key or the **Ctrl** key if highlighting multiple selections).

- To quickly deselect all highlighted media, click on the **Order Type Select – None** button (clears all selections so individual media can be selected).

- To quickly select all media, click on the **Order Type Select – All** button (all items are highlighted).
- The following examples illustrate the kinds of Order Type choices that may be available:
  - **Regular.**
  - **BO** [Bundled Order].
  - **MM** [Machine-to-Machine Gateway].
  - **HEG** [HDF-EOS to GeoTIFF Conversion Tool].
- Selected order type(s) is (are) highlighted in the **Order Type Select** list window; undesired order type(s) is (are) not highlighted in the **Order Type Select** list window.
- A vertical scroll bar allows viewing data that are not readily visible in the **Order Type Select** list window.
- Filtering by "Order Type" may be combined with other filtering options (refer to Steps 4 through 9).
  - Whenever Combined Filters are applied, Status, Media Type, and Order Type options must be specified (except for the **FtpPush Distribution Requests** page filter, which requires no Media Type because ftp push is assumed).
- If all filtering criteria have been selected, go to Step 9.

8 If the distribution requests associated with a particular User ID only should be displayed on the **Distribution Requests** page, **Staging Distribution Requests** page, or the **FtpPush Distribution Requests** page, type the ***UserID*** in the **User ID** text box.

9 If value(s) was (were) specified for any of the filters in Steps 4 through 8, click on the **Apply Combined Filters** button.

- The **Distribution Requests** page, **Staging Distribution Requests** page, or the **FtpPush Distribution Requests** page refreshes.
- Only requests that meet the specified filter criteria appear in the **Listing** table.

10 When all relevant filtering criteria have been applied (as described in Steps 2 through 9), click on the **Close Window** button.

- The **Distribution Requests Filters** window is dismissed.

11 Return to the procedure that recommended filtering data displayed on the **Distribution Requests** pages.

Changing the Priority of a Distribution Request Using the OM GUI

The procedure for **Changing the Priority of a Distribution Request Using the OM GUI** is performed as part of the procedure for **Monitoring/Controlling Distribution Request Information on the OM GUI** (preceding section of this lesson). The priority of an S4 (Synergy IV) request can be changed while granules for the request still need to be staged or pushed.

The **Priority** column in the **Distribution Requests** table of the **Distribution Requests** page (Figure 28), **Staging Distribution Requests** page (Figure 29), the **FtpPush Distribution Requests** page (Figure 30) or the **Destination Details** page (Figure 34) on the **OM GUI** allows the full-capability operator to change the priority of distribution requests that are in a state that allows the priority to be changed. The **Priority** line of the **Distribution Request Details** page (Figure 31 or Figure 32) provides the full-capability operator with an alternative means of changing the priority of the particular distribution request.

The limited-capability operator is not allowed to change the priority of distribution requests.

The procedure for changing the priority of a distribution request starts with the following assumptions:

- All applicable servers are currently running.
- The **Distribution Requests** page (Figure 28), **Staging Distribution Requests** page (Figure 29), the **FtpPush Distribution Requests** page (Figure 30), or the **Destination Details** page (Figure 34) is being displayed on the **OM GUI**.

Changing the Priority of a Distribution Request Using the OM GUI

---

1 If the list of distribution requests shown in the **Distribution Requests** table needs to be filtered to include the distribution request for which the priority is to be changed, perform the procedure for **Filtering Data Displayed on the Distribution Requests Pages** (preceding section of this lesson).

2 Click on the option button in the **Priority** column of the row associated with the request to display a menu of priorities then click on the desired selection.

- Selected priority is displayed in the **Priority** column.
- An alternative is to bring up the relevant **Distribution Request Detail** page (by clicking on the Request ID in the **Distribution Requests** table), click on the option button on the **Priority** line to display a menu of priorities, then click on the desired selection.

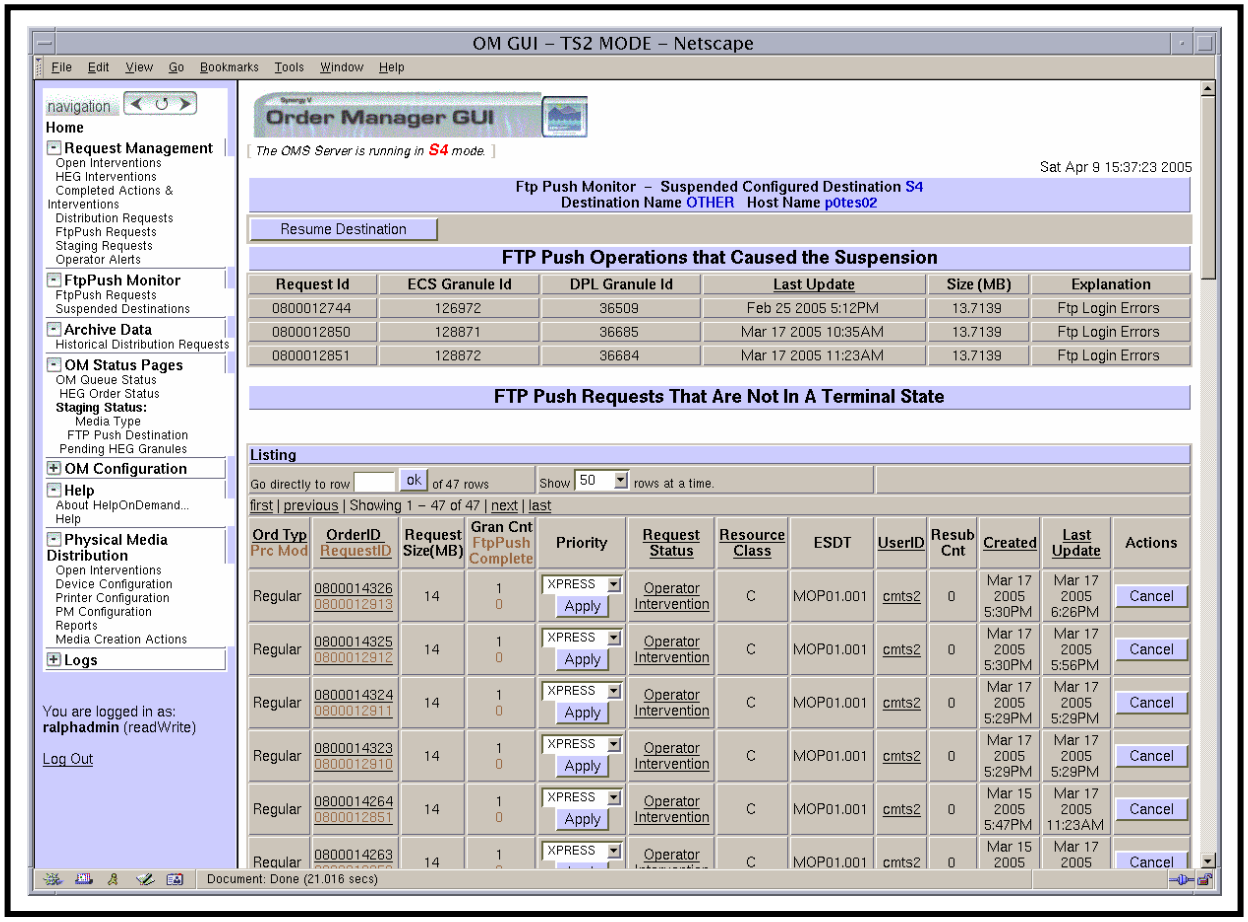

Figure 34. Destination Details Page (Ftp Push Monitor – Suspended Destination Name OTHER)

3 To implement the priority change click on the **Apply** button adjacent to the text box displaying the desired priority.

- "Priority changed" is displayed in the **Priority** column for the row associated with the request.

4 Repeat the preceding steps as necessary to change the priority of additional distribution requests.

5 Return to the procedure for **Monitoring/Controlling Distribution Request Information on the OM GUI**.

Suspending, Resuming, Canceling, Resubmitting, or Stopping a Distribution Request Using the OM GUI

The **Action** column in the **Distribution Requests** table of the **Distribution Requests** page (Figure 28), **Staging Distribution Requests** page (Figure 29), the **FtpPush Distribution Requests** page (Figure 30), or the **Destination Details** page (Figure 34) on the **OM GUI** provides the full-capability operator with a means of taking the following kinds of actions with respect to distribution requests:

- Suspend a request that still needs to be staged or while granules for the request still need to be pushed.
- Resume a request that was suspended by the **OM GUI** operator or while the processing of new requests by the OMS is suspended.
- Cancel a request that is not in a terminal state and while granules for the request still need to be staged or while granules for the request still need to be pushed.
- Resubmit a request in a terminal state (e.g., aborted, cancelled, terminated, or shipped).

The **Distribution Request Details** page (Figure 31 or Figure 32) provides the full-capability operator with an alternative means of taking the preceding kinds of actions with respect to a particular distribution request.

The limited-capability operator is not allowed to suspend, resume, cancel, resubmit, or stop distribution requests.

The procedure for **Suspending, Resuming, Canceling, Resubmitting, or Stopping a Distribution Request Using the OM GUI** is performed as part of the procedure for **Monitoring/Controlling Distribution Request Information on the OM GUI** (preceding section of this lesson). The procedure starts with the following assumptions:

- All applicable servers are currently running.
- One of the following pages is being displayed on the **OM GUI**:
  - **Distribution Requests** page (Figure 28).
  - **Staging Distribution Requests** page (Figure 29).
  - **FtpPush Distribution Requests** page (Figure 30).
  - **Distribution Request Details** page (Figure 31 or Figure 32).
  - **Destination Details** page (Figure 34).

NOTE: If a distribution request is to be canceled or if a completed distribution request is to be resubmitted, proper justification and authorization are necessary. Canceling or resubmitting requests may require coordination between the Distribution Technician and a User Services representative, especially when changing the type of distribution medium, specifying a replacement granule, or taking any other action that would require the approval of the person who submitted the order. In fact, depending on the circumstances and DAAC policy it may be appropriate for User Services to assume responsibility for canceling or resubmitting some requests.

1 If the list of distribution requests shown in the **Distribution Requests** table needs to be filtered to include the distribution request on which action is to be taken, perform the procedure for **Filtering Data Displayed on the Distribution Requests Pages** (preceding section of this lesson).

2 To suspend, resume, cancel, resubmit, or stop a distribution request, click on the appropriate button in the **Action** column for the row associated with the request (or the appropriate button in the **Action** row of the **Distribution Request Detail** page).

- The following choices are among those that may be available (buttons are available only for actions that are appropriate for the request):
  - **Suspend** [request that still needs to be staged or granules for the request still need to be pushed].
    - A **Suspend Request** dialogue box (Figure 35) is displayed.

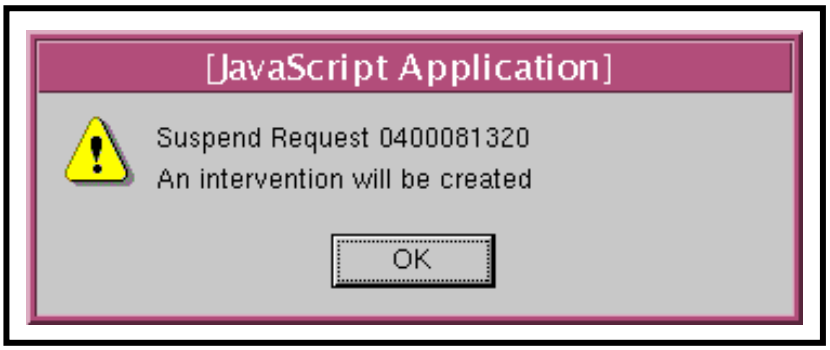

Figure 35. Suspend Request Dialogue Box

- **Resume** [request that was suspended by the OM GUI operator or while the processing of new requests by the OMS is suspended].
  - A **Resume Request Confirmation** dialogue box (Figure 36) is displayed.
- **Cancel** [request that is not in a terminal state and while granules for the request still need to be staged or while granules for the request still need to be pushed].
  - A **Cancel Request Confirmation** dialogue box (Figure 37) is displayed.
- **Resubmit** [request in a terminal state (e.g., aborted, cancelled, terminated, or shipped)].
  - A **Resubmit Request Confirmation** dialogue box (Figure 38) is displayed.
- **Stop** [physical media distribution (PMD) request that is transferring or has at least one volume being verified].
  - A **Stop Request Confirmation** dialogue box is displayed.

- An alternative is to bring up the relevant **Distribution Request Detail** page (by clicking on the Request ID in the **Distribution Requests** table), then click on the appropriate button.

3 If a **Suspend Request** dialogue box (Figure 35) is displayed, click on the **OK** button:

- The dialogue box is dismissed.
- The initial page [i.e., the **Distribution Requests** page (Figure 28), **Staging Distribution Requests** page (Figure 29), the **FtpPush Distribution Requests** page (Figure 30), or the **Destination Details** page (Figure 34)] is displayed.
- "Suspended" is displayed in the **Action** column for the row associated with the request.

NOTE: The **Resume Request Confirmation** dialogue box, **Cancel Request Confirmation** dialogue box, or **Stop Request Confirmation** dialogue box may not open enough to display the buttons at the bottom of the window. If the **Apply…Action** and **Cancel…Action** buttons at the bottom of the window are not visible, click and hold on one of the bottom corners of the window and pull down with the mouse to expand the window and reveal the buttons.

4 If a **Resume Request Confirmation** dialogue box (Figure 36), **Cancel Request Confirmation** dialogue box (Figure 37), or **Stop Request Confirmation** dialogue box is displayed, type ***userID*** in the **Worker** text box.

- ***userID*** refers to either the user ID of the person making the request to resume, cancel, or stop the request.

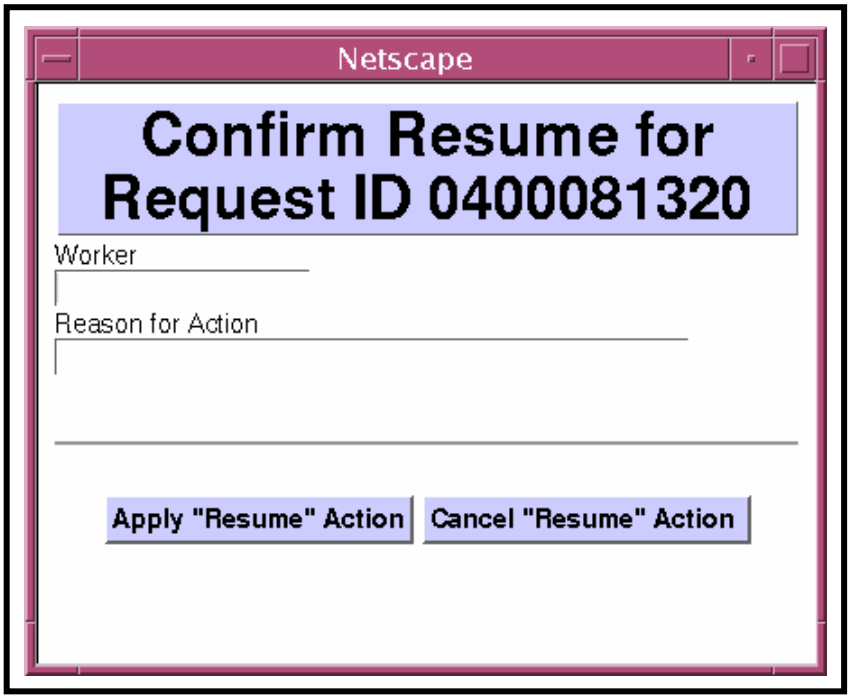

Figure 36. Resume Request Confirmation Dialogue Box

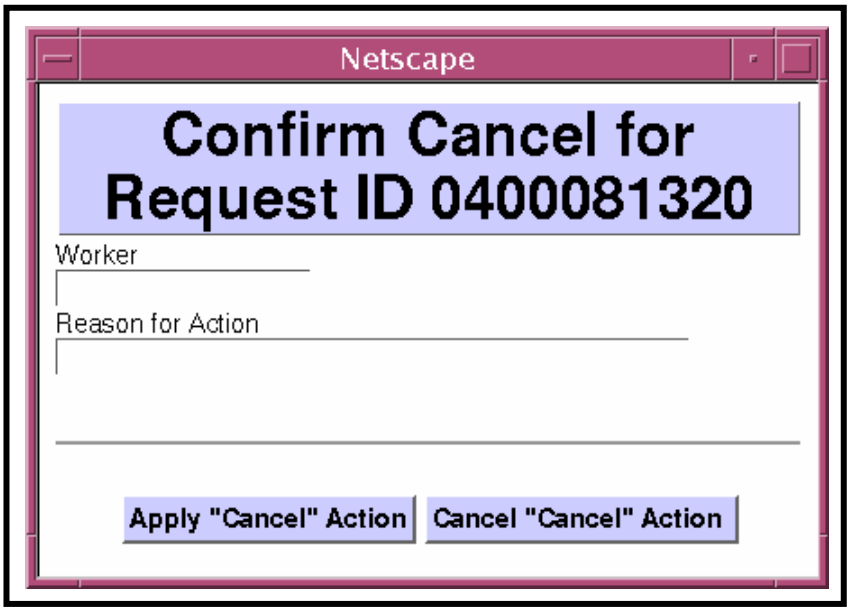

Figure 37. Cancel Request Confirmation Dialogue Box

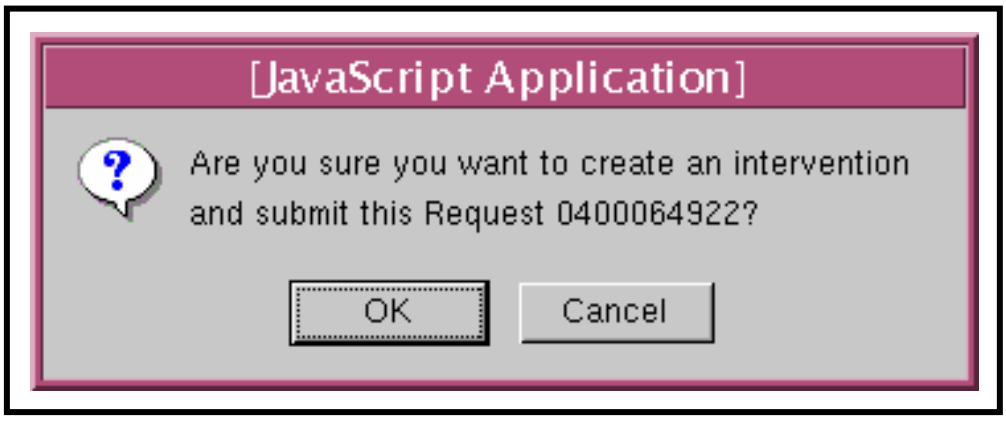

Figure 38. Resubmit Request Confirmation Dialogue Box

5 If a **Resume Request Confirmation** dialogue box (Figure 36) **Cancel Request Confirmation** dialogue box (Figure 37), or **Stop Request Confirmation** dialogue box is displayed, type ***reason*** in the **Reason for Action** text box.

- ***reason*** is the justification for resuming, canceling, or stopping the request.

6 If a **Resume Request Confirmation** dialogue box (Figure 36), **Cancel Request Confirmation** dialogue box (Figure 37), or **Stop Request Confirmation** dialogue box is displayed, click on the appropriate button from the following selections:

- **Apply** [**"Resume," "Cancel,"** or **"Stop"**] **Action** - to apply the specified action and dismiss the dialogue box.
  - The action (i.e., "resume," "cancel," or "stop" as applicable) is applied.
  - The dialogue box is dismissed.
  - The initial page [i.e., the **Distribution Requests** page (Figure 28), **Staging Distribution Requests** page (Figure 29), the **FtpPush Distribution Requests** page (Figure 30), **Distribution Request Details** page (Figure 31 or Figure 32), or the **Destination Details** page (Figure 34)] is displayed.
  - The action (i.e., "Resumed," "Canceled," or "Stopping") is displayed in the **Action** column for the row associated with the request.
- **Cancel** [**"Resume"** or **"Cancel"**] **Action** - to dismiss the dialogue box without applying the specified action.
  - The dialogue box is dismissed.
  - The initial page [i.e., the **Distribution Requests** page (Figure 28), **Staging Distribution Requests** page (Figure 29), the **FtpPush Distribution Requests** page (Figure 30), **Distribution Request Details** page (Figure 31 or Figure 32), or the **Destination Details** page (Figure 34)] is displayed.

7 If a **Resubmit Request Confirmation** dialogue box (Figure 38) is displayed, first click on the appropriate button from the following selections:

- **OK** - to create an open intervention and dismiss the dialogue box.
  - The dialogue box is dismissed.
  - The **Open Intervention Detail** (**Intervention for Request *x***) page (Figure 22) is displayed.
- **Cancel** - to dismiss the dialogue box without resubmitting the request.
  - The dialogue box is dismissed.
  - The initial page [i.e., the **Distribution Requests** page (Figure 28), **Staging Distribution Requests** page (Figure 29), the **FtpPush Distribution Requests** page (Figure 30), or the **Destination Details** page (Figure 34)] is displayed.

8 If a **Resubmit Request Confirmation** dialogue box (Figure 38) was displayed and **OK** was clicked in response to the **Resubmit Request Confirmation** dialogue box, perform the procedure for **Responding to an Open Intervention** (preceding section of this lesson).

9 Repeat the preceding steps as necessary to act on additional distribution requests.

10 Return to the procedure for **Monitoring/Controlling Distribution Request Information on the OM GUI**.

Editing Values Assigned to FtpPush Parameters

The procedure for **Editing Values Assigned to FtpPush Parameters** is performed as part of other procedures (e.g., **Responding to an Open Intervention** or **Monitoring/Controlling Distribution Request Information on the OM GUI**).

The **Edit FtpPush Parameters** button on the **Distribution Request Details** page provides the full-capability operator with a means of editing the FtpPush parameter values for a particular distribution request. The limited-capability operator is not allowed to edit FtpPush parameter values for distribution requests using the **OM GUI**.

The procedure for editing the values assigned to the FtpPush parameters of a distribution request starts with the following assumptions:

- All applicable servers are currently running.
- The **Distribution Requests** page (Figure 28), **Staging Distribution Requests** page (Figure 29), the **FtpPush Distribution Requests** page (Figure 30), or the **Destination Details** page (Figure 34) is being displayed on the **OM GUI**.

Editing Values Assigned to FtpPush Parameters

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1 If the list of distribution requests shown in the **Distribution Requests** table needs to be filtered to include the distribution request for which the values assigned to FtpPush parameters are to be changed, perform the procedure for **Filtering Data Displayed on the Distribution Requests Pages** (preceding section of this lesson).

2 If the **Edit FtpPush Parameters** page is not already open, click on the applicable Request ID in the **Distribution Requests** table.

- The corresponding **Distribution Request Detail** page (Figure 32) is displayed.

3 If the **Edit FtpPush Parameters** page is not already open, click on the **Edit FtpPush Parameters** button on the **Distribution Request Detail** page.

- The **Edit FtpPush Parameters** page (Figure 39) is displayed.

4 Type appropriate values in the following text boxes (as necessary):

- **Ftp node** [Destination host name].
- **Ftp Address** [FTP user name].
- **Password**.

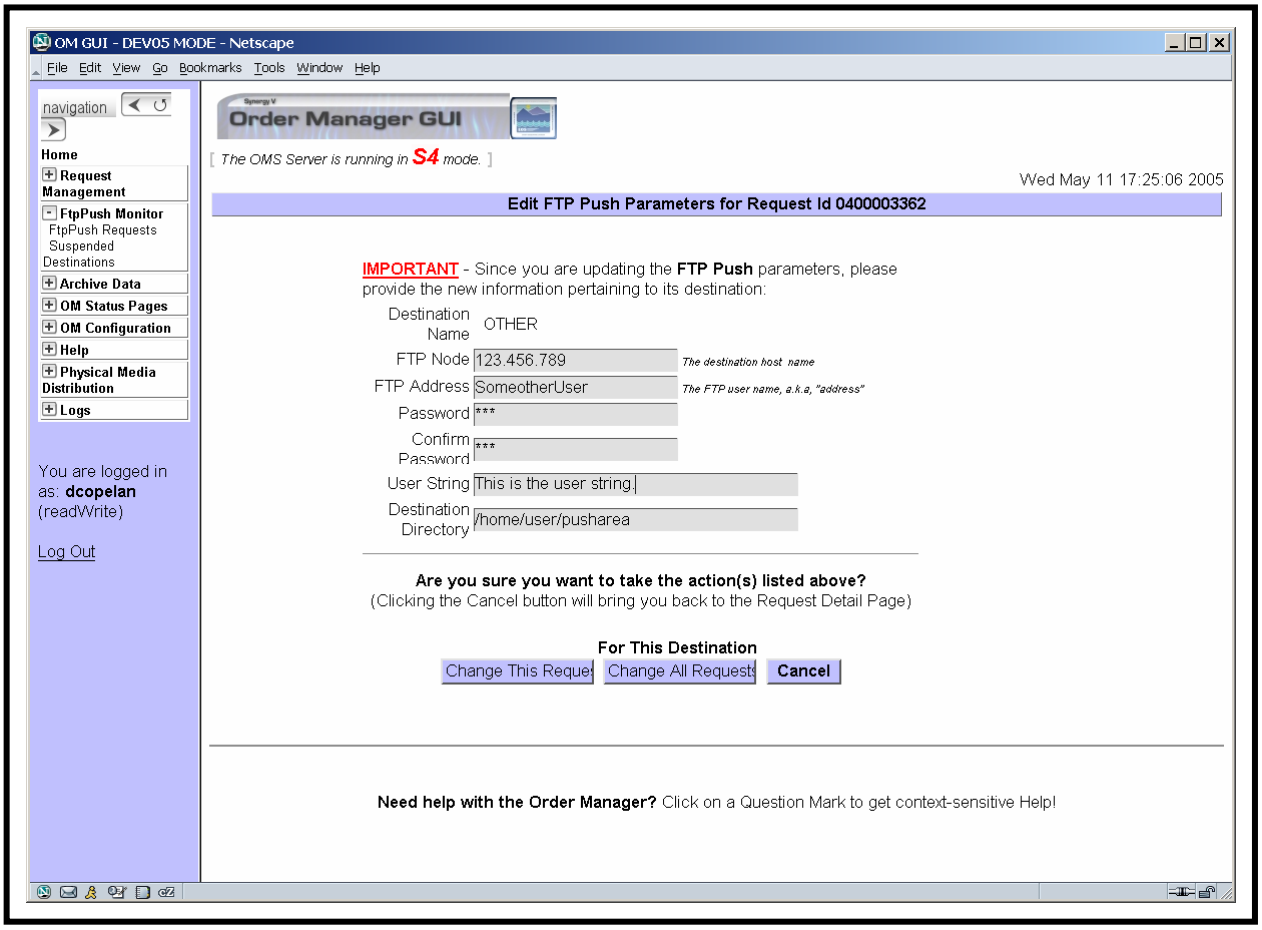

Figure 39. Edit FtpPush Parameters Page

- **Confirm Password**.
- **User String** [message to be sent to the user].
- **Destination Directory** [full path].

5 Click on the appropriate button from the following selections:

- **Change This Request** - to apply the specified FtpPush parameter values to the current request only and dismiss the **Edit FtpPush Parameters** page.
  - The **Edit FtpPush Parameters** page is dismissed.
- **Change All Requests** - to apply the specified FtpPush parameter values to all requests for the listed destination and dismiss the **Edit FtpPush Parameters** page.
  - The **Edit FtpPush Parameters** page is dismissed.

- **Cancel** - to cancel all changes to FtpPush parameter values and dismiss the **Edit FtpPush Parameters** page.
  - The **Edit FtpPush Parameters** page is dismissed.

6 Return to the procedure that recommended editing the FtpPush parameter values.

Annotating a Physical Media Distribution (PMD) Request from the Distribution Request Details Page

The procedure for **Annotating a Physical Media Distribution (PMD) Request from the Distribution Request Details Page** is performed as part of other procedures (e.g., **Monitoring/Controlling Distribution Request Information on the OM GUI**).

The **Request Notes** area on the **Distribution Request Details** page (Figure 31 or Figure 32) provides the full-capability operator with a means of adding a comment to a particular physical media distribution request. The limited-capability operator is not allowed to annotate distribution requests using the **OM GUI**.

The procedure for annotating a PMD request starts with the following assumptions:

- All applicable servers are currently running.
- The **Distribution Requests** page (Figure 28) is being displayed on the **OM GUI**.

Annotating a Physical Media Distribution (PMD) Request from the Distribution Request Details Page

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1 If the list of distribution requests shown in the **Distribution Requests** table needs to be filtered to include the distribution request to be annotated, perform the procedure for **Filtering Data Displayed on the Distribution Requests Pages** (preceding section of this lesson).

2 If the **Distribution Request Detail** page is not already open, click on the applicable Request ID in the **Distribution Requests** table.

- The corresponding **Distribution Request Detail** page (Figure 31 or Figure 32) is displayed.

3 Type appropriate text in the **Request Notes** text box.

4 Click on the **Apply** button adjacent to the **Request Notes** text box.

- The annotation is applied to the distribution request.

5 Return to the procedure that referenced annotating a PMD request.

Viewing Open HEG Intervention Information on the OM GUI

New for Synergy V, the **OM GUI** displays Operator Interventions involving HEG orders. Several new features have been added for HEG processing and HEG Interventions dispositions are different than previous types of interventions.

Since HEG processing involves "line items," these are displayed when viewing a HEG intervention. Although a HEG order may contain a mix of granule types (i.e., those with and without line items), if there are any to display, an additional column is shown in the granule list. The column shows the number of line items and a link to view the Line Item details.

The **Open HEG Interventions** page (Figure 40) provides the Distribution Technician (whether full-capability or limited capability operator) with a means of viewing HEG interventions. The page is hard-coded to display HEG interventions only.

The procedure for viewing open HEG interventions on the **OM GUI** starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched.

Viewing Open HEG Intervention Information on the OM GUI

---

1 If it has not been expanded already, click on the **Request Management** link in the navigation frame of the **OM GUI**.

- The **Request Management** menu is expanded.

2 Click on the **HEG Interventions** link in the navigation frame of the **OM GUI**.

- The **Open HEG Interventions** page (Figure 40) is displayed.
- The **Current Filters** area of the **Open HEG Interventions** page describes how the current listing of distribution requests has been filtered.
  - It is important to check the filter settings when opening the **Open HEG Interventions** page because changes to the filter settings tend to persist, even from one session to another.
  - To filter the **Open HEG Interventions Listing** in a different way, perform the procedure for **Filtering Data Displayed on the Distribution Requests Pages** (preceding section of this lesson).
- The **Options** area of the **Open HEG Interventions** page has the following buttons and selection boxes:
  - **Change Filter** button [refer to the procedure for **Filtering Data Displayed on the Distribution Requests Pages** (preceding section of this lesson)].
  - **Bulk Submit** button [for submitting selected intervention(s)].

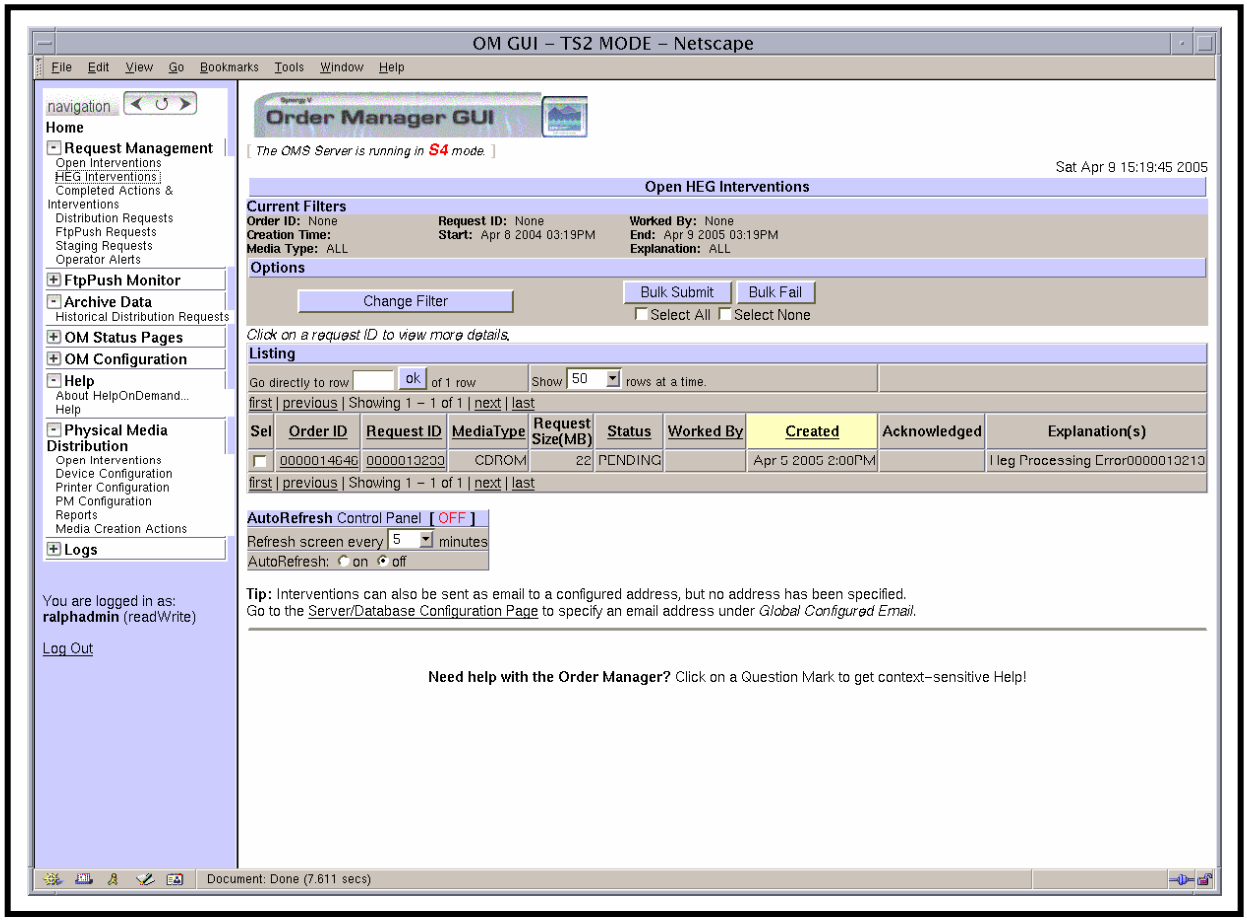

Figure 40. Open HEG Interventions Page

- **Bulk Fail** button [for failing selected intervention(s)].
- **Select All** box [for selecting all eligible requests for either **Bulk Submit** or **Bulk Fail**].
- **Select None** box [for selecting none of the eligible requests for either **Bulk Submit** or **Bulk Fail**].

- The **Listing** table has the following columns:
  - **Sel** [check boxes for marking items to be submitted or failed].
  - **Order ID.**
  - **Request ID**.
  - **Media.**
  - **Request Size (MB).**

- **Status.**
- **Worked By.**
- **Created** [date/time].
- **Acknowledged.**
- **Explanation(s).**

3 Observe information displayed in the **Listing** table of the **Open HEG Interventions** page.

- The **Show _____ rows at a time** window provides a means of selecting the maximum number of rows of data to be displayed at a time.
  - For example, if **Show _____ rows at a time** is being displayed, selecting **50** from the option button would result in the display of a page of data containing up to 50 rows of data.
- Clicking on a link (underlined word) in the column header row of the table causes table contents to be sorted on that column.
  - For example, clicking on the **Created** link causes the table to be organized by "Creation Time," with the most recent request requiring intervention in the top row of the table.
- Clicking on a specific Order ID brings up a screen containing more detailed data concerning that particular order.
- Clicking on a specific Request ID in the **Listing** table of the **Open HEG Interventions** page brings up a screen containing detailed data concerning the intervention for that particular request (refer to Steps 3 and 4).
- Horizontal and vertical scroll bars appear when necessary to allow viewing data that are not readily visible in the window.
- If **AutoRefresh** is **ON**, the **Open HEG Interventions** page refreshes automatically as often as specified in the **Refresh screen every *x* minutes** window.
  - If a different refresh option is preferred, perform the procedure for **Setting Refresh Options on OM GUI Pages** (preceding section of this lesson).
- To manually update (refresh) the data on the screen, click on the ↻ icon in the **OM GUI** navigation frame.
- The Netscape browser **Edit → Find in Page** menu provides a means of performing a keyword search of the data currently being displayed on the screen.
- The **first**, **previous**, **next**, and **last** links provide means of displaying additional pages of data.

4 Click on a specific Request ID in the **Listing** table of the **Open HEG Interventions** page to bring up a screen containing detailed data concerning the intervention for that particular request.

- For example, clicking on Request ID **0800013233** brings up an **Open HEG Intervention Detail** page (i.e., **Intervention for Request 0800013233**) (Figure 41).

5 Observe information displayed on the **Open HEG Intervention Detail** page (Figure 41).

- The following items are displayed on the **Open HEG Intervention Detail** page (Figure 41).
  - **Order ID.**
  - **Request ID.**
  - **Input Size (est, MB).**
  - **Media Type.**
  - **Priority.**
  - **Explanation(s).**
  - **Worked by.**
  - **assign** link or **change** link.
  - **User ID.**
  - **Created.**
  - **Acknowledged.**
  - **Request Status.**
  - **Input Granule List.**
    - **GranuleId.**
    - **DPL ID**.
    - **ESDT.**
    - **Type.**
    - **Processing Instructions.**
    - **In Size (MB).**
    - **Out Size (MB).**
    - **Status.**
    - **Explanation.**

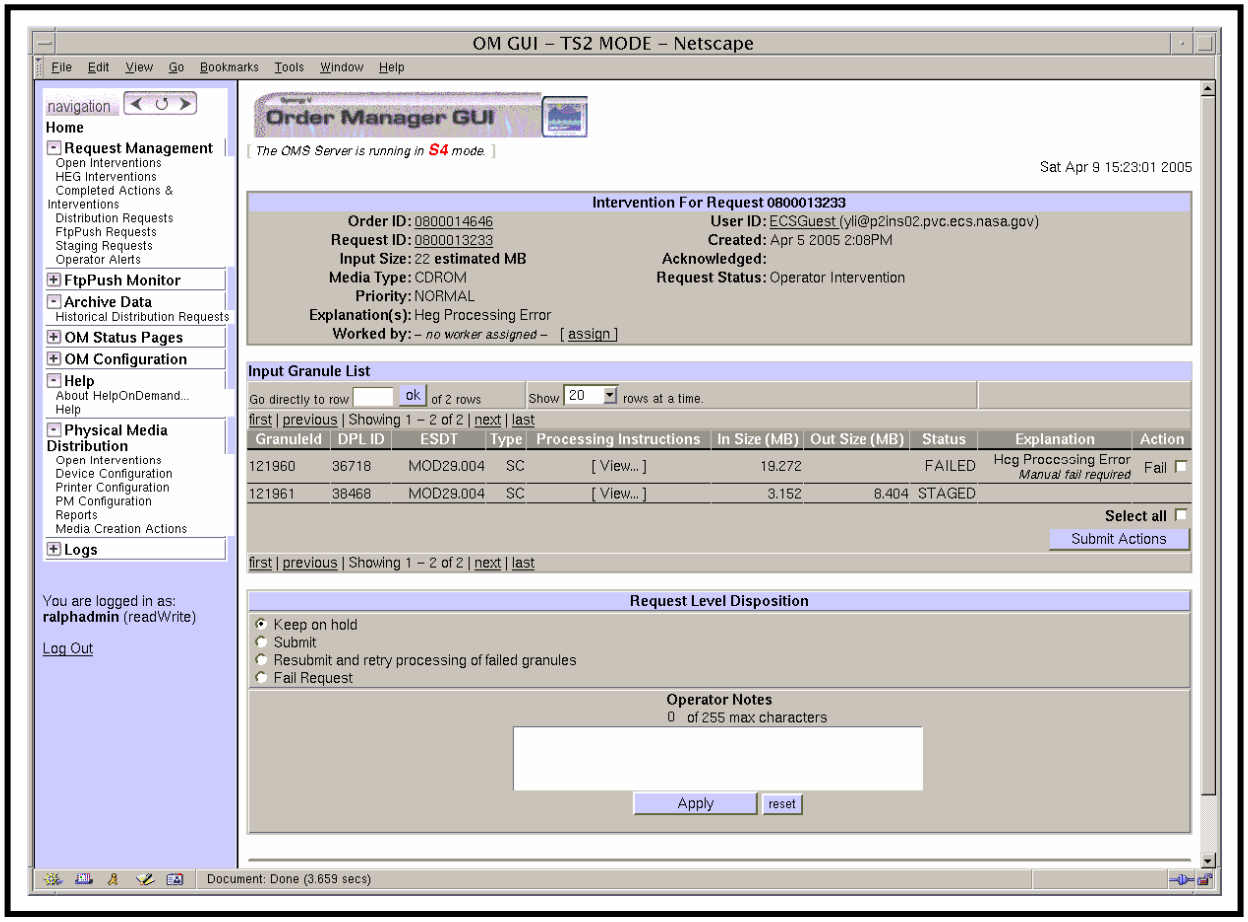

Figure 41. Open HEG Intervention Detail (Intervention for Request X) Page

- **Action** [**accept/fail** boxes, **select all** box (as applicable)].
- **Submit Actions** button (if applicable).

– **Request Level Disposition.**

- **Keep on hold.**
- **Submit.**
- **Resubmit and retry processing of failed granules.**
- **Fail Request.**

– **OPERATOR NOTES**.

- Text box (for entering comments).

– **Apply** button.

– **reset** button.

- Clicking on the ← icon in the **OM GUI** navigation frame causes the **Open HEG Interventions** page to be redisplayed.

6 To bring up a screen containing detailed data concerning the processing instructions for a particular granule ID click on the **View…** link associated with the specific GranuleID in the **Input Granule List** of the **Open HEG Intervention Detail** page.

- For example, clicking on the **View…** [processing instructions] link associated with Granule ID **121960** brings up a window containing the **Processing Instructions for Request ID 0800013233::ECS Granule ID 121960::DPL Granule ID 36718** (Figure 42).

***Figure 42. Processing Instructions* Window**

- To close the **Processing Instructions for Request ID …** window, click on the **Close Window** button.

7 To work on the intervention being displayed on the **Open HEG Intervention Detail** page, perform the procedure for **Responding to an Open HEG Intervention** (subsequent section of this lesson).

8 To view the details of another open intervention first click on the ← icon in the **OM GUI** navigation frame then return to Step 2.

- The **Open HEG Intervention Detail** page (Figure 41) is dismissed.
- The **Open HEG Interventions** page (Figure 40) is displayed.

9 To fail intervention(s) first click in either the **Select All** check box (if all interventions are to be failed) in the **Options** area of the **Open HEG Interventions** page or the individual check box(es) in the **Sel** column associated with specific intervention(s).

- A checkmark is displayed in each selected check box.

10 To complete the process of failing intervention(s) click on the **Bulk Fail** button in the **Options** area of the **Open HEG Interventions** page.

- The selected intervention(s) is/are failed.

11 To submit intervention(s) first click in either the **Select All** check box (if all interventions are to be submitted) in the **Options** area of the **Open HEG Interventions** page or the individual check box(es) in the **Sel** column associated with specific intervention(s).

- A checkmark is displayed in each selected check box.

12 To complete the process of submitting intervention(s) click on the **Bulk Submit** button in the **Options** area of the **Open HEG Interventions** page.

- The selected intervention(s) is/are submitted.

13 To start the process of logging out (when applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

14 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  - The dialogue box is dismissed.
  - The Netscape browser is dismissed.
- **Cancel** - to dismiss the dialogue box without logging out.
  - The dialogue box is dismissed.
  - The **OM GUI** is displayed.

Responding to an Open HEG Intervention

The **Open HEG Intervention Detail** page (Figure 41) provides the full-capability operator with a means of performing the following kinds of interventions:

- Fail selected granule(s).
- Accept selected granule(s).

- Fail a request.

The procedure for responding to an open HEG intervention starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].
- The **Open HEG Intervention Detail** page (Figure 41) is being displayed on the **OM GUI**.
  - If the **Open HEG Intervention Detail** page (Figure 41) is not being displayed on the **OM GUI**, go to the procedure for **Viewing Open HEG Intervention Information on the OM GUI** (preceding section of this lesson).

Responding to an Open HEG Intervention

---

1 Observe the information displayed in the **Worked by** column of the **Open HEG Intervention Detail** page (Figure 41).

- If the **Open HEG Intervention Detail** page (Figure 41) is not being displayed on the **OM GUI**, go to the procedure for **Viewing Open HEG Intervention Information on the OM GUI** (preceding section of this lesson).
- If someone is already working on the intervention, that person is identified in the **Worked by:** field of the **Open HEG Intervention Detail** page.
  - In general working on an intervention is left to the person who has already been signed up to work on it unless the change is coordinated with that person or they are going to be unavailable (e.g., due to illness or vacation).
- If necessary (e.g., due to illness, vacation, or prior coordination), it is possible to override the assignment of a person to work on an intervention.

2 To assign oneself to work on the intervention, first click on the **assign** or **change** link in the **Worked by:** field on the **Open HEG Intervention Detail** page.

- If someone has been assigned to work on the intervention a **change** link is displayed; if no one has been assigned to work on the intervention an **assign** link is displayed.
- Clicking on the assign or change link causes a text box to be displayed.

3 To continue the process of assigning oneself to work on the intervention, type the appropriate user ID in the text box displayed beside the **assign** or **change** link in the **Worked by:** field.

4 To continue the process of assigning oneself to work on the intervention, click on the green button with the checkmark next to the text box in the **Worked by:** field.

5 If no action is to be taken with respect to any individual granules in the request or if the entire request is to be "failed," skip Steps 6 and 7, and go to Step 8.

6 If "fail" and/or "accept" actions are to be taken with respect to one or more granules in the request (e.g., "fail" a granule because of an "Invalid UR" entry in the **Explanation** column of the **Granule List**), first click in the appropriate box(es) from the following selections in **Action** column of the **Granule List**:

- **Fail** – to fail the individual granule in the row containing the **Fail** box.
- **Accept** – to accept an individual granule in the row containing the **Accept** box.
- **Select All** – to select all actions for granules with **Accept/Fail** boxes in the **Action** column.

7 To continue the process of taking "fail" or "accept" actions with respect to one or more granules in the request, click on the **Submit Actions** button.

NOTE: Granule replacement is not permitted for a HEG intervention.

8 If a note should be entered concerning the request (e.g., the reason for making a particular type of intervention), type the applicable text in the **OPERATOR NOTES** text box.

9 To select the disposition for the request click on the appropriate button from the following selections:

- **Keep on hold** - to delay applying any intervention action (keep the intervention open) and dismiss the **Open HEG Intervention Detail** page.
  - Placing an intervention on hold does not allow changing the request's attributes, but saves the operator notes and allows opening the intervention at a later time (essentially, the intervention is being "saved").
- **Submit** – to submit the request with any changes. Failed granules remain failed and are not reprocessed.
- **Resubmit and retry processing of failed granules** – to submit the request with any changes and retry HEG processing of failed granules.
- **Fail Request** - to fail the entire request (including all granules) and dismiss the **Open HEG Intervention Detail** page.

NOTE: There are **Apply** and **reset** buttons at the bottom of the **Open HEG Intervention Detail** page. The **reset** button does not cancel any changes made to the request or changes made to the DBIDs (changed or failed). It simply resets the form buttons for the **Request Level Disposition** section to their original states.

10 Click on the **Apply** button.

- A **Close Confirmation** page (Figure 43) is displayed.
  - The **Close Confirmation** page displays the disposition to be taken [e.g., keep on hold, submit, or fail].

11 If the intervention involved failing a request or granule(s) within a request, and additional text is to be appended to the corresponding standard e-mail text, type the appropriate text in the **Additional e-mail text** text box on the **Close Confirmation** page.

12 If the intervention involved failing a request or granule(s) within a request, and no e-mail message is to be sent, click on the **Don't send e-mail** box on the **Close Confirmation** page to suppress the sending of an e-mail message indicating request/granule failure.

- Unless the **Don't send e-mail** box is checked, an e-mail message indicating request/granule failure will be sent to the requester.

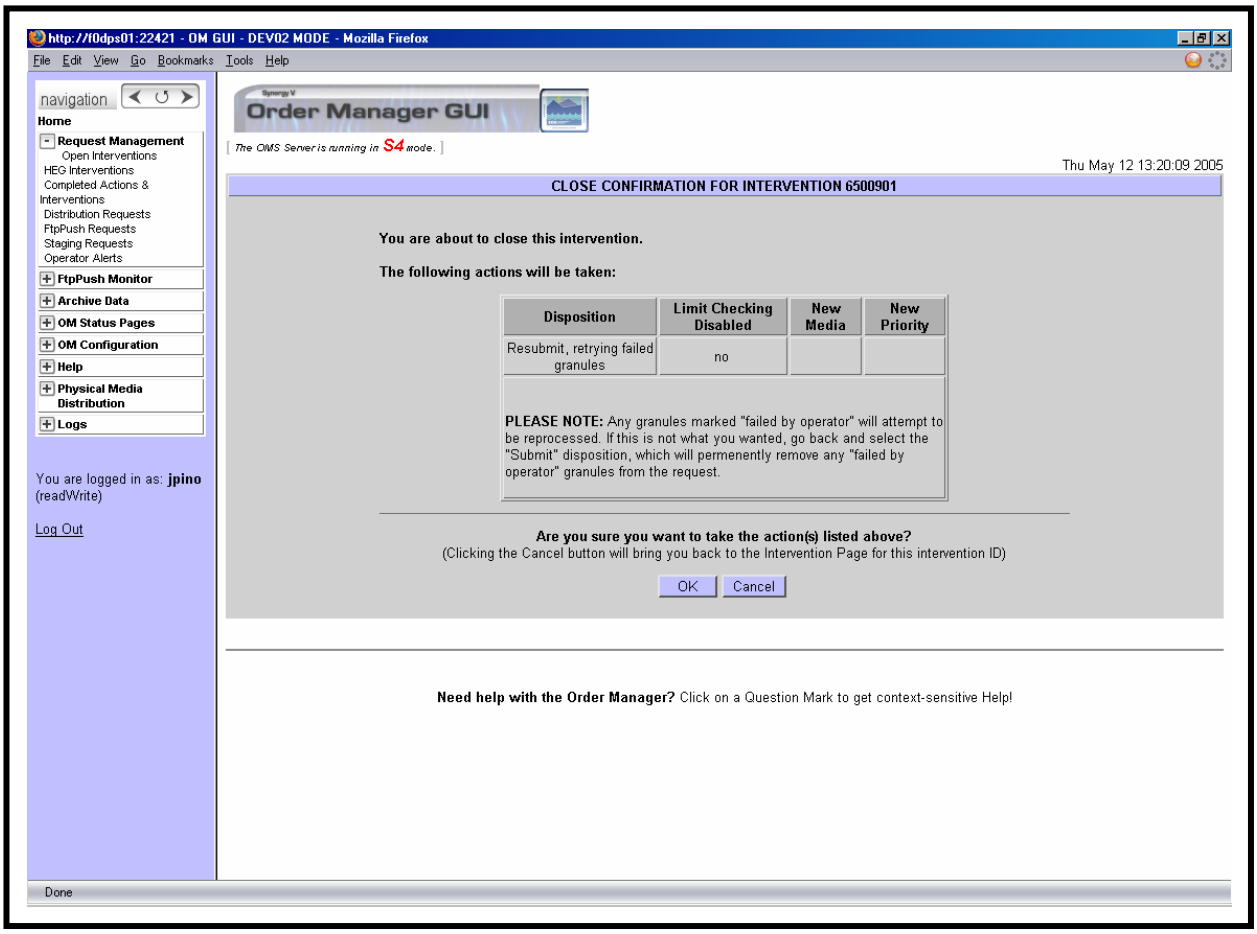

Figure 43. Close Confirmation Page for HEG Intervention

13 Click on the appropriate button from the following selections:

- **OK** - to apply the specified intervention actions (if any) and dismiss the **Close Confirmation** page.
  - The **Close Confirmation** page is dismissed.
  - An **Intervention Closed** page (Figure 26) is displayed
- **Cancel** - to dismiss the **Close Confirmation** page without applying the specified intervention actions.
  - The **Close Confirmation** page is dismissed.
  - A warning dialogue box (Figure 27) is displayed with the message "WARNING: The disposition and actions you have taken for this intervention will be lost. Continue?"

14 If a warning dialogue box is displayed with the message "WARNING: The disposition and actions you have taken for this intervention will be lost. Continue?" click on the appropriate button from the following selections:

- **OK** - to dismiss the warning dialogue box and the **Close Confirmation** page and return to the **Open HEG Intervention Detail** page (Figure 41).
- **Cancel** – to dismiss the warning dialogue box and return to the **Close Confirmation** page (Figure 23).

15 To exit from the **Intervention Closed** page (Figure 26), click on the **OK** button.

- The **Intervention Closed** page (Figure 26) is dismissed.
- The **Open HEG Interventions** page (Figure 40) is displayed.

16 To start the process of logging out (if applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

17 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  - The dialogue box is dismissed.
  - The Netscape browser is dismissed.
- **Cancel** - to dismiss the dialogue box without logging out.
  - The dialogue box is dismissed.

- The **OM GUI** is displayed.

Viewing Pending HEG Granules

New for Synergy V, the **OM GUI** displays pending HEG granules. The **Pending HEG Granules** page (Figure 44) provides the Distribution Technician (whether full-capability or limited capability operator) with a means of viewing pending HEG granules.

The procedure for viewing pending HEG granules on the **OM GUI** starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched.

Viewing Pending HEG Granules

---

1 If it has not been expanded already, click on the **OM Status Pages** link in the navigation frame of the **OM GUI**.

- The **OM Status Pages** menu is expanded.

2 Click on the **Pending HEG Granules** link in the navigation frame of the **OM GUI**.

- The **Pending HEG Granules** page (Figure 44) is displayed.
- The **Options** area of the **Pending HEG Granules** page has the following button and selection boxes:
  - **Bulk Cancel** button [for canceling selected pending HEG granule(s)].
  - **Select All** box [for selecting all eligible items for **Bulk Cancel**].
  - **Select None** box [for selecting none of the eligible items for **Bulk Cancel**].
- The **Listing** table has the following columns:
  - **Sel** [check boxes for marking items to be canceled].
  - **HEG PID**.
  - **RequestId**.
  - **ECS GranuleId**.
  - **DPL ID**.
  - **ESDT**.
  - **Gran Size(MB).**

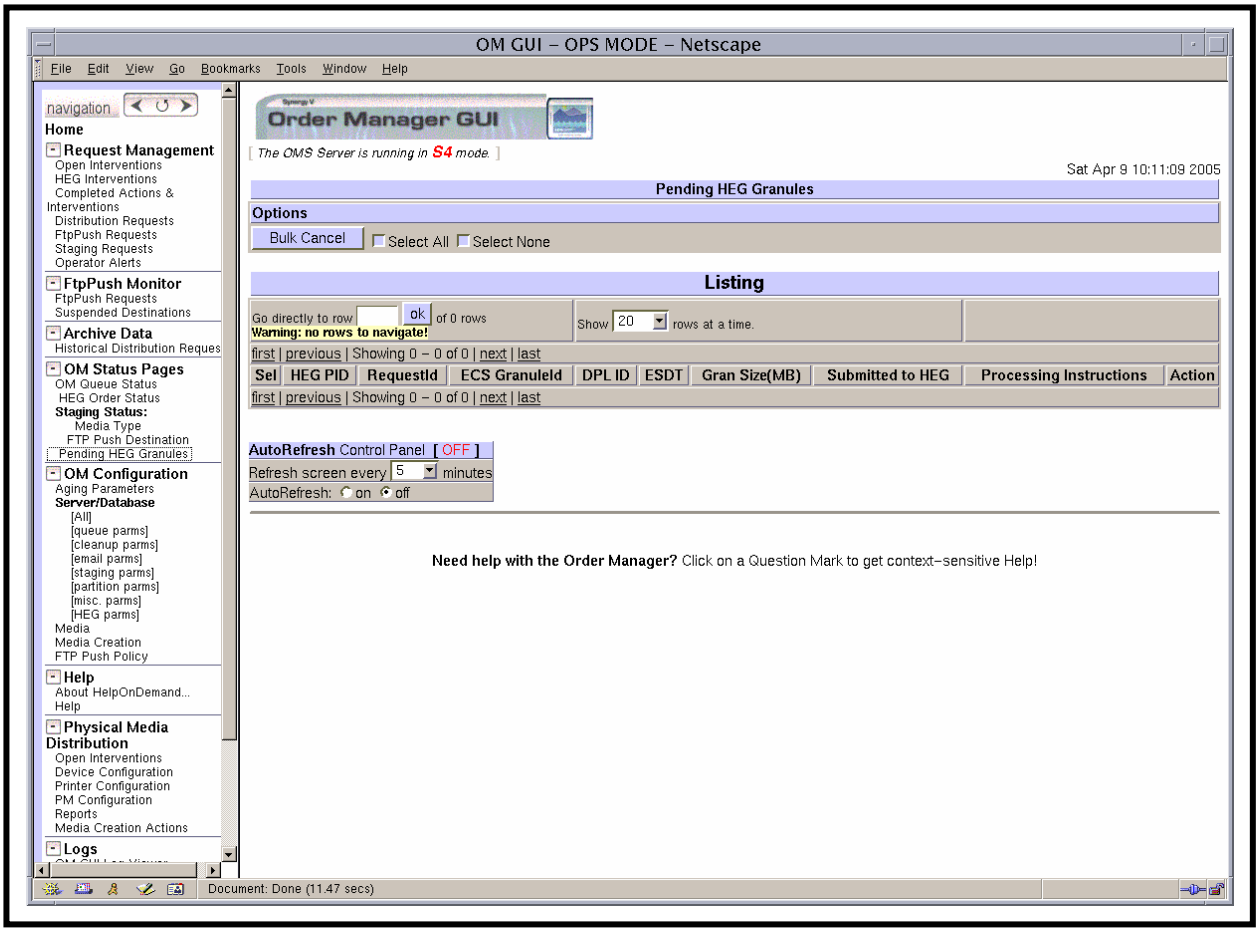

Figure 44. Pending HEG Granules Page

- **Submitted to HEG** [date/time].
- **Processing Instructions.**
- **Action**.

3 Observe information displayed in the **Listing** table of the **Pending HEG Granules** page.

- The **Show _____ rows at a time** window provides a means of selecting the maximum number of rows of data to be displayed at a time.
  - For example, if **Show _____ rows at a time** is being displayed, selecting **50** from the option button would result in the display of a page of data containing up to 50 rows of data.
- Clicking on a specific Request ID in the **Listing** table of the **Pending HEG Granules** page brings up a screen containing detailed data concerning that particular request.

- Horizontal and vertical scroll bars appear when necessary to allow viewing data that are not readily visible in the window.
- If **AutoRefresh** is **ON**, the **Pending HEG Granules** page refreshes automatically as often as specified in the **Refresh screen every *x* minutes** window.
  - If a different refresh option is preferred, perform the procedure for **Setting Refresh Options on OM GUI Pages** (preceding section of this lesson).
  - To manually update (refresh) the data on the screen, click on the ↻ icon in the **OM GUI** navigation frame.
- The Netscape browser **Edit → Find in Page** menu provides a means of performing a keyword search of the data currently being displayed on the screen.
- The **first**, **previous**, **next**, and **last** links provide means of displaying additional pages of data.

4 Click on a specific Request ID in the **Listing** table of the **Pending HEG Granules** page to bring up a screen containing detailed data concerning that particular request.

5 To view the processing instructions for a particular granule click on the **View…** link in the **Processing Instructions** column in the **Listing** table of the **Pending HEG Granules** page to bring up a **Processing Instructions** window.

- A **Processing Instructions** window is displayed (Figure 42); it contains the processing instructions for the line item.
- To close the **Processing Instructions** window, click on the **Close Window** button.

6 To cancel pending HEG granule(s) first click in either the **Select All** check box (if all pending HEG granules are to be failed) in the **Options** area of the **Pending HEG Granules** page or the individual check boxes in the **Sel** column associated with the specific pending HEG granules.

- A checkmark is displayed in each selected check box.

7 To complete the process of canceling pending HEG granule(s) click on the **Bulk Cancel** button in the **Options** area of the **Pending HEG Granules** page.

- The specified pending HEG granules are failed.

8 Repeat Steps 3 through 7 as necessary to view pending HEG granules.

9 To start the process of logging out (if applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

10 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  - The dialogue box is dismissed.
  - The Netscape browser is dismissed.
- **Cancel** - to dismiss the dialogue box without logging out.
  - The dialogue box is dismissed.
  - The **OM GUI** is displayed.

Viewing Operator Alerts on the OM GUI

"Alerts" are non-fatal warnings or errors that do not cause an Operator Intervention, but do provide valuable information concerning distribution resources. An example might be a suspended FTP Push destination.

The **Operator Alerts** page (Figure 45) provides the Distribution Technician (whether full-capability or limited capability operator) with a means of viewing operator alerts. The following types of operator alerts can be displayed:

- FTP Push Destination Alerts (problems with the destination not sufficient to cause an Operator Intervention).
  - When one of the following errors occurs, an ftp push alert is generated:
    - Ftp Push login/password failure.
    - Destination host not reachable.
    - Destination disk space is full.
    - Ftp Push operation timed out.
    - Number of consecutive failures for the destination exceeds the configured max number.
  - If the ftp push destination resolves the problem, the alert is automatically cleared.
- Data Pool File System Alerts.
  - When the DPL file system is made unavailable or has no free space, an alert regarding that file system is generated.
  - The alert is automatically cleared away when the DPL file system is made available or finds more free space.

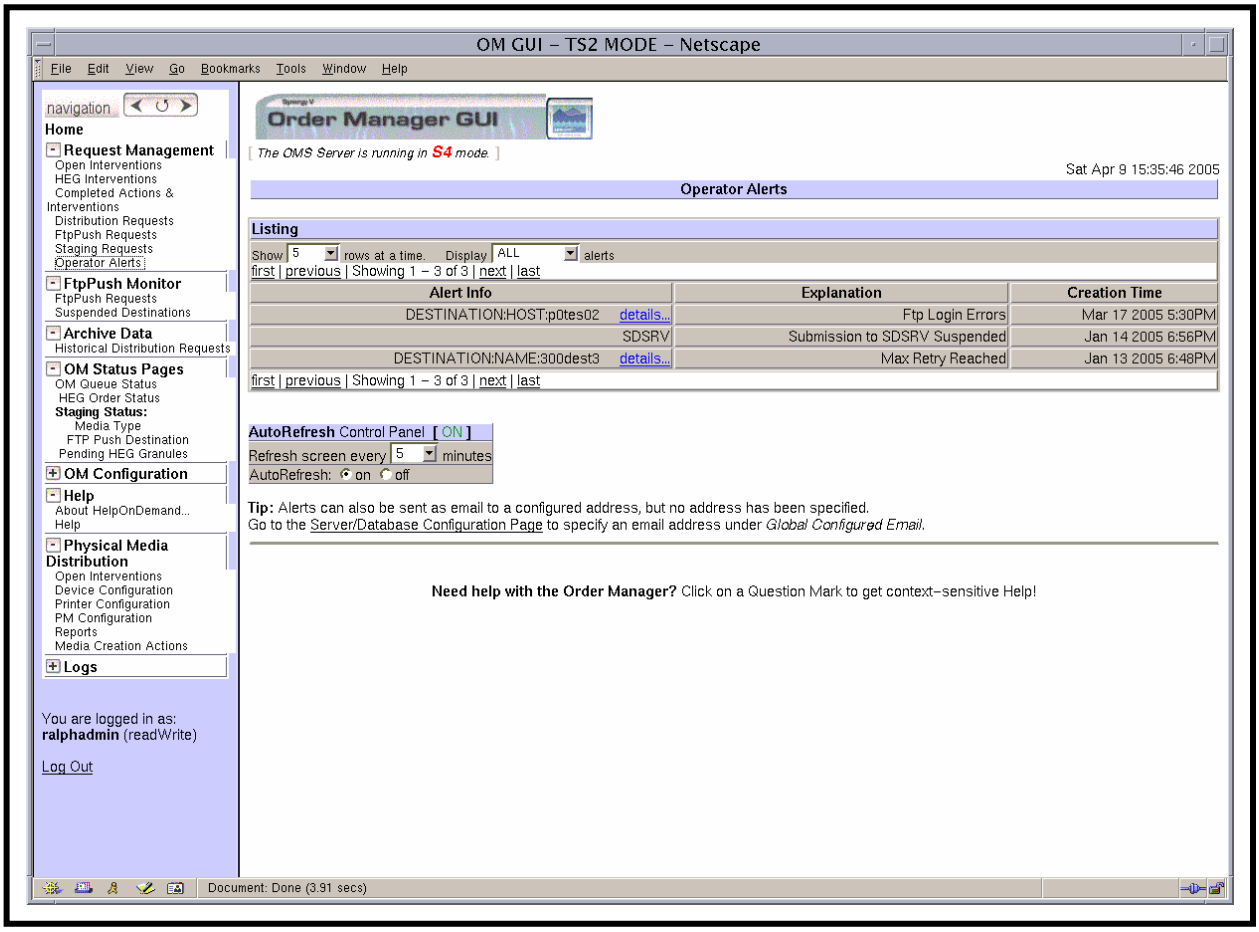

Figure 45. Operator Alerts Page

- Archive Server Alerts.
  - When Order Manager Server detects that Archive Server (Quick Server) is down, it automatically suspends that Archive Server and queues the archive alert with explanation “Access to AMASS file system Failed”.
  - If the Quick Server is brought back up, the archive server is automatically resumed and the alert goes away on its own.
  - If the Order Manager Server detects that the number of staging failures for that archive server exceeds the configured Max Archive Failure, it automatically suspends that Archive Server and queues the archive alert with the explanation “Max Retry Reached”
  - Archive server needs to be manually resumed on the **OM Queue Status** page to make the alert go away.

- ECS Server Alerts (warnings about SDSRV errors).
  - An alert is generated when the Order Manager Server detects that the SDSRV is down.
  - The alert is automatically cleared when the OMS Server detects that SDSRV is running again.

The procedure for viewing operator alerts on the **OM GUI** starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched.

Viewing Operator Alerts on the OM GUI

---

1 If it has not been expanded already, click on the **Request Management** link in the navigation frame of the **OM GUI**.

- The **Request Management** menu is expanded.

2 Click on the **Operator Alerts** link in the navigation frame of the **OM GUI**.

- The **Operator Alerts** page (Figure 45) is displayed.
- The **Listing** table has the following columns:
  - **Alert Info**.
  - **Explanation.**
  - **Creation Time**.

3 Observe information displayed in the **Listing** table of the **Operator Alerts** page.

- The following types of operator alerts are displayed on the **Operator Alerts** page:
  - **FTP Push Destination Alerts** (problems with the destination not sufficient to cause an Operator Intervention).
  - **Data Pool File System Alerts.**
  - **Archive Server Alerts.**
  - **ECS Server Alerts** (warnings about SDSRV or OMS resource errors).
- By default all types of alerts are displayed in the **Listing** table on the **Operator Alerts** page.

- To filter the **Listing** table in a different way, click on the option button associated with the **Display _____ alerts** box then click on the desired selection.
  - The following choices are available:
    - **ALL.**
    - **Archive.**
    - **Data Pool.**
    - **FTP Push.**
    - **SDSRV.**
  - The selected filter is displayed in the **Display _____ alerts** box.
  - The **Operator Alerts** page is refreshed and the filter is applied, so the specified type(s) of alert(s) is (are) displayed in the **Listing** table on the **Operator Alerts** page.
- The list of alerts is sorted in ascending order by date (i.e., the oldest Alerts appear first).
- The **Show _____ rows at a time** window provides a means of selecting the maximum number of rows of data to be displayed at a time.
  - For example, if **Show _____ rows at a time** is being displayed, selecting **50** from the option button would result in the display of a page of data containing up to 50 rows of data.
- Horizontal and vertical scroll bars appear when necessary to allow viewing data that are not readily visible in the window.
- If **AutoRefresh** is **ON**, the **Operator Alerts** page refreshes automatically as often as specified in the **Refresh screen every *x* minutes** window.
  - If a different refresh option is preferred, perform the procedure for **Setting Refresh Options on OM GUI Pages** (preceding section of this lesson).
- To manually update (refresh) the data on the screen, click on the ↻ icon in the **OM GUI** navigation frame.
- The Netscape browser **Edit → Find in Page** menu provides a means of performing a keyword search of the data currently being displayed on the screen.
- The **first**, **previous**, **next**, and **last** links provide means of displaying additional pages of data (if applicable).

- The following message is displayed at the bottom of the **Operator Alerts** page: **Note: All operator alerts are also sent as email to:** ***address***.
  - To change the e-mail address for receiving operator alerts, click on the **Change** link adjacent to the message and change the value of the **Global Configured Email** parameter (for details refer to the procedure for **Checking/Modifying Values Assigned to OMS Server or Database Parameters**).

4 To view detailed information concerning the cause and/or requests affected by the alert, click on the corresponding **details** link in the **Alert Info** column.

- A page describing the alert (e.g., Figure 46) is displayed.

NOTE: Unlike an operator intervention, no specific action can be taken to close an alert. The Order Manager Server automatically clears each alert when the condition(s) that caused it go to a satisfactory state.

5 Repeat Steps 3 and 4 as necessary to view operator alerts.

6 Return to the procedure for **Monitoring/Controlling Distribution Request Information on the OM GUI** (if applicable).

7 To start the process of logging out (if applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

8 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  - The dialogue box is dismissed.
  - The Netscape browser is dismissed.
- **Cancel** - to dismiss the dialogue box without logging out.
  - The dialogue box is dismissed.
  - The **OM GUI** is displayed.

Viewing Completed Operator Actions and Interventions on the OM GUI

The **Completed Operator Actions and Interventions** page (Figure 47) provides the Distribution Technician (whether full-capability or limited capability operator) with a means of viewing completed action/intervention information on the OM GUI.

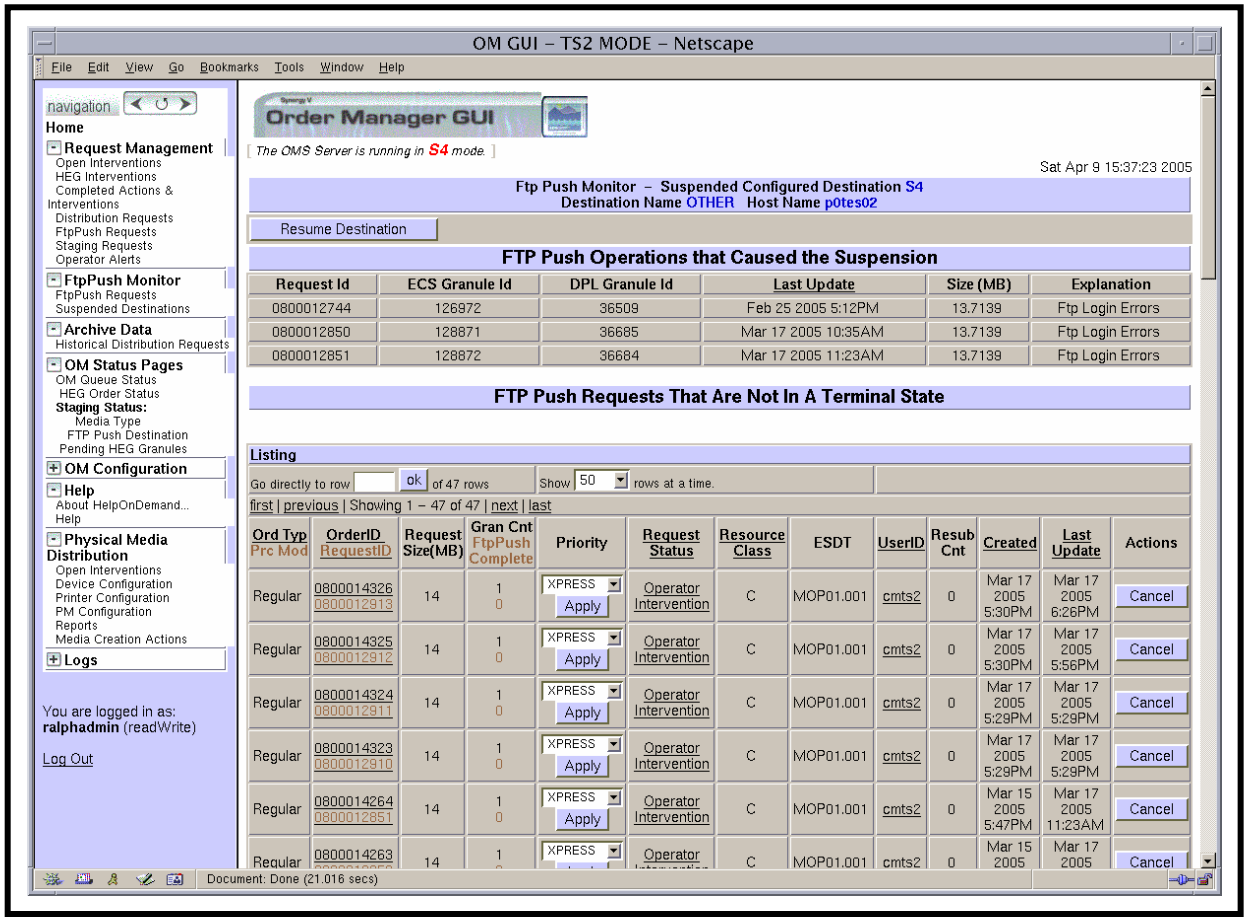

Figure 46. Suspended Host Detail Page

The procedure for viewing completed action/intervention information on the OM GUI starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

Viewing Completed Operator Actions and Interventions on the OM GUI

1 If it has not been expanded already, click on the **Request Management** link in the navigation frame of the **OM GUI**.

- The **Request Management** menu is expanded.

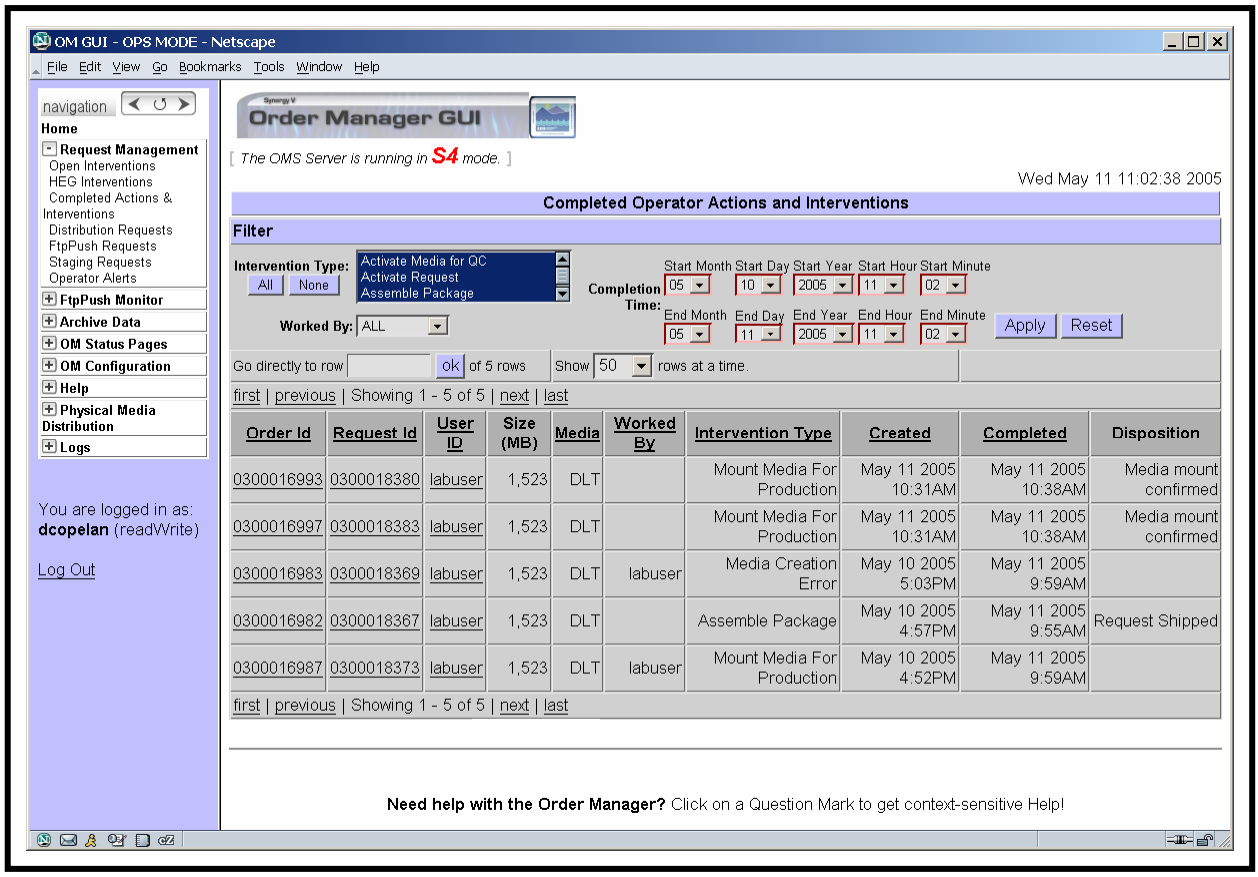

Figure 47. Completed Operator Actions and Interventions Page

2 Click on the **Completed Operator Actions & Interventions** link in the navigation frame of the **OM GUI**.

- The **Completed Operator Actions and Interventions** page (Figure 47) is displayed.
- The **Listing** table has the following columns:
  - **Order Id.**
  - **Request Id.**
  - **User ID.**
  - **Size (MB).**
  - **Media.**
  - **Worked by.**
  - **Created.**
  - **Completed.**

- **Disposition.**

3 Observe information displayed in the table of the **Completed Operator Actions and Interventions** page.

- By default, data concerning up to 50 requests with completed operator actions and interventions (and "completion time" within the last 24 hours) are displayed at a time.
  - It is important to check the filter settings when opening the **Completed Operator Actions and Interventions** page because changes to the filter settings tend to persist, even from one session to another.
  - To filter the table in a different way, perform the procedure for **Filtering Data Displayed on the Completed Operator Actions and Interventions Page** (subsequent section of this lesson).
- Clicking on a link in the column header row of the table causes table contents to be sorted on that column.
  - For example, clicking on the **Worked By** link causes the table to be organized alphabetically by the IDs of the people who worked on the interventions in the list.
- Clicking on a specific Order ID or Request ID brings up a screen containing more detailed data concerning that particular order or request.
- Horizontal and vertical scroll bars appear when necessary to allow viewing data that are not readily visible in the window.
- To manually update (refresh) the data on the screen, click on the ↺ icon in the **OM GUI** navigation frame.
- The Netscape browser **Edit → Find in Page** menu provides a means of performing a keyword search of the data currently being displayed on the screen.
- The **first**, **previous**, **next**, and **last** links provide means of displaying additional pages of data.

4 If the desired request with completed intervention is not listed in the table of the **Completed Operator Actions and Interventions** page, perform the procedure for **Filtering Data Displayed on the Completed Operator Actions and Interventions Page** (subsequent section of this lesson).

5 If request filtering was necessary, return to Step 3.

6 Click on a specific Request ID in the table of the **Completed Operator Actions and Interventions** page to bring up a screen containing more detailed data concerning that particular request.

- For example, clicking on Request ID **0300004174** brings up a **Completed Intervention/Action Detail** (i.e., **Completed Operator Action for Request 0300004174**) page (Figure 48).

7 Observe information displayed on the **Completed Intervention/Action Detail** (**Completed Intervention/Action for Request *x***) page.

- The following items are displayed on the **Completed Intervention/Action Detail** page.
  - **User Id.**
  - **email.**
  - **Priority.**
  - **Order Id.**
  - **Size (MB).**
  - **Media.**
  - **Worked By.**
  - **Created.**
  - **Completed.**
  - **Disposition.**
  - **Explanation.**
  - **Granule List: DBID, ESDT Type, Size (MB), Status, Processing Instructions, Explanation.**
  - **OPERATOR NOTES.**
- Click on the ← icon in the **OM GUI** navigation frame to redisplay the **Completed Operator Actions and Interventions** page.

8 Return to Step 3 to view information concerning another completed intervention (if applicable).

9 To start the process of logging out (when applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

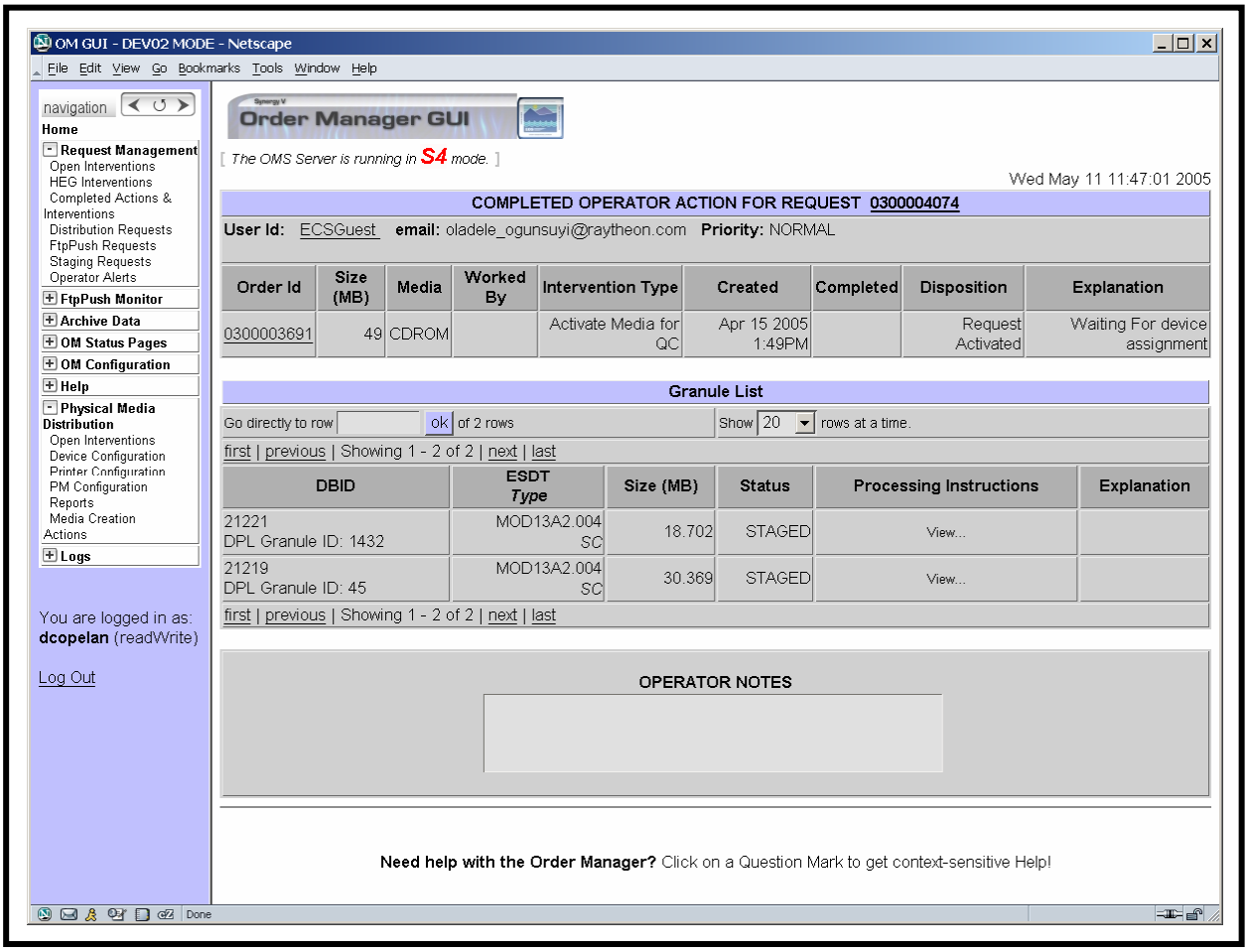

Figure 48. Completed Intervention/Action Detail (Completed Operator Intervention/Action for Request X) Page

10 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  - The dialogue box is dismissed.
  - The Netscape browser is dismissed.
- **Cancel** - to dismiss the dialogue box without logging out.
  - The dialogue box is dismissed.
  - The **OM GUI** is displayed.

Filtering Data Displayed on the Completed Operator Actions and Interventions Page

Features at the top of the **Completed Operator Actions and Interventions** page provide the Distribution Technician (whether full-capability or limited capability operator) with a means of filtering data displayed on the **Completed Operator Actions and Interventions** page. By default, data concerning up to 50 requests with completed operator actions or interventions (and "completion time" within the last 24 hours) are displayed at a time.

NOTE: The session ID provides a means of tracking which GUI pages are accessed and what filter options are used during a particular session. Such data is especially important when several operators are using the OM GUI in the same mode at the same time. For example, an individual operator's previously selected filter options can be retrieved from the session data so the filter options do not have to be reentered every time the same type of search is performed.

The procedure for filtering data displayed on the **Completed Operator Actions and Interventions** page starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].
- The **Completed Operator Actions and Interventions** page (Figure 47) is being displayed.

Filtering Data Displayed on the Completed Operator Actions and Interventions Page

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NOTE: By default, completed operator actions and interventions are filtered by "completion time," providing access to all interventions completed within the last 24 hours. However, changes made to the filter settings tend to persist, even from one session to another. To restore the default filtering criteria click on the **Reset** button in the **Filter** area near the top of the **Completed Operator Actions and Interventions** page.

NOTE: Completed operator actions and interventions are not permanently available on the **Completed Operator Actions and Interventions** page. If filtering does not cause data concerning the desired intervention(s) to be displayed, check the **Delete Complete Interventions After** and **Delete Complete Actions After** parameters to see if the window of opportunity has already closed. (For detailed instructions refer to the procedure for **Checking/Modifying Values Assigned to OM Configuration Parameters**.)

1 If interventions of particular type(s) only should be displayed on the **Completed Operator Actions and Interventions** page, click on the desired type(s) in the **Intervention Type** window to highlight or unhighlight it/them (while holding down either the **Shift** key or the **Ctrl** key if highlighting multiple selections).

- To quickly deselect all highlighted types, click on the **Intervention Type – None** button (clears all selections so individual types can be selected).
- To quickly select all types, click on the **Intervention Type – All** button (all items are highlighted).
- The following choices are available:
  - **Collect Media for QC.**
  - **Dismount Media from Production.**
  - **HEG Error.**
  - **Media Creation Error.**
  - **Mount Media for Production.**
  - **Mount Media for QC.**
  - **Operator Intervention.**
  - **QC Failed.**
  - **Synergy III Request.**
- Selected type(s) is (are) highlighted in the **Intervention Type** window; undesired type(s) is (are) not highlighted in the **Intervention Type** window.
- A vertical scroll bar allows viewing data that are not readily visible in the **Intervention Type** window.
- Filtering by "Intervention Type" may be combined with other filtering options (refer to Steps 2 and 3).
- If all filtering criteria have been selected, go to Step 4.

2 If interventions "worked by" a particular individual only should be displayed on the **Completed Operator Actions and Interventions** page, click on the **Worked by:** option button to display a menu of individuals then click on the desired selection.

- In addition to a list of individuals, the **Worked by:** option button has an **ALL** option.
- Selected individual (or "**ALL"**) is displayed on the **Worked by:** option button.
- Filtering by the individual who worked on interventions may be combined with filtering by "Completion Time" (refer to Step 3).
- If "Completion Time" filtering criteria are not going to be selected, go to Step 4.

3 If the intervention(s) to be viewed has (have) "Completion Time" outside the range indicated in the **Start Month**, **Start Day**, **Start Year**, **Start Hour**, **Start Minute**, **End Month**, **End Day**, **End Year**, **End Hour**, and **End Minute** boxes, as necessary click on each date/time option button to display a drop-down list of month, day, year, hour, or minute options then click on the desired selection.

- Selected number is displayed in each date/time box.

4 When all relevant filtering criteria have been selected (as described in Steps 2 and 3), click on the **Apply** button.

- The **Completed Operator Actions and Interventions** page refreshes.
- Only requests that meet the specified filter criteria appear in the **Listing** table on the **Completed Operator Actions and Interventions** page.

5 Return to the procedure for **Viewing Completed Intervention Information on the OM GUI**.

Viewing Historical Distribution Requests on the OM GUI

The **Historical Distribution Requests** page (Figure 49) provides the Distribution Technician (whether full-capability or limited capability operator) with a means of viewing historical distribution request information on the OM GUI.

The procedure for viewing completed intervention information on the OM GUI starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

Viewing Historical Distribution Requests on the OM GUI

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1 If it has not been expanded already, click on the **Archive Data** link in the navigation frame of the **OM GUI**.

- The **Archive Data** menu is expanded.

2 Click on the **Historical Distribution Requests** link in the navigation frame of the **OM GUI**.

- The **Historical Distribution Requests** page (Figure 49) is displayed.
- The **Listing** table has the following columns:
  - **Ord Typ/Proc Mod.**

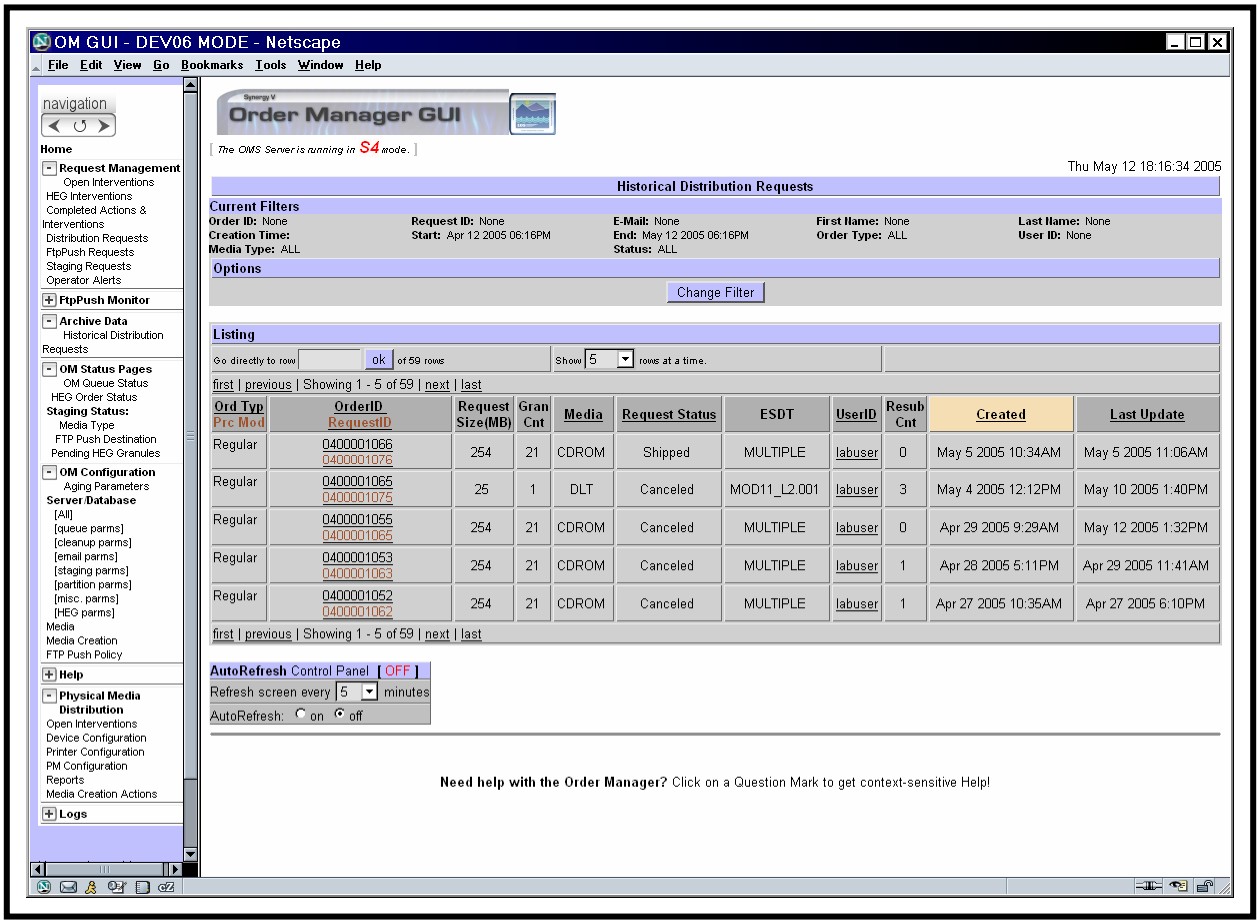

Figure 49. Historical Distribution Requests Page

- **OrderId/RequestId.**
- **Request Size (MB).**
- **Gran Cnt.**
- **Media.**
- **Request Status.**
- **ESDT.**
- **UserID.**
- **Resub Cnt.**
- **Created.**
- **Last Update.**

3 Observe information displayed in the **Listing** table of the **Historical Distribution Requests** page.

- By default, data concerning up to 50 historical requests (and "last update" within the last 24 hours) are displayed at a time.
  - It is important to check the filter settings when opening the **Historical Distribution Requests** page because changes to the filter settings tend to persist, even from one session to another.
  - To filter the **Historical Distribution Requests Listing** in a different way, perform the procedure for **Filtering Data Displayed on the Distribution Requests Pages** (preceding section of this lesson).
- Clicking on a link in the column header row of the table causes table contents to be sorted on that column.
  - For example, clicking on the **Request Status** link causes the table to be organized alphabetically by the status of the requests in the list.
- Clicking on a specific Order ID or Request ID brings up a screen containing more detailed data concerning that particular order or request.
- Horizontal and vertical scroll bars appear when necessary to allow viewing data that are not readily visible in the window.
- To manually update (refresh) the data on the screen, click on the ↻ icon in the **OM GUI** navigation frame.
- The Netscape browser **Edit → Find in Page** menu provides a means of performing a keyword search of the data currently being displayed on the screen.
- The **first**, **previous**, **next**, and **last** links provide means of displaying additional pages of data.

4 If the desired request(s) is (are) not listed in the **Listing** table of the **Historical Distribution Requests** page, perform the procedure for **Filtering Data Displayed on the Distribution Requests Pages** (preceding section of this lesson).

5 If request filtering was necessary, return to Step 3.

6 Return to Step 3 to view information concerning another order or request (if applicable).

7 To start the process of logging out (if applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

8 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  - The dialogue box is dismissed.
  - The Netscape browser is dismissed.
- **Cancel** - to dismiss the dialogue box without logging out.
  - The dialogue box is dismissed.
  - The **OM GUI** is displayed.

Viewing and Responding to Suspended FTP Push Distribution Destinations

The **Suspended Destinations** page (Figure 50) provides the full-capability operator with a means of viewing suspended FTP push destinations and a means of taking the following kinds of actions with respect to suspended FTP push destinations:

- Resume suspended destinations.
- Suspend active destinations.
- View details of active or suspended destinations.

The procedure for viewing and responding to suspended FTP push distribution destinations on the **OM GUI** starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched.

Viewing and Responding to Suspended FTP Push Distribution Destinations

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1 If it has not been expanded already, click on the **FtpPush Monitor** link in the navigation frame of the **OM GUI**.

- The **FtpPush Monitor** menu is expanded.

2 If the **Suspended Destinations** page (Figure 50) is not already being displayed, click on the **Suspended Destinations** link in the navigation frame of the **OM GUI**.

- The **Suspended Destinations** page (Figure 50) is displayed.

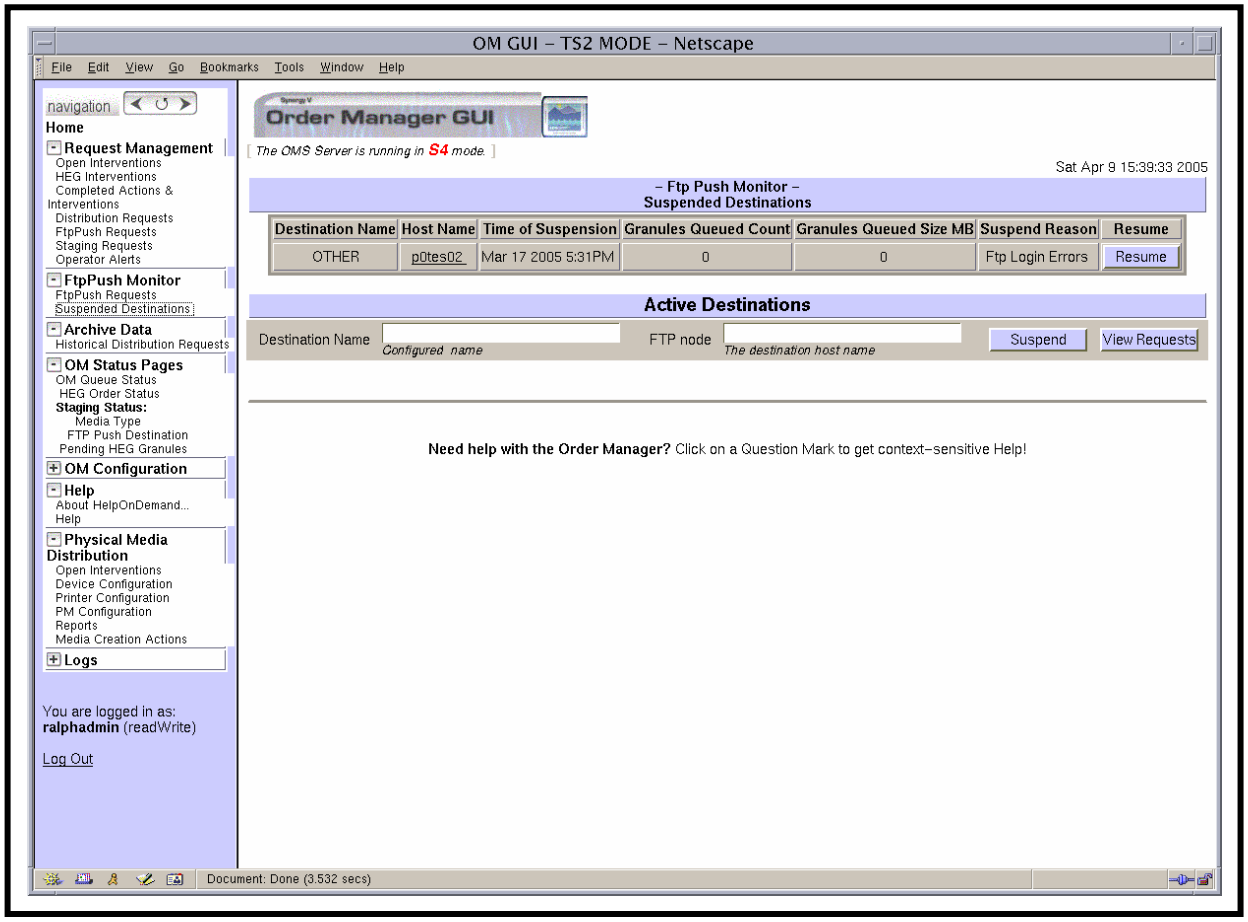

Figure 50. Suspended Destinations Page

3 Observe information displayed on the **Suspended Destinations** page.

- The **Suspended Destinations** page has the following columns:
  - **Destination Name**.
  - **Host Name.**
  - **Time of Suspension** (if applicable, date and time when the destination was suspended).
  - **Granules Queued Count** (number of granules that are queued).
  - **Granules Queued Size MB** (total size in MB of all granules that are queued).
  - **Suspend Reason** (why the destination was suspended).
  - **Resume** (buttons for resuming the destination).

- Horizontal and vertical scroll bars appear when necessary to allow viewing data that are not readily visible in the window.
- To manually update (refresh) the data on the screen, click on the ↻ icon in the **OM GUI** navigation frame.
- The Netscape browser **Edit → Find in Page** menu provides a means of performing a keyword search of the data currently being displayed on the screen.

4 To resume a suspended destination, click on the **Resume** button in the destination's **Resume** column.

- The destination is resumed.
- The **Suspended Destinations** page refreshes and the resumed destination is no longer on the list of suspended destinations.

5 To start the process of either suspending an active destination or viewing destination details (for an active or suspended destination), first type either the ***name*** in the **Destination Name** text field or the destination ***hostname*** in the **FTP Node** text field.

6 To suspend an active destination (after making the appropriate entry in either the **Destination Name** text field or the **FTP Node** text field), click on the **Suspend** button in the **Active Destination** area.

- The destination is suspended.
- The **Suspended Destinations** page refreshes and the suspended destination is included in the list of suspended destinations.
- An alternative is to suspend the active destination from the **Destination Details** page – go to Step 7.

7 To view ftp push requests associated with an active destination or a suspended destination (after making the appropriate entry in either the **Destination Name** text field or the **FTP Node** text field), click on the **View Requests** button in the **Active Destination** area.

- The **Destination Details** page (Figure 34) is displayed.
  - The following types of data are displayed in the **FTP Push Operations that Caused the Suspension** area (if applicable):
    - **Request Id.**
    - **ECS Granule Id.**
    - **DPL Granule Id.**
    - **Last Update.**
    - **Size (MB).**

- **Explanation.**

– The following types of data are displayed in the **FTP Push Requests That Are Not In A Terminal State** area:

- **Ord Typ/Prc Mod.**
- **OrderID/RequestID.**
- **Request Size (MB).**
- **Gran Cnt/FtpPush Complete.**
- **Priority.**
- **Request Status.**
- **Resource Class.**
- **ESDT.**
- **UserID.**
- **Resub Cnt.**
- **Created.**
- **Last Update.**
- **Actions.**

- To respond to conditions indicated on the **Destination Details** page refer to the procedure for **Viewing and Responding to Destination Details on the OM GUI**.

8 Repeat Steps 3 through 7 as necessary to view and respond to information concerning suspended FtpPush distribution destinations on the **OM GUI**.

9 To start the process of logging out (if applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

10 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  – The dialogue box is dismissed.
  – The Netscape browser is dismissed.
- **Cancel** - to dismiss the dialogue box without logging out.
  – The dialogue box is dismissed.

– The **OM GUI** is displayed.

Viewing and Responding to Destination Details on the OM GUI

The **Destination Details** page (Figure 34) provides the full-capability operator with a means of viewing detailed data concerning a particular destination and a means of taking the following kinds of actions:

- Suspend an active destination.
- Resume a suspended destination.
- Change the priority of a distribution request associated with the FtpPush destination while granules for the request still need to be staged or while granules for the request still need to be pushed.
- Suspend a request that still needs to be staged or while granules for the request still need to be pushed.
- Resume a request that was suspended by the **OM GUI** operator or while the processing of new requests by the OMS is suspended.
- Cancel a request that is not in a terminal state and while granules for the request still need to be staged or while granules for the request still need to be pushed.

The procedure for viewing and responding to destination details on the **OM GUI** starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched.
- The **Destination Details** page (Figure 34) is being displayed.

Viewing and Responding to Destination Details on the OM GUI

1 If the **Destination Details** page (Figure 34) is not already being displayed, perform the procedure for **Viewing and Responding to Suspended FTP Push Distribution Destinations** (previous section of this lesson) to display the page.

- The **Destination Details** page (Figure 34) is displayed.

2 Observe information displayed on the **Active Destinations Detail** page.

- The following types of data are displayed in the **FTP Push Operations that Caused the Suspension** area (if applicable):
  - **Request Id.**
  - **ECS Granule Id.**

  - **DPL Granule Id.**
  - **Last Update.**
  - **Size (MB).**
  - **Explanation.**
- The following types of data are displayed in the **FTP Push Requests That Are Not In A Terminal State** area:
  - **Ord Typ/Prc Mod.**
  - **OrderID/RequestID.**
  - **Request Size (MB).**
  - **Gran Cnt/FtpPush Complete.**
  - **Priority.**
  - **Request Status.**
  - **Resource Class.**
  - **ESDT.**
  - **UserID.**
  - **Resub Cnt.**
  - **Created.**
  - **Last Update.**
  - **Actions.**
- Clicking on a link in the column header row of the table causes table contents to be sorted on that column.
  - For example, clicking on the **RequestID** link causes the table to be organized in numerical order by Request ID.
- Clicking on a specific Order ID or Request ID brings up a screen containing more detailed data concerning that particular order or request.
- Clicking on a specific User ID brings up a screen that shows user profile information for that user.
- The **Show _____ rows at a time** window provides a means of selecting the maximum number of rows of data to be displayed at a time.
  - For example, if **Show _____ rows at a time** is being displayed, selecting **50** from the option button would result in the display of a page of data containing up to 50 rows of data.

- Horizontal and vertical scroll bars appear when necessary to allow viewing data that are not readily visible in the window.
- If **AutoRefresh** is **ON**, the **Distribution Requests** page refreshes automatically as often as specified in the **Refresh screen every *x* minutes** window.
  - If a different refresh option is preferred, perform the procedure for **Setting Refresh Options on OM GUI Pages** (preceding section of this lesson).
- To manually update (refresh) the data on the screen, click on the ↻ icon in the **OM GUI** navigation frame.
- The Netscape browser **Edit → Find in Page** menu provides a means of performing a keyword search of the data currently being displayed on the screen.
- The **first**, **previous**, **next**, and **last** links provide means of displaying additional pages of data.
- The **Go directly to row…** window provides a means of displaying a page of data starting with a particular row of the table.
  - For example, if **Go directly to row _____ of 415 rows** is being displayed, typing **315** in the window and clicking on the **ok** button would result in the display of a page of data containing rows 315 through 364.

3 To suspend an active destination (if applicable) click on the **Suspend Destination** button.

- The destination is suspended.
- The **Suspend Destination** button becomes a **Resume Destination** button.

4 To resume a suspended destination, click on the **Resume Destination** button.

- The destination is resumed.
- The **Resume Destination** button becomes a **Suspend Destination** button.

5 To change the priority of a particular distribution request (when applicable) perform the procedure for **Changing the Priority of a Distribution Request Using the OM GUI** (preceding section of this lesson).

6 To either suspend a particular distribution request or resume processing of a suspended request (when applicable) perform the procedure for **Suspending, Resuming, Canceling, Resubmitting, or Stopping a Distribution Request Using the OM GUI** (preceding section of this lesson).

7 To cancel a particular distribution request (when applicable) perform the procedure for **Suspending, Resuming, Canceling, Resubmitting, or Stopping a Distribution Request Using the OM GUI** (preceding section of this lesson).

8 To review and/or respond to an open intervention for a particular distribution request first click on the **Open Intervention** link in the **Request Status** column for the request in the **Listing** table.

9 To review and/or respond to an open intervention go to the procedure for **Viewing Open Intervention Information on the OM GUI** (preceding section of this lesson).

10 Repeat Steps 2 through 9 as necessary to view and respond to destination details.

11 To start the process of logging out (if applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

12 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  - The dialogue box is dismissed.
  - The Netscape browser is dismissed.
- **Cancel** - to dismiss the dialogue box without logging out.
  - The dialogue box is dismissed.
  - The **OM GUI** is displayed.

Checking/Modifying OM Queue Status

The **OM Queue Status** page (Figure 51) provides the full-capability operator with a means of checking and modifying OM queue status. The **OM Queue Status** page allows the full-capability operator to monitor and change the current status of request queues for all media as well as the request queues for OMS, SDSRV, e-mail, staging, and HEG. (The limited-capability operator can monitor but cannot change the status of queues.) In addition, the **OM Queue Status** page allows both full-capability and limited-capability operators to determine the status ("up" or "down") of the Order Manager Server.

The procedure for checking/modifying OM queue status starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

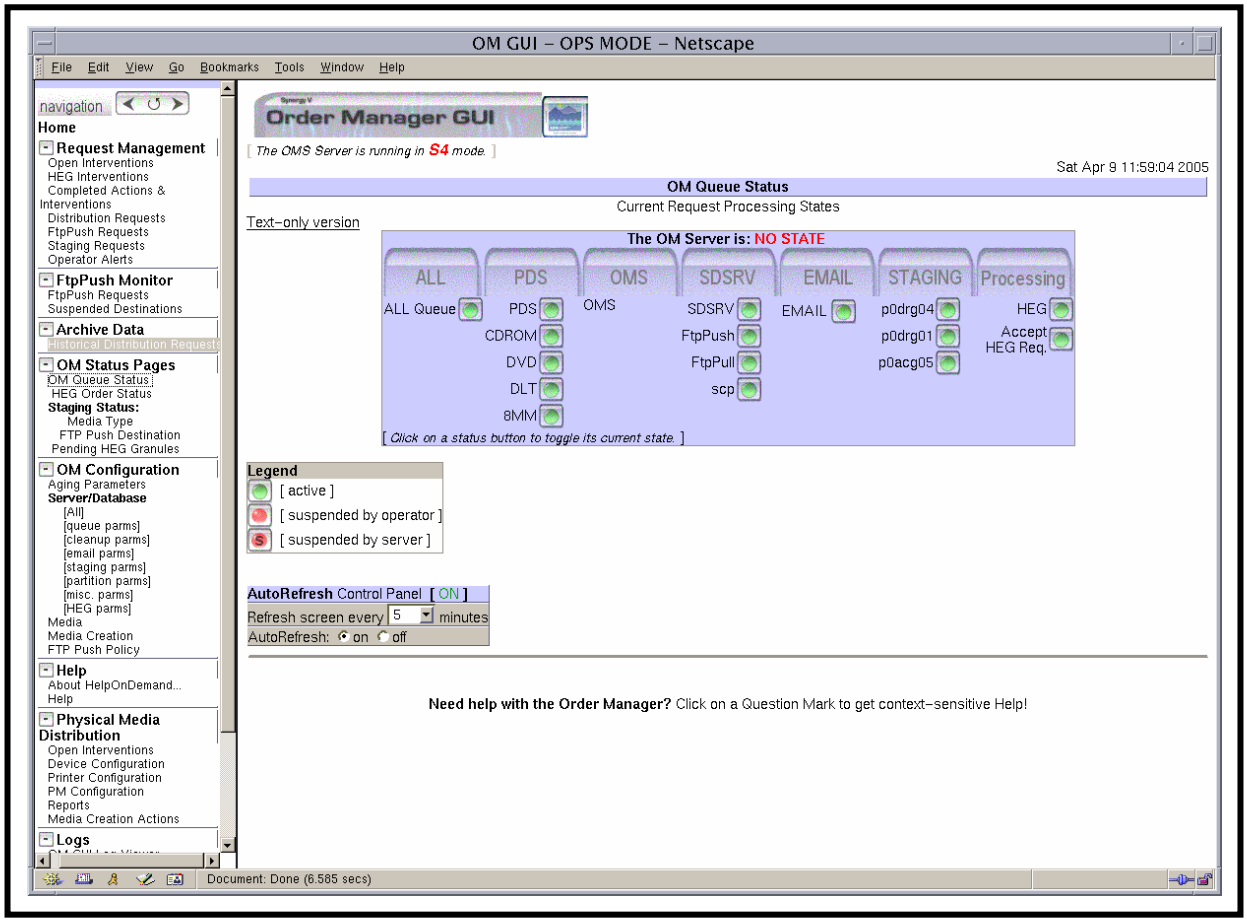

Figure 51. OM Queue Status Page

Checking/Modifying OM Queue Status

1 If it has not been expanded already, click on the **OM Status Pages** link in the navigation frame of the **OM GUI**.

- The **OM Status Pages** menu is expanded.

2 If the **OM Queue Status** page (Figure 51) is not already being displayed, click on the **OM Queue Status** link in the navigation frame of the **OM GUI**.

- The **OM Queue Status** page (Figure 51) is displayed.
- If the **OM Queue Status** page is not displayed within a minute, it is likely that the OM Server is not operating properly.
  - For example, it may have stalled while trying to process requests that it could not process.

- The **OM Queue Status** page has the following columns:
  - **ALL** [QUEUES].
  - **OMS.**
  - **SDSRV.**
  - **EMAIL.**
  - **STAGING.**
  - **Processing (HEG).**

3 Observe information displayed in the **Current Request Processing States** table.

- Directly under the **Current Request Processing States** header, one of the following statements is displayed:
  - **The OM Server is: UP** [indicates that the OM Server is currently operating].
  - **The OM Server is: DOWN** [indicates that the OM Server is not currently operating].

NOTE: The status of the OM Server is determined by a program called "Sweeper," which makes an attempt to connect with the OM Server. If a connection cannot be made, it is assumed that the OM Server is down. If Sweeper was not installed correctly, either the error screen is displayed with a Sweeper error message or the Sweeper error message is displayed right on the **OM Queue Status** page itself. This does not necessarily mean that the OM Server is down.

- The status indicators ("lights") in the **Current Request Processing States** table are color-coded to indicate the status of the request queues.
  - Green "light" indicates that the queue is active/un-suspended.
  - Red "light" with an "S" indicates that the server suspended the queue.
  - Red "light" with no "S" indicates that the queue has been suspended by the operator.
- On the **OM Queue Status** page there is a legend that describes the coding.
- Clicking on the **Text-only version** link brings up a text-only version of the page (Figure 52) intended for visually impaired operators.
- The status indicators are buttons that the operator clicks to toggle their state (from "activate" to "suspend" or vice versa).

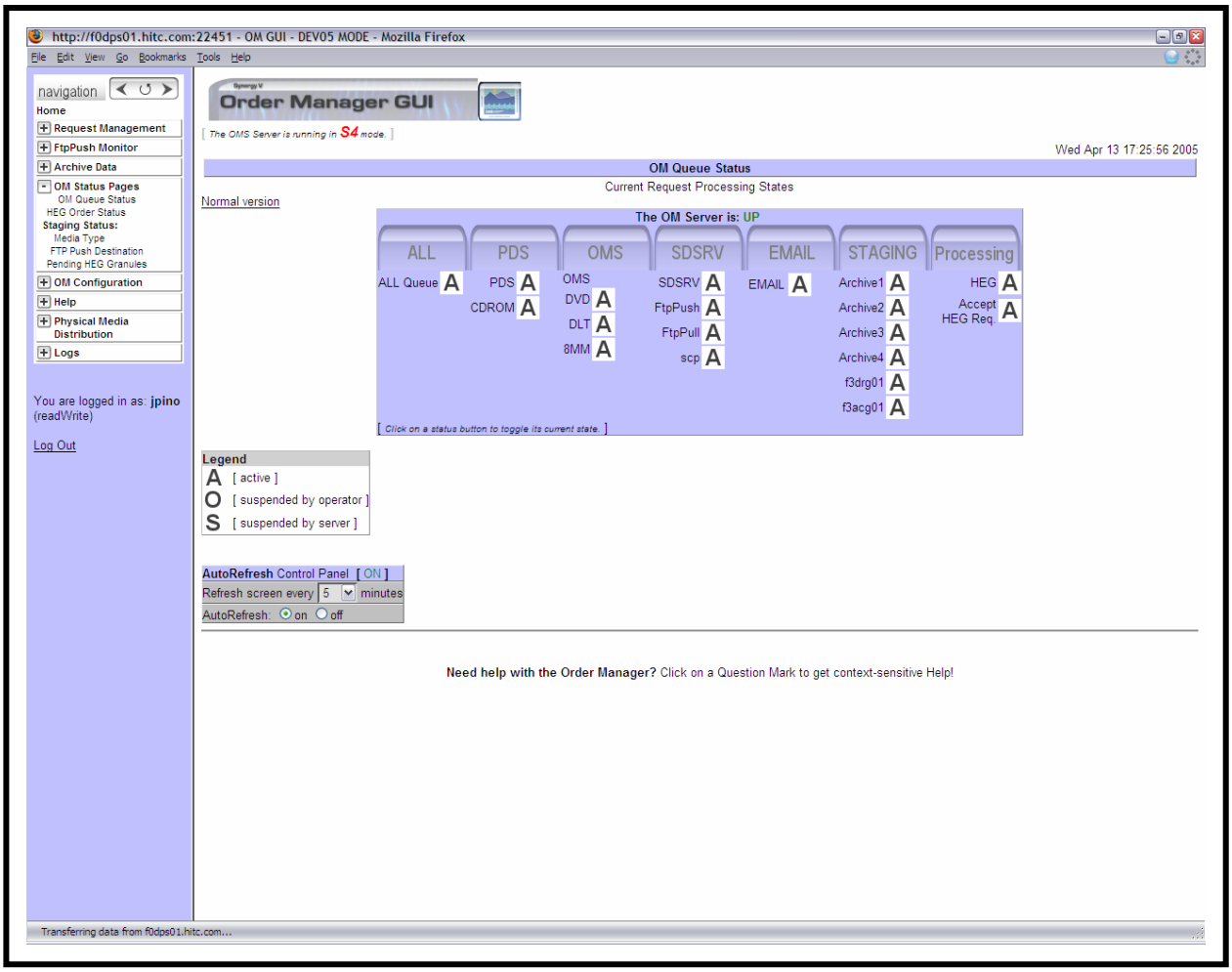

Figure 52. OM Queue Status Page - Text-Only Version

- If **AutoRefresh** is **ON**, the **OM Queue Status** page refreshes automatically as often as specified in the **Refresh screen every *x* minutes** window.
  - If a different refresh option is preferred, perform the procedure for **Setting Refresh Options on OM GUI Pages** (preceding section of this lesson).
- To manually update (refresh) the data on the screen, click on the ↻ icon in the **OM GUI** navigation frame.
- The Netscape browser **Edit → Find in Page** menu provides a means of performing a keyword search of the data currently being displayed on the screen.

4 If it is necessary to either activate or suspend a request queue (and there is authorization to do so), click on the queue status indicator/button to initiate toggling of its state (from "activate" to "suspend" or vice versa).

- A confirmation dialogue box is displayed to determine whether the state of the queue should really be changed.

5 To complete the process of toggling the state of a queue (if applicable) click on the appropriate button from the following selections:

- **OK** - to change the state of the queue and dismiss the dialogue box.
  - The dialogue box is dismissed.
  - The queue status indicator/button changes color (or letter in the case of the text-only version of the page) to indicate the new state.
- **Cancel** - to dismiss the dialogue box without changing the state of the queue.
  - The dialogue box is dismissed.
  - The queue status indicator/button remains unchanged.

6 Repeat Steps 4 and 5 as necessary to change the state of additional request queues.

7 To start the process of logging out (if applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

8 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  - The dialogue box is dismissed.
  - The Netscape browser is dismissed.
- **Cancel** - to dismiss the dialogue box without logging out.
  - The dialogue box is dismissed.
  - The **OM GUI** is displayed.

Checking/Modifying HEG Order Status

The **HEG Order Status** page provides the Distribution Technician (whether full-capability or limited capability operator) with means of checking HEG status.

The **HEG Order Status** page allows the Distribution Technician to monitor the number of HEG requests and data volume currently in HEG processing. The information is arranged in the following three categories:

- Total HEG requests queued.
- Total HEG granules queued.
- Total input data (MB).

The procedure for checking/modifying HEG order status starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

Checking/Modifying HEG Order Status

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1 If it has not been expanded already, click on the **OM Status Pages** link in the navigation frame of the **OM GUI**.

- The **OM Status Pages** menu is expanded.

2 If the **HEG Order Status** page (Figure 53) is not already being displayed, click on the **HEG Order Status** link in the navigation frame of the **OM GUI**.

- The **HEG Order Status** page (Figure 53) is displayed.

3 Observe information displayed in the table on the **HEG Order Status** page.

- The **HEG Order Status** page has the following columns:
  - **Total HEG Requests Queued.**
  - **Total HEG Granules Queued.**
  - **Total Input Data (MB).**
- If **AutoRefresh** is **ON**, the **HEG Order Status** page refreshes automatically as often as specified in the **Refresh screen every *x* minutes** window.
  - If a different refresh option is preferred, perform the procedure for **Setting Refresh Options on OM GUI Pages** (preceding section of this lesson).
- To manually update (refresh) the data on the screen, click on the ↻ icon in the **OM GUI** navigation frame.

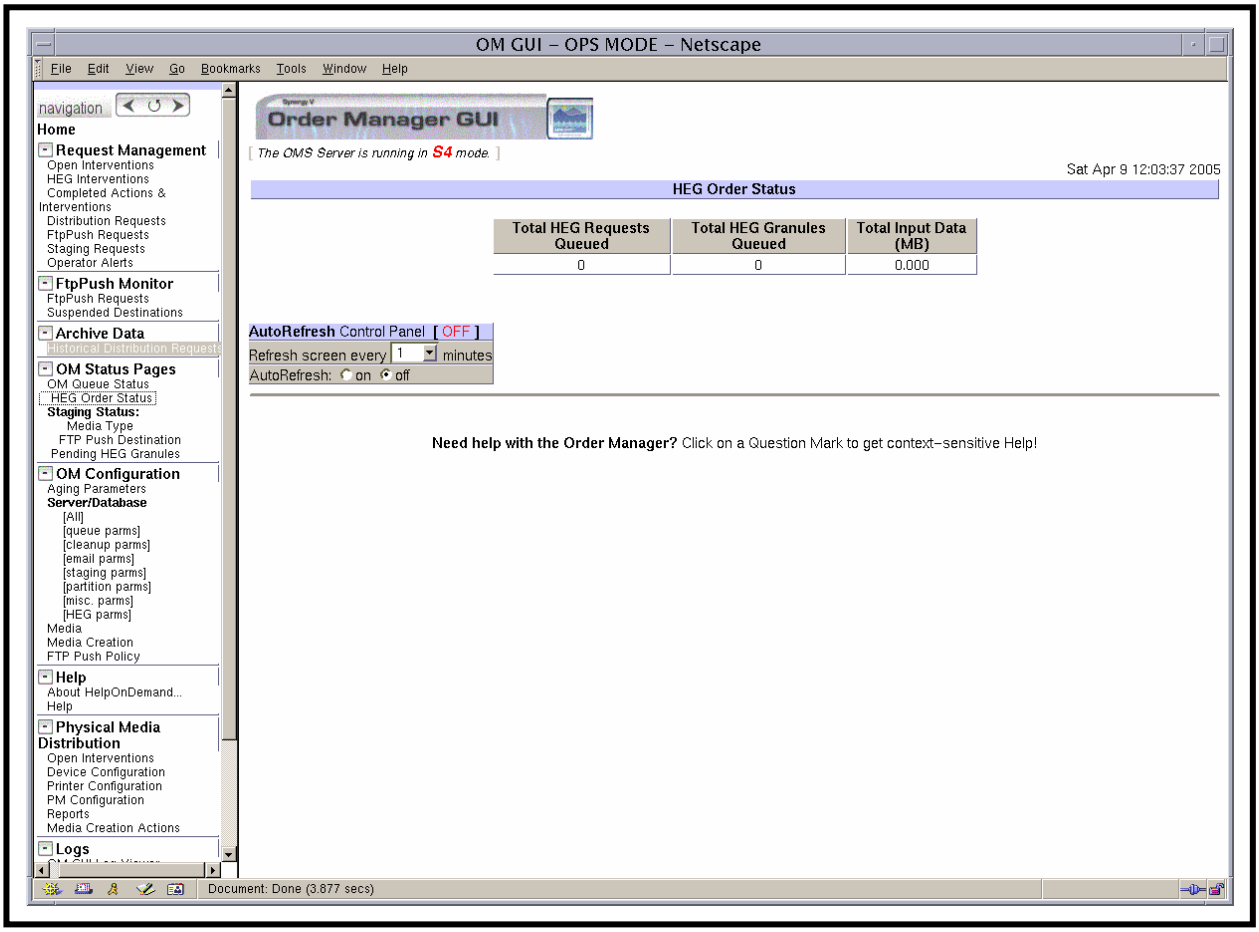


Figure 53. HEG Order Status Page

- The Netscape browser **Edit → Find in Page** menu provides a means of performing a keyword search of the data currently being displayed on the screen.

4 To check or modify HEG queue status go to the procedure for **Checking/Modifying OM Queue Status** (preceding section of this lesson).

5 To start the process of logging out (if applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

6 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  - The dialogue box is dismissed.

- The Netscape browser is dismissed.

- **Cancel** - to dismiss the dialogue box without logging out.
  - The dialogue box is dismissed.
  - The **OM GUI** is displayed.

Checking Staging Status

The two **Staging Status** pages provide the Distribution Technician (whether full-capability or limited capability operator) with means of checking staging status in either of two ways; i.e., by….

- **Media Type.**
- **FTP Push Destination.**

The **Staging Status** pages allow the Distribution Technician to monitor the number of granules and data volume currently in staging. The staging information is arranged in the following four categories:

- Granules waiting for staging.
- Granules in staging.
- Granules that have been staged but not yet shipped.
- Granules that have been staged and shipped.

In addition to the preceding granule information, the data low and high water marks are shown on the **Staging Status** pages:

- **DHWM** – The Data High Water Mark is the maximum volume of data in staging or already staged but not yet shipped. If the data volume and number of requests is above the DHWM, it is assumed the media devices have plenty of work to keep them busy.
- **DLWM** – The Data Low Water Mark is the minimum volume of data that should be in staging or already staged but not yet shipped. If the data volume is below the DLWM, the media devices may soon become idle.

In general it is a good idea to keep the amount of work that is in staging or staged just below the high water mark of each output queue. This achieves a good balance among ftp output connections (or in the case of physical media, their various output devices).

The data high water marks can be exceeded in the interest of optimizing the use of the archive drives or to get high priority work through distribution quickly. For example, an idle archive would be dispatched even if it means exceeding the DHWM.

The DLWM is used mainly for dispatching high-priority work. Since it is a good idea to keep the queues at their high water marks, generally the output queues should be fairly full. As a result, a high-priority request might have to wait until some of the data gets worked off and the queue falls below that high water mark. But high-priority requests should go through at a fast pace.

The procedure for checking staging status starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

Checking Staging Status

---

1 If it has not been expanded already, click on the **OM Status Pages** link in the navigation frame of the **OM GUI**.

- The **OM Status Pages** menu is expanded.

2 To display staging status by media type, click on the **Media Type** link in the navigation frame of the **OM GUI**.

- The **Staging Status by Media Type** page (Figure 54) is displayed.

3 To display staging status by FtpPush destination, click on the **FTP Push Destination** link in the navigation frame of the **OM GUI**.

- The **Staging Status by FTP Push Destination** page (Figure 54) is displayed.

4 Observe information displayed in the table on the **Staging Status** page.

- Each **Staging Status** page (i.e., **by Media Type** or **by FTP Push Destination**) has the following columns:
  - [Media or FtpPush destinations (as applicable)]**.**
  - **DHWM.**
  - **DLWM.**
  - **Waiting for Staging** [granule count and volume in MB].
  - **In Staging** [granule count and volume in MB].
  - **Staged and NOT Shipped** [granule count and volume in MB].
  - **Staged, Shipped & In DPL** [granule count and volume in MB].

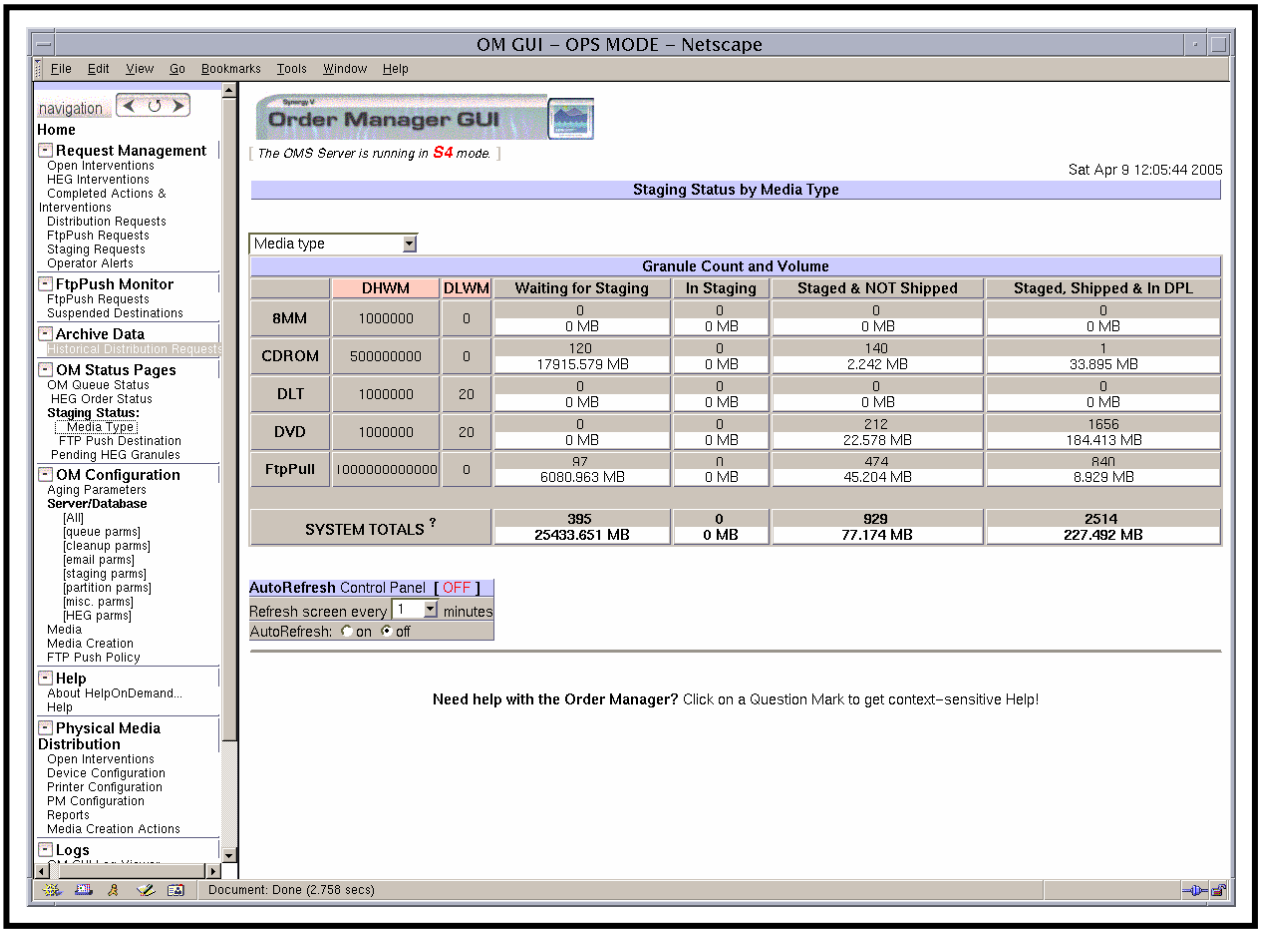
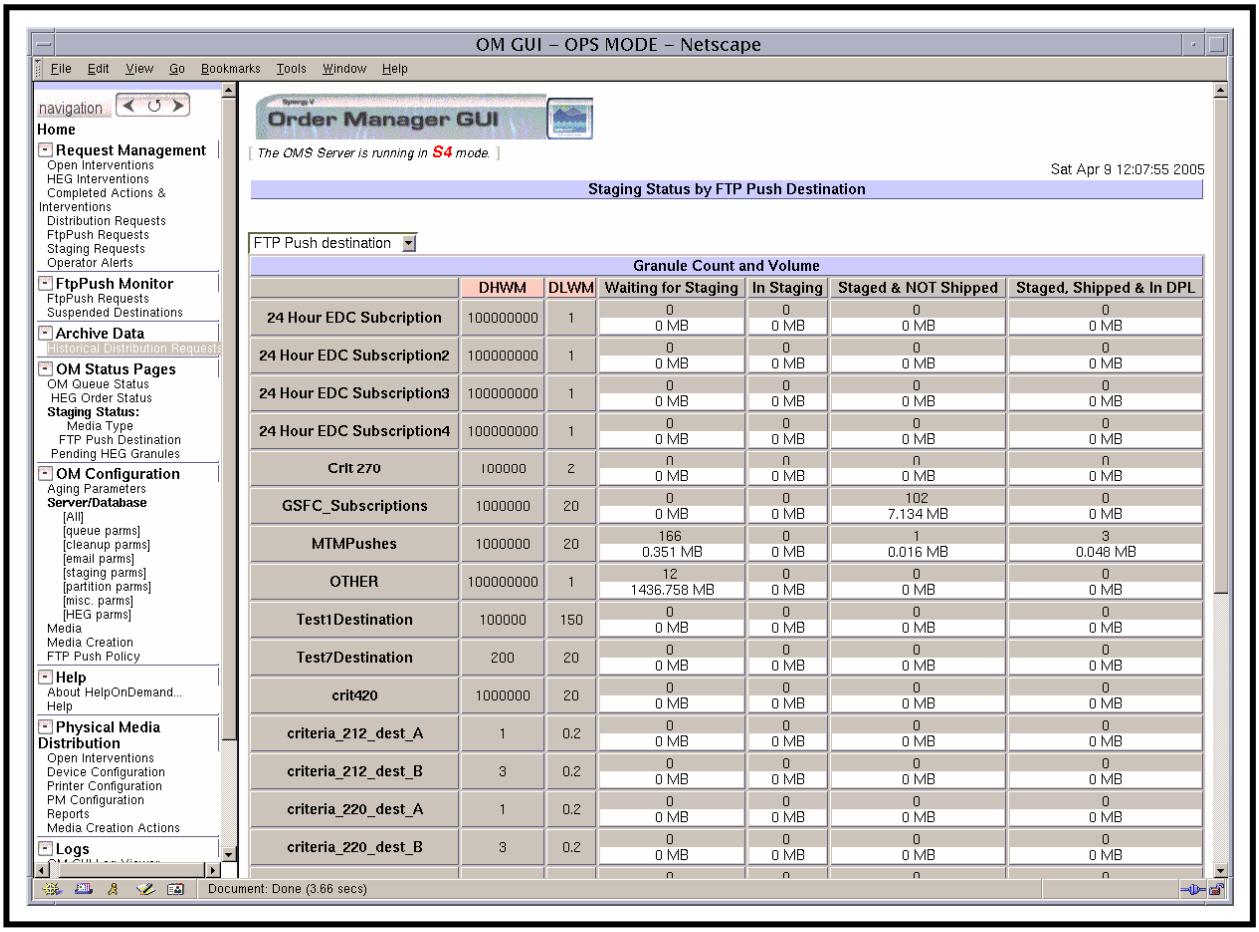


Figure 54. Staging Status by Media Type Page



	DHWM	DLWM	Waiting for Staging	In Staging	Staged & NOT Shipped	Staged, Shipped & In DPL
24 Hour EDC Subcription	100000000	1	0 0 MB	0 0 MB	0 0 MB	0 0 MB
24 Hour EDC Subscription2	100000000	1	0 0 MB	0 0 MB	0 0 MB	0 0 MB
24 Hour EDC Subscription3	100000000	1	0 0 MB	0 0 MB	0 0 MB	0 0 MB
24 Hour EDC Subscription4	100000000	1	0 0 MB	0 0 MB	0 0 MB	0 0 MB
Crit 270	100000	2	0 0 MB	0 0 MB	0 0 MB	0 0 MB
GSFC_Subscriptions	1000000	20	0 0 MB	0 0 MB	102 7.134 MB	0 0 MB
MTMPushes	1000000	20	166 0.351 MB	0 0 MB	1 0.016 MB	3 0.048 MB
OTHER	100000000	1	12 1436.758 MB	0 0 MB	0 0 MB	0 0 MB
Test1Destination	100000	150	0 0 MB	0 0 MB	0 0 MB	0 0 MB
Test7Destination	200	20	0 0 MB	0 0 MB	0 0 MB	0 0 MB
crit420	1000000	20	0 0 MB	0 0 MB	0 0 MB	0 0 MB
criteria_212_dest_A	1	0.2	0 0 MB	0 0 MB	0 0 MB	0 0 MB
criteria_212_dest_B	3	0.2	0 0 MB	0 0 MB	0 0 MB	0 0 MB
criteria_220_dest_A	1	0.2	0 0 MB	0 0 MB	0 0 MB	0 0 MB
criteria_220_dest_B	3	0.2	0 0 MB	0 0 MB	0 0 MB	0 0 MB

Figure 55. Staging Status by FTP Push Destination Page

- Whenever there is little question mark next to a button or text field (e.g., **System Totals**), clicking on the question mark opens a dialogue box that describes the item.
  - The "HelpOnDemand" feature provides context-sensitive help for each page, particularly for controls or parameters that may not be entirely self-descriptive.
- Horizontal and vertical scroll bars appear when necessary to allow viewing data that are not readily visible in the window.
- If **AutoRefresh** is **ON**, the **Staging Status by Media Type** or **Staging Status by FTP Push Destination** page refreshes automatically as often as specified in the **Refresh screen every *x* minutes** window.
  - If a different refresh option is preferred, perform the procedure for **Setting Refresh Options on OM GUI Pages** (preceding section of this lesson).
- To manually update (refresh) the data on the screen, click on the ↻ icon in the **OM GUI** navigation frame.

- The Netscape browser **Edit → Find in Page** menu provides a means of performing a keyword search of the data currently being displayed on the screen.

5 Repeat Steps 2 through 4 as necessary to view staging status.

6 To check or modify OM queue status return to the procedure for **Checking/Modifying OM Queue Status** (preceding section of this lesson).

7 To start the process of logging out (if applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

8 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  - The dialogue box is dismissed.
  - The Netscape browser is dismissed.
- **Cancel** - to dismiss the dialogue box without logging out.
  - The dialogue box is dismissed.
  - The **OM GUI** is displayed.

Checking/Modifying Values Assigned to OM Configuration Parameters

This section contains a description of how to check and modify OM configuration parameter values. In the **Tuning Order Manager Subsystem Parameters** section (subsequent section of this lesson) there is a description of the goals and effects of modifying OM configuration parameter values in tuning the OMS.

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

- **Aging Parameters.**
- **OM Server/Database Parameters.**
- **Media Parameters.**
- **Media Creation Parameters.**
- **FTP Push Policy.**

The limited-capability operator can use the **OM Configuration** page to view the values assigned to OM configuration parameters but is not allowed to change any parameter values.

Checking/Modifying Values Assigned to Aging Parameters

The **Aging Parameters** page (Figure 56) provides the full-capability operator with a means of checking and modifying aging parameter values.

Aging parameters affect how Distribution Requests are aged over time. The following two aging parameters are configurable for each ECS Priority Level (i.e., XPRESS, VHIGH, HIGH, NORMAL, or LOW):

- **Age Step.**
- **Maximum Priority.**

Age Step is the aging rate by which the effective priority of a request increases for every hour it has been waiting. The range is 0-255, including decimal fractions. If the parameter is set to zero (0), waiting requests never increase in priority. For example, if the Age Step is set to 5.5 and a request with an initial priority of 100 waits 10 hours to be pushed, the request increases in priority by a factor of 5.5 every hour until it has been delivered:

Hour 0: priority = 100
Hour 1: priority = 105.5
Hour 2: priority = 111
.
.
.
Hour 10: priority = 155

Maximum Priority is the maximum priority a request can attain through the aging process. For example, if Maximum Priority were set to 130, once the request had reached a priority of 130, it would not go any higher [e.g., if a Maximum Priority of 130 were applied to the previous example, at Hour 6 the priority would become 130 and at every hour thereafter (if not delivered) it would still be 130].

The procedure for checking/modifying aging parameter values starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

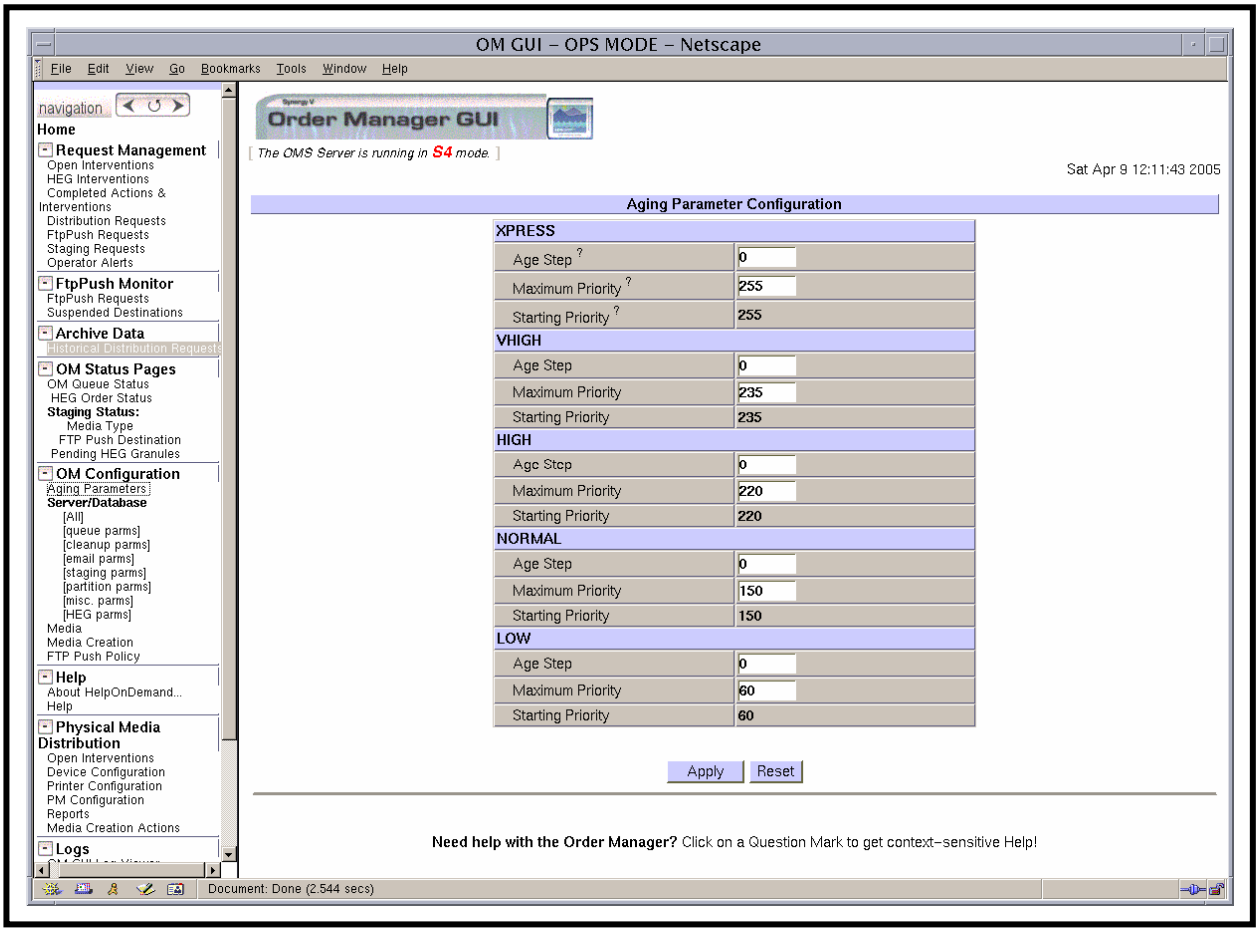


Figure 56. Aging Parameters Page

Checking/Modifying Values Assigned to Aging Parameters

1 If it has not been expanded already, click on the **OM Configuration** link in the navigation frame of the **OM GUI**.

- The **OM Configuration** menu is expanded.

2 If the **Aging Parameters** page (Figure 56) is not already being displayed, click on the **Aging Parameters** link in the navigation frame of the **OM GUI**.

- The **Aging Parameters** page (Figure 56) is displayed.

3 Observe information displayed in the table on the **Aging Parameters** page.

- The table is divided into sections for the various distribution request priorities (e.g., XPRESS) and within each section there are rows that indicate the identity and value of each of the following parameters associated with the priority:
  - **Age Step.**
  - **Maximum Priority.**
  - **Starting Priority** (cannot be changed).
- Whenever there is little question mark next to a button or text field (e.g., **Age Step**), clicking on the question mark opens a dialogue box that describes the item.
  - The "HelpOnDemand" feature provides context-sensitive help for each page, particularly for controls or parameters that may not be entirely self-descriptive.
- To manually update (refresh) the data on the screen, click on the ↺ icon in the **OM GUI** navigation frame.
- The Netscape browser **Edit → Find in Page** menu provides a means of performing a keyword search of the data currently being displayed on the screen.

4 If aging parameter value(s) is (are) to be modified (and there is authorization to do so), first type the new value(s) in the text entry box(es) for the relevant parameter(s).

5 If aging parameter value(s) is (are) to be modified, click on the appropriate button from the following selections:

- **Apply** - to apply the new value(s) to the parameter(s).
  - The new value(s) is (are) applied to the parameter(s).
- **Reset** - to clear the new value(s) from the text entry box(es) without changing the current value(s).
  - The original value(s) is (are) retained.

6 To start the process of logging out (if applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

7 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  - The dialogue box is dismissed.
  - The Netscape browser is dismissed.

- **Cancel** - to dismiss the dialogue box without logging out.
  - The dialogue box is dismissed.
  - The **OM GUI** is displayed.

Checking/Modifying Values Assigned to OMS Server or Database Parameters

The **OMS Server and Database Configuration** page (Figure 57) provides the full-capability operator with a means of checking and modifying OMS server or database parameter values.

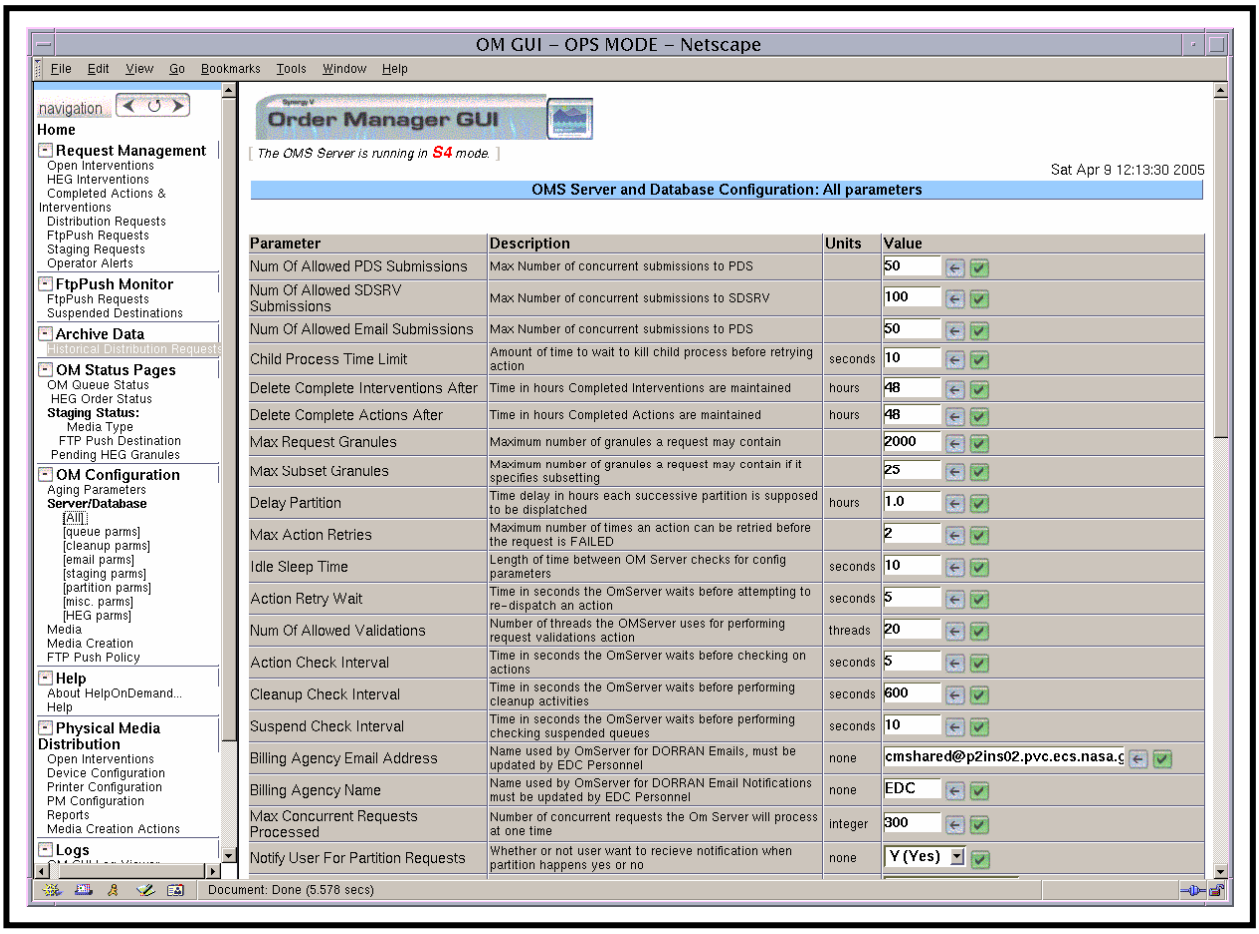


Figure 57. OMS Server and Database Configuration Page

OMS server and database parameters affect how the OM server and database run. The parameters are dynamically loaded from the OMS database into the configuration pages on the OM GUI. If a configuration parameter is added to the database, it is subsequently displayed on the OM GUI when the applicable configuration page is requested. If a configuration parameter

is deleted from the database, it is no longer displayed on the OM GUI. Consequently, the configuration parameters displayed on the OM GUI are variable.

The procedure for checking/modifying OMS server or database parameter values starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

Checking/Modifying Values Assigned to OMS Server or Database Parameters

---

1 If it has not been expanded already, click on the **OM Configuration** link in the navigation frame of the **OM GUI**.

- The **OM Configuration** menu is expanded.

2 If the **OMS Server and Database Configuration** page (Figure 57) is not already being displayed, click on one of the links under the **Server/Database** header in the navigation frame of the **OM GUI**.

- Links under the **Server/Database** header in the navigation frame of the **OM GUI** include the following categories of parameters:
  - **All.**
  - **queue parms** [queue parameters].
  - **cleanup parms.**
  - **email parms.**
  - **staging parms.**
  - **partition parms.**
  - **misc. parms.**
  - **HEG parms.**
- For example, if the **All** link is selected, the **OMS Server and Database Configuration** page (Figure 57) is displayed.

NOTE: OMS configuration parameters are dynamically loaded from the OMS database into the configuration pages on the **OM GUI**. If a configuration parameter is added to the database, it is subsequently displayed on the **OM GUI** when the applicable configuration page is requested. If a configuration parameter is deleted from the database, it is no longer displayed on the **OM GUI**. Consequently, the configuration parameters displayed on the **OM GUI** are variable.

3 Observe information displayed in the table on the **OMS Server and Database Configuration** page.

- The table on the **OMS Server and Database Configuration** page has the following columns:
  - **Parameter.**
  - **Description.**
  - **Value.**
- The rows in the table indicate the current values and descriptions of the following types of p0061rameters:
  - **Num of Allowed SDSRV Submissions.**
  - **Num of Allowed Email Submissions.**
  - **Child Process Time Limit.**
  - **Delete Complete Interventions After.**
  - **Delete Complete Actions After.**
  - **Max Request Granules.**
  - **Max Subset Granules.**
  - **Delay Partition.**
  - **Max Action Retries.**
  - **Idle Sleep Time.**
  - **Action Retry Wait (Seconds).**
  - **Num of Allowed Validations.**
  - **Action Check Interval.**
  - **Cleanup Check Interval.**
  - **Suspend Check Interval.**
  - **Billing Agency Email Address.**
  - **Billing Agency Name.**
  - **Max Concurrent Requests Processed.**
  - **Notify User for Partition Request.**
  - **Global Staging Status.**
  - **Min Moderate Request.**

- **Min Expensive Request.**
- **Max Cheap Requests.**
- **Max Moderate Requests.**
- **Max Expensive Requests.**
- **Max Failure Archive.**
- **Global Configured Email.**
- **Max Orphan Req Age.**
- **Cleanup Orphan Req Period.**
- **Forward DN [Distribution Notice] Email.**
- **Unsuccess Req Ret Time.**
- **Cleanup Delay Interval.**
- **Billable Proc Mode.**
- **Restrict Proc Mode.**
- **Max Num of Concurrent HEG Process.**
- **Max Num of Concur HEG Proc Per Req.**
- **HEG Process Retry Interval.**
- **Due Date for Media Request.**
- **Suspend HEG Dispatching.**
- **Stop HEG Acceptance.**
- **Generate Intervention for S3 Media Order.**
- **Qc Timeout.**
- **Production Timeout.**
- **Media Prep Timeout.**
- **Rimage Order Pull Time.**

- To manually update (refresh) the data on the screen, click on the ↻ icon in the **OM GUI** navigation frame.
- The Netscape browser **Edit → Find in Page** menu provides a means of performing a keyword search of the data currently being displayed on the screen.

4 If server or database parameter value(s) is (are) to be modified (and there is authorization to do so), first type the new value(s) in the text entry box(es) for the relevant parameter(s).

NOTE: Server parameters cannot be set to 0 (zero).

5 If server or database parameter value(s) is (are) to be modified, click on the appropriate button from the following selections:

- **Apply** - to apply the new value(s) to the parameter(s).
  - The new value(s) is (are) applied to the parameter(s).
  - The **OMS Server and Database Configuration** page refreshes and displays the modified value(s).
- **Reset** - to clear the new value(s) from the text entry box(es) without changing the current value(s).
  - The original value(s) is (are) retained.

6 To start the process of logging out (if applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

7 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  - The dialogue box is dismissed.
  - The Netscape browser is dismissed.
- **Cancel** - to dismiss the dialogue box without logging out.
  - The dialogue box is dismissed.
  - The **OM GUI** is displayed.

Checking/Modifying Values Assigned to Media Parameters

The **Media Configuration** page (Figure 58) provides the full-capability operator with a means of checking and modifying media parameter values.

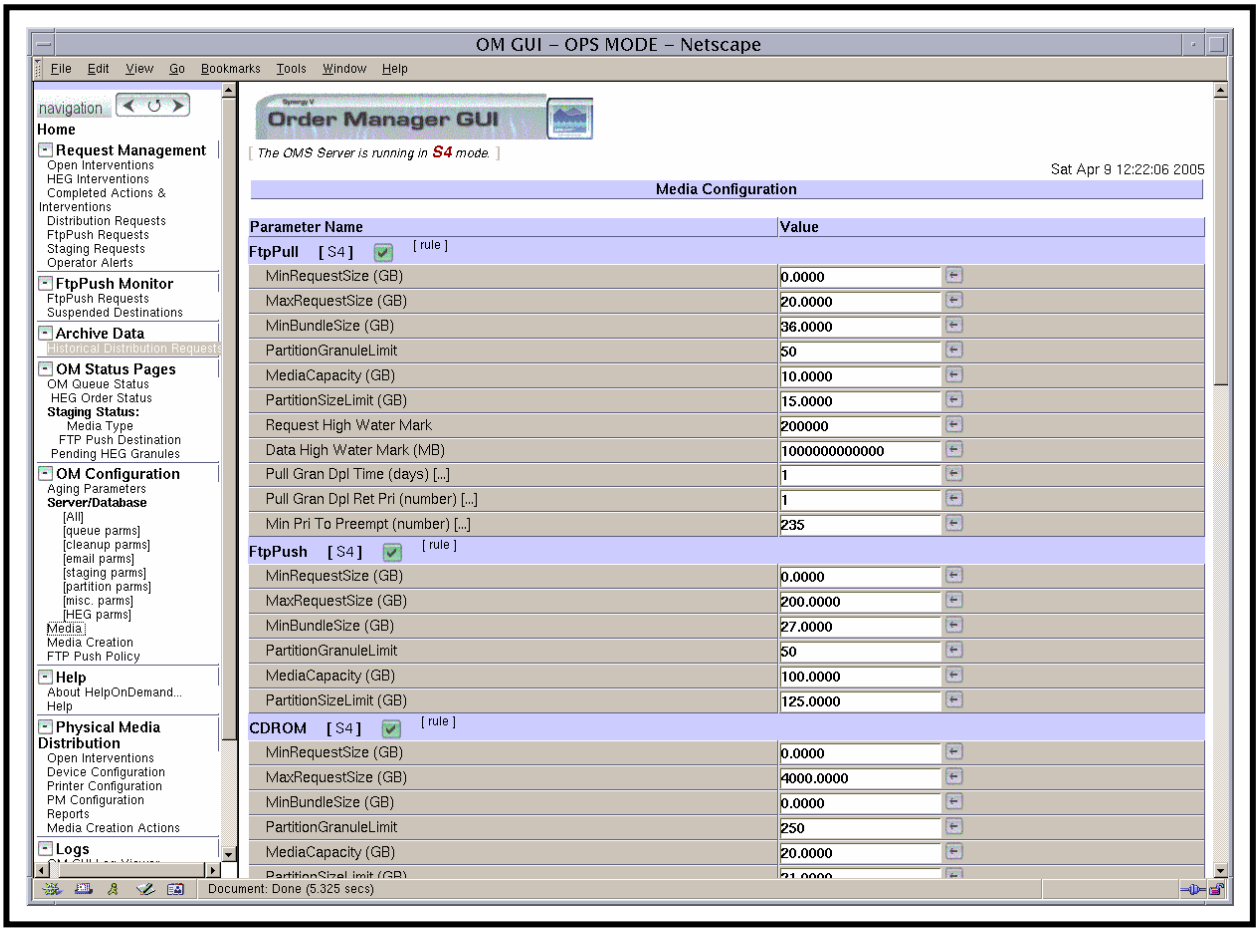


Figure 58. Media Configuration Page

Media parameters are specific to each kind of distribution medium and affect such things as limit checking against standard media capacity limits (e.g., minimum request size and maximum request size) and the partitioning of requests (e.g., partition size). The parameters are dynamically loaded from the OMS database into the configuration pages on the OM GUI. If a configuration parameter is added to the database, it is subsequently displayed on the OM GUI when the applicable configuration page is requested. If a configuration parameter is deleted from the database, it is no longer displayed on the OM GUI. Consequently, the configuration parameters displayed on the OM GUI are variable.

The procedure for checking/modifying media parameter values starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

1 If it has not been expanded already, click on the **OM Configuration** link in the navigation frame of the **OM GUI**.

- The **OM Configuration** menu is expanded.

2 If the **Media Configuration** page (Figure 58) is not already being displayed, click on the **Media** link in the navigation frame of the **OM GUI**.

- The **Media Configuration** page (Figure 58) is displayed.

NOTE: OMS configuration parameters are dynamically loaded from the OMS database into the configuration pages on the **OM GUI**. If a configuration parameter is added to the database, it is subsequently displayed on the **OM GUI** when the applicable configuration page is requested. If a configuration parameter is deleted from the database, it is no longer displayed on the **OM GUI**. Consequently, the configuration parameters displayed on the **OM GUI** are variable.

3 Observe information displayed in the table on the **Media Configuration** page.

- The **Media Configuration** table has the following columns:
  - **Parameter.**
  - **Value.**
- The rows in the table indicate the current values assigned to the following types of parameters for each type of distribution medium:
  - **MediaCapacity (GB).**
  - **MinRequestSize (GB).**
  - **MaxRequestSize (GB).**
  - **PartitionSizeLimit (GB).**
  - **MinBundleSize (GB).**
  - **PartitionGranuleLimit.**
- Each of the preceding parameters applies to each of the following distribution media:
  - **FtpPull.**
  - **FtpPush.**
  - **CDROM.**
  - **DLT.**
  - **DVD.**

- **8MM.**
- **scp.**

- To manually update (refresh) the data on the screen, click on the ↻ icon in the **OM GUI** navigation frame.
- The Netscape browser **Edit → Find in Page** menu provides a means of performing a keyword search of the data currently being displayed on the screen.

4 If media parameter value(s) is (are) to be modified (and there is authorization to do so), first type the new value(s) in the text entry box(es) for the relevant parameter(s).

- **MinRequestSize (GB)** is the minimum number of gigabytes that can be requested for the type of medium.
- **MaxRequestSize (GB)** should be the maximum total number of gigabytes that can be requested for that type of medium, regardless of whether or not it can be partitioned.
- **MinBundleSize (GB)** is the minimum number of gigabytes in a bundle for the type of medium.
- **PartitionGranuleLimit** is the maximum number of granules that may be partitioned for the type of medium.
- **MediaCapacity (GB)** should initially be set to the maximum capacity (in gigabytes) for the type of medium, but later should be adjusted to a lower or higher value depending on whether or not data compression is used.
- **PartitionSizeLimit (GB)** should be the size (in GB) at which point partitioning of a request can occur.
- **Request High Water Mark [RHWM]** - The Request High Water Mark is the desired maximum number of requests that may be in the Staging state, or that have completed Staging but are not yet in a terminal state (e.g., Shipped).
- **Data High Water Mark [DHWM] (MB)** – The Data High Water Mark is the maximum volume (in MB) of data in staging or already staged but not yet shipped. If the data volume and number of requests is above the DHWM, it is assumed the media devices have plenty of work to keep them busy.
- **Pull Gran Dpl Time (days) [...] -** The pull granule Data Pool time is the number of days a granule for an FtpPull request would normally remain in the Data Pool.
- **Pull Gran Dpl Ret Pri (number) [...] -** The pull granule Data Pool retention priority is the normal retention priority for a granule for an FtpPull request.
- **Min Pri to Preempt (number) [...] -** The minimum priority to preempt applies to granules put in the Data Pool for an FtpPull request.

- **Request Low Water Mark [RLWM]** - The Request Low Water Mark is the desired minimum number of requests that may be in the Staging state or that completed staging but are not in a terminal state (e.g., Shipped).
- **Data Low Water Mark [DLWM] (MB)** – The Data Low Water Mark is the minimum volume (in MB) of data that should be in staging or already staged but not yet shipped. If the data volume is below the DLWM, the media devices may soon become idle.

5 If media parameter value(s) is (are) to be modified, click on the appropriate button from the following selections:

- **Apply** - to apply the new value(s) to the parameter(s).
  - A **"Remember Values" Confirmation** dialogue box (Figure 59) is displayed.
- **Reset** - to clear the new value(s) from the text entry box(es) and reinsert the current value(s).
  - The values displayed in the text entry boxes return to the current values.

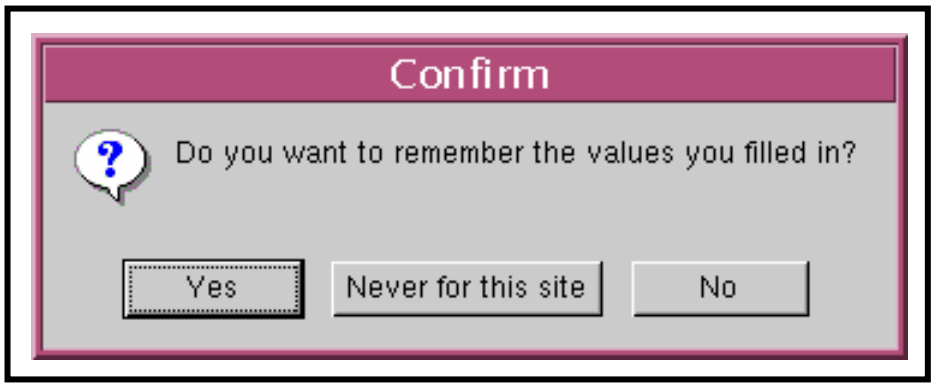


Figure 59. "Remember Values" Confirmation Dialogue Box

6 If a **"Remember Values" Confirmation** dialogue box (Figure 59) is displayed, click on the appropriate button from the following selections:

- **Yes**.
- **Never for this site**.
- **No**.

7 To start the process of logging out (if applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

8 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  - The dialogue box is dismissed.
  - The Netscape browser is dismissed.
- **Cancel** - to dismiss the dialogue box without logging out.
  - The dialogue box is dismissed.
  - The **OM GUI** is displayed.

Checking/Modifying Values Assigned to Media Creation Parameters

The **Media Creation Configuration** page (Figure 60) provides the full-capability operator with a means of checking and modifying media creation parameter values.

Media creation parameters are specific to each kind of distribution medium and affect whether or not media orders are dispatched automatically. The parameters are dynamically loaded from the OMS database into the configuration pages on the OM GUI. If a configuration parameter is added to the database, it is subsequently displayed on the OM GUI when the applicable configuration page is requested. If a configuration parameter is deleted from the database, it is no longer displayed on the OM GUI. Consequently, the configuration parameters displayed on the OM GUI are variable.

The procedure for checking/modifying media creation configuration parameter values starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

Checking/Modifying Values Assigned to Media Creation Parameters

---

1 If it has not been expanded already, click on the **OM Configuration** link in the navigation frame of the **OM GUI**.

- The **OM Configuration** menu is expanded.

2 If the **Media Creation Configuration** page (Figure 60) is not already being displayed, click on the **Media Creation** link in the navigation frame of the **OM GUI**.

- The **Media Creation Configuration** page (Figure 6) is displayed.

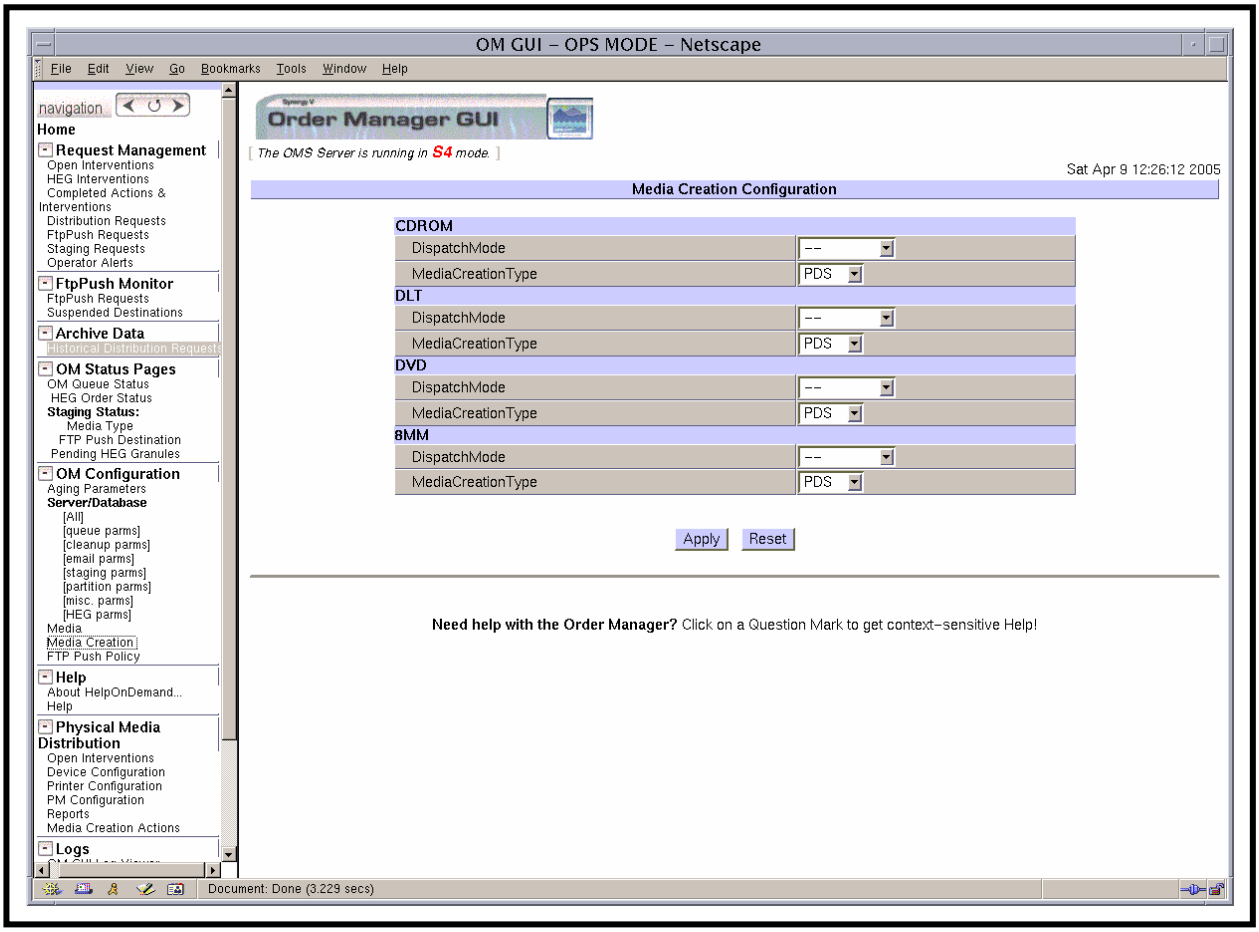


Figure 60. Media Creation Configuration Page

NOTE: OMS configuration parameters are dynamically loaded from the OMS database into the configuration pages on the **OM GUI**. If a configuration parameter is added to the database, it is subsequently displayed on the **OM GUI** when the applicable configuration page is requested. If a configuration parameter is deleted from the database, it is no longer displayed on the **OM GUI**. Consequently, the configuration parameters displayed on the **OM GUI** are variable.

3 Observe information displayed in the table on the **Media Creation Configuration** page.

- The **Media Creation Configuration** table has two columns to show the following types of information:
  - Parameter.
  - Current value.

- The rows in the table indicate the current values assigned to the following types of parameters for each type of distribution medium:
  - **DispatchMode.**
  - **MediaCreationType.**
- Each of the preceding parameters applies to each of the following distribution media:
  - **CDROM.**
  - **DLT.**
  - **DVD.**
  - **8MM.**
- To manually update (refresh) the data on the screen, click on the ↻ icon in the **OM GUI** navigation frame.
- The Netscape browser **Edit → Find in Page** menu provides a means of performing a keyword search of the data currently being displayed on the screen.

4 If media creation parameter value(s) is (are) to be modified (and there is authorization to do so), first click and hold the option button in the row associated with the applicable distribution medium parameter to display a menu of options, move the mouse cursor to the appropriate value (highlighting it), then release the mouse button.

- **DispatchMode** can be set to either **Automatic** or **Manual**.
- **MediaCreationType** should be set to **OMS**.

5 If media parameter value(s) is (are) to be modified, click on the appropriate button from the following selections:

- **Apply** - to apply the new value(s) to the parameter(s).
  - A **"Remember Values" Confirmation** dialogue box (Figure 59) is displayed.
- **Reset** - to clear the new value(s) from the text entry box(es) and reinsert the current value(s).
  - The values displayed in the text entry boxes return to the current values.

6 If a **"Remember Values" Confirmation** dialogue box (Figure 59) is displayed, click on the appropriate button from the following selections:

- **Yes**.
- **Never for this site**.
- **No**.

7 To start the process of logging out (if applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

8 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  - The dialogue box is dismissed.
  - The Netscape browser is dismissed.
- **Cancel** - to dismiss the dialogue box without logging out.
  - The dialogue box is dismissed.
  - The **OM GUI** is displayed.

Checking/Modifying FTP Push Policy Configuration

The **FTP Push Policy Configuration** page (Figure 61) provides the full-capability operator with a means of defining and configuring the fine-tuning parameter values of FtpPush destinations.

Configuration parameters on the **FTP Push Policy Configuration** page are grouped in the following three areas:

- **Global Settings for All Destinations.**
- **Settings for Non-Configured Destinations.**
- **Frequently Used Destinations.**

All FtpPush destinations belong to either the Frequently Used group, or the Non-Configured (general) group. All FtpPush destinations not specifically defined as **Frequently Used Destinations** are considered non-configured and use the parameter values in the **Settings for Non-Configured Destinations** area. All new destinations use the **Settings for Non-Configured Destinations** as their default values until other values are specifically assigned.

Global Settings for All Destinations are parameters that apply to all destinations regardless of their individual settings. Global settings apply to both frequently used and non-configured destinations.

The procedure for checking/modifying FtpPush policy configuration starts with the following assumptions:

- All applicable servers are currently running.

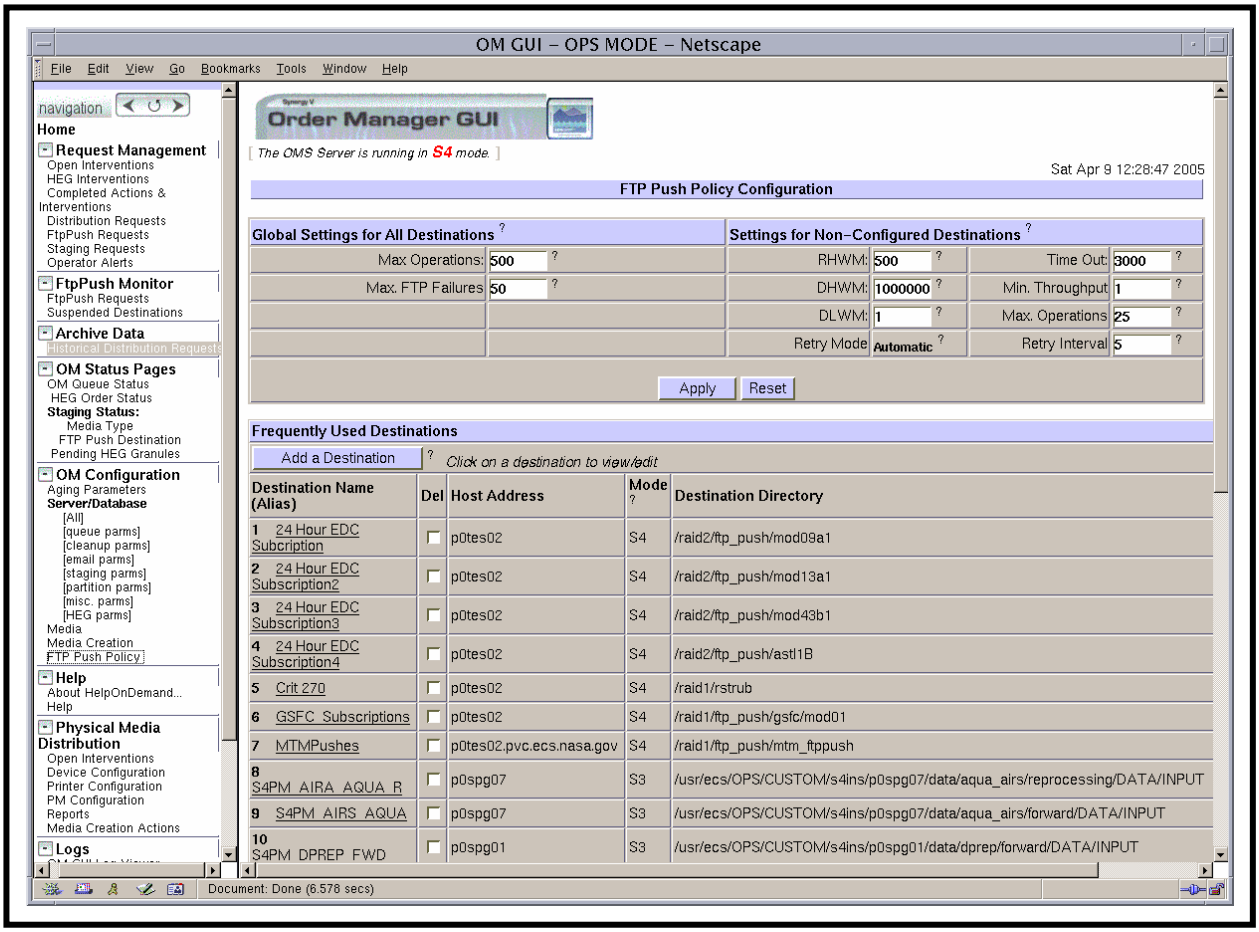


Figure 61. FTP Push Policy Configuration Page

- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

Checking/Modifying FTP Push Policy Configuration

1 If it has not been expanded already, click on the **OM Configuration** link in the navigation frame of the **OM GUI**.

- The **OM Configuration** menu is expanded.

2 If the **FTP Push Policy Configuration** page (Figure 61) is not already being displayed, click on the **FTP Push Policy** link in the navigation frame of the **OM GUI**.

- The **FTP Push Policy Configuration** page (Figure 61) is displayed.

3 Observe information displayed in the table on the **FTP Push Policy Configuration** page.

- Configuration parameters on the **FTP Push Policy Configuration** page are grouped in the following three areas:
  - **Global Settings for All Destinations.**
  - **Settings for Non-Configured Destinations.**
  - **Frequently Used Destinations.**
- The **Global Settings for All Destinations** area has the following types of parameters:
  - **Max Operations.**
  - **Max. FTP Failures.**
- The **Settings for Non-Configured Destinations** area has the following types of parameters:
  - **RHWM** [Request High Water Mark].
  - **DHWM** [Data High Water Mark].
  - **DLWM** [Data Low Water Mark].
  - **Retry Mode.**
  - **Time Out.**
  - **Min. Throughput.**
  - **Max. Operations.**
  - **Retry Interval.**
- The **Frequently Used Destinations** area has information in the following columns:
  - **Destination Name (Alias).**
  - **Del** ["delete" boxes – select box to mark corresponding destination for deletion].
  - **Host Address.**
  - **Mode** [S3 or S4].
  - **Destination Directory.**
  - **Retry Mode.**

- Clicking on a specific Destination Name in the **Frequently Used Destinations** area brings up a screen containing more detailed data concerning that particular destination.
  - The **FTP Push Destination Details** page (Figure 62) displays the following types of data concerning the destination in the **Destination Details** area:
    - **Name (Alias).**
    - **Target Directory.**
    - **Host/IP Address.**
    - **Processing Mode.**
  - The **FTP Push Destination Details** page (Figure 62) displays the following types of data concerning the destination in the **Settings for this Destination** area:
    - **Max. Operations.**
    - **RHWM.**
    - **DHWM.**
    - **DLWM.**
    - **Time Out.**
    - **Min Throughput.**
    - **Retry Interval.**
    - **Retry Mode.**
    - **Notes.**
  - Clicking on the ← icon in the **OM GUI** navigation frame causes the **FTP Push Policy Configuration** page to be redisplayed.
- Whenever there is little question mark next to a button or text field (e.g., **Max Operations**), clicking on the question mark opens a dialogue box that describes the item.
  - The "HelpOnDemand" feature provides context-sensitive help for each page, particularly for controls or parameters that may not be entirely self-descriptive.
- Horizontal and vertical scroll bars appear when necessary to allow viewing data that are not readily visible in the window.
- To manually update (refresh) the data on the screen, click on the ↻ icon in the **OM GUI** navigation frame.

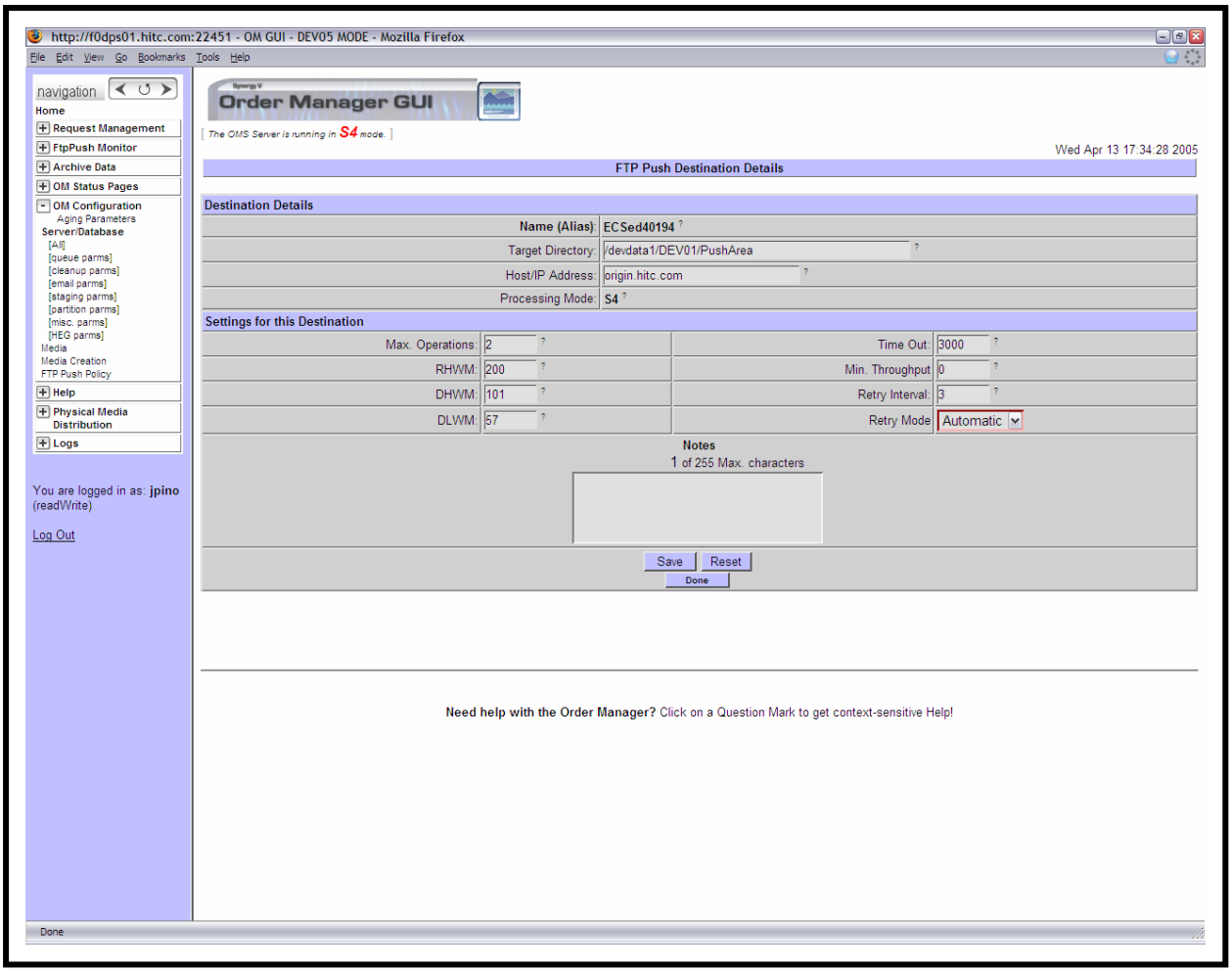


Figure 62. FTP Push Destination Details Page

- The Netscape browser **Edit → Find in Page** menu provides a means of performing a keyword search of the data currently being displayed on the screen.

4 If parameter value(s) in either the **Global Settings for All Destinations** area or **Settings for Non-Configured Destinations** area is (are) to be modified (and there is authorization to do so), first type the new value(s) in the text entry box(es) for the relevant parameter(s).

5 If parameter value(s) in either the **Global Settings for All Destinations** area or **Settings for Non-Configured Destinations** area is (are) to be modified, click on the appropriate button from the following selections:

- **Apply** - to apply the new value(s) to the parameter(s).
  - The new value(s) is (are) applied to the parameter(s).

- **Reset** - to clear the new value(s) from the text entry box(es) without changing the current value(s).
  - The new value(s) is (are) not applied to the parameter(s).

6 If the retry mode for a destination in the **Frequently Used Destinations** area should be changed (and there is authorization to do so), click on the option button (in the **Retry Mode** column) associated with the destination to display a menu of retry modes then click on the desired selection.

- The following choices are available:
  - **Automatic.**
  - **Manual.**
- Selected mode is displayed in the **Retry Mode** column.
- The retry mode for the destination is changed to the selected value.

7 To remove (delete) destination(s) from the **Frequently Used Destinations** area, first either click in the corresponding box(es) in the **Del** column or (if all destinations are to be removed) click in the **Select all** box near the bottom of the **Frequently Used Destinations** area.

- Selected destination(s) is (are) marked for deletion.
- Removing a destination from the **Frequently Used Destinations** area does not actually delete the destination; it moves the destination to the non-configured group and erases its individual configuration parameter values.

8 To continue the process of removing (deleting) destination(s) from the **Frequently Used Destinations** area, click on the **Remove Selected Destinations** link near the bottom of the **FTP Push Policy Configuration** page.

- A destination deletion confirmation dialogue box is displayed with the message "Are you sure you want to delete the selected destinations?"

9 To complete the process of removing (deleting) destination(s) from the **Frequently Used Destinations** area, click on the appropriate button from the following selections:

- **OK** - to delete the selected destination(s) and dismiss the confirmation dialogue box.
  - The confirmation dialogue box is dismissed.
  - The **FTP Push Policy Configuration** page is refreshed to display the **Frequently Used Destinations** list without the deleted destination(s).
- **Cancel** – to dismiss the confirmation dialogue box without deleting the selected destination(s).
  - The confirmation dialogue box is dismissed.

10 To add a new destination to the **Frequently Used Destinations** area perform the procedure for **Adding Destinations to the Frequently Used Destinations Area** (subsequent section of this lesson).

- In order for a destination to be added to the list of Frequently-Used Destinations, the destination must already exist (i.e., must be referenced in at least one current order).

11 If parameter value(s) for destination(s) in the **Frequently Used Destinations** area is (are) to be modified (and there is authorization to do so), perform the procedure for **Modifying Values Assigned to Parameters of Frequently Used Destinations** (subsequent section of this lesson).

12 To start the process of logging out (if applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

13 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  - The dialogue box is dismissed.
  - The Netscape browser is dismissed.
- **Cancel** - to dismiss the dialogue box without logging out.
  - The dialogue box is dismissed.
  - The **OM GUI** is displayed.

Adding Destinations to the Frequently Used Destinations List

The **Add New Destination** page (Figure 63) provides the full-capability operator with a means of adding destinations to the **Frequently Used Destinations** list on the **FTP Push Policy Configuration** page (Figure 61).

A destination on the **Frequently Used Destinations** list is defined by the following three attributes:

- **Alias** – a descriptive name or handle by which the destination can be easily identified. Each alias must be unique.
- **Target Directory** - the directory on the remote host to which files will be pushed.
- **Host Address** - the remote host machine name or IP address.

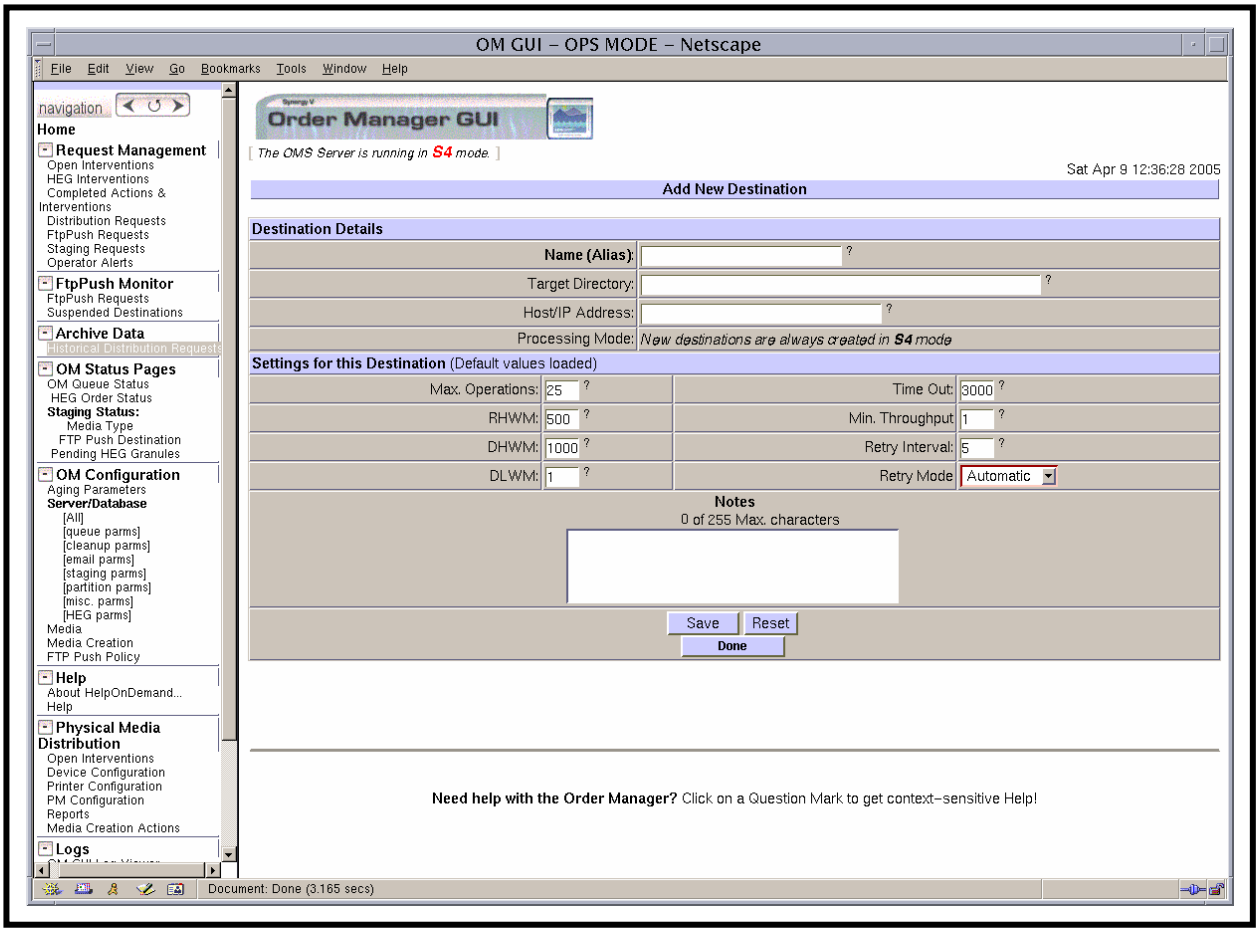


Figure 63. Add New Destination Page

Each destination on the **Frequently Used Destinations** list must have exclusive attributes and an exclusive alias. Each new destination is initially assigned the same parameter values as are used by the non-configured destinations.

The procedure for adding destinations to the **Frequently Used Destinations** list starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].
- The destination to be added to the **Frequently Used Destinations** list must already exist (i.e., must be referenced in at least one current order).

1 If it has not been expanded already, click on the **OM Configuration** link in the navigation frame of the **OM GUI**.

- The **OM Configuration** menu is expanded.

2 If the **FTP Push Policy Configuration** page (Figure 61) is not already being displayed, click on the **FTP Push Policy** link in the navigation frame of the **OM GUI**.

- The **FTP Push Policy Configuration** page (Figure 61) is displayed.

3 Click on the **Add a Destination** button in the **Frequently Used Destinations** area of the **FTP Push Policy Configuration** page.

- The **Add New Destination** page (Figure 63) is displayed.
  - In the **Destination Details** area of the **Add New Destination** page (Figure 63) text boxes for entering the following types of destination attributes are displayed:
    - **Name (Alias).**
    - **Target Directory.**
    - **Host/IP Address.**
  - In the **Settings for this Destination** area of the **Add New Destination** page (Figure 63) current values for the following types of parameters are displayed:
    - **Max. Operations.**
    - **RHWM.**
    - **DHWM.**
    - **DLWM.**
    - **Time Out.**
    - **Min Throughput.**
    - **Retry Interval.**
    - **Retry Mode.**
    - **Notes.**
- Each destination on the **Frequently Used Destinations** list must have exclusive attributes and an exclusive alias.
  - The attributes are entered in the **Destination Details** area of the **Add New Destination** page (Figure 63).

- Each new destination is initially assigned the same parameter values as are used by the non-configured destinations.
  - The parameter values are displayed in the **Settings for this Destination** area of the **Add New Destination** page (Figure 63).
- Whenever there is little question mark next to a button or text field (e.g., **Target Directory**), clicking on the question mark opens a dialogue box that describes the item.
  - The "HelpOnDemand" feature provides context-sensitive help for each page, particularly for controls or parameters that may not be entirely self-descriptive.

4 Type ***alias*** in the **Name (Alias)** text box.

- ***alias*** is a unique descriptive name or handle by which the destination can be easily identified and by which the destination will be commonly known. For example:

  Norford University

5 Type ***path*** in the **Target Directory** text box.

- ***path*** is the path to the directory on the remote host to which data are to be pushed by ftp. For example:

  /sci/data/push

6 Type ***address*** in the **Host/IP Address** text box.

- ***address*** is the remote host machine name or IP address where data are to be pushed by ftp. For example:

  dsc@nu.edu

7 Type ***#operations*** in the **Max. Operations** text box.

- ***#operations*** is the maximum number of concurrent FtpPush operations for a particular destination (exclusive of but subject to the global Max Operations). For example:

  2

8 Type ***rhwm*** in the **RHWM** text box.

- ***rhwm*** is the Request High Water Mark, the desired maximum number of requests that may be in the Staging state, or that completed Staging but are not in a terminal state (e.g., Shipped). For example:

  10

9 Type ***dhwm*** in the **DHWM** text box.

- ***dhwm*** is the Data High Water Mark, the maximum volume of data (in GB) in Staging or already staged but not yet pushed. For example:

  10

10 Type ***dlwm*** in the **DLWM** text box.

- ***dlwm*** is the Data Low Water Mark, the minimum volume of data (in GB) in Staging or already staged but not yet pushed. For example:

  2

11 Type ***min*** in the **Time Out** text box.

- ***min*** is an extra time allotment (in minutes) that is applied to the expected throughput, such that expected throughput equals minimum throughput plus timeout. For example:

  60

12 Type ***MB*** in the **Min. Throughput** text box.

- ***MB*** is minimum data throughput (in MB/sec) for a particular destination. For example:

  100

13 Type ***min*** in the **Retry Interval** text box.

- ***min*** is the waiting period (in minutes) before FtpPush operations for a suspended destination are automatically retried. For example:

  60

14 Click on the **Retry Mode** option button to display a menu of retry modes then click on the desired selection.

- The following choices are available:
  - **Automatic.**
  - **Manual.**
- Selected mode is displayed in the **Retry Mode** column.

15 If a note should be entered concerning the destination (e.g., the reason for adding the destination to the **Frequently Used Destinations** list), type the applicable text in the **Notes** text box.

16 Click on the appropriate button from the following selections:

- **Save** - to save the new frequently used destination and the values specified for its parameters.
  - A **"Remember Values" Confirmation** dialogue box (Figure 59) is displayed.
- **Done** - to dismiss the **Add New Destination** page (Figure 63) and display the **FTP Push Policy Configuration** page (Figure 61).
  - A **"Done" Confirmation** dialogue box (Figure 64) is displayed.
- **Reset** - to clear the new value(s) from the text entry box(es) without changing the current value(s).
  - The new value(s) is (are) cleared from the text entry box(es) without changing the current value(s).

Figure 64. "Done" Confirmation Dialogue Box

17 If a **"Remember Values" Confirmation** dialogue box (Figure 59) is displayed, click on the appropriate button from the following selections:

- **Yes**.
  - The **"Remember Values" Confirmation** dialogue box (Figure 59) is dismissed.
  - The **Add New Destination** page (Figure 63) is displayed.
- **Never for this site**.
  - The **"Remember Values" Confirmation** dialogue box (Figure 59) is dismissed.
  - The **Add New Destination** page (Figure 63) is displayed.

- **No**.
  - The **"Remember Values" Confirmation** dialogue box (Figure 59) is dismissed.
  - The **Add New Destination** page (Figure 63) is displayed.

18 If a **"Done" Confirmation** dialogue box (Figure 64) is displayed, click on the appropriate button from the following selections:

- **OK** - to dismiss the **"Done" Confirmation** dialogue box (Figure 64) and the **Add New Destination** page (Figure 63) and display the **FTP Push Policy Configuration** page (Figure 61).
  - The **"Done" Confirmation** dialogue box (Figure 64) is dismissed.
  - The **Add New Destination** page (Figure 63) is dismissed.
  - The **FTP Push Policy Configuration** page (Figure 61) is displayed.
- **Cancel** - to dismiss the **"Done" Confirmation** dialogue box and return to the **Add New Destination** page (Figure 63).
  - The **"Done" Confirmation** dialogue box (Figure 64) is dismissed.

19 If the **Add New Destination** page (Figure 63) is still being displayed and no changes to the new destination are needed, click on the **Done** button.

- A **"Done" Confirmation** dialogue box (Figure 64) is displayed.

20 If a **"Done" Confirmation** dialogue box (Figure 64) is displayed, click on the appropriate button from the following selections:

- **OK** - to dismiss the **"Done" Confirmation** dialogue box (Figure 64) and the **Add New Destination** page (Figure 63) and display the **FTP Push Policy Configuration** page (Figure 61).
  - The **"Done" Confirmation** dialogue box (Figure 64) is dismissed.
  - The **Add New Destination** page (Figure 63) is dismissed.
  - The **FTP Push Policy Configuration** page (Figure 61) is displayed.
- **Cancel** - to dismiss the **"Done" Confirmation** dialogue box and return to the **Add New Destination** page (Figure 63).
  - The **"Done" Confirmation** dialogue box (Figure 64) is dismissed.

21 If changes to the new frequently used destination are needed, repeat Steps 4 through 20 as necessary.

22 Return to the procedure for **Checking/Modifying FTP Push Policy Configuration** (preceding section of this lesson).

Modifying Values Assigned to Parameters of Frequently Used Destinations

The **FTP Push Destination Details** page (Figure 62) provides the full-capability operator with a means of modifying the values assigned to parameters of frequently used FtpPush destinations (as listed in the **Frequently Used Destinations** area of the **FTP Push Policy Configuration** page, Figure 61).

The procedure for modifying values assigned to parameters of frequently used destinations starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

Modifying Values Assigned to Parameters of Frequently Used Destinations

---

1 If it has not been expanded already, click on the **OM Configuration** link in the navigation frame of the **OM GUI**.

- The **OM Configuration** menu is expanded.

2 If the **FTP Push Policy Configuration** page (Figure 61) is not already being displayed, click on the **FTP Push Policy** link in the navigation frame of the **OM GUI**.

- The **FTP Push Policy Configuration** page (Figure 61) is displayed.

3 If the **FTP Push Destination Details** page (Figure 62) for the relevant destination is not already being displayed, click on the specific Destination Name in the **Frequently Used Destinations** area.

- The **FTP Push Destination Details** page (Figure 62) is displayed.

4 Observe information displayed on the **FTP Push Destination Details** page.

- In the **Destination Details** area of the **FTP Push Destination Details** page (Figure 62) the following types of destination attributes are displayed:
  - **Name (Alias).**
  - **Target Directory.**
  - **Host/IP Address.**

- In the **Settings for this Destination** area of the **FTP Push Destination Details** page (Figure 62) current values for the following types of parameters are displayed:
  - **Max. Operations.**
  - **RHWM.**
  - **DHWM.**
  - **DLWM.**
  - **Time Out.**
  - **Min Throughput.**
  - **Retry Interval.**
  - **Retry Mode.**
  - **Notes.**

5 Perform Steps 6 through 19 as necessary to modify values that need to be changed.

6 Type ***alias*** in the **Name (Alias)** text box.

- ***alias*** is a unique descriptive name or handle by which the destination can be easily identified and by which the destination will be commonly known. For example:

  Norford University

7 Type ***path*** in the **Target Directory** text box.

- ***path*** is the path to the directory on the remote host to which data are to be pushed by ftp. For example:

  /sci/data/push

8 Type ***address*** in the **Host/IP Address** text box.

- ***address*** is the remote host machine name or IP address where data are to be pushed by ftp. For example:

  dsc@nu.edu

9 Type ***#operations*** in the **Max. Operations** text box.

- ***#operations*** is the maximum number of concurrent FtpPush operations for a particular destination (exclusive of but subject to the global Max Operations). For example:

  2

10 Type ***rhwm*** in the **RHWM** text box.

- ***rhwm*** is the Request High Water Mark, the desired maximum number of requests that may be in the Staging state, or that completed Staging but are not in a terminal state (e.g., Shipped). For example:

  10

11 Type ***dhwm*** in the **DHWM** text box.

- ***dhwm*** is the Data High Water Mark, the maximum volume of data (in GB) in Staging or already staged but not yet pushed. For example:

  10

12 Type ***dlwm*** in the **DLWM** text box.

- ***dlwm*** is the Data Low Water Mark, the minimum volume of data (in GB) in Staging or already staged but not yet pushed. For example:

  2

13 Type ***min*** in the **Time Out** text box.

- ***min*** is an extra time allotment (in minutes) that is applied to the expected throughput, such that expected throughput equals minimum throughput plus timeout. For example:

  60

14 Type ***MB*** in the **Min. Throughput** text box.

- ***MB*** is minimum data throughput (in MB/sec) for a particular destination. For example:

  100

15 Type ***min*** in the **Retry Interval** text box.

- ***min*** is the waiting period (in minutes) before FtpPush operations for a suspended destination are automatically retried. For example:

  60

16 Click on the **Retry Mode** option button to display a menu of retry modes then click on the desired selection.

- The following choices are available:
  - **Automatic.**
  - **Manual.**
- Selected mode is displayed in the **Retry Mode** column.

17 If a note should be entered concerning the destination (e.g., the reason for modifying the parameter values), type the applicable text in the **Notes** text box.

18 Click on the appropriate button from the following selections:

- **Save** - to save the frequently used destination and the values specified for its parameters.
  - A **"Remember Values" Confirmation** dialogue box (Figure 59) is displayed.
- **Done** - to dismiss the **FTP Push Destination Details** page (Figure 62) and display the **FTP Push Policy Configuration** page (Figure 61).
  - A **"Done" Confirmation** dialogue box (Figure 64) is displayed.
- **Reset** - to clear the new value(s) from the text entry box(es) without changing the current value(s).
  - The new value(s) is (are) cleared from the text entry box(es) without changing the current value(s).

19 If a **"Remember Values" Confirmation** dialogue box (Figure 59) is displayed, click on the appropriate button from the following selections:

- **Yes**.
  - The **"Remember Values" Confirmation** dialogue box (Figure 59) is dismissed.
  - The **FTP Push Destination Details** page (Figure 62) is displayed.
- **Never for this site**.
  - The **"Remember Values" Confirmation** dialogue box (Figure 59) is dismissed.
  - The **FTP Push Destination Details** page (Figure 62) is displayed.
- **No**.
  - The **"Remember Values" Confirmation** dialogue box (Figure 59) is dismissed.
  - The **FTP Push Destination Details** page (Figure 62) is displayed.

20 If a **"Done" Confirmation** dialogue box (Figure 64) is displayed, click on the appropriate button from the following selections:

- **OK** - to dismiss the **"Done" Confirmation** dialogue box (Figure 64) and the **FTP Push Destination Details** page (Figure 62) and display the **FTP Push Policy Configuration** page (Figure 61).
  - The **"Done" Confirmation** dialogue box (Figure 64) is dismissed.

- The **FTP Push Destination Details** page (Figure 62) is dismissed.
- The **FTP Push Policy Configuration** page (Figure 61) is displayed.

- **Cancel** - to dismiss the **"Done" Confirmation** dialogue box and return to the **FTP Push Destination Details** page (Figure 62).
  - The **"Done" Confirmation** dialogue box (Figure 64) is dismissed.

21 If the **FTP Push Destination Details** page (Figure 62) is still being displayed and no changes to the new destination are needed, click on the **Done** button.

- A **"Done" Confirmation** dialogue box (Figure 64) is displayed.

22 If a **"Done" Confirmation** dialogue box (Figure 64) is displayed, click on the appropriate button from the following selections:

- **OK** - to dismiss the **"Done" Confirmation** dialogue box (Figure 64) and the **FTP Push Destination Details** page (Figure 62) and display the **FTP Push Policy Configuration** page (Figure 61).
  - The **"Done" Confirmation** dialogue box (Figure 64) is dismissed.
  - The **FTP Push Destination Details** page (Figure 62) is dismissed.
  - The **FTP Push Policy Configuration** page (Figure 61) is displayed.
- **Cancel** - to dismiss the **"Done" Confirmation** dialogue box and return to the **FTP Push Destination Details** page (Figure 62).
  - The **"Done" Confirmation** dialogue box (Figure 64) is dismissed.

23 If changes to the frequently used destination are needed, repeat Steps 6 through 22 as necessary.

24 Return to the procedure for **Checking/Modifying FTP Push Policy Configuration** (preceding section of this lesson).

Using OM GUI Help

There are several ways for the Distribution Technician to get access to help in using the **OM GUI**.

- Whenever there is little question mark next to a button or text field on an **OM GUI** page, clicking on the question mark opens a dialogue box that describes the item.
  - The "HelpOnDemand" feature provides context-sensitive help for each page, particularly for controls or parameters that may not be entirely self-descriptive.

– Figure 65 provides an example of HelpOnDemand.

Figure 65. Example of HelpOnDemand

- For help on a particular topic the **Help** link in the navigation frame of the **OM GUI** causes the **Help** page (Figure 66) to be displayed.

Viewing the OM GUI Log

The **OM GUI Log Viewer** page (Figure 67) provides the Distribution Technician with a means of checking entries in the OM GUI log. The log file that the log viewer displays is located under the cgi-bin/logs directory where the **OM GUI** is installed. It is not the web server log or the SYSLOG. It is a log that is specifically generated by and for the **OM GUI**.

The procedure for viewing the OM GUI log starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

Viewing the OM GUI Log

---

1 If it has not been expanded already, click on the **Logs** link in the navigation frame of the **OM GUI**.

- The **Logs** menu is expanded.

2 If the **OM GUI Log Viewer** page (Figure 67) is not already being displayed, click on the **OM GUI Log Viewer** link in the navigation frame of the **OM GUI**.

- The **OM GUI Log Viewer** page (Figure 67) is displayed.

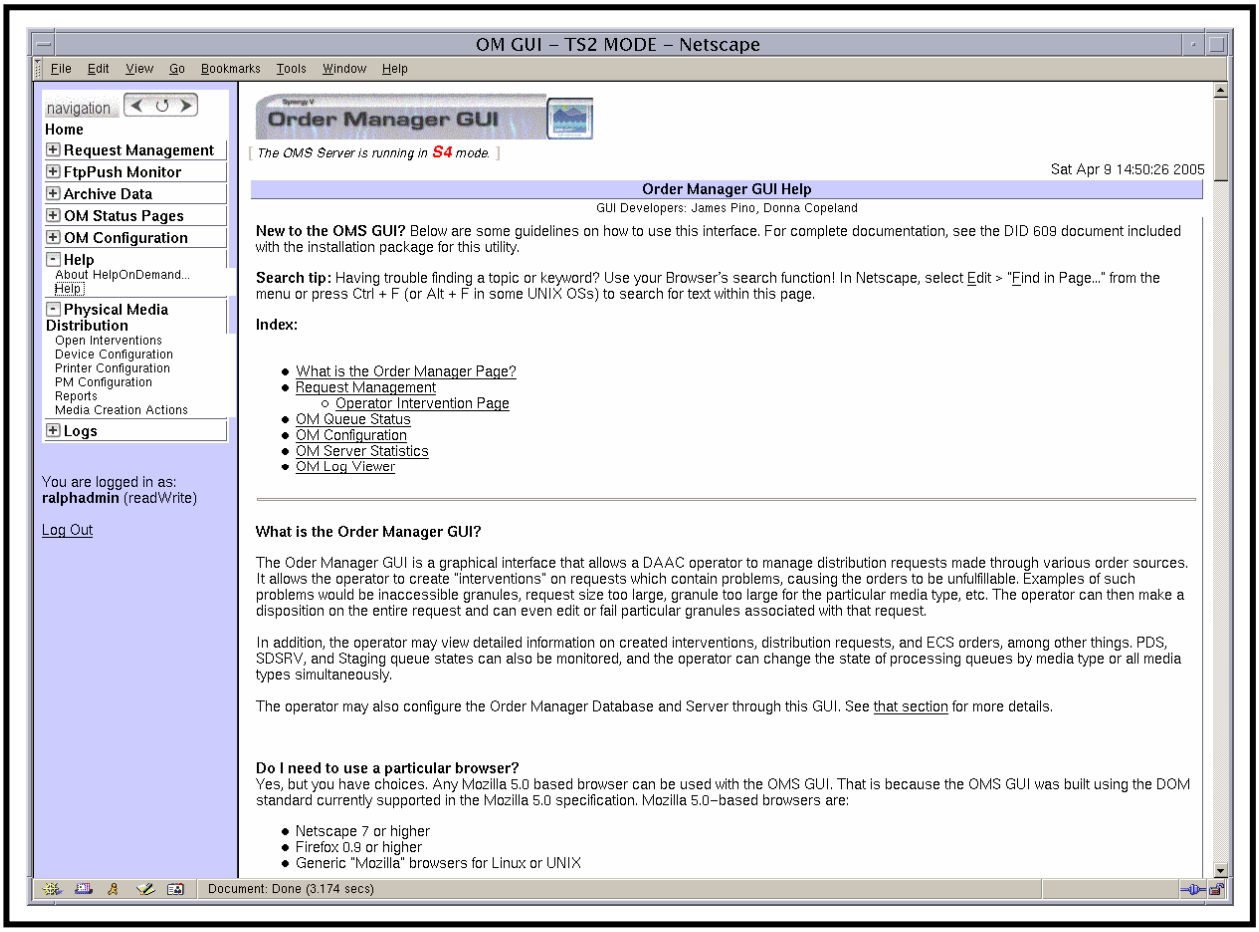


Figure 66. OM GUI Help Page

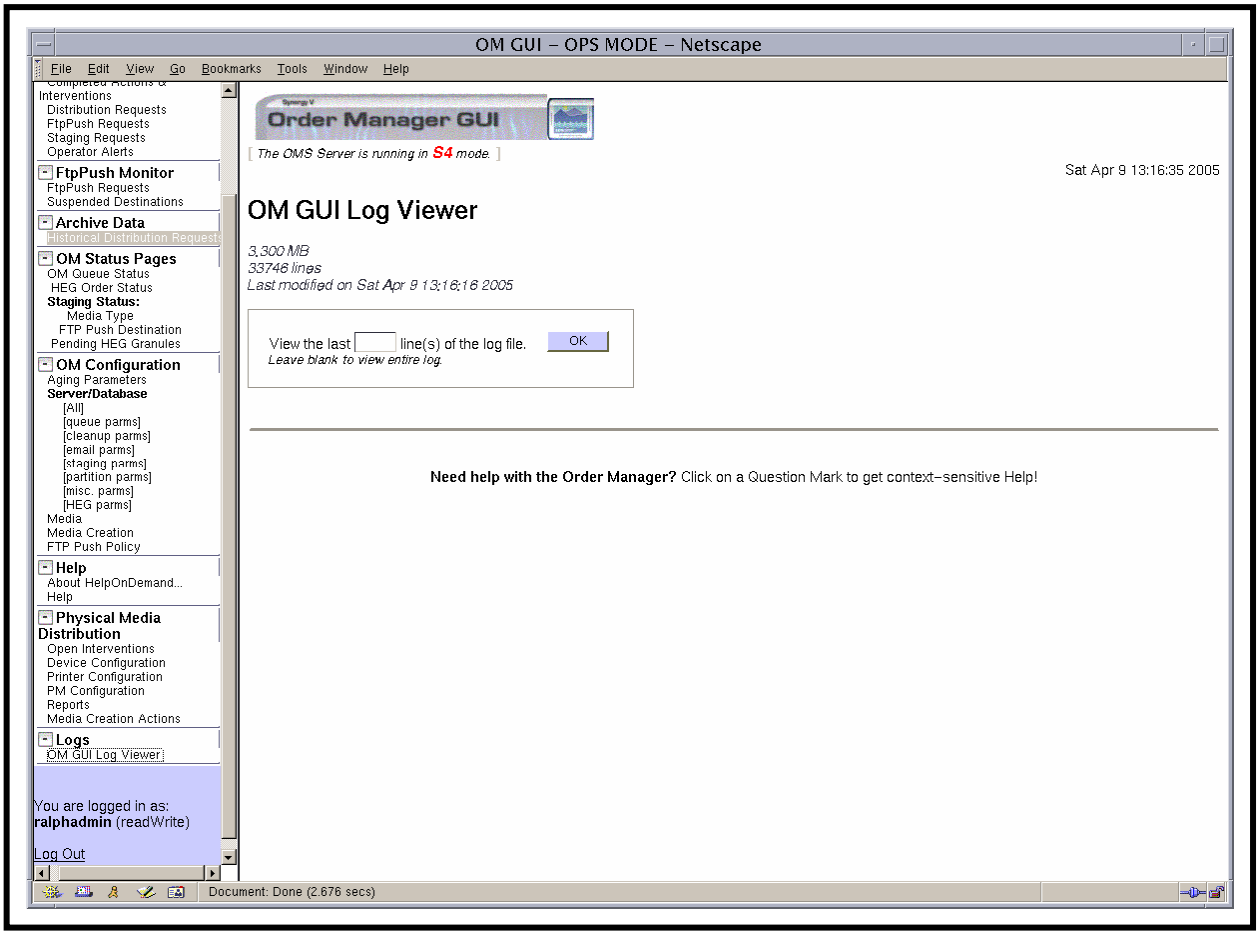


Figure 67. OM GUI Log Viewer Page

3 Observe information displayed in the **Log Summary**.

- The **Log Summary** provides the following kinds of information:
  - **Size** (size of the log file).
  - **Lines** (number of lines in the log file).
  - **Last Modified** (when the log file was last modified).

4 In the **View the last ___ line(s) of the log file** text box type the appropriate number of lines to be displayed.

- The log viewer's functioning is similar to that of the UNIX "tail" command: to see a particular number of lines at the end of the log, specify the number of lines in the **View the last ___ line(s) of the log file** text box.
- Entering 0 (zero) or leaving the text box blank indicates that the entire log file should be displayed.

- It is possible to specify a number that is equal to or greater than the total number of lines in the log file.
  - The total number of lines in the log file is shown in the **Log Summary** on the **OM GUI Log Viewer** page.
- After long periods of usage, the log file may grow to considerable size and it may take some time to load the entire log into the **OM GUI Log Viewer** page.
  - In most cases viewing the last 100 - 500 lines would be adequate to assess recent activity and it would greatly decrease the amount of time it would take to load the log file onto the page.

5 Click on the **OK** button.

- The specified lines from the log file are displayed as shown in the example, Figure 68.

6 Observe information displayed in the log file.

- The GUI log is a record of every page that runs and every stored procedure that is called within those pages.
- The actual log file (EcOmGui.log) is typically located in the /usr/ecs/*MODE*/CUSTOM/WWW/OMS/cgi-bin/logs directory on the Data Pool Server host (x0dps01).
  - If preferred, the log file can be viewed with any UNIX editor or visualizing command (e.g., **pg, vi**, **view, more**).

7 To start the process of logging out (if applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

8 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  - The dialogue box is dismissed.
  - The Netscape browser is dismissed.
- **Cancel** - to dismiss the dialogue box without logging out.
  - The dialogue box is dismissed.
  - The **OM GUI** is displayed.

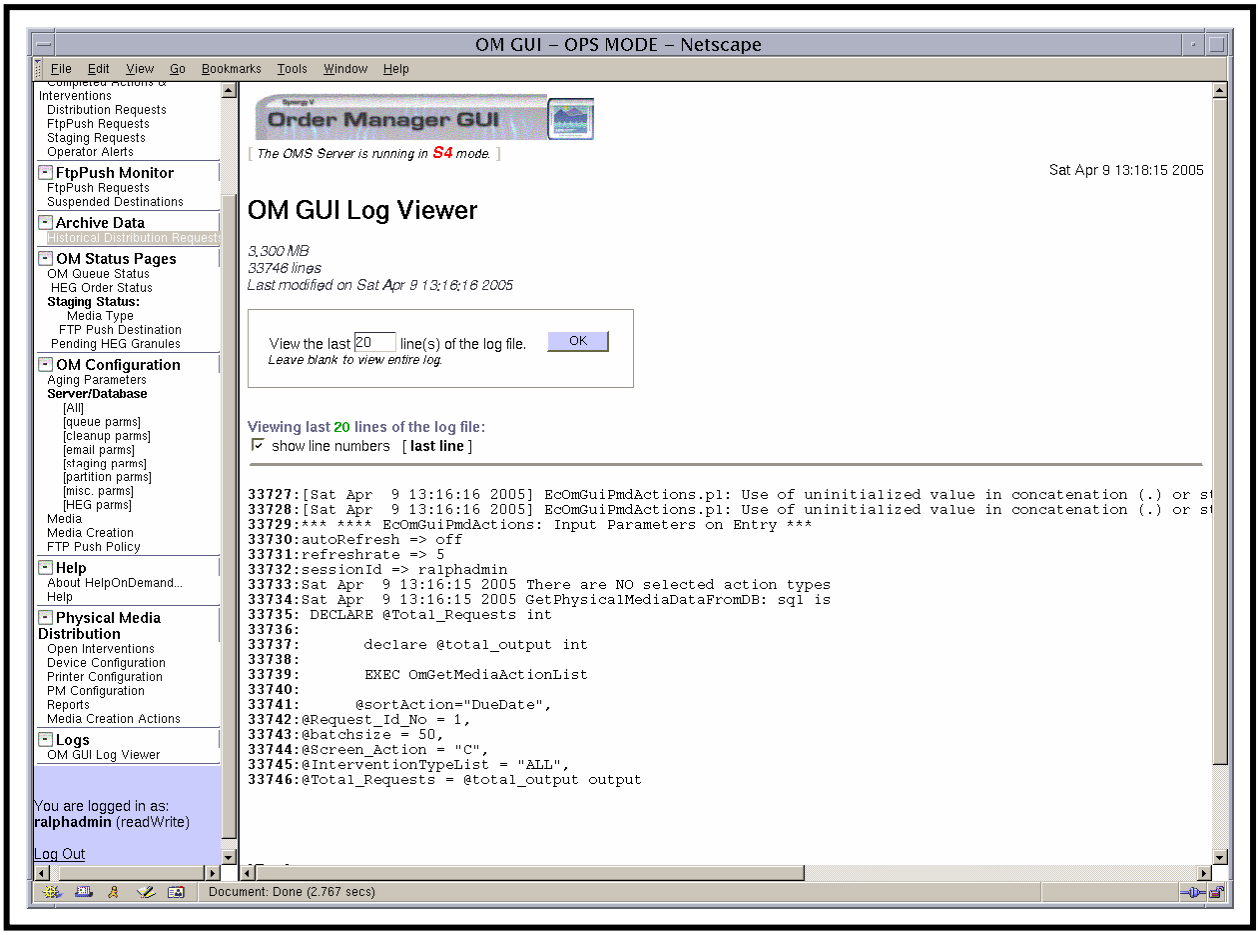


Figure 68. Example of OM GUI Log Contents

Viewing PMD Open Intervention Information on the OM GUI

Errors with Physical Media Distribution (PMD) are handled in much the same way as interventions for distribution requests are handled. An operator intervention is generated by the OMS Server and is displayed on the **OM GUI**.

The **Open Physical Media Interventions** page (Figure 69) provides the full-capability operator with a means of viewing and responding to PMD open interventions.

The procedure for viewing PMD open intervention information on the **OM GUI** starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

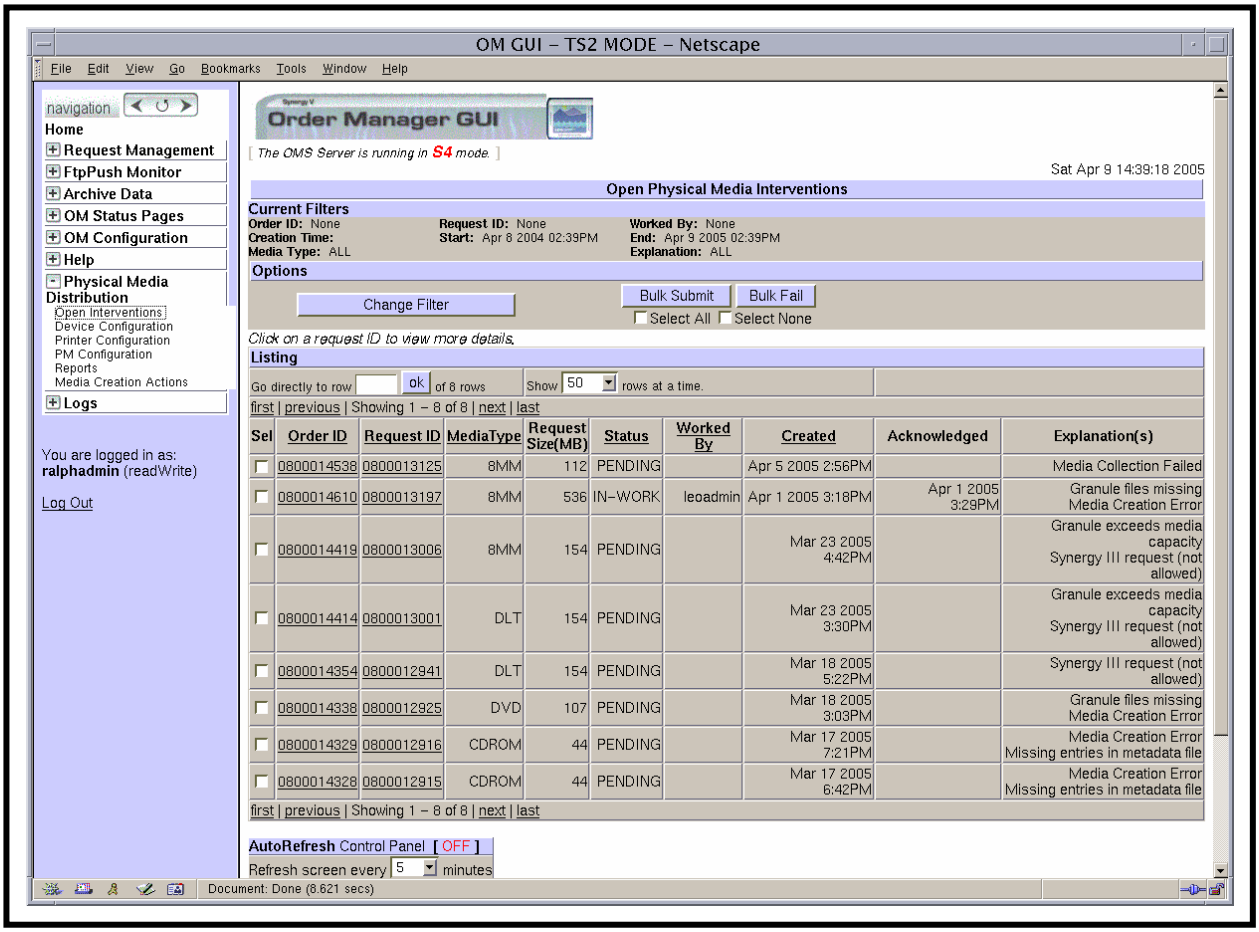


Figure 69. Open Physical Media Interventions Page

Viewing PMD Open Intervention Information on the OM GUI

1 If it has not been expanded already, click on the **Physical Media Distribution** link in the navigation frame of the **OM GUI**.

- The **Physical Media Distribution** menu is expanded.

2 Click on the **Open Interventions** link in the navigation frame of the **OM GUI**.

- The **Open Physical Media Interventions** page (Figure 69) is displayed.
- The **Current Filters** area of the **Open Physical Media Interventions** page describes how the current listing of distribution requests has been filtered.
  - It is important to check the filter settings when opening the **Open Physical Media Interventions** page because changes to the filter settings tend to persist, even from one session to another.

- To filter the **PMD Open Interventions Listing** in a different way, perform the procedure for **Filtering Data Displayed on the Distribution Requests Pages** (preceding section of this lesson).

- The **Options** area of the **Open Physical Media Interventions** page has the following buttons and selection boxes:
  - **Change Filter** button [refer to the procedure for **Filtering Data Displayed on the Distribution Requests Pages** (preceding section of this lesson)].
  - **Bulk Submit** button [for submitting selected intervention(s)].
  - **Bulk Fail** button [for failing selected intervention(s)].
  - **Select All** box [for selecting all eligible requests for either **Bulk Submit** or **Bulk Fail**].
  - **Select None** box [for selecting none of the eligible requests for either **Bulk Submit** or **Bulk Fail**].
- The **Listing** table has the following columns:
  - **Sel** [check boxes for marking items to be submitted or failed].
  - **Order Id.**
  - **Request Id.**
  - **Media Type.**
  - **Request Size(MB).**
  - **Status.**
  - **Worked by.**
  - **Created.**
  - **Acknowledged.**
  - **Explanation(s).**

3 Observe information displayed in the **Listing** table of the **Open Physical Media Interventions** page.

- The **Show _____ rows at a time** window provides a means of selecting the maximum number of rows of data to be displayed at a time.
  - For example, if **Show _____ rows at a time** is being displayed, selecting **50** from the option button would result in the display of a page of data containing up to 50 rows of data.

- Clicking on a link (underlined word) in the column header row of the table causes table contents to be sorted on that column.
  - For example, clicking on the **Created** link causes the table to be organized by "Creation Time," with the most recent request requiring intervention in the top row of the table.
- Clicking on a specific Order ID brings up a screen containing more detailed data concerning that particular order.
  - The **ECS Order** page (Figure 21) displays the following types of data concerning the order:
    - **Request ID(s).**
    - **Order Type.**
    - **Order Source.**
    - **Ext. RequestId.**
    - **Receive Date.**
    - **Last Update.**
    - **Description.**
    - **Start Date.**
    - **User ID.**
    - **Status.**
    - **Ship Date.**
    - **Order Home DAAC.**
  - Clicking on the ← icon in the **OM GUI** navigation frame causes the **Open Interventions** page to be redisplayed.
- Clicking on a specific Request ID in the **Listing** table of the **Open Interventions** page brings up a screen containing detailed data concerning the intervention for that particular request (refer to Steps 3 and 8).
- Horizontal and vertical scroll bars appear when necessary to allow viewing data that are not readily visible in the window.
- If **AutoRefresh** is **ON**, the **Open Physical Media Interventions** page refreshes automatically as often as specified in the **Refresh screen every *x* minutes** window.
  - If a different refresh option is preferred, perform the procedure for **Setting Refresh Options on OM GUI Pages** (previous section of this lesson).

- To manually update (refresh) the data on the screen, click on the ↻ icon in the **OM GUI** navigation frame.
- The Netscape browser **Edit → Find in Page** menu provides a means of performing a keyword search of the data currently being displayed on the screen.
- The **first**, **previous**, **next**, and **last** links provide means of displaying additional pages of data.

4 To fail intervention(s) first click in either the **Select All** check box (if all interventions are to be failed) in the **Options** area of the **Open Physical Media Interventions** page or the individual check box(es) in the **Sel** column associated with specific intervention(s).

- A checkmark is displayed in each selected check box.

5 To complete the process of failing intervention(s) click on the **Bulk Fail** button in the **Options** area of the **Open Physical Media Interventions** page.

- The selected intervention(s) is/are failed.

6 To submit intervention(s) first click in either the **Select All** check box (if all interventions are to be submitted) in the **Options** area of the **Open Physical Media Interventions** page or the individual check box(es) in the **Sel** column associated with specific intervention(s).

- A checkmark is displayed in each selected check box.

7 To complete the process of submitting intervention(s) click on the **Bulk Submit** button in the **Options** area of the **Open Physical Media Interventions** page.

- The selected intervention(s) is/are submitted.

8 Click on a specific Request ID in the **Listing** table of the **Open Physical Media Interventions** page to bring up a screen containing detailed data concerning the intervention for that particular request.

- For example, clicking on Request ID **0800013197** brings up a **PMD Open Intervention Detail** page (i.e., **Intervention for Request 0800013197**) (Figure 70).

9 Observe information displayed on the **PMD Open Intervention Detail** page (Figure 70).

- The following items are displayed on the **PMD Open Intervention Detail** page (Figure 70).
  - **Order ID.**
  - **Request ID.**
  - **Input Size.**
  - **Media Type.**
  - **Priority.**

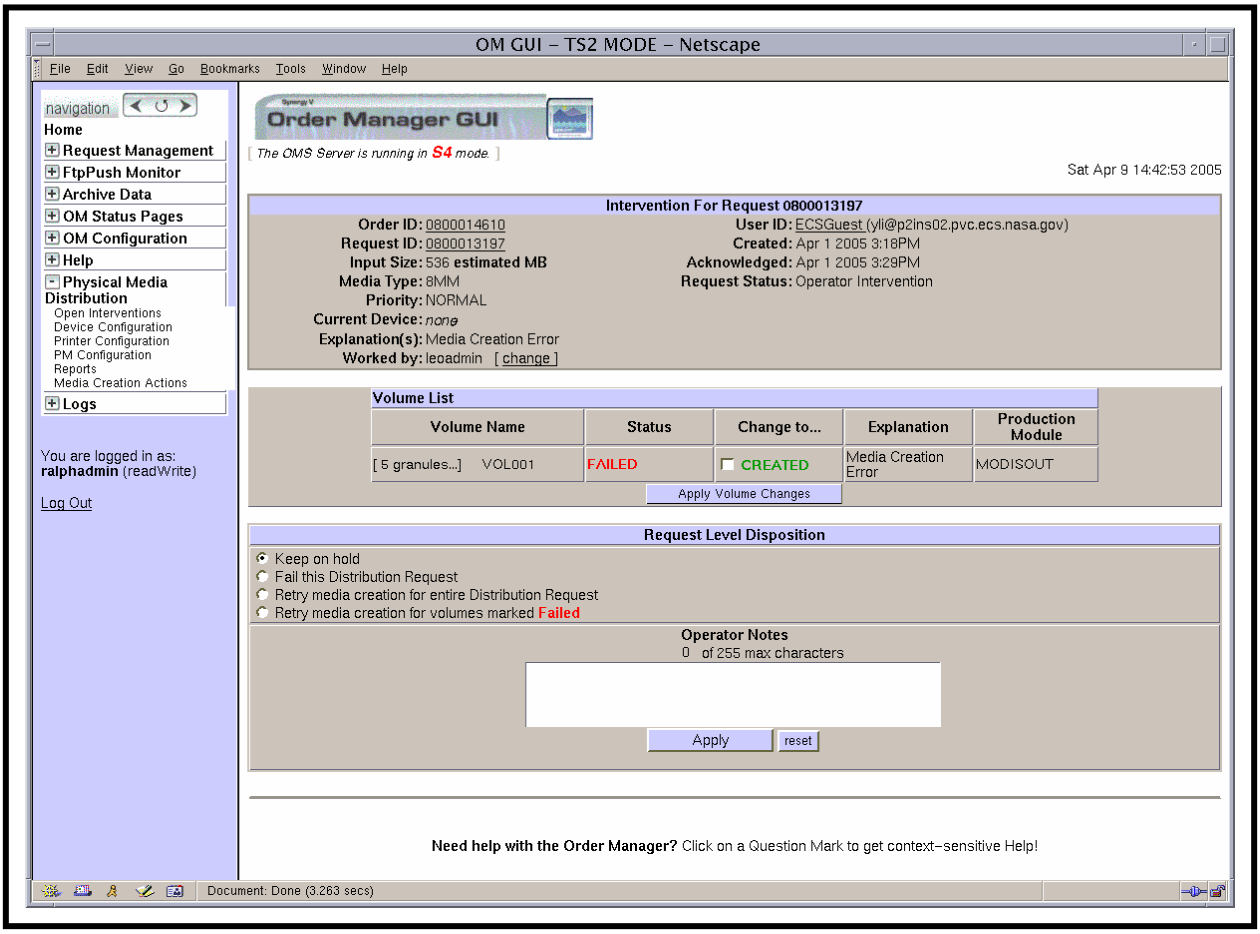


Figure 70. PMD Open Intervention Detail (Intervention for Request X) Page

- **Current Device.**
- **Error Report** (if applicable).
- **Print QC Report** button (if applicable).
- **Explanation(s).**
- **Worked by** [with **assign** link to assign new worker].
- **User ID.**
- **Created.**
- **Acknowledged.**
- **Request Status.**
- **Volume List.**
  - **Volume Name** [with **granules...** link].

        - **Status**.
        - **Change to…** [including check box(es) for marking to what status the volume should be changed].
        - **Explanation.**
        - **Production Module.**
        - **Apply Volume Changes** button.
    - **Request Level Disposition.**
        - **Keep on hold.**
        - **Fail this Distribution Request.**
        - **Retry media creation for entire Distribution Request.**
        - **Retry media creation for volumes marked ...** [e.g., **Retry media creation for volumes marked Failed**].
        - **Retry QC for volumes marked ...** [e.g., **Retry QC for volumes marked Failed**].
    - **OPERATOR NOTES**.
        - Text box (for entering comments).
    - **Apply** button.
    - **reset** button.
- Clicking on the ← icon in the **OM GUI** navigation frame causes the **Open Physical Media Interventions** page to be redisplayed.

10 To work on the intervention being displayed on the **PMD Open Intervention Detail** page, perform the procedure for **Responding to a PMD Open Intervention** (subsequent section of this lesson).

11 To view the details of another open intervention first click on the ← icon in the **OM GUI** navigation frame then return to Step 2.

- The **PMD Open Intervention Detail** page (Figure 70) is dismissed.
- The **Open Physical Media Interventions** page (Figure 69) is displayed.

12 To start the process of logging out (if applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

13 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  - The dialogue box is dismissed.
  - The Netscape browser is dismissed.
- **Cancel** - to dismiss the dialogue box without logging out.
  - The dialogue box is dismissed.
  - The **OM GUI** is displayed.

Responding to a PMD Open Intervention

The **PMD Open Intervention Detail** page (Figure 70) provides the full-capability operator with a means of performing the following kinds of interventions:

- Change the status of any/all volumes (pass or fail them).
- Fail or change any/all granules in a volume.
- Restart media creation.
- Continue media creation with selected volumes.

NOTE: The response to an intervention may require coordination between the Distribution Technician and a User Services representative, especially when determining a more suitable type of distribution medium, selecting a replacement granule, or taking any other action that would require contacting the person who submitted the order.

The procedure for responding to a PMD open intervention starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].
- The **PMD Open Intervention Detail** page (Figure 70) is being displayed on the **OM GUI**.
  - If the **PMD Open Intervention Detail** page (Figure 70) is not being displayed on the **OM GUI**, go to the procedure for **Viewing PMD Open Intervention Information on the OM GUI** (preceding section of this lesson).

1 Observe the information displayed in the **Worked by:** field of the **PMD Open Intervention Detail** page (Figure 70).

- If the **PMD Open Intervention Detail** page (Figure 70) is not being displayed on the **OM GUI**, go to the procedure for **Viewing PMD Open Intervention Information on the OM GUI** (preceding section of this lesson).
- If someone is already working on the intervention, that person is identified in the **Worked by:** field of the **PMD Open Intervention Detail** page.
  - In general working on an intervention is left to the person who has already been signed up to work on it unless the change is coordinated with that person or they are going to be unavailable (e.g., due to illness or vacation).
- If necessary (e.g., due to illness, vacation, or prior coordination), it is possible to override the assignment of a person to work on an intervention.

2 To assign oneself to work on the intervention, first click on the **assign** or **change** link in the **Worked by:** field on the **PMD Open Intervention Detail** page.

- If someone has been assigned to work on the intervention a **change** link is displayed; if no one has been assigned to work on the intervention an **assign** link is displayed.
- Clicking on the assign or change link causes a text box to be displayed.

3 To continue the process of assigning oneself to work on the intervention, type the appropriate user ID in the text box displayed beside the **assign** or **change** link in the **Worked by:** field.

4 To continue the process of assigning oneself to work on the intervention, click on the green button with the checkmark next to the text box in the **Worked by:** field.

NOTE: When a PMD request goes into Intervention, the device allocated for the request is **not** automatically freed up; it is still allocated to the request.

5 If there is a device listed in the **Current Device** field of the **PMD Open Intervention Detail** page and the device should be made available for processing other requests while the current request is in Intervention, first click on the **deallocate this device…** link adjacent to the **Current Device** entry.

- A confirmation dialogue box is displayed with the message "WARNING: This will deallocate device ... from Media Distribution request .... Do you want to continue?"

6 To continue the process of making the allocated device available for processing other requests while the current request is in Intervention, click on the appropriate button from the following selections:

- **OK** - to confirm freeing up the device and dismiss the dialogue box.
  - The dialogue box is dismissed.
  - The **PMD Open Intervention Detail** page reloads and "none" is displayed for **Current Device**.
- **Cancel** - to dismiss the dialogue box without freeing up the device.
  - The dialogue box is dismissed.
  - The **PMD Open Intervention Detail** page is displayed and the allocated device is still displayed for **Current Device**.

7 To view/check the granules in a volume, first click on the **granule…** link associated with the volume name in the **Volume List**.

- The **Granule List for Volume *Y* of Request *X*** (Figure 71) is displayed in a pop-up window.
  - The **Granule List for Volume *Y* of Request *X*** has the following columns:
    - **DBID.**
    - **ESDT/Type.**
    - **In Size (MB).**
    - **Out Size (MB).**
    - **Status.**
    - **Explanation.**
    - **Action** [**Fail** check boxes].

8 If no granule in the volume is to be replaced or "failed" or if all granules in the volume are to be "failed," skip Steps 9 through 18 and go to Step 19.

9 If a granule is to be replaced (e.g., because of an "Invalid UR/Granule Not Found" entry in the **Explanation** column of the **Granule List**), first type the Database ID (DBID) of the replacement granule in the **DBID** text box.

- The DBID for a replacement granule can be determined by doing a search using the EDG.

10 To continue the process of specifying a replacement granule, click on the **Apply** button associated with the DBID.

- A dialogue box is displayed to confirm the change to the granule.

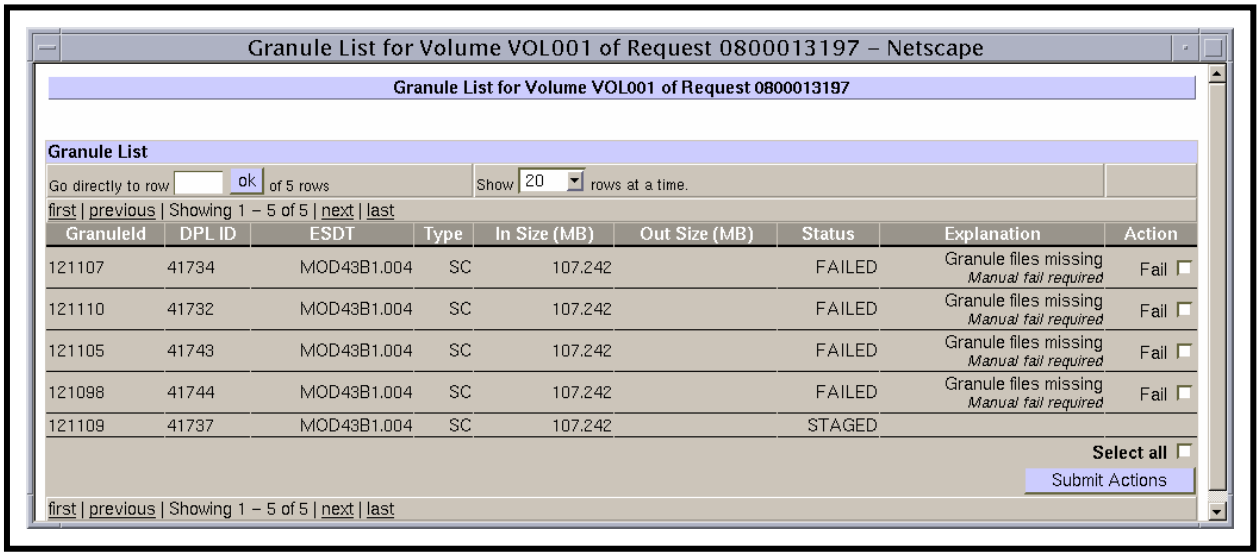


Figure 71. Granule List for Volume Y of Request X

11 To continue the process of specifying a replacement granule, click on the appropriate button from the following selections:

- **OK** - to confirm the specification of a replacement granule and dismiss the dialogue box.
  - The dialogue box is dismissed.
  - The **Granule List for Volume *Y* of Request *X*** (Figure 71) is displayed.
- **Cancel** - to dismiss the dialogue box without specifying a replacement granule.
  - The dialogue box is dismissed.
  - The **Granule List for Volume *Y* of Request *X*** (Figure 71) is displayed.

12 If a granule is to be "failed" (e.g., because of an "Invalid UR/Granule Not Found" entry in the **Explanation** column of the **Granule List**), click on the **Fail** check box in the **Action** column of the row for the granule in the **Granule List**.

13 Repeat Step 12 as necessary to mark additional granules to be "failed."

14 If a granule is to be "failed," click on the **Apply** button in the **Granule List**.

- A dialogue box is displayed to confirm the change to the granule.

NOTE: **"**Failing" a granule is a permanent action and cannot be canceled after having been confirmed.

15 To continue the process of failing a granule, click on the appropriate button from the following selections:

- **OK** - to confirm the failure of the granule and dismiss the dialogue box.
  - The dialogue box is dismissed.
  - The **Granule List for Volume *Y* of Request *X*** (Figure 71) is displayed.
- **Cancel** - to dismiss the dialogue box without failing the granule.
  - The dialogue box is dismissed.
  - The **Granule List for Volume *Y* of Request *X*** (Figure 71) is displayed.

16 Repeat Steps 9 through 15 (as necessary) to replace or fail any additional granules.

17 Click on the **Close Window** button to close the **Granule List for Volume *Y* of Request *X*** pop-up window.

- The **Granule List for Volume *Y* of Request *X*** (Figure 71) is dismissed.
- The **PMD Open Intervention Detail** page (Figure 70) is displayed.

18 Repeat Steps 7 through 17 (as necessary) to replace or fail any granules in additional volumes.

19 If an individual volume in the **Volume List** is to be marked for change to another status (e.g., **Created** or **Failed**) as listed in the **Change to…** column, click in the corresponding check box.

20 Repeat Step 19 (as necessary) to mark any additional volumes for change to another status.

21 To apply status changes to marked volume(s) click on the **Apply** button at the bottom of the **Volume List**.

22 If a note should be entered concerning the request (e.g., the reason for making a particular type of intervention), type the applicable text in the **OPERATOR NOTES** text box.

23 To select the disposition for the request click on the appropriate button from the following selections:

- **Keep on hold** - to delay applying any intervention action (keep the intervention open) and dismiss the **PMD Open Intervention Detail** page.
  - Placing an intervention on hold does not allow changing the request's attributes, but saves the operator notes and allows opening the intervention at a later time (essentially, the intervention is being “saved”).
- **Fail this Distribution Request** - to cancel/fail the entire request (including all volumes) and dismiss the **PMD Open Intervention Detail** page.

- **Retry media creation for entire Distribution Request -** to restart media creation. This option "resets" the request to create the physical media. All volumes are subsequently retried (and QC'ed).
- **Retry media creation for volumes marked ... [e.g., Retry media creation for volumes marked Failed] -** to continue media creation with the volumes that are marked as indicated (e.g., **Failed**) in the **Volume List**. The request is not reset; the OMS tries to recreate the selected volumes.
- **Retry QC for volumes marked ... [e.g., Retry QC for volumes marked Failed]** - to retry QC for the volumes that are marked as indicated in the **Volume List**. This is useful in cases where a QC error was recorded in the database but it is suspected that the volume creation was actually successful or where it is desirable to verify that a volume is truly corrupt.

NOTE: There are **Apply** and **reset** buttons at the bottom of the **PMD Open Intervention Detail** page. The **reset** button does not cancel any changes made to the request. It simply resets the form buttons for the **Request Level Disposition** section to their original states.

24 Click on the **Apply** button.

- A **Close Confirmation** page (Figure 23) is displayed.
  - The **Close Confirmation** page displays the actions to be taken; for example, the following types of actions may be listed:
    - **Disposition** [e.g., Keep on hold, Fail this Distribution Request].
  - If it was necessary to fail a request or granule(s) within a request, or modify the granules in a request, the **Close Confirmation** page includes options for either appending additional text to the default e-mail message to be sent to the requester or choosing not to send an e-mail message to the requester.
    - An **Additional e-mail text** text box for appending text (if desired) to the standard e-mail text is displayed on the **Close Confirmation** page.
    - A **Don't send e-mail** box to suppress the sending of an e-mail message is displayed on the **Close Confirmation** page.

25 If the intervention involved failing a request or granule(s) within a request, or modifying the granules in a request, and additional text is to be appended to the corresponding standard e-mail text, type the appropriate text in the **Additional e-mail text** text box on the **Close Confirmation** page.

26 If the intervention involved failing a request or granule(s) within a request, or modifying the granules in a request, and no e-mail message is to be sent, click on the **Don't send e-mail** box on the **Close Confirmation** page to suppress the sending of an e-mail message indicating request/granule failure.

- Unless the **Don't send e-mail** box is checked, an e-mail message indicating request/granule failure will be sent to the requester.

27 Click on the appropriate button from the following selections:

- **OK** - to apply the specified intervention actions (if any) and dismiss the **Close Confirmation** page.
  - The **Close Confirmation** page is dismissed.
  - An **Intervention Closed** page (Figure 26) is displayed
- **Cancel** - to dismiss the **Close Confirmation** page without applying the specified intervention actions.
  - The **Close Confirmation** page is dismissed.
  - A warning dialogue box (Figure 27) is displayed with the message "WARNING: The disposition and actions you have taken for this intervention will be lost. Continue?"

28 If a warning dialogue box is displayed with the message "WARNING: The disposition and actions you have taken for this intervention will be lost. Continue?" click on the appropriate button from the following selections:

- **OK** - to dismiss the warning dialogue box and the **Close Confirmation** page and return to the **PMD Open Intervention Detail** page (Figure 70).
- **Cancel** – to dismiss the warning dialogue box and return to the **Close Confirmation** page (Figure 23).

29 To exit from the **Intervention Closed** page (Figure 26), click on the **OK** button.

- The **Intervention Closed** page (Figure 26) is dismissed.
- The **Open Physical Media Interventions** page (Figure 69) is displayed.

30 To start the process of logging out (if applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

31 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  - The dialogue box is dismissed.
  - The Netscape browser is dismissed.
- **Cancel** - to dismiss the dialogue box without logging out.
  - The dialogue box is dismissed.
  - The **OM GUI** is displayed.

Checking/Modifying PMD Device Configuration

For Synergy V, the **OM GUI** displays the configuration of devices used in physical media creation. Additional devices can be "added." The **PMD Device Configuration** page (Figure 72) displays the following types of information on all the currently configured devices:

- The given device label.
- The media type associated with the device.
- The "Free" or "Busy" status of the device.
  - A tape device (8MM or DLT) is considered "Busy" if it is occupied by a PMD request.
  - A tape device is considered "Free" if there is no Request allocated to it.
  - A Rimage device is only considered "Busy" if it has reached 100% of its Job Allocation; otherwise, a Rimage device is always "Free."
- The device's On-Line status ("off-line" or "on-line").
  - If the device is off-line, the reason is displayed in the "Off-Line" reason column.

In addition, the **PMD Device Configuration** page (Figure 72) gives the operator a quick visual indicator of the load for each Rimage device (i.e., each drive for creating CD or DVD media). It calculates the device's current load and shows the percentage based on the maximum number of jobs that device has been configured to handle. This is based on the **Job Limit** parameter.

The procedure for checking/modifying PMD device configuration information on the **OM GUI** starts with the following assumptions:

- All applicable servers are currently running.

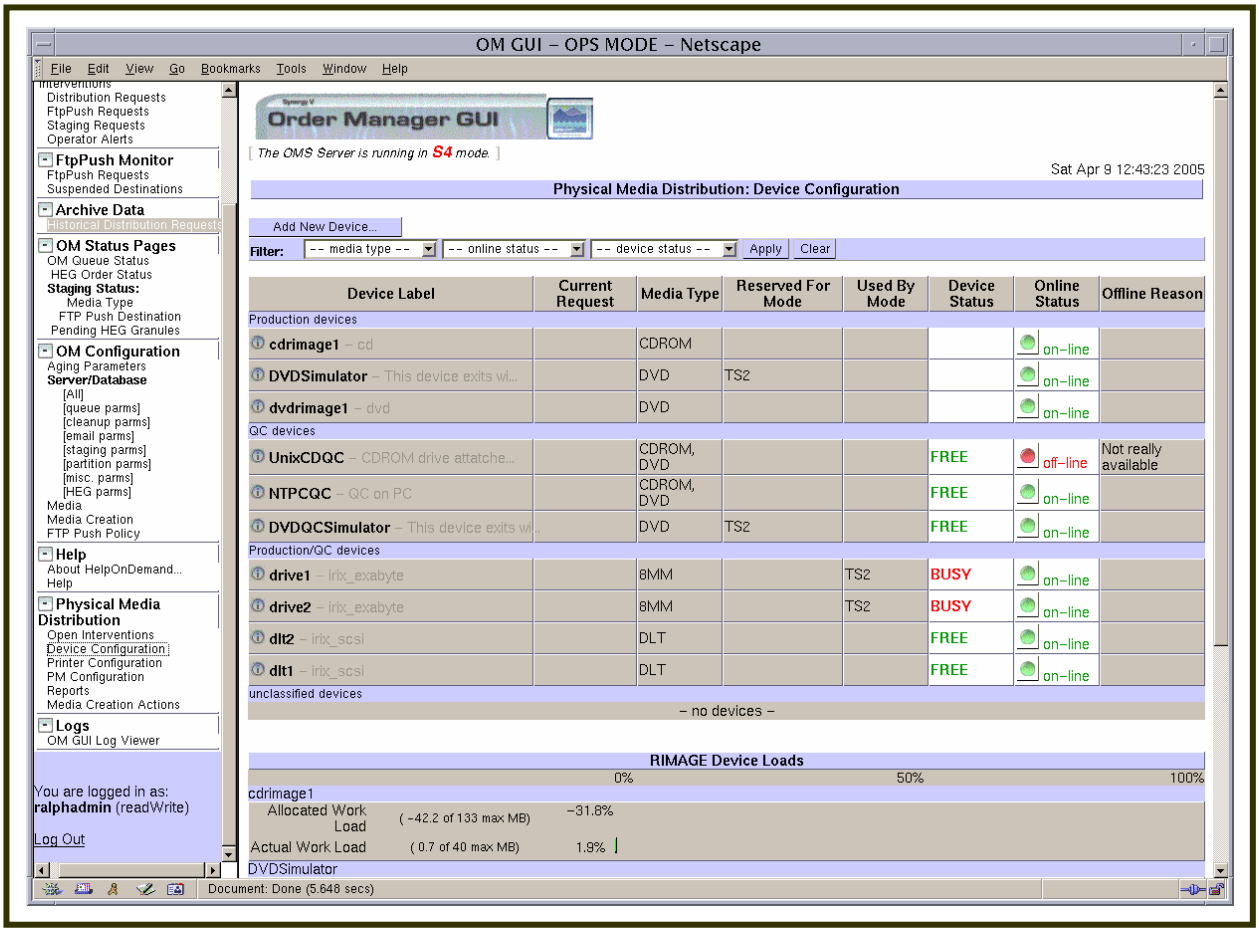


Figure 72. PMD Device Configuration Page

- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

Checking/Modifying PMD Device Configuration

1 If it has not been expanded already, click on the **Physical Media Distribution** link in the navigation frame of the **OM GUI**.

- The **Physical Media Distribution** menu is expanded.

2 Click on the **Device Configuration** link in the navigation frame of the **OM GUI**.

- The **PMD Device Configuration** page (Figure 72) is displayed.

- The **Filter** area of the **PMD Device Configuration** page provides a means of filtering the device configurations shown on the page by media type, online status and/or device status.
  - If the desired configuration information is not listed in the device configuration table of the **PMD Device Configuration** page, perform the procedure for **Filtering Data Displayed on the PMD Device Configuration Page** (subsequent section of this lesson).
- The device configuration table has the following columns:
  - **Device Label.**
  - **Current Request.**
  - **Media Type.**
  - **Reserved for Mode.**
  - **Used by Mode.**
  - **Device Status.**
  - **Online Status.**
  - **Offline Reason.**
- The **Rimage Device Loads** area of the **PMD Device Configuration** page shows the following types of information for each Rimage device:
  - **Allocated Work Load** (displays percentage based on the maximum number of jobs that device has been configured to handle and provides a corresponding bar graph).
  - **Actual Work Load** (displays percentage based on the maximum number of jobs that device has been configured to handle and provides a corresponding bar graph).

3 Observe information displayed in the device configuration table of the **PMD Device Configuration** page.

- If **AutoRefresh** is **ON**, the **PMD Device Configuration** page refreshes automatically as often as specified in the **Refresh screen every *x* minutes** window.
  - If a different refresh option is preferred, perform the procedure for **Setting Refresh Options on OM GUI Pages** (previous section of this lesson).
- To manually update (refresh) the data on the screen, click on the ↻ icon in the **OM GUI** navigation frame.
- The Netscape browser **Edit → Find in Page** menu provides a means of performing a keyword search of the data currently being displayed on the screen.

4 If the desired configuration information is not listed in the device configuration table of the **PMD Device Configuration** page, perform the procedure for **Filtering Data Displayed on the PMD Device Configuration Page** (subsequent section of this lesson).

5 If request filtering was necessary, return to Step 3.

6 To change the on-line or off-line status of a device, first click on the corresponding "light" in the **Online Status** column of the device configuration table to bring up a pop-up dialogue box.

- A pop-up dialogue box for changing the on-line/off-line status of a device (Figure 73) is displayed.
- If the device is not busy and is to be taken off line, the dialogue box requests an explanation for taking the device off line.
- If the device is busy and is to be taken off line, a warning is provided. The current allocated request will be completed, after that the device will be taken off line.

Figure 73. Pop-Up Dialogue Box for Changing the On-Line/Off-Line Status of a Device

7 If necessary for continuing the process of changing the on-line or off-line status of a device, in the text box in the dialogue box type an explanation for taking the device off line.

8 To continue the process of changing the on-line or off-line status of a device, click on the appropriate button from the following selections:

- **Apply** - to change the on-line or off-line status of the device and dismiss the dialogue box.
  - The dialogue box is dismissed.
  - The **PMD Device Configuration** page is displayed.
  - A status of either "Off-Line PENDING" or "On-Line PENDING" is shown on the **PMD Device Configuration** page.
    - Because on-line/off-line status of the device is done logically and not physically (i.e., it is only marked as virtually on line or off line in the OMS database), there is some latency involved in changing the device's real status.
    - When the OMS Server picks up the status from the database, it is updated to "Off-Line" or "On-Line" (as the case may be).
- **Cancel** - to dismiss the dialogue box without changing the on-line or off-line status of the device.
  - The dialogue box is dismissed.
  - The **PMD Device Configuration** page is displayed.

9 To start the process of adding a new device to the configuration click on the **Add New Device** button near the top of the **PMD Device Configuration** page.

- An **Add New Device** page (Figure 74) is displayed.

10 To continue the process of adding a new device to the configuration click on the option button associated with the **Device Purpose** box to display a menu of purposes (i.e., **Production**, **QC**, or **Production and QC**) then click on the desired selection.

- If **Production** was selected, the **Add New Device** page displays **Device Type** radio buttons (as shown in Figure 75).
- If **QC** or **Production and QC** was selected, the corresponding **Device Details** page (Figure 76 or Figure 77) is displayed.

11 To continue the process of adding a new device to the configuration if the device is going to be used for production (only), click on the appropriate radio button (i.e., **Rimage** or **Tape**).

- The corresponding **Device Details** page (Figure 78 or Figure 79) is displayed.

12 To continue the process of adding a new device to the configuration click on the appropriate **Media Type** radio button from the choices listed.

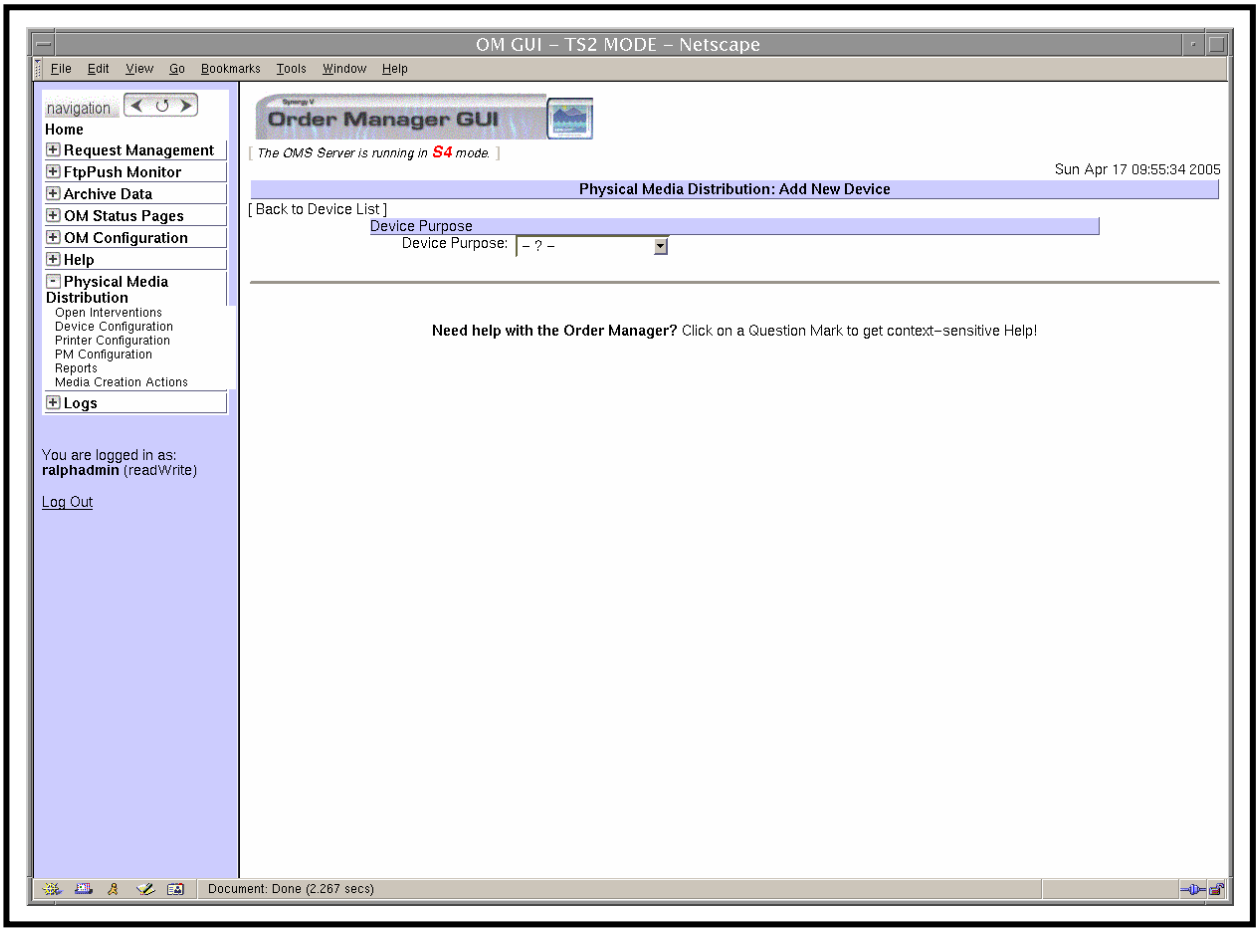


Figure 74. Add New Device Page

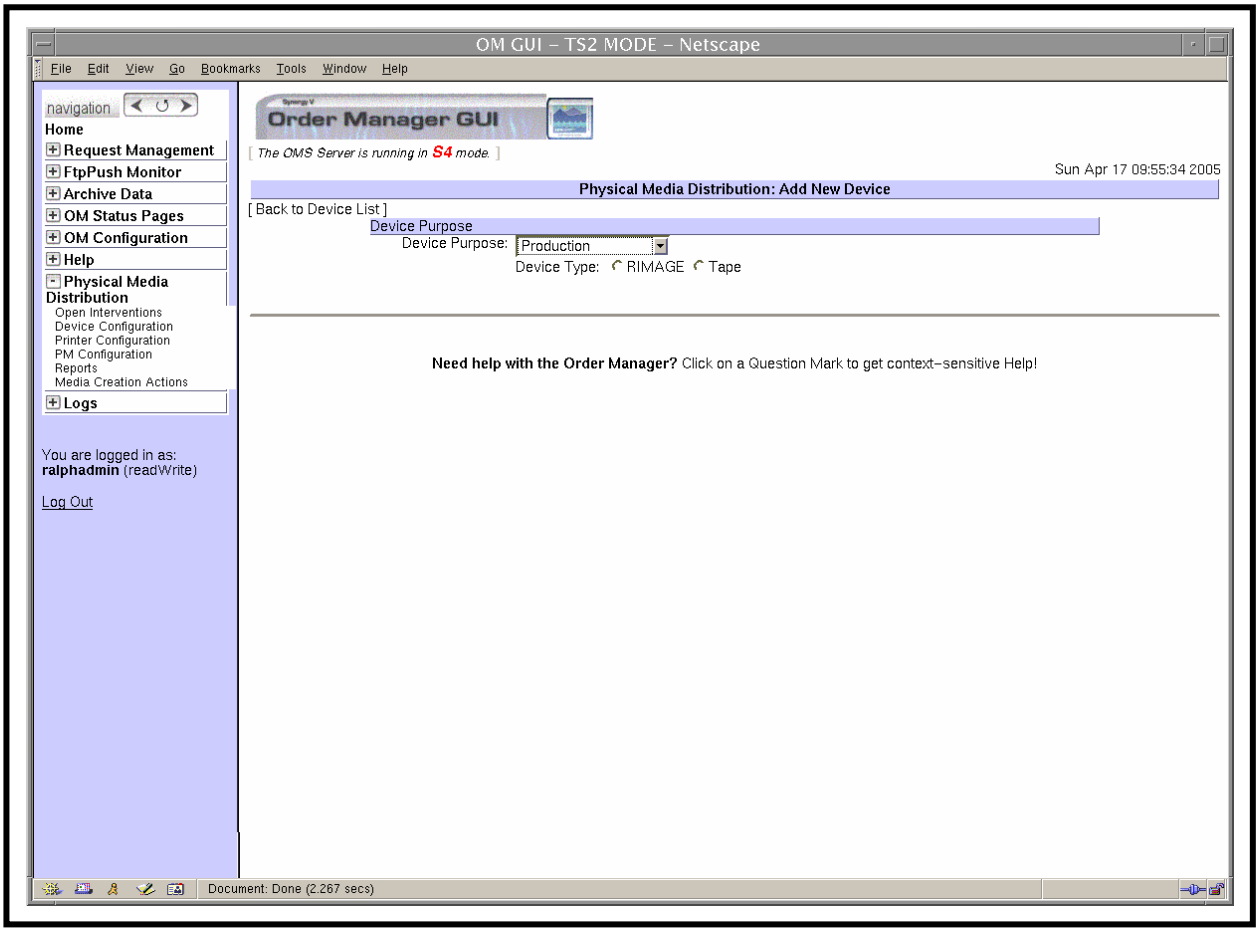


Figure 75. Add New Device Page with Device Type Radio Buttons

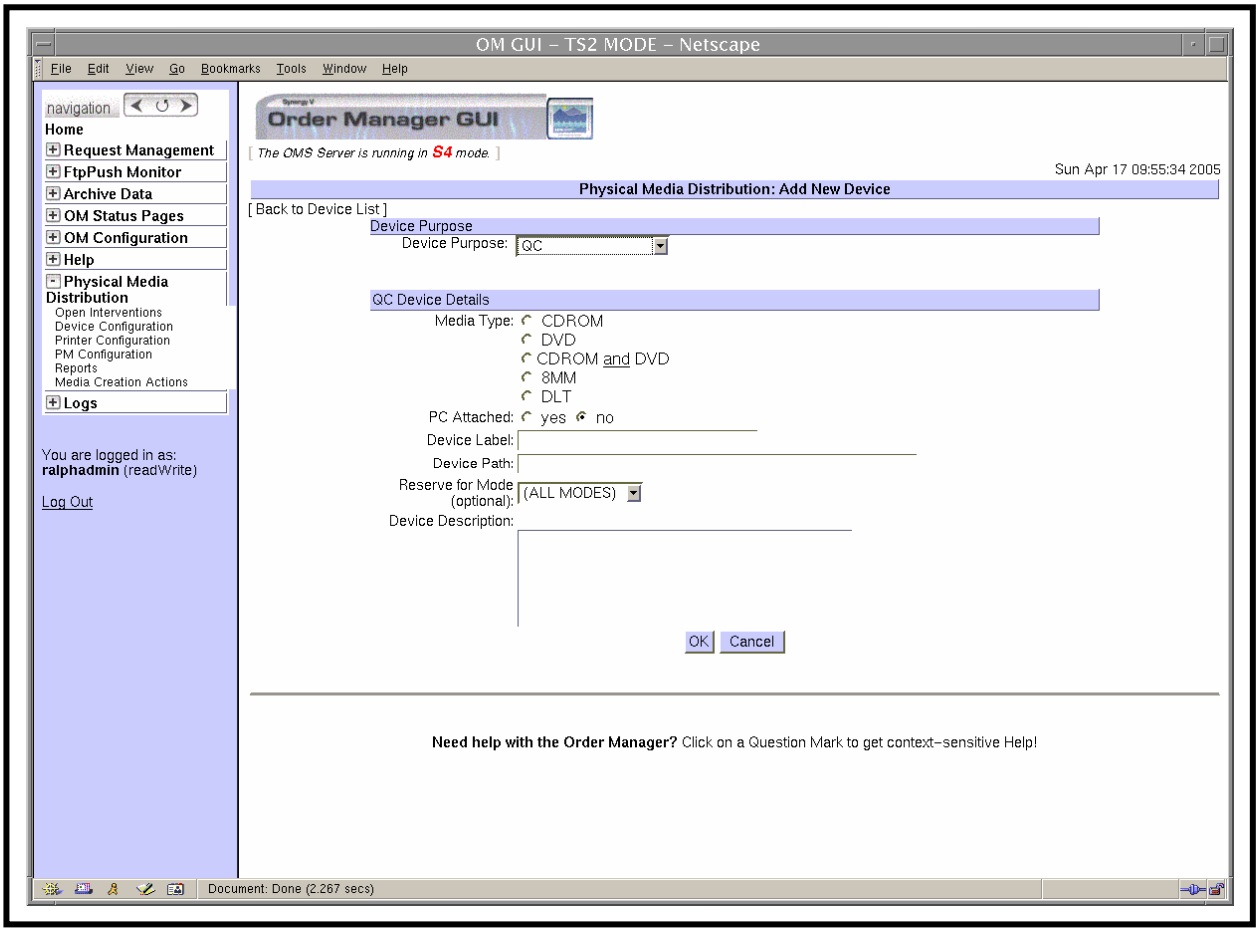


Figure 76. Add New Device Page - QC

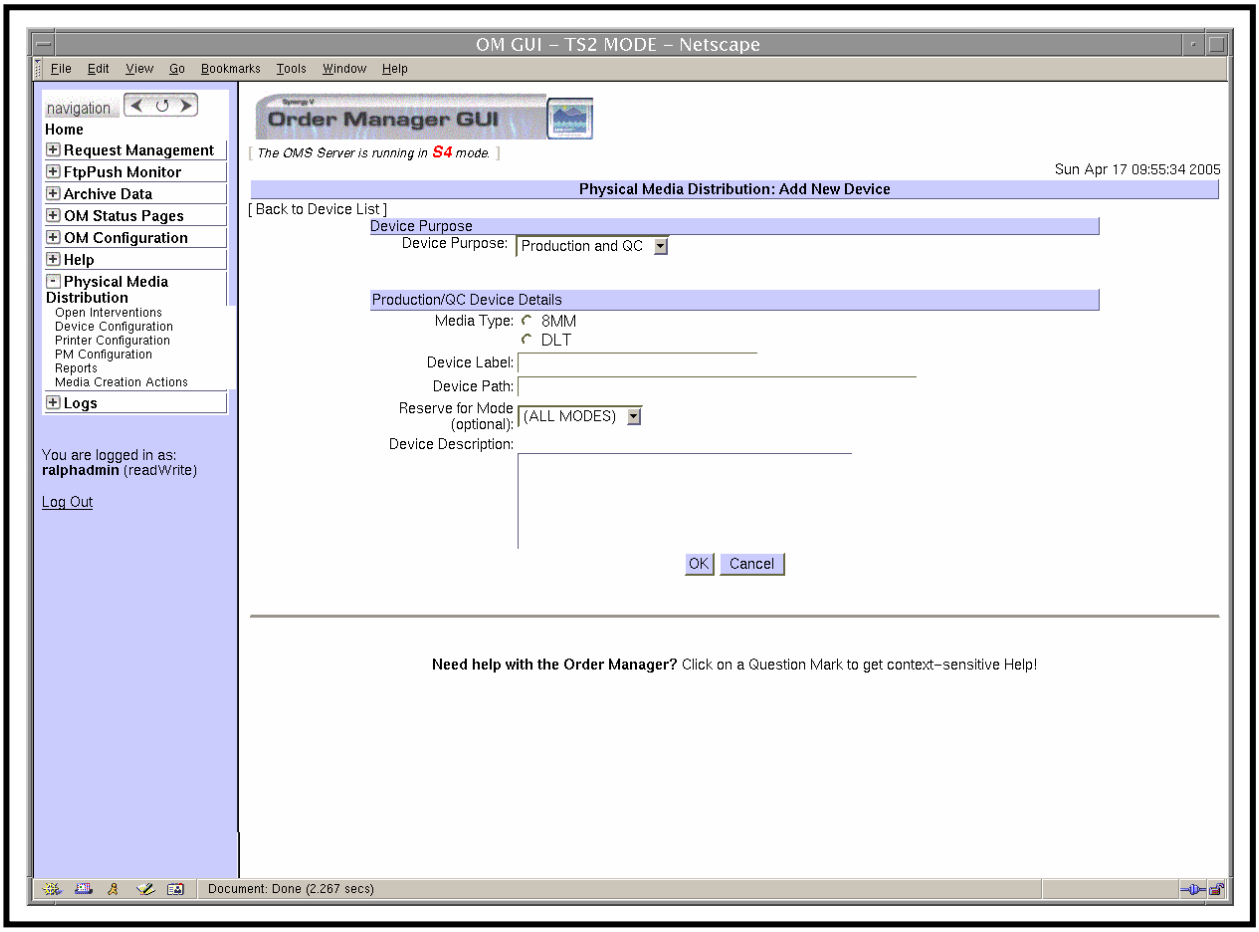


Figure 77. Add New Device Page – Production and QC

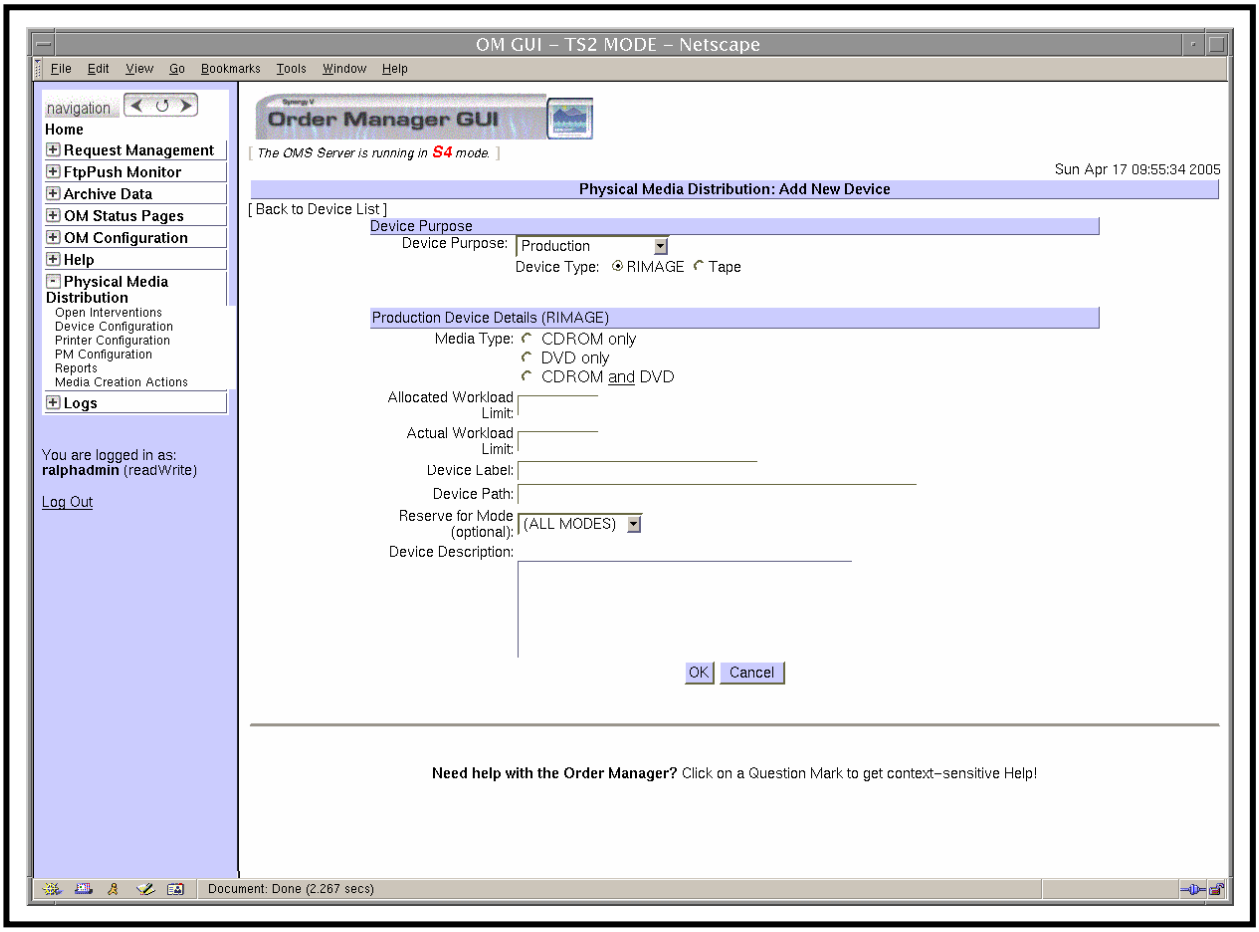


Figure 78. Add New Device Page – Production (Rimage)

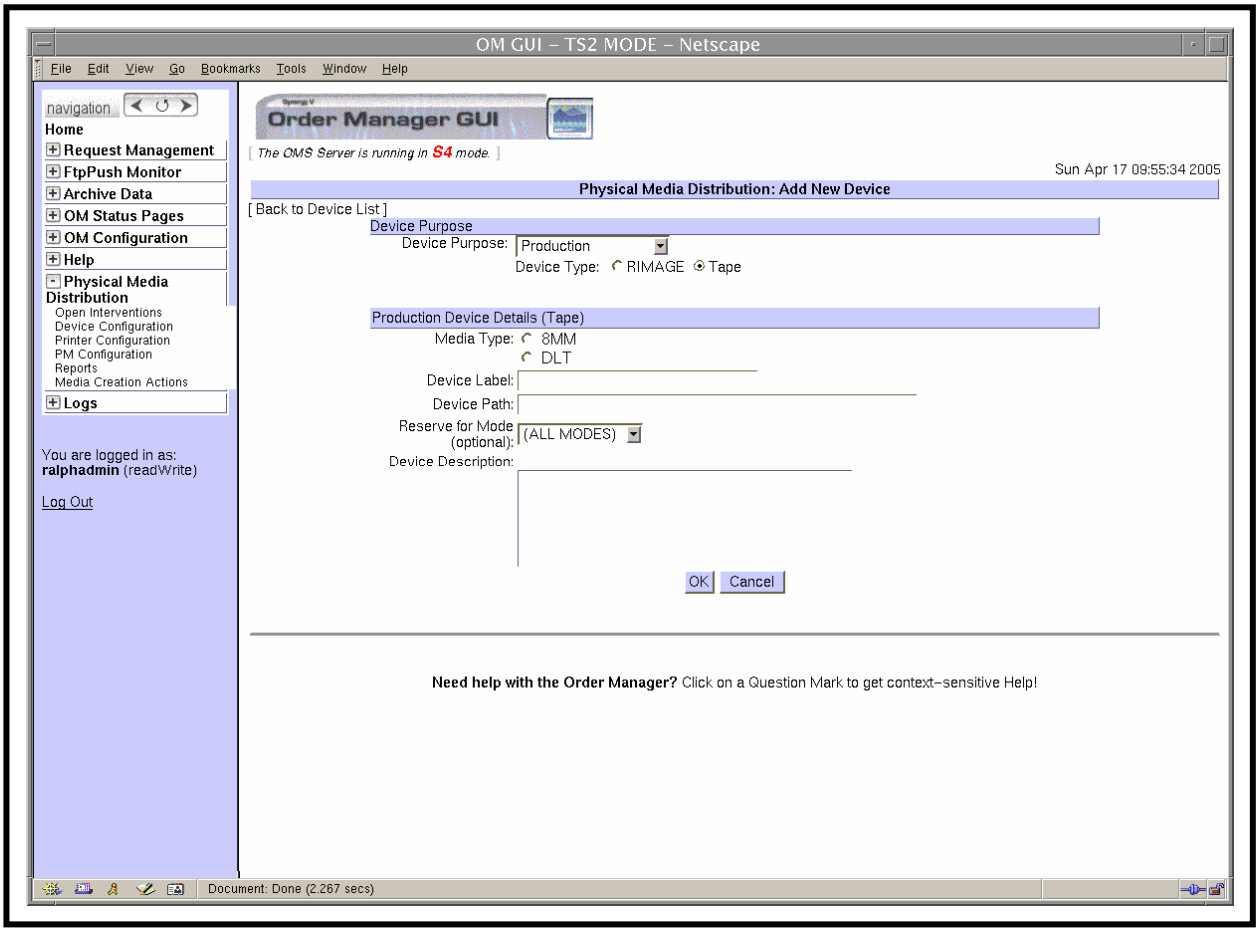


Figure 79. Add New Device Page – Production (Tape)

13 To continue the process of adding a new device to the configuration if the device is going to be used for QC (only), click on the appropriate **PC Attached** radio button (i.e., **yes** or **no**).

14 To continue the process of adding a new device to the configuration type the appropriate text in the corresponding text boxes (as applicable):

- **Allocated Workload Limit** (applicable to Rimage production only).
- **Actual Workload Limit** (applicable to Rimage production only).
- **Device Label.**
- **Device Path.**
- **Device Description.**

15 To continue the process of adding a new device to the configuration if the device is to be reserved for use by a particular system mode only, click on the option button associated with the **Reserve for Mode (optional)** box to display a menu of modes then click on the desired selection.

- **ALL MODES** is the default.

16 To conclude the process of adding a device to the configuration click on the appropriate button from the following selections:

- **OK** - to add the specified device.
  - The **Add New Device** page is dismissed.
  - The **PMD Device Configuration** page is displayed.
    - The newly added device is shown on the **PMD Device Configuration** page.
- **Cancel** - to cancel the process of adding the specified device.
  - The **Add New Device** page is dismissed.
  - An "Are you sure want [sic] to cancel?" dialogue box is displayed; click on **OK** to cancel the new device and go to the **PMD Device Configuration** page; click on **Cancel** to return to the **Add New Device** page.

17 To add additional devices to the configuration repeat Steps 9 through 16 as necessary.

18 To start the process of logging out (if applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

19 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  - The dialogue box is dismissed.
  - The Netscape browser is dismissed.
- **Cancel** - to dismiss the dialogue box without logging out.
  - The dialogue box is dismissed.
  - The **OM GUI** is displayed.

Filtering Data Displayed on the PMD Device Configuration Page

Features at the top of the **PMD Device Configuration** page provide the Distribution Technician (whether full-capability or limited capability operator) with a means of filtering data displayed on the **PMD Device Configuration** page.

The procedure for filtering data displayed on the **PMD Device Configuration** page starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].
- The **PMD Device Configuration** page (Figure 72) is being displayed.

Filtering Data Displayed on the PMD Device Configuration Page

---

1 If the device configuration table needs to be filtered to show devices of one particular type of physical distribution medium only (e.g., CDROM, DVD, DLT or 8MM), click on the **media type** option button to display a menu of media types then click on the desired selection.

- Selected type of physical distribution medium is displayed in the media type box.
- Filtering by media type may be combined with filtering by online status (refer to Step 2) and/or device status (refer to Step 3).
- If no "online status" filtering criterion is going to be selected, go to Step 3.
- If neither an "online status" nor a "device status" filtering criterion is going to be selected, go to Step 4.

2 If the device configuration table needs to be filtered to show devices with a particular online status only (i.e., on-line or off-line), click on the **online status** option button to display a menu of online statuses then click on the desired selection.

- Selected online status is displayed in the online status box.
- If no "device status" filtering criterion is going to be selected, go to Step 4.

3 If the device configuration table needs to be filtered to show devices with a particular device status only (i.e., FREE or BUSY), click on the **device status** option button to display a menu of device statuses then click on the desired selection.

- Selected device status is displayed in the device status box.

4 When the relevant filtering criteria have been selected (as described in Steps 1 through 3), click on the appropriate button from the following selections:

- **Apply** - to apply the specified filtering criteria.
  - The **PMD Device Configuration** page refreshes.
  - Only requests that meet the specified filter criteria appear in the device configuration table on the **PMD Device Configuration** page.
- **Clear**- to clear the selected filter criteria.

5 Return to the procedure for **Checking/Modifying PMD Device Configuration**.

Checking/Modifying PMD Printer Configuration

For Synergy V, the **OM GUI** handles the configuration of printers used in physical media creation. The printer configurations can be "edited." The **PMD Printer Configuration** page (Figure 80) displays the following types of information on all the currently configured printers:

- Printer name.
- Type of printer [function(s) the printer supports in physical media distribution].
- Network info (as applicable).
- Status of the printer.
- Printer options.

The procedure for checking/modifying PMD printer configuration information on the **OM GUI** starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

Checking/Modifying PMD Printer Configuration

---

1 If it has not been expanded already, click on the **Physical Media Distribution** link in the navigation frame of the **OM GUI**.

- The **Physical Media Distribution** menu is expanded.

2 Click on the **Printer Configuration** link in the navigation frame of the **OM GUI**.

- The **PMD Printer Configuration** page (Figure 80) is displayed.

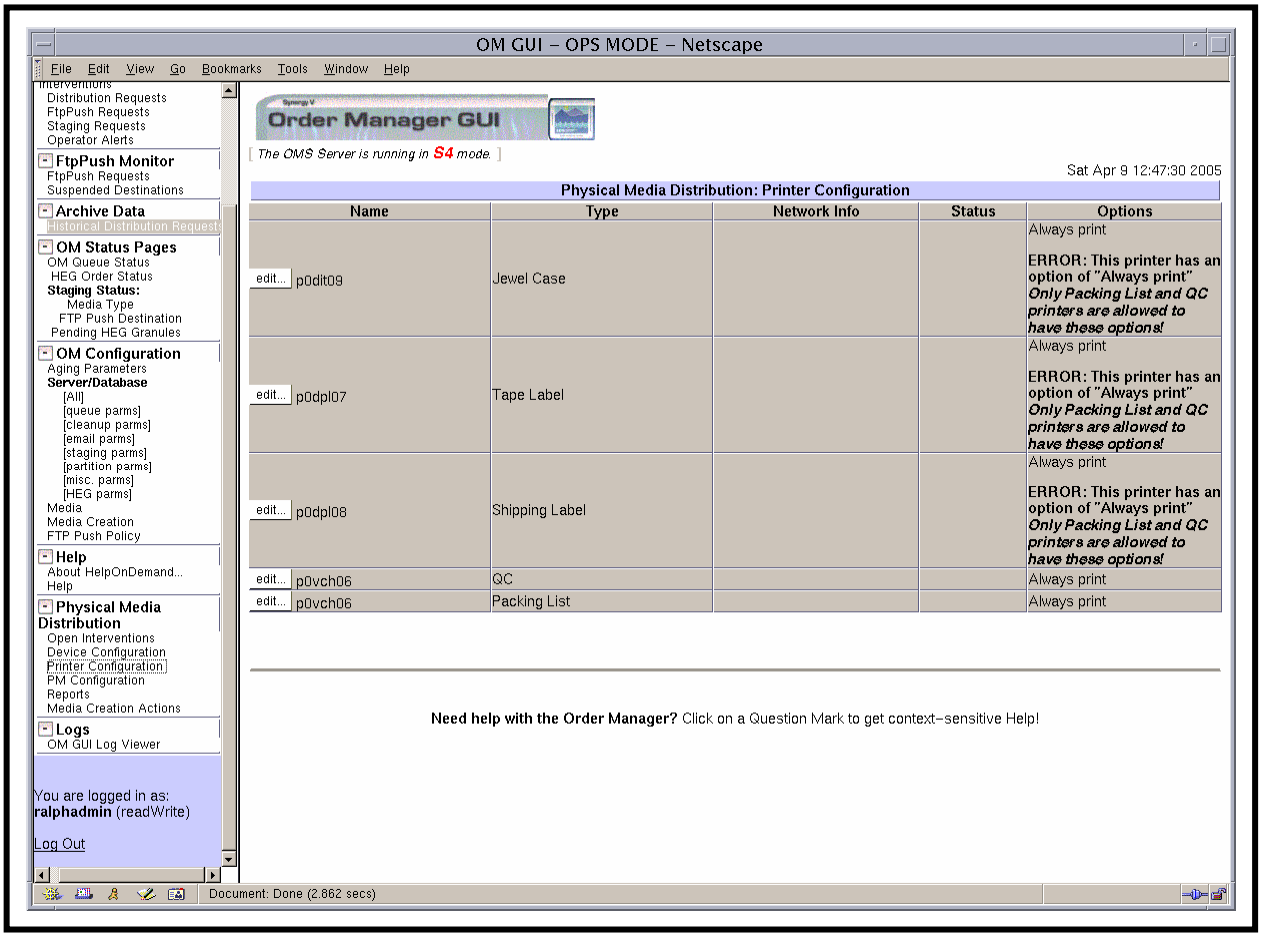


Figure 80. PMD Printer Configuration Page

- The **Printer Configuration** table has the following columns:
  - **Name.**
  - **Type** [function(s) the printer supports in physical media distribution].
  - **Network info** (as applicable).
  - **Status.**
  - **Options.**

3 Observe information displayed in the **Printer Configuration** table.

4 To change a printer's configuration first click on the **edit…** button next to the printer name to bring up a **PMD Printer Configuration** page with an **Edit parameters** area for the specified printer (Figure 81).

- A **PMD Printer Configuration** page with an **Edit parameters** area for the specified printer (Figure 81) is displayed.

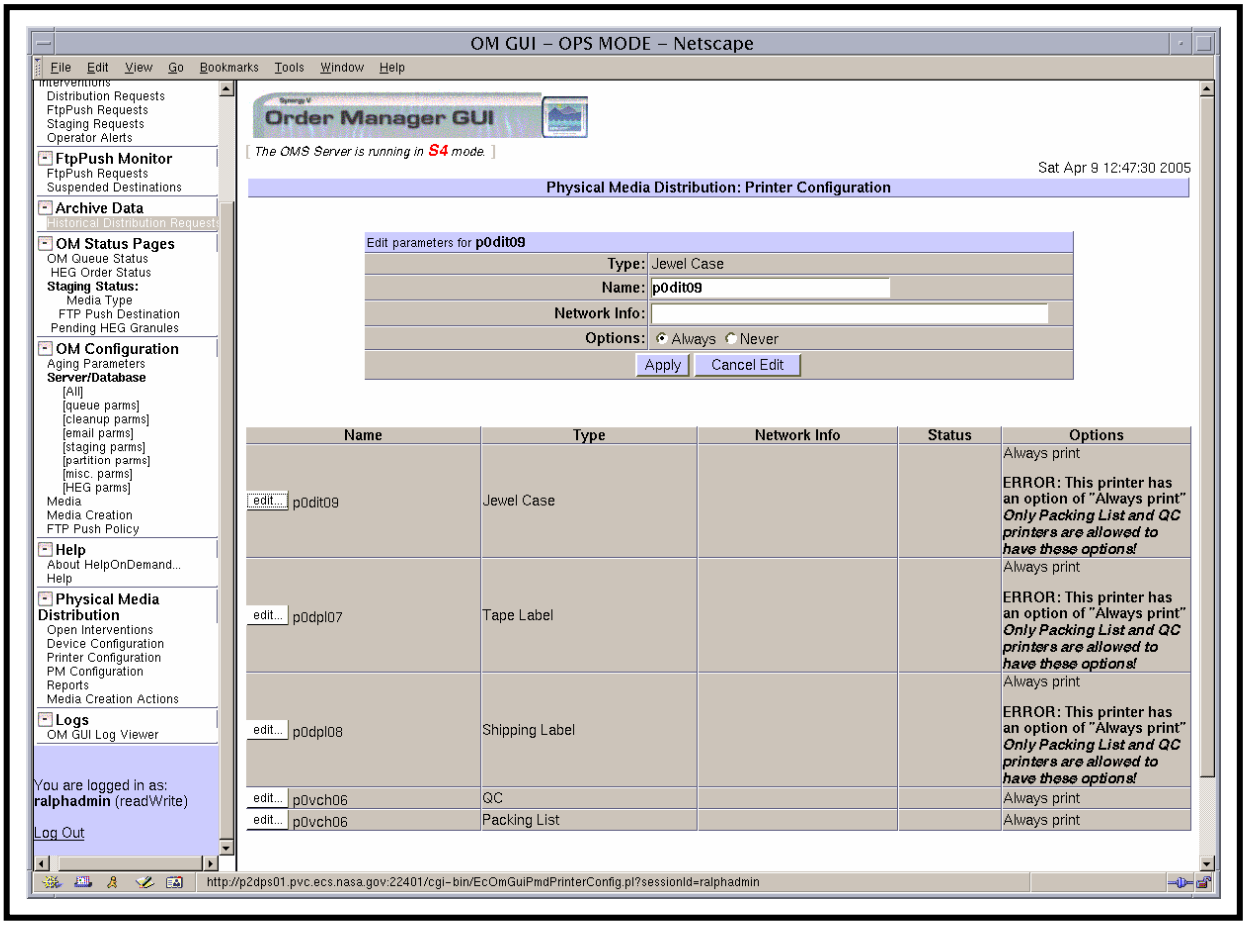


Figure 81. PMD Printer Configuration Page with Edit Parameters Area

5 Observe information displayed on the **PMD Printer Configuration** page with **Edit parameters** area for the selected printer (Figure 81).

- The following items are displayed in the **Edit parameters** area for the selected printer:
  - **Type.**
  - **Name.**
  - **Network Info.**
  - **Options.**
- Clicking on the ← icon in the **OM GUI** navigation frame causes the **PMD Printer Configuration** page to be redisplayed.

6 To change the value assigned to either of the following parameters first type the appropriate text in the corresponding text box:

- **Name.**
- **Network Info.**
  - Changes to any of the preceding parameter values are not effective until they have been implemented using the **Apply** button (Step 8).

7 To change the "**Options**" first click on the appropriate radio button from the following selections:

- **Always** (print).
- **Never** (print).

8 To implement printer configuration parameter changes click on the appropriate button from the following selections:

- **Apply** - to implement printer configuration parameter changes related to name, network info, and/or options.
  - The **PMD Printer Configuration** page with **Edit parameters** area (Figure 81) is dismissed.
  - The **PMD Printer Configuration** page (Figure 80) is displayed.
- **Cancel Edit** - to cancel implementation of configuration parameter changes related to name, network info, and/or options.
  - The **PMD Printer Configuration** page with **Edit parameters** area (Figure 81) is dismissed.
  - The **PMD Printer Configuration** page (Figure 80) is displayed.

9 To edit the configuration parameters of another printer (if applicable) return to Step 4.

10 To start the process of logging out (if applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

11 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  - The dialogue box is dismissed.
  - The Netscape browser is dismissed.

- **Cancel** - to dismiss the dialogue box without logging out.
  - The dialogue box is dismissed.
  - The **OM GUI** is displayed.

Checking/Modifying PMD Production Module Configuration

For Synergy V, the **OM GUI** handles the configuration of production modules used in physical media creation. Production modules can be "added" and production module parameter values can be "edited." The **PMD Production Module Configuration** page (Figure 82) displays the following types of information on all the currently configured production modules:

- Name.
- Date/time created.
- Date/time last updated.
- Path to image files.
- Path to text files.
- Name of the executable.
- Whether or not the production module is the default module.

The procedure for checking/modifying PMD production module configuration information on the **OM GUI** starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

Checking/Modifying PMD Production Module Configuration

---

1 If it has not been expanded already, click on the **Physical Media Distribution** link in the navigation frame of the **OM GUI**.

- The **Physical Media Distribution** menu is expanded.

2 Click on the **PM Configuration** link in the navigation frame of the **OM GUI**.

- The **PMD Production Module Configuration** page (Figure 82) is displayed.
- Each production module is listed in a separate table that has the following columns:
  - **Name.**
  - **Created** (date/time).

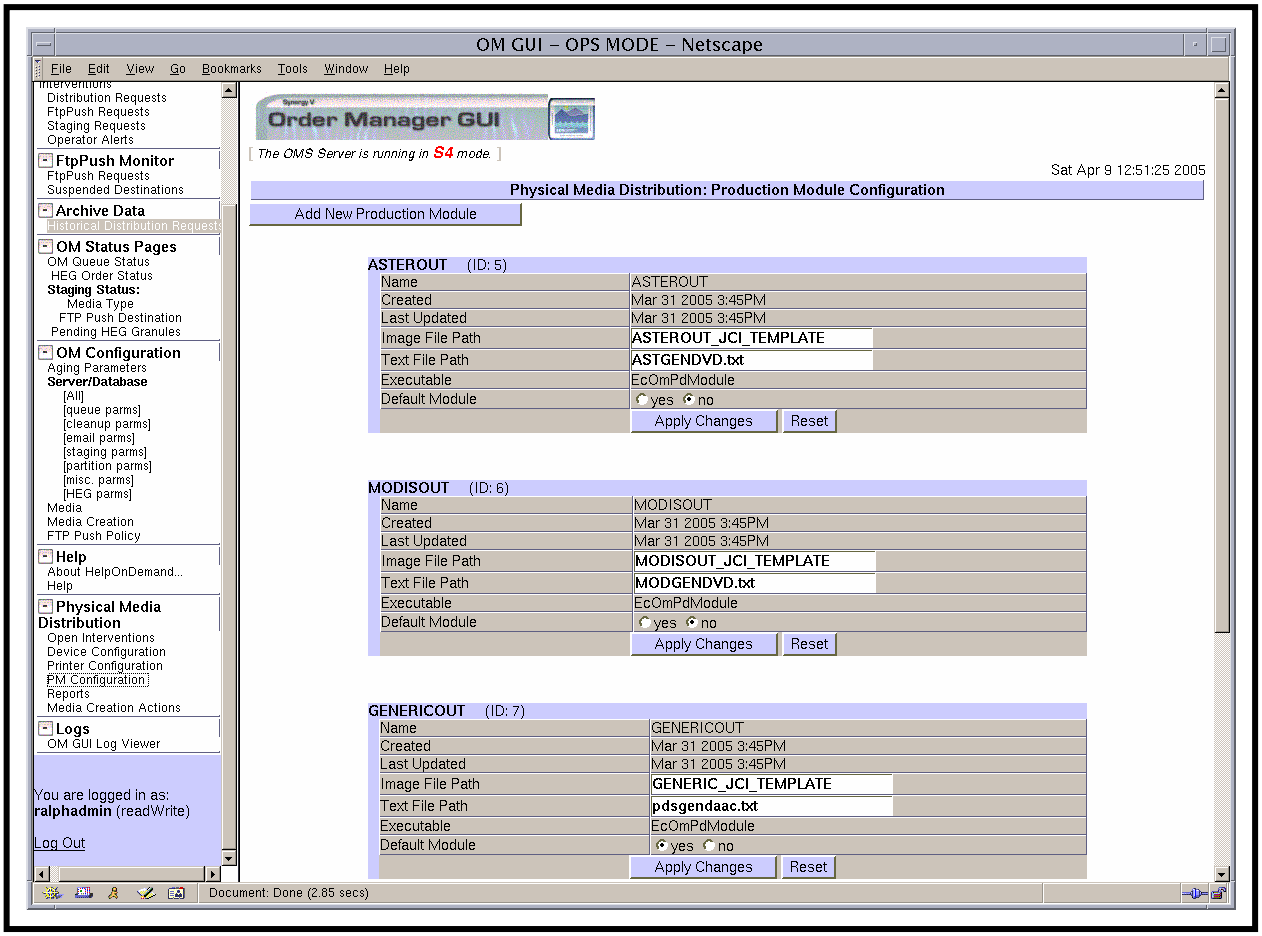


Figure 82. PMD Production Module Configuration Page

- **Last Updated** (date/time).
- **Image File Path.**
- **Text File Path.**
- **Executable.**
- **Default Module** (yes/no).

3 Observe information displayed in the production module tables of the **PMD Production Module Configuration** page.

- To manually update (refresh) the data on the screen, click on the ↻ icon in the **OM GUI** navigation frame.
- The Netscape browser **Edit → Find in Page** menu provides a means of performing a keyword search of the data currently being displayed on the screen.

4 To modify the values assigned to parameters for a particular production module first type the appropriate information in the corresponding text box(es) of the table for the production module on the **PMD Production Module Configuration** page.

- Values for the following three parameters can be changed:
  - **Image File Path** (type the desired value in the corresponding text box if applicable).
  - **Text File Path** (type the desired value in the corresponding text box if applicable).
- Modifications to production module parameter values are not implemented until the **Apply Changes** button for the production module has been activated.

5 To designate whether or not a production module is the default production module click on the appropriate button from the following selections:

- **yes** - to designate a production module as the default module.
- **no** - to designate a production module as not being the default module.

6 Repeat Steps 4 and 5 as necessary to identify parameter values to be modified for other production modules.

7 If modified parameter values for a particular production module have been entered in the table for the production module on the **PMD Production Module Configuration** page, click on the appropriate button from the following selections:

- **Apply Changes** - to implement the specified modifications to production module parameter values.
  - The modified value(s) for the particular production module is/are implemented.
- **Reset** - to reset the parameter values for the production module to the original values.
  - The modified value(s) for the particular production module is/are not implemented.

NOTE: The process of adding a new production module to the PMD configuration assumes that the production module has been properly installed already.

8 To add a new production module first click on the **Add New Production Module** button on the **PMD Production Module Configuration** page.

- An **Add New Production Module** table is displayed on the **PMD Production Module Configuration** page (Figure 83).

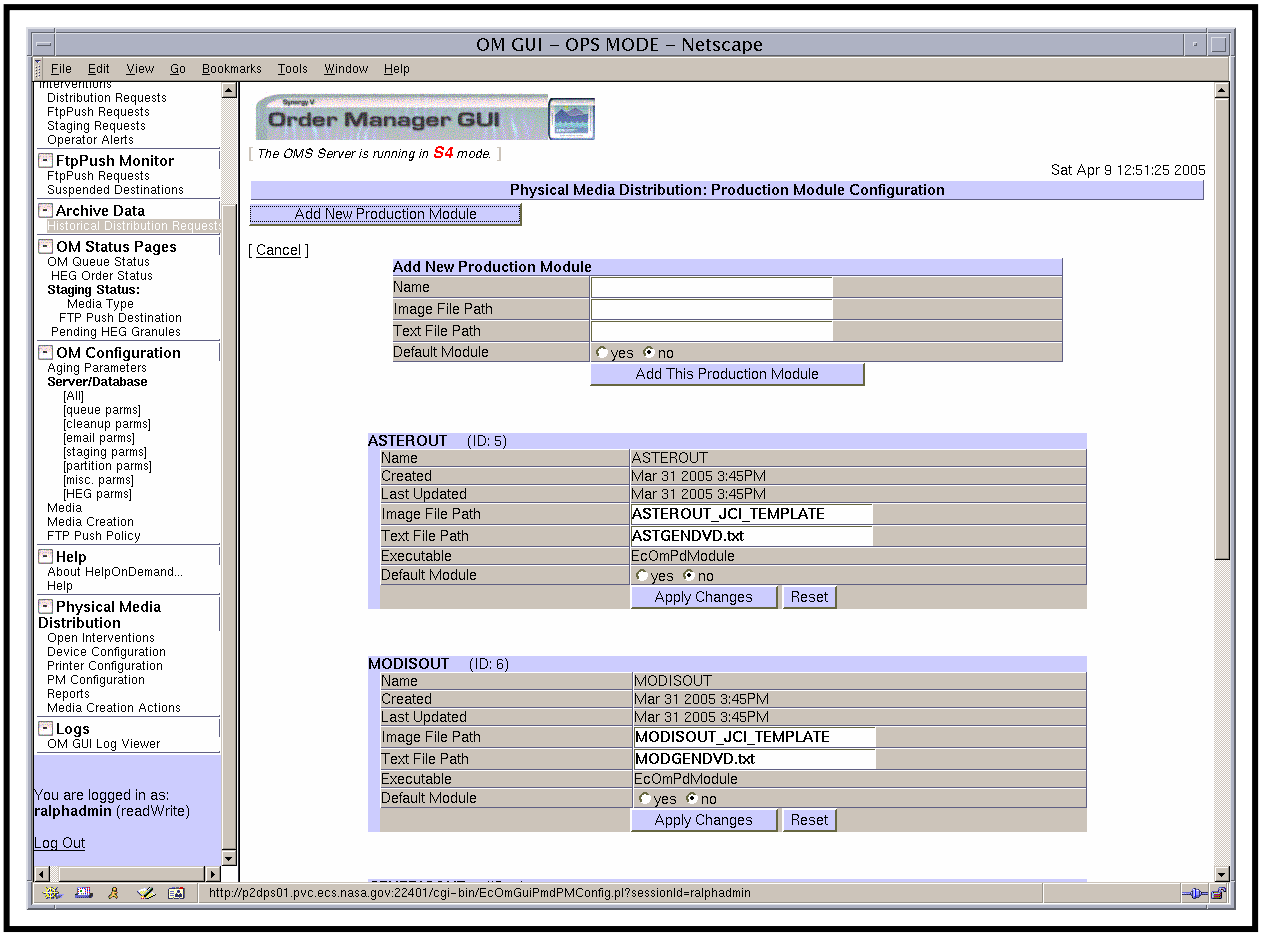


Figure 83. Add New Production Module Table (PMD Production Module Configuration Page)

9 To continue the process of adding a new production module type the appropriate information in the text boxes of the **Add New Production Module** table on the **PMD Production Module Configuration** page.

- Enter values for the following three parameters:
  - **Name.**
  - **Image File Path.**
  - **Text File Path.**

10 To designate whether or not a production module being added to the configuration is the default module click on the appropriate button from the following selections in the **Add New Production Module** table:

- **yes** - to designate a production module as the default module.
- **no** - to designate a production module as not being the default module.

11 To conclude the process of adding a new production module click on the appropriate button or link from the following selections:

- **Add This Production Module** button - to add the new production module to the PMD configuration.
  - The **Add New Production Module** table on the **PMD Production Module Configuration** page (Figure 83) is dismissed.
  - The **PMD Production Module Configuration** page (Figure 82) is displayed.
- **Cancel** link - to abort the process of adding a new production module to the PMD configuration.
  - The **Add New Production Module** table on the **PMD Production Module Configuration** page (Figure 83) is dismissed.
  - The **PMD Production Module Configuration** page (Figure 82) is displayed.

12 Repeat Steps 8 through 11 as necessary to add new production modules to the PMD configuration.

13 To start the process of logging out (if applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

14 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  - The dialogue box is dismissed.
  - The Netscape browser is dismissed.
- **Cancel** - to dismiss the dialogue box without logging out.
  - The dialogue box is dismissed.
  - The **OM GUI** is displayed.

Checking PMD Reports

The **PMD Report Summary** page (Figure 84) is located under the **Physical Media Distribution** menu. The reports are displayed in HTML through the browser. By using the browser's built-in and convenient print function, the reports can be printed with the formatting intact.

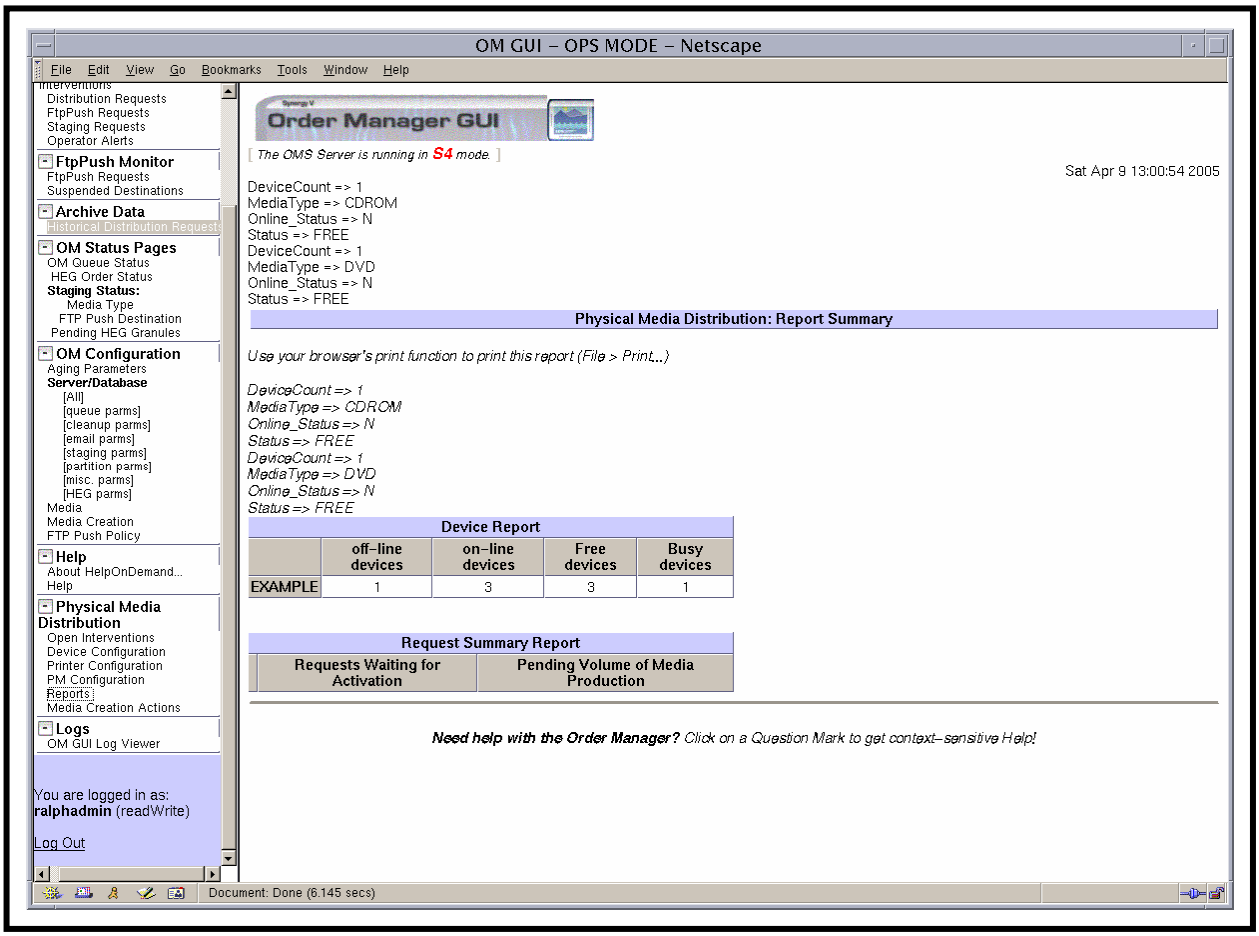


Figure 84. PMD Report Summary Page

The following types of reports are available:

- **Tape Device Report** - This shows, by media type, the summary of off-line, on-line and free/busy tape devices
- **RIMAGE Device Report** - Unlike the tape device report, this shows the number and volume (in MB) of jobs queued, since RIMAGE devices don't really become "Busy" unless their Job Limit has been reached.

- **Job Request Summary** - A quick summary of the PMD requests in their various states from waiting for a device to waiting for shipment.

The procedure for checking PMD reports on the **OM GUI** starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

Checking PMD Reports

---

1 If it has not been expanded already, click on the **Physical Media Distribution** link in the navigation frame of the **OM GUI**.

- The **Physical Media Distribution** menu is expanded.

2 Click on the **Reports** link in the navigation frame of the **OM GUI**.

- The **PMD Report Summary** page (Figure 84) is displayed.

3 Observe information displayed in the table on the **PMD Report Summary** page.

- **Tape Device Report** has a row for each type of tape device and columns describing the following characteristics of the tape devices:
  - **Media Type.**
  - **off-line devices.**
  - **on-line devices.**
  - **free devices.**
  - **busy devices.**
- **RIMAGE Device Report** has a row for each type of disk medium and columns describing the following characteristics of the disk media:
  - **Media Type.**
  - **Creation Jobs Queued.**
  - **Volume of Jobs Queued.**
- **Job Request Summary** has a row for each type of physical distribution medium and columns describing the following characteristics of the physical distribution media:
  - **Media Type.**
  - **Jobs waiting for devices.**
  - **Jobs Transferring.**

- **Jobs in QC.**
- **Jobs Waiting for Shipment.**

- To manually update (refresh) the data on the screen, click on the ↻ icon in the **OM GUI** navigation frame.
- The Netscape browser **Edit → Find in Page** menu provides a means of performing a keyword search of the data currently being displayed on the screen.

NOTE: To get the most up-to-date statistics, reload the page just before printing. Because the **OM GUI** has a time stamp on every page, it shows when the report was generated, giving an idea of the report's accuracy.

4 To print the PMD reports first select **File → Print** from the browser pull-down menu.

- A **Print** dialogue box is displayed.

5 To continue the process of printing the PMD reports click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and print the reports.
  - The dialogue box is dismissed.
  - The reports are printed.
- **Cancel** - to dismiss the dialogue box without printing the reports.
  - The dialogue box is dismissed.

6 To start the process of logging out (if applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

7 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  - The dialogue box is dismissed.
  - The Netscape browser is dismissed.
- **Cancel** - to dismiss the dialogue box without logging out.
  - The dialogue box is dismissed.
  - The **OM GUI** is displayed.

Monitoring/Controlling PMD Media Creation Using the OM GUI

The **Media Creation Actions** page (Figure 85) provides the full-capability operator with a means of performing various types of media creation actions.

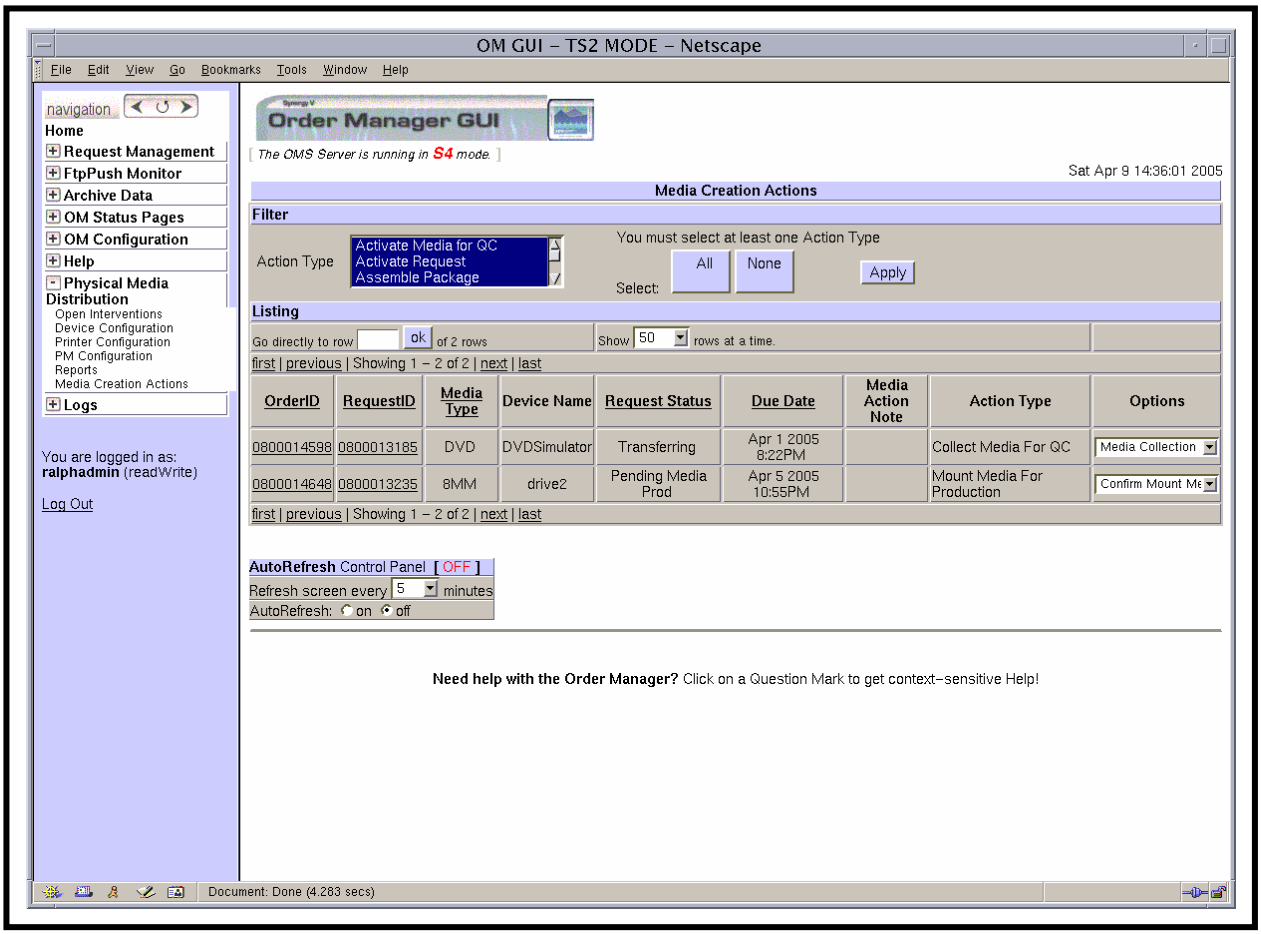


Figure 85. Media Creation Actions Page

If physical media creation for a type of physical distribution medium is dispatched manually, the operator must take action to activate each request on that type of physical distribution medium using the **Media Creation Actions** page.

The OMS production software (EcOmPdModule) runs twice during media production; i.e., once for media preparation and again for media creation. Somewhat different activities occur for disk and tape preparation and creation. The following activities occur during disk and tape preparation:

- Disk (CD/DVD) preparation.
  - HDF and metadata file are read.

  - Data is staged.
  - Summary file is created.
  - Summary file is copied.
  - Jewel case insert is created.
  - ISO image file is created.
- Tape preparation.
  - HDF and metadata file are read.
  - Data is staged.
  - Summary file is created.
  - Summary file is copied.
  - Tape label is created.

The following activities occur during disk and tape creation:

- Disk (CD/DVD) creation.
  - Merge (label data) file is created.
  - Rimage interface file is created.
  - Rimage writes data to media.
  - Jewel case insert is printed.
  - ISO image and interface file are cleaned up.
  - Staging directory is cleaned up.
- Tape creation.
  - Data is written to tape.
  - Tape label is printed.
  - Staging directory is cleaned up.

The following activities occur during disk and tape QC/verification:

- The medium is inserted in a different drive that than that used to create the disk or tape.
  - QC of disks is typically done on a QC PC.
- The operator starts QC from the **OM GUI**.
- QC compares the summary file and a “tar –tvf” of the medium.

On the **OM GUI** media creation is divided into the following "actions:"

- Activate Request.
- Mount Media for Production.
- Collect Media for QC.
- Activate Media for QC.
- Mount Media for QC.
- Assemble Package.

Entries in the **Action Type** column of the **Media Creation Actions** page indicate to the operator what general kind of action needs to be taken next. The operator can select the appropriate choice from the alternatives listed in the **Options** column.

The procedure for monitoring/controlling PMD media creation actions starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

Monitoring/Controlling PMD Media Creation Using the OM GUI

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1 If it has not been expanded already, click on the **Physical Media Distribution** link in the navigation frame of the **OM GUI**.

- The **Physical Media Distribution** menu is expanded.

2 Click on the **Media Creation Actions** link in the navigation frame of the **OM GUI**.

- The **Media Creation Actions** page (Figure 85) is displayed.
- The **Filter** area of the **Media Creation Actions** page allows the operator to select the type(s) of actions to be displayed on the page. The following types of actions can be selected:
  - **Activate Media for QC.**
  - **Activate Request.**
  - **Assemble Package.**
  - **Collect Media for QC.**
  - **Mount Media for Production.**
  - **Mount Media for QC.**

- The **Listing** table has the following columns:
  - **OrderID.**
  - **RequestID.**
  - **Media Type.**
  - **Device Name**.
  - **Request Status** [status of the request. If the status is "Operator Intervention" and an OMS intervention exists, the status is a link to the Intervention Detail page for the intervention.].
  - **Due Date** [date/time the request is due to be shipped.].
  - **Media Action Note** ["Y" indicates that there is a note associated with the request. To see the note click the "Y."].
  - **Action Type** [type of action in the media creation process that OMS has queued and the operator can take.].
  - **Options** [options available to the operator in response to the queued action (in the **Action Type** column.].

3 Observe information displayed in the **Listing** table of the **Media Creation Actions** page.

- The **Show _____ rows at a time** window provides a means of selecting the maximum number of rows of data to be displayed at a time.
  - For example, if **Show _____ rows at a time** is being displayed, selecting **50** from the option button would result in the display of a page of data containing up to 50 rows of data.
- Clicking on a link (underlined word) in the column header row of the table causes table contents to be sorted on that column.
  - For example, clicking on the **Request Status** link causes the table to be organized by "Request Status," with the most recent request requiring intervention in the top row of the table.
- Clicking on a specific Order ID brings up a screen containing more detailed data concerning that particular order.
  - The **ECS Order** page (Figure 21) displays the following types of data concerning the order:
    - **Request ID(s).**
    - **Order Type.**
    - **Order Source.**
    - **Ext. RequestId.**

- **Receive Date.**
- **Last Update.**
- **Description.**
- **Start Date.**
- **User ID.**
- **Status.**
- **Ship Date.**
- **Order Home DAAC.**

- Clicking on the ← icon in the **OM GUI** navigation frame causes the **Media Creation Actions** page to be redisplayed.
- Clicking on a specific Request ID in the **Listing** table of the **Media Creation Actions** page brings up a **Distribution Request Detail** page (e.g., Figure 31 or Figure 32).
  - For example, clicking on Request ID **0800013350** brings up a **Distribution Request Detail** page (i.e., **DISTRIBUTION REQUEST 0800013350 -** Figure 31) that displays the following types of data (as applicable) concerning the request (varies with the type of distribution medium selected):
    - **UserID.**
    - **E-mail.**
    - **Request Size (MB).**
    - **# Granules.**
    - **# Granules Staged.**
    - **# Granules FTP Pushed.**
    - **Receive Date/Time.**
    - **Start Date/Time.**
    - **Last Update.**
    - **End Date/Time.**
    - **Due Date.**
    - **Allocated Device.**
    - **OrderId.**
    - **Order Type.**

- **Ext. RequestId.**
- **Priority.**
- **Request Status.**
- **Destination.**
- **Edit FtpPush Parameters** [button].
- **Resubmit Count.**
- **Media Type.**
- **Resource Class.**
- **Actions** [Action button(s) (e.g., **Resubmit**, **Stop**, **Cancel**, **Suspend**, and/or **Resume**)].
- **User String.**
- **Device Allocated Date/Time.**
- **Volume List: Volume Name; Status; Action; Explanation; Production Module; Last Update.**
- **Request Notes** [text box and **Apply** button].
- **Mailing Address: Title; First Name; Middle Initial; Last Name; Email; Organization; Address; City; State/Province; Country; Zip/Postal code; Telephone; Fax.**
- **Shipping Address: Title; First Name; Middle Initial; Last Name; Email; Address; City; State/Province; Country; Zip/Postal code; Telephone; Fax.**
- **Billing Address: Title; First Name; Middle Initial; Last Name; Email; Organization; Address; City; State/Province; Country; Zip/Postal code; Telephone; Fax.**
- **Granule List/Failed Granules (e.g., DB ID; DPL ID; ESDT; Size (MB); Proc Mode; HEG Line Item; Volume Name; Granule Status; Completion Time; Explanation).**

- Horizontal and vertical scroll bars appear when necessary to allow viewing data that are not readily visible in the window.
- If **AutoRefresh** is **ON**, the **Media Creation Actions** page refreshes automatically as often as specified in the **Refresh screen every *x* minutes** window.
  - If a different refresh option is preferred, perform the procedure for **Setting Refresh Options on OM GUI Pages** (previous section of this lesson).

- To manually update (refresh) the data on the screen, click on the ↻ icon in the **OM GUI** navigation frame.
- The Netscape browser **Edit → Find in Page** menu provides a means of performing a keyword search of the data currently being displayed on the screen.
- The **first**, **previous**, **next**, and **last** links provide means of displaying additional pages of data.

4 To change the priority of a distribution request first click on the option button in the **Priority** column of the row associated with the request to display a menu of priorities then click on the desired selection.

- Selected priority is displayed in the **Priority** column.
- An alternative is to bring up the relevant **Distribution Request Detail** page (by clicking on the Request ID in the **Distribution Requests** table), click on the option button on the **Priority** line to display a menu of priorities, then click on the desired selection.

5 To implement a priority change click on the **Apply** button adjacent to the text box displaying the desired priority.

- "Priority changed" is displayed in the **Priority** column for the row associated with the request.

6 Repeat Steps 4 and 5 as necessary to change the priority of additional distribution requests.

7 If **Activate Request** is displayed in the **Action Type** column for a request on the **Media Creation Actions** page, go to the appropriate procedure (from the list that follows) for responding to the action type associated with the request.

- **Activating PMD Requests** [to start the media creation process for PMD requests] (subsequent section of this lesson).
- **Failing a PMD Request** [to manually fail a PMD request and (optionally) either enter additional text for the distribution notice (DN) or specify that no DN is to be sent] (subsequent section of this lesson).
- **Annotating a PMD Action** [to add notes to any PMD action] (subsequent section of this lesson).

8 If **Mount Media for Production** is displayed in the **Action Type** column for a request on the **Media Creation Actions** page, go to the appropriate procedure (from the list that follows) for responding to the action type associated with the request.

- **Confirming Mount Media for PMD** [to confirm media mounting for the next volume of the request] (subsequent section of this lesson).

- **Failing Mount Media for PMD** [to notify OMS that the assigned drive currently cannot be used for media creation for a particular request and (optionally) to take the device off line] (subsequent section of this lesson).
- **Annotating a PMD Action** [to add notes to any PMD action] (subsequent section of this lesson).

9 If **Collect Media for QC** is displayed in the **Action Type** column for a request on the **Media Creation Actions** page, go to the appropriate procedure (from the list that follows) for responding to the action type associated with the request.

- **Confirming Media Collection Complete for PMD** [to confirm media collection complete for PMD (i.e., the recently created volume(s) that was/were waiting for dismount has/have been dismounted)] (subsequent section of this lesson).
- **Failing PMD Media Collection** [to indicate that the media collection or dismount failed] (subsequent section of this lesson).
- **Annotating a PMD Action** [to add notes to any PMD action] (subsequent section of this lesson).

10 If **Activate Media for QC** is displayed in the **Action Type** column for a request on the **Media Creation Actions** page, go to the following procedure:

- **Activating QC for PMD Requests** [to start the media QC process for PMD requests] (subsequent section of this lesson).
- **Failing a PMD Request** [to manually fail a PMD request and (optionally) either enter additional text for the distribution notice (DN) or specify that no DN is to be sent] (subsequent section of this lesson).
- **Annotating a PMD Action** [to add notes to any PMD action] (subsequent section of this lesson).

11 If **Mount Media for QC** is displayed in the **Action Type** column for a request on the **Media Creation Actions** page, go to the appropriate procedure (from the list that follows) for responding to the action type associated with the request.

- **Confirming Mount Media for PMD** [to confirm media mounting for the next volume of the request] (subsequent section of this lesson).
- **Failing Mount Media for PMD** [to notify OMS that the assigned drive currently cannot be used for media creation for a particular request and (optionally) to take the device off line] (subsequent section of this lesson).
- **Annotating a PMD Action** [to add notes to any PMD action] (subsequent section of this lesson).

12 If **Assemble Package** is displayed in the **Action Type** column for a request on the **Media Creation Actions** page, go to the appropriate procedure (from the list that follows) for responding to the action type associated with the request.

- **Marking PMD Request Shipped** [to confirm media dismount for a particular request that has passed QC and is ready to be marked "shipped"] (subsequent section of this lesson).
- **Confirming PMD Media Dismounted** [to confirm media dismount for a particular request] (subsequent section of this lesson).
- **Confirming PMD Package Assembled** [to confirm that the package was assembled for shipment] (subsequent section of this lesson).
- **Marking PMD Package Not Assembled** [to indicate that the package was **not** assembled for shipment] (subsequent section of this lesson).
- **Failing a PMD Request** [to manually fail a PMD request and (optionally) either enter additional text for the distribution notice (DN) or specify that no DN is to be sent] (subsequent section of this lesson).
- **Printing PMD Outputs** [to reprint certain documents associated with PMD production, including shipping label, DN, and/or (in the case of CD-R/DVD-R) the jewel case insert] (subsequent section of this lesson).
- **Annotating a PMD Action** [to add notes to any PMD action] (subsequent section of this lesson).

13 Repeat Steps 3 through 12 as necessary to monitor/control PMD media creation.

14 If an open intervention is created (either automatically or manually) with respect to a request (e.g., due to the failure of a request), go to the procedure for **Viewing PMD Open Intervention Information on the OM GUI** (previous section of this lesson).

15 To start the process of logging out (if applicable) click on the **Log Out** link in the navigation frame of the **OM GUI**.

- A log-out dialogue box containing the message "Are you sure you want to log out? This will close your browser." is displayed.

16 To complete the process of logging out (when applicable) click on the appropriate button from the following selections:

- **OK** - to dismiss the dialogue box and complete the log-out.
  - The dialogue box is dismissed.
  - The Netscape browser is dismissed.
- **Cancel** - to dismiss the dialogue box without logging out.
  - The dialogue box is dismissed.

– The **OM GUI** is displayed.

Activating PMD Requests

The OMS queues an action (i.e., **Activate Request**) indicating to the operator (in the **Action Type** column of the **Media Creation Actions** page) to activate a distribution request by allocating it to a device. The "normal" operator response would be to select a device from the list of available devices and (in the case of a tape medium) confirm the presence of a blank tape in the device. However, activating the request is not the only possibility. When the **Activate Request** action for a particular request appears on the **Media Creation Actions** page, the operator has the following options:

- Activate request [Refer to the **Activating PMD Requests** procedure (subsequent section of this lesson).]
- Fail request [Refer to the **Failing a PMD Request** procedure (subsequent section of this lesson).]
- Annotate action [Refer to the **Annotating a PMD Action** procedure (subsequent section of this lesson).]

Activating PMD Requests

The procedure for **Activating PMD Requests** is used for activating distribution requests by allocating them to devices (tape or disk drives). For tape media, the operator must confirm the presence of a blank tape in the device. The procedure is performed in response to an **Activate Request** action displayed in the **Action Type** column of the **Media Creation Actions** page. **Activating PMD Requests** is typically performed in association with other procedures (e.g., **Monitoring/Controlling PMD Media Creation Using the OM GUI**).

The **Activate Request** pages (Figures 90 and 91) provide the full-capability operator with means of manually activating PMD requests. The full-capability operator has options for assigning a different device for creating the volume, confirming tape mounting (if applicable), and/or annotating the action.

If physical media creation for a type of physical distribution medium is dispatched manually, the operator must take action to activate each request on that type of physical distribution medium using the **Media Creation Actions** page and the appropriate **Activate Request** page.

The procedure for activating PMD requests on the **OM GUI** starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

1 If it has not been expanded already, click on the **Physical Media Distribution** link in the navigation frame of the **OM GUI**.

- The **Physical Media Distribution** menu is expanded.

2 Click on the **Media Creation Actions** link in the navigation frame of the **OM GUI**.

- The **Media Creation Actions** page (Figure 85) is displayed.
- The **Filter** area of the **Media Creation Actions** page allows the operator to select the type(s) of actions to be displayed on the page. The following types of actions can be selected:
  - **Activate Media for QC.**
  - **Activate Request.**
  - **Assemble Package.**
  - **Collect Media for QC.**
  - **Mount Media for Production.**
  - **Mount Media for QC.**
- The **Listing** table has the following columns:
  - **OrderID.**
  - **RequestID.**
  - **Media Type.**
  - **Device Name.**
  - **Request Status.**
  - **Due Date.**
  - **Media Action Note.**
  - **Action Type.**
  - **Options.**

3 Observe information displayed in the **Listing** table of the **Media Creation Actions** page.

NOTE: In order to activate a PMD request for production the entry in the **Action Type** column for that request must be **Activate Request**.

4 To start the process of activating a PMD request, click and hold the option button in the **Options** column for the row associated with the request to display a menu of options, move the mouse cursor to **Activate Request** (highlighting it), then release the mouse button.

- An **Activate Request** dialogue box for tape media (Figure 86) or for disk media (Figure 87) (as applicable) is displayed.
  - The **Activate Request** dialogue box displays the list of available devices of the required type, and either proposes one of them as a default choice or indicates that none are available.
  - If the device is a Rimage (disk) unit, the dialogue box displays the following current workload information for each available unit:
    - **Device Name.**
    - **Workload (MB).**
    - **Workload Limit.**

5 If a device other than the one displayed in the **Activate Request** dialogue box is preferred, click and hold the option button in the dialogue box to display a menu of available devices, move the mouse cursor to the desired selection (highlighting it), then release the mouse button.

- The desired device is displayed in the **Activate Request** dialogue box.

6 Click in the **Select … Device to Allocate** check box.

- A checkmark is displayed in the **Select … Device to Allocate** check box.

7 If the device is a Rimage (disk) unit, ensure that the input bins of the Rimage unit contain blank disks.

- Load the input bin(s) if necessary, ensuring that the disks are inserted right-side up (shiny side down).
  - For detailed instructions refer to the Rimage unit operating manual.

8 If the data are to be recorded on a tape, ensure that there is a blank tape in the drive to be used for recording the data.

9 If the data are to be recorded on a tape, wait for the drive to come on line before activating the request using the **Activate Request** dialogue box.

- Wait for light to stop flashing.

10 If the data are to be recorded on a tape and there is a problem with the tape drive (e.g., it is malfunctioning and needs to be taken off line), go to the procedure for **Failing Mount Media for PMD** (subsequent section of this lesson).

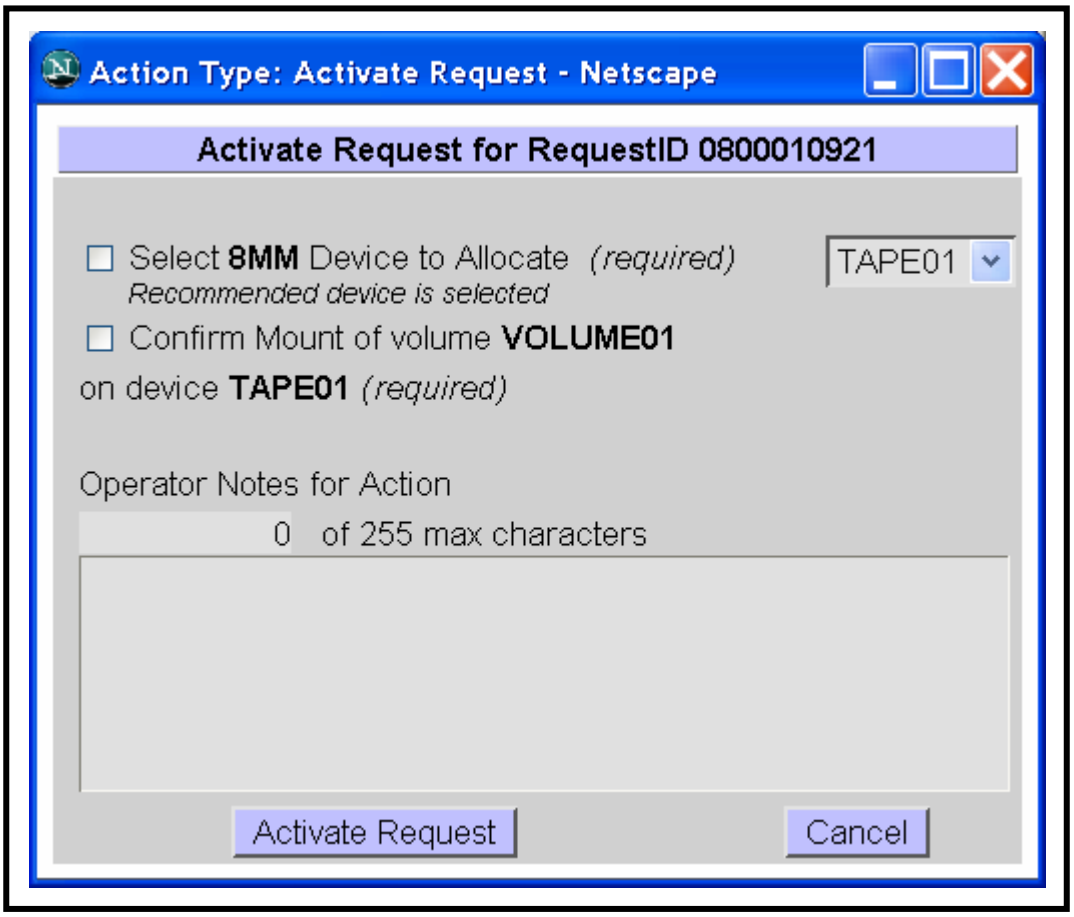

Figure 86. Activate Request Dialogue Box for Tape Media

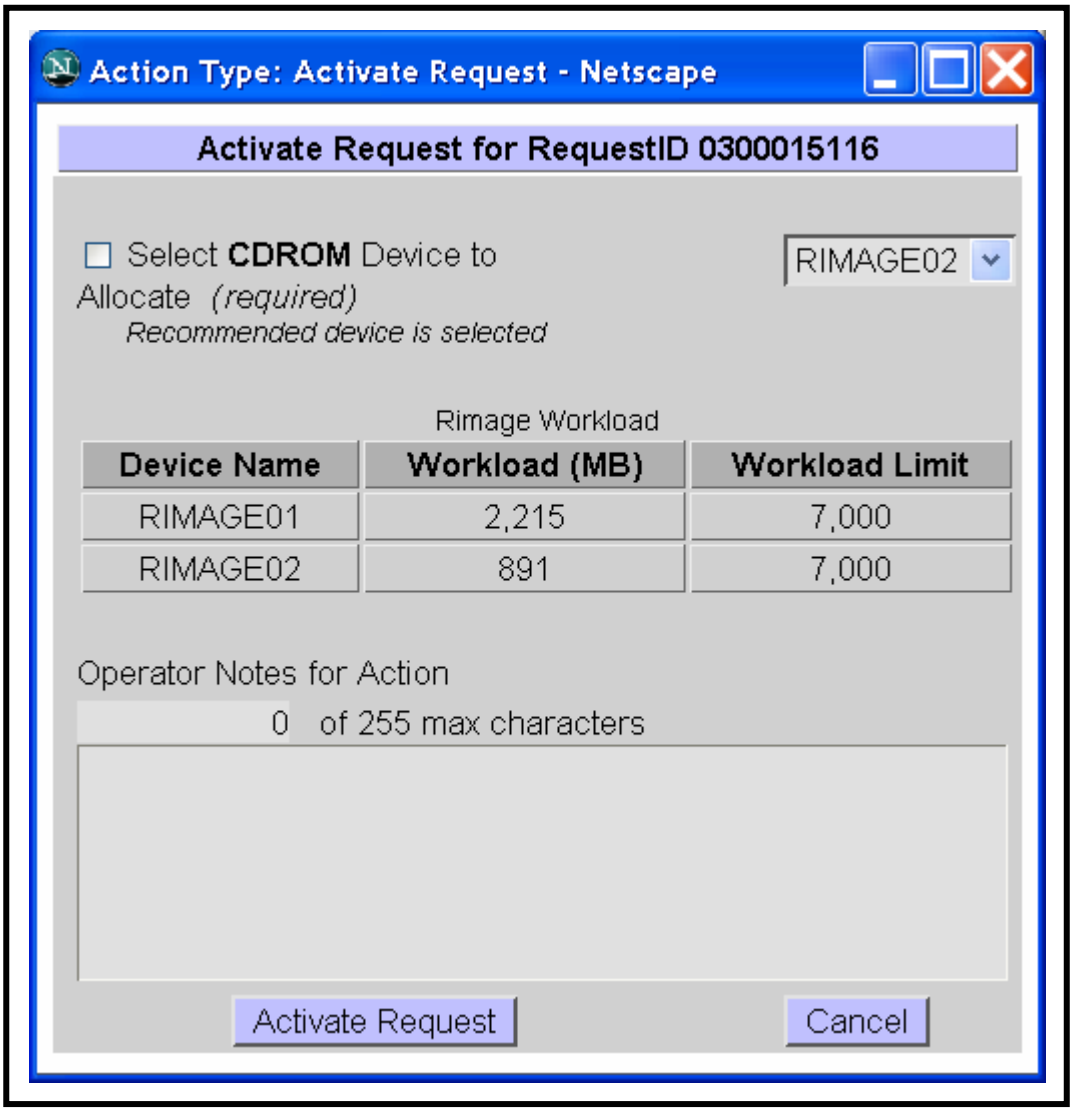

Figure 87. Activate Request Dialogue Box for Disk Media

11 If the data are to be recorded on a tape, after ensuring that there is a blank tape in the drive to be used for recording the data, click in the check box labeled **Confirm Mount of … Volume … on Device …**.

- A checkmark is displayed in the **Confirm Mount of … Volume … on Device …** check box.

12 If notes are to be entered for the "activate" action, type the appropriate text in the **Operator Notes for Action** text box of the **Activate Request** dialogue box.

- Text is displayed in the **Operator Notes for Action** text box of the **Activate Request** dialogue box.

13 To complete the process of activating the request click on the appropriate button from the following selections:

- **Activate Request** - to dismiss the dialogue box and activate the request.
  - The dialogue box is dismissed.
  - The **Media Creation Actions** page (Figure 85) is displayed.
- **Cancel** - to dismiss the dialogue box without activating the request.
  - The dialogue box is dismissed unless the Operator Notes have changed, in which case the **Cancel** button provides an opportunity to save the updated notes before dismissing the dialogue box.
  - The **Media Creation Actions** page (Figure 85) is displayed.

14 Repeat Steps 3 through 13 as necessary to activate additional requests.

15 Return to the procedure that specified activating PMD requests [e.g., **Monitoring/Controlling PMD Media Creation Using the OM GUI** (previous section of this lesson)].

Failing a PMD Request

The procedure for **Failing a PMD Request** is used for notifying OMS that a request should be failed and (optionally) either adding text to the DN or suppressing the DN. The procedure is performed in response to an **Activate Request**, **Activate Media for QC**, or **Assemble Package** action displayed in the **Action Type** column of the **Media Creation Actions** page. **Failing a PMD Request** is typically performed in association with other procedures (e.g., **Monitoring/Controlling PMD Media Creation Using the OM GUI**).

The **Fail Request** page (Figure 88) provides the full-capability operator with a means of manually failing PMD requests. In addition, the full-capability operator has the options of either entering additional text to be included in the distribution notice (DN) or specifying that no DN be sent. Furthermore, the full-capability operator has the option of annotating the action.

The procedure for failing a PMD request on the **OM GUI** starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

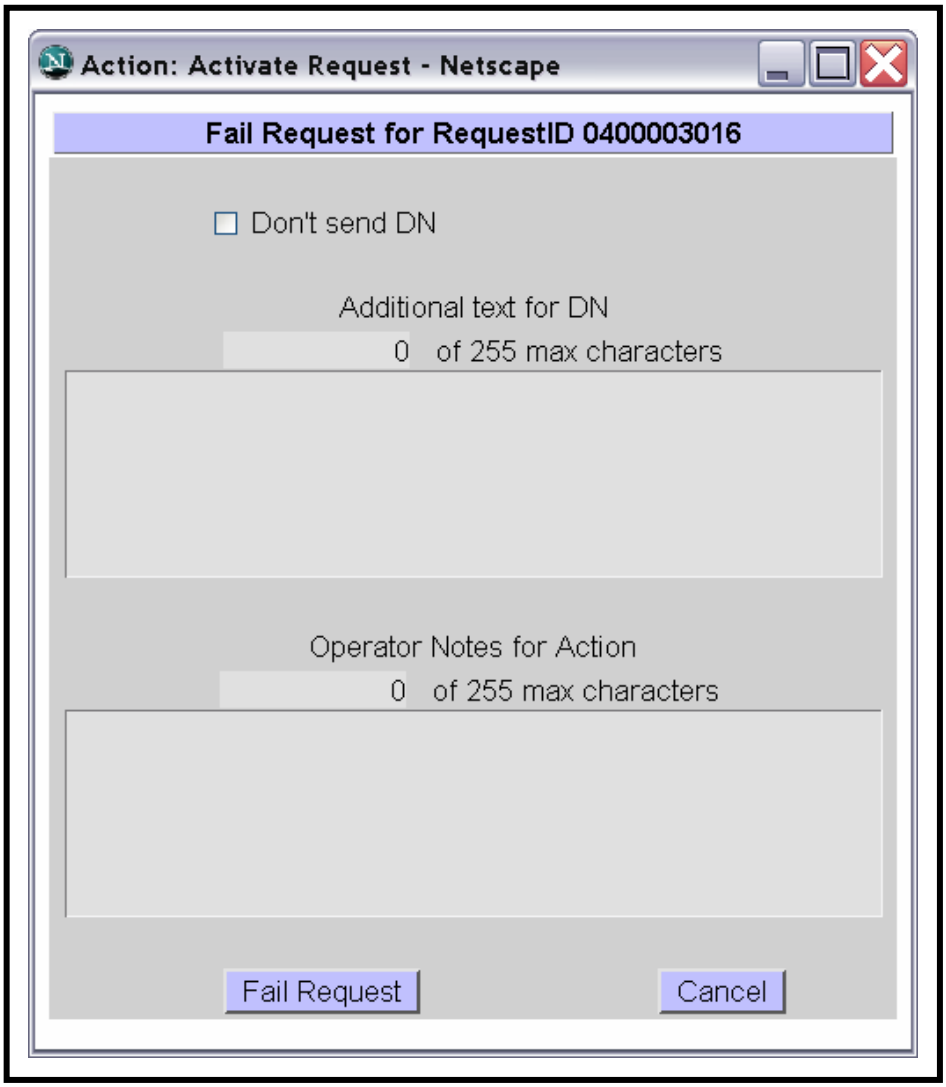

Figure 88. Fail Request Page

Failing a PMD Request

1 If it has not been expanded already, click on the **Physical Media Distribution** link in the navigation frame of the **OM GUI**.

- The **Physical Media Distribution** menu is expanded.

2 Click on the **Media Creation Actions** link in the navigation frame of the **OM GUI**.

- The **Media Creation Actions** page (Figure 85) is displayed.

- The **Filter** area of the **Media Creation Actions** page allows the operator to select the type(s) of actions to be displayed on the page. The following types of actions can be selected:
  - **Activate Media for QC.**
  - **Activate Request.**
  - **Assemble Package.**
  - **Collect Media for QC.**
  - **Mount Media for Production.**
  - **Mount Media for QC.**
- The **Listing** table has the following columns:
  - **OrderID.**
  - **RequestID.**
  - **Media Type.**
  - **Device Name.**
  - **Request Status.**
  - **Due Date.**
  - **Media Action Note.**
  - **Action Type.**
  - **Options.**

3 Observe information displayed in the **Listing** table of the **Media Creation Actions** page.

NOTE: In order to fail a PMD request the entry in the **Action Type** column for that request must be either **Activate Request**, **Activate Media for QC** or **Assemble Package**.

4 To start the process of failing a PMD request, click and hold the option button in the **Options** column for the row associated with the relevant request to display a menu of options, move the mouse cursor to **Fail Request** (highlighting it), then release the mouse button.

- A **Fail Request** dialogue box (Figure 88) is displayed.
  - The **Fail Request** dialogue box displays options for entering additional text to be included in the DN, specifying that no DN should be sent, and/or annotating the "fail request" action.

5 If additional text is to be entered for the DN, type the appropriate text in the **Additional text for DN** text box of the **Fail Request** dialogue box.

- Text is displayed in the **Additional text for DN** text box of the **Fail Request** dialogue box.

6 If no DN is to be sent, click in the check box labeled **Don't send DN**.

- A checkmark is displayed in the **Don't send DN** check box.

7 If notes are to be entered for the "fail request" action, type the appropriate text in the **Operator Notes for Action** text box of the **Fail Request** dialogue box.

- Text is displayed in the **Operator Notes for Action** text box of the **Fail Request** dialogue box.

8 To complete the process of failing the request click on the appropriate button from the following selections:

- **Fail Request** - to dismiss the dialogue box and fail the request.
  - The dialogue box is dismissed.
  - The **Media Creation Actions** page (Figure 85) is displayed.
- **Cancel** - to dismiss the dialogue box without failing the request.
  - The dialogue box is dismissed unless the Operator Notes have changed, in which case the **Cancel** button provides an opportunity to save the updated notes before dismissing the dialogue box.
  - The **Media Creation Actions** page (Figure 85) is displayed.

9 Repeat Steps 3 through 8 as necessary to fail additional requests.

10 Return to the procedure that specified failing a PMD request [e.g., **Monitoring/Controlling PMD Media Creation Using the OM GUI** (previous section of this lesson)].

Annotating a PMD Action

The procedure for **Annotating a PMD Action** is used for adding notes to PMD actions. The procedure is performed in response to any action (i.e., **Activate Request**, **Mount Media for Production**, **Collect Media for QC**, **Mount Media for QC**, or **Assemble Package**) displayed in the **Action Type** column of the **Media Creation Actions** page. **Annotating a PMD Action** is typically performed in association with other procedures (e.g., **Monitoring/Controlling PMD Media Creation Using the OM GUI**).

The **Annotate Action** page (Figure 89) provides the full-capability operator with a means of adding notes to PMD actions.

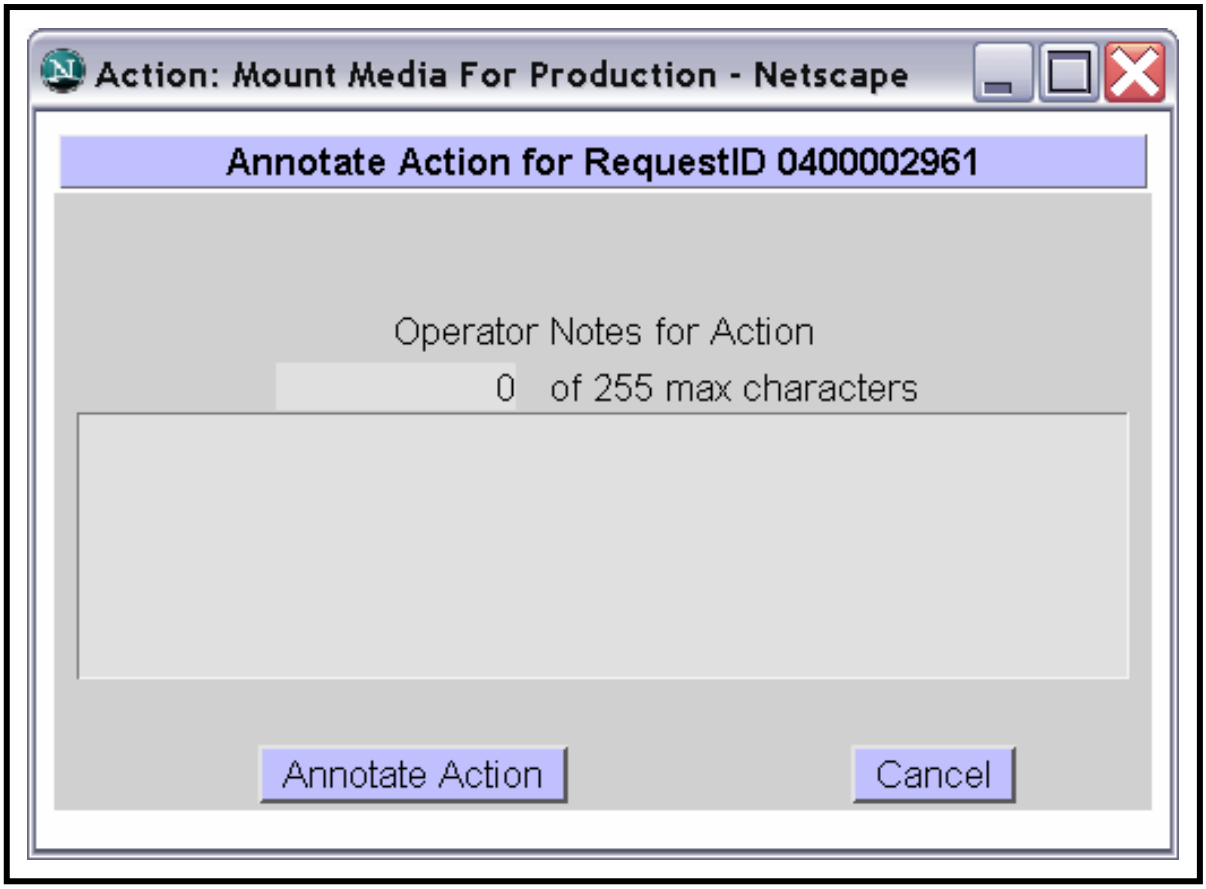

Figure 89. Annotate Action Page

The procedure for annotating a PMD action on the **OM GUI** starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

Annotating a PMD Action

1 If it has not been expanded already, click on the **Physical Media Distribution** link in the navigation frame of the **OM GUI**.

- The **Physical Media Distribution** menu is expanded.

2 Click on the **Media Creation Actions** link in the navigation frame of the **OM GUI**.

- The **Media Creation Actions** page (Figure 85) is displayed.

- The **Filter** area of the **Media Creation Actions** page allows the operator to select the type(s) of actions to be displayed on the page. The following types of actions can be selected:
  - **Activate Media for QC.**
  - **Activate Request.**
  - **Assemble Package.**
  - **Collect Media for QC.**
  - **Mount Media for Production.**
  - **Mount Media for QC.**
- The **Listing** table has the following columns:
  - **OrderID.**
  - **RequestID.**
  - **Media Type.**
  - **Device Name.**
  - **Request Status.**
  - **Due Date.**
  - **Media Action Note.**
  - **Action Type.**
  - **Options.**

3 Observe information displayed in the **Listing** table of the **Media Creation Actions** page.

NOTE: In order to annotate a PMD action for a request any of the possible entries in the **Action Type** column for the request is acceptable (i.e., **Activate Request**, **Mount Media for Production**, **Collect Media for QC**, **Activate Media for QC**, **Mount Media for QC**, or **Assemble Package**).

4 To start the process of annotating a PMD action, click and hold the option button in the **Options** column for the row associated with the relevant request to display a menu of options, move the mouse cursor to **Annotate Action** (highlighting it), then release the mouse button.

- An **Annotate Action** dialogue box (Figure 89) is displayed.

5 Type the appropriate text in the **Operator Notes for Action** text box of the **Annotate Action** dialogue box.

- Text is displayed in the **Operator Notes for Action** text box of the **Annotate Action** dialogue box.

6 To complete the process of annotating the action click on the appropriate button from the following selections:

- **Annotate Action** - to dismiss the dialogue box and apply the annotation to the action.
  - The dialogue box is dismissed.
  - The **Media Creation Actions** page (Figure 85) is displayed.
- **Cancel** - to dismiss the dialogue box without annotating the action.
  - The dialogue box is dismissed.
  - The **Media Creation Actions** page (Figure 85) is displayed.

7 Repeat Steps 3 through 6 as necessary to annotate additional actions.

8 Return to the procedure that specified annotating a PMD request [e.g., **Monitoring/Controlling PMD Media Creation Using the OM GUI** (previous section of this lesson)].

Mounting Media for PMD Production

The OMS queues an action (i.e., **Mount Media for PMD Production**) indicating to the operator (in the **Action Type** column of the **Media Creation Actions** page) to mount media for the second (or subsequent) volume of a multi-volume request for media creation. The "normal" operator response would be to ensure that there is a blank tape in the drive to be used for recording the data and confirm media mounting. However, that is not the only possibility. When the **Mount Media for PMD Production** action for a particular request appears on the **Media Creation Actions** page, the operator has the following options:

- Confirm mount media [Refer to the **Confirming Mount Media for PMD** procedure (subsequent section of this lesson).]
- Fail mount media [Refer to the **Failing Mount Media for PMD** procedure (subsequent section of this lesson).]
- Annotate action [Refer to the **Annotating a PMD Action** procedure (previous section of this lesson).]

Confirming Mount Media for PMD

The procedure for **Confirming Mount Media for PMD** is used for notifying OMS that the medium has been mounted for the next volume of a multi-volume request. The procedure is performed in response to a **Mount Media for Production** or **Mount Media for QC** action displayed in the **Action Type** column of the **Media Creation Actions** page. **Confirming Mount Media for PMD** is typically performed in association with other procedures (e.g., **Monitoring/Controlling PMD Media Creation Using the OM GUI**).

The **Confirm Mount Media** page (Figure 90) provides the full-capability operator with a means of confirming media mounting for the next volume of the request. The full-capability operator has the option of annotating the action.

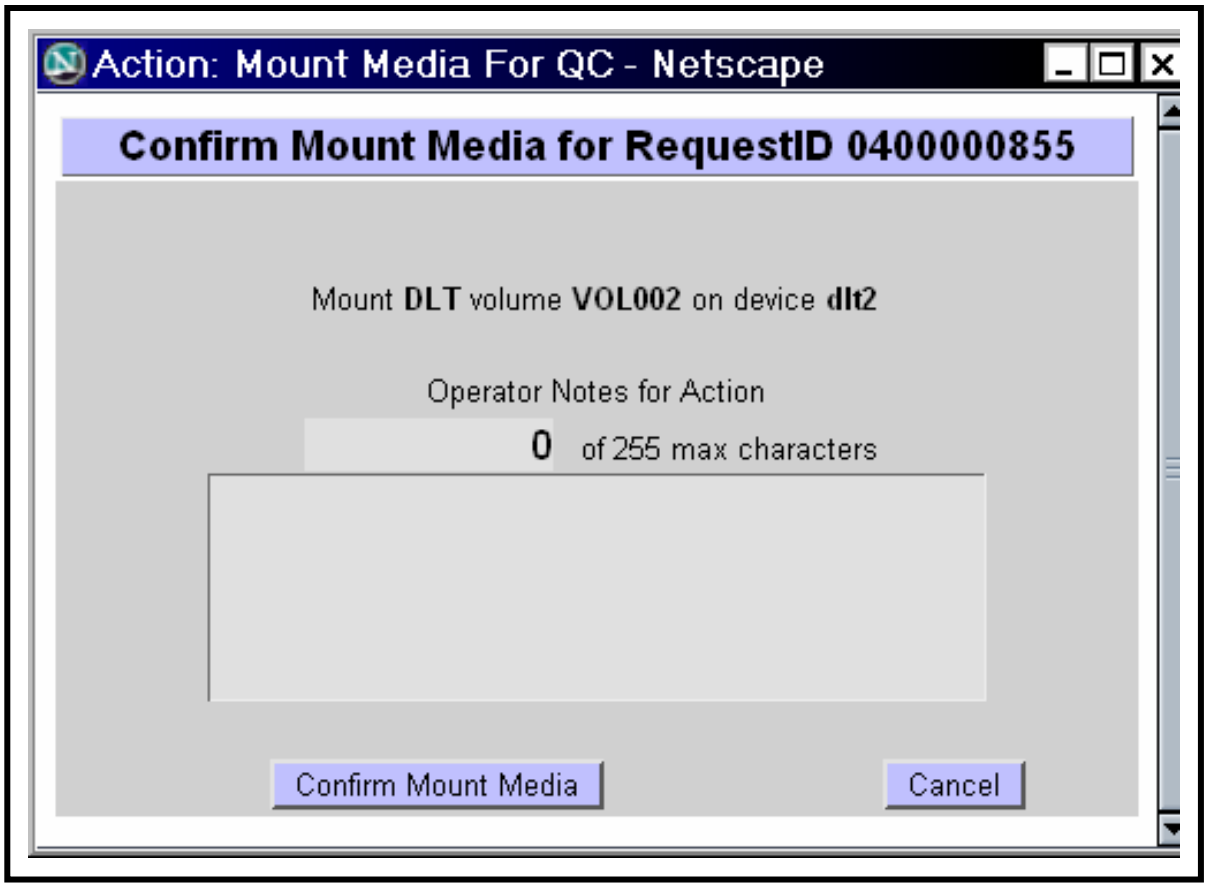

Figure 90. Confirm Mount Media Page

The procedure for confirming mount media on the **OM GUI** starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

1 If it has not been expanded already, click on the **Physical Media Distribution** link in the navigation frame of the **OM GUI**.

- The **Physical Media Distribution** menu is expanded.

2 Click on the **Media Creation Actions** link in the navigation frame of the **OM GUI**.

- The **Media Creation Actions** page (Figure 85) is displayed.
- The **Filter** area of the **Media Creation Actions** page allows the operator to select the type(s) of actions to be displayed on the page. The following types of actions can be selected:
  - **Activate Media for QC.**
  - **Activate Request.**
  - **Assemble Package.**
  - **Collect Media for QC.**
  - **Mount Media for Production.**
  - **Mount Media for QC.**
- The **Listing** table has the following columns:
  - **OrderID.**
  - **RequestID.**
  - **Media Type.**
  - **Device Name.**
  - **Request Status.**
  - **Due Date.**
  - **Media Action Note.**
  - **Action Type.**
  - **Options.**

3 Observe information displayed in the **Listing** table of the **Media Creation Actions** page.

NOTE: In order to confirm media mounting the entry in the **Action Type** column for the relevant request must be either **Mount Media for Production** or **Mount Media for QC**.

4 To start the process of confirming media mounting, click and hold the option button in the **Options** column for the row associated with the relevant request to display a menu of options, move the mouse cursor to **Confirm Mount Media** (highlighting it), then release the mouse button.

- A **Confirm Mount Media** dialogue box (Figure 90) is displayed.

5 If media mounting is for production purposes (rather than QC), ensure that there is a blank tape in the drive to be used for recording the data.

6 If media mounting is for QC purposes (rather than production) put the tape or disk of the first volume of the request into the drive to be used for QC.

7 Wait for the drive to come on line before confirming media mounting using the **Confirm Mount Media** dialogue box.

- Wait for light to stop flashing.

8 If there is a problem with the drive (e.g., it is malfunctioning and needs to be taken off line), go to the procedure for **Failing Mount Media for PMD** (previous section of this lesson).

9 If notes are to be entered for the "confirm mount media" action, type the appropriate text in the **Operator Notes for Action** text box of the **Confirm Mount Media** dialogue box.

- Text is displayed in the **Operator Notes for Action** text box of the **Confirm Mount Media** dialogue box.

10 To complete the process of confirming media mounting click on the appropriate button from the following selections:

- **Confirm Mount Media** - to dismiss the dialogue box and confirm media mounting.
  - The dialogue box is dismissed.
  - The **Media Creation Actions** page (Figure 85) is displayed.
- **Cancel** - to dismiss the dialogue box without confirming media mounting.
  - The dialogue box is dismissed unless the Operator Notes have changed, in which case the **Cancel** button provides an opportunity to save the updated notes before dismissing the dialogue box.
  - The **Media Creation Actions** page (Figure 85) is displayed.

11 Repeat Steps 3 through 10 as necessary to confirm additional media mounting.

12 Return to the procedure that specified confirming media mounting [e.g., **Monitoring/Controlling PMD Media Creation Using the OM GUI** (previous section of this lesson)].

Failing Mount Media for PMD

The procedure for **Failing Mount Media for PMD** is used for notifying OMS that the assigned drive currently cannot be used for media creation for a particular request and (optionally) to take the device off line. The procedure is performed in response to a **Mount Media for Production** or **Mount Media for QC** action displayed in the **Action Type** column of the **Media Creation Actions** page. **Failing Mount Media for PMD** is typically performed in association with other procedures (e.g., **Monitoring/Controlling PMD Media Creation Using the OM GUI**).

The **Fail Mount Media** page (Figure 91) provides the full-capability operator with a means of failing mount media and (optionally) to take the device off line. In addition, the full-capability operator has the option of annotating the action.

The procedure for failing mount media starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

Failing Mount Media for PMD

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1 If the failure to mount media occurs during the procedure for **Activating PMD Requests** or the procedure for **Activating QC for PMD Requests**, first click on the **Cancel** button in the **Activate Request** or **Activate QC for RequestID …** dialogue box.

- The **Activate Request** or **Activate QC for RequestID …** dialogue box is dismissed.

2 If it has not been expanded already, click on the **Physical Media Distribution** link in the navigation frame of the **OM GUI**.

- The **Physical Media Distribution** menu is expanded.

3 If the **Media Creation Actions** page is not being displayed already, click on the **Media Creation Actions** link in the navigation frame of the **OM GUI**.

- The **Media Creation Actions** page (Figure 85) is displayed.
- The **Filter** area of the **Media Creation Actions** page allows the operator to select the type(s) of actions to be displayed on the page. The following types of actions can be selected:
  - **Activate Media for QC.**
  - **Activate Request.**
  - **Assemble Package.**
  - **Collect Media for QC.**
  - **Mount Media for Production.**

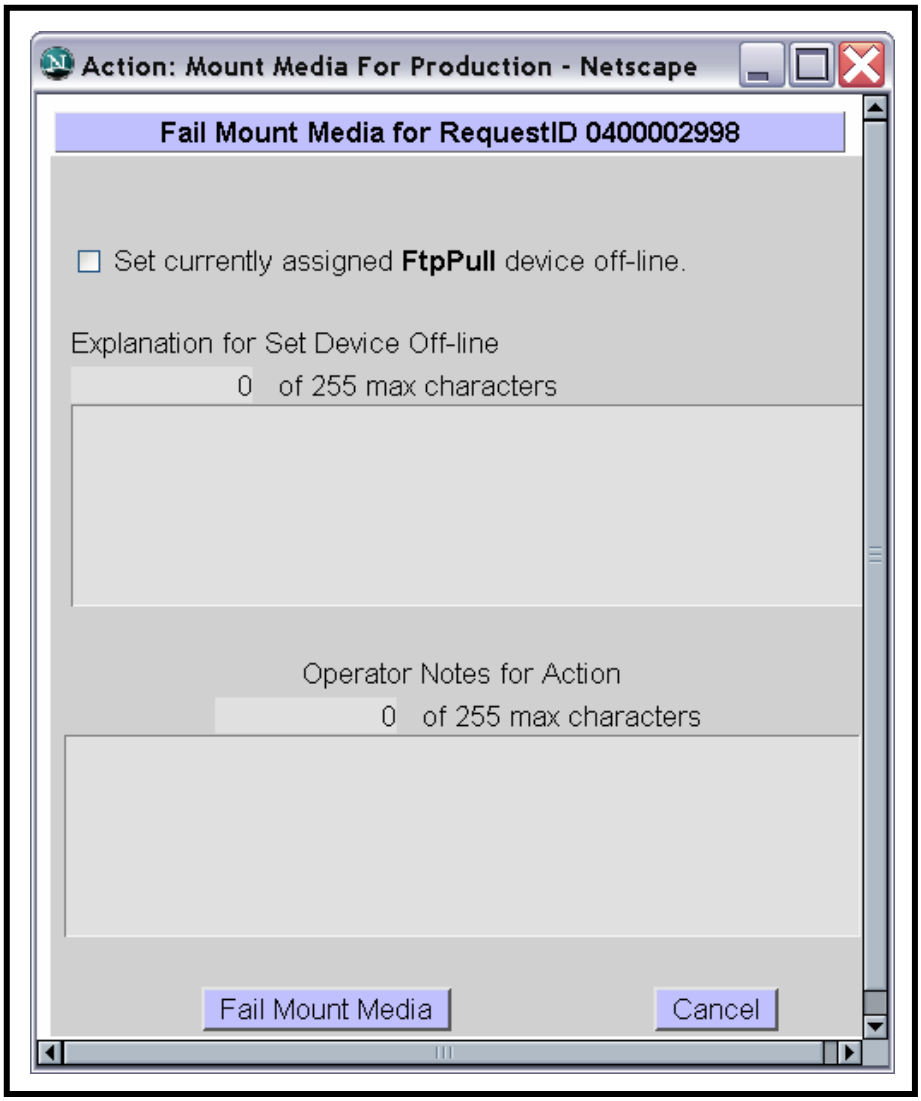

Figure 91. Fail Mount Media Page

  - **Mount Media for QC.**
- The **Listing** table has the following columns:
  - **OrderID.**
  - **RequestID.**
  - **Media Type.**
  - **Device Name.**
  - **Request Status.**
  - **Due Date.**

- **Media Action Note.**
- **Action Type.**
- **Options.**

4 Observe information displayed in the **Listing** table of the **Media Creation Actions** page.

NOTE: In order to fail media mounting the entry in the **Action Type** column for the relevant request must be **Mount Media for Production** or **Mount Media for QC**.

5 To start the process of failing media mounting, click and hold the option button in the **Options** column for the row associated with the relevant request to display a menu of options, move the mouse cursor to **Fail Mount Media** (highlighting it), then release the mouse button.

- A **Fail Mount Media** dialogue box (Figure 91) is displayed.
  - The **Fail Mount Media** dialogue box displays options for taking the currently assigned device off line, explaining why the currently assigned device is being taken off line, and/or annotating the "fail mount media" action.

6 If the currently assigned device is to be taken off line, first click in the **Set currently assigned … device off-line** check box.

- A checkmark is displayed in the **Set currently assigned … device off-line** check box.
- The mount can be failed without taking the currently assigned device off line.

7 If the currently assigned device is to be taken off line, type the appropriate text in the **Explanation for Set Device Off-line** text box of the **Fail Mount Media** dialogue box.

- Text is displayed in the **Explanation for Set Device Off-line** text box of the **Fail Mount Media** dialogue box.

8 If notes are to be entered for the "fail mount media" action, type the appropriate text in the **Operator Notes for Action** text box of the **Fail Mount Media** dialogue box.

- Text is displayed in the **Operator Notes for Action** text box of the **Fail Mount Media** dialogue box.

9 To complete the process of failing the mount click on the appropriate button from the following selections:

- **Fail Mount Media** - to dismiss the dialogue box and fail the mount (and, if specified, take the device off line).
  - The dialogue box is dismissed.
  - If the mount request that was failed was for production of the first volume of a request to be written, the request is requeued for allocation to a device.

- If the mount request that was failed was for production of a volume other than the first volume of a request, OMS generates a Media Creation Error intervention (due to mount problems) and the operator has to respond to the intervention to specify what to do next (e.g., rewrite the previous volume or change the type of distribution medium). [Refer to the procedures for **Viewing PMD Open Intervention Information on the OM GUI** and **Responding to a PMD Open Intervention** (previous sections of this lesson).]
- If the mount request that was failed was for QC of a volume, the OMS generates a QC error (media mount failed); however, it does not flag the volume as having failed QC. This gives the operator an opportunity to react to device problems that cause media damage or make dismounting the media impossible.
- The **Media Creation Actions** page (Figure 85) is displayed.

- **Cancel** - to dismiss the dialogue box without failing the mount.
  - The dialogue box is dismissed unless the Operator Notes have changed, in which case the **Cancel** button provides an opportunity to save the updated notes before dismissing the dialogue box.
  - The **Media Creation Actions** page (Figure 85) is displayed.

10 Repeat Steps 1 through 9 as necessary to fail additional mounts.

11 Return to the procedure that specified failing mount media [e.g., **Monitoring/Controlling PMD Media Creation Using the OM GUI** or **Activating PMD Requests** (previous sections of this lesson) or **Activating QC for PMD Requests** (subsequent section of this lesson)].

Collecting Media for PMD QC

The OMS queues an action (i.e., **Collect Media for QC**) indicating to the operator (in the **Action Type** column of the **Media Creation Actions** page) to collect the media (relevant to a particular request) for automatic QC. The "normal" operator response would be to dismount the specified volume(s) from the drive where it/they was/were produced and confirm that the collection of media for QC is complete. However, that is not the only possibility. When the **Collect Media for QC** action for a particular request appears on the **Media Creation Actions** page, the operator has the following options:

- Confirm media collection complete [Refer to the **Confirming Media Collection Complete for PMD** procedure (subsequent section of this lesson).]
- Fail media collection [Refer to the **Failing PMD Media Collection** procedure (subsequent section of this lesson).]
- 1Annotate action [Refer to the **Annotating a PMD Action** procedure (previous section of this lesson).]

Confirming Media Collection Complete for PMD

The procedure for **Confirming Media Collection Complete for PMD** is used for notifying OMS that the recently created volume(s) that was/were waiting for dismount has/have been dismounted. The procedure is performed in response to a **Collect Media for QC** action displayed in the **Action Type** column of the **Media Creation Actions** page. **Confirming Media Collection Complete for PMD** is typically performed in association with other procedures (e.g., **Monitoring/Controlling PMD Media Creation Using the OM GUI**).

The **Media Collection Complete** page (Figure 92) provides the full-capability operator with a means of confirming media collection complete for PMD (i.e., the recently created volume(s) that was/were waiting for dismount has/have been dismounted). The full-capability operator has the option of annotating the action.

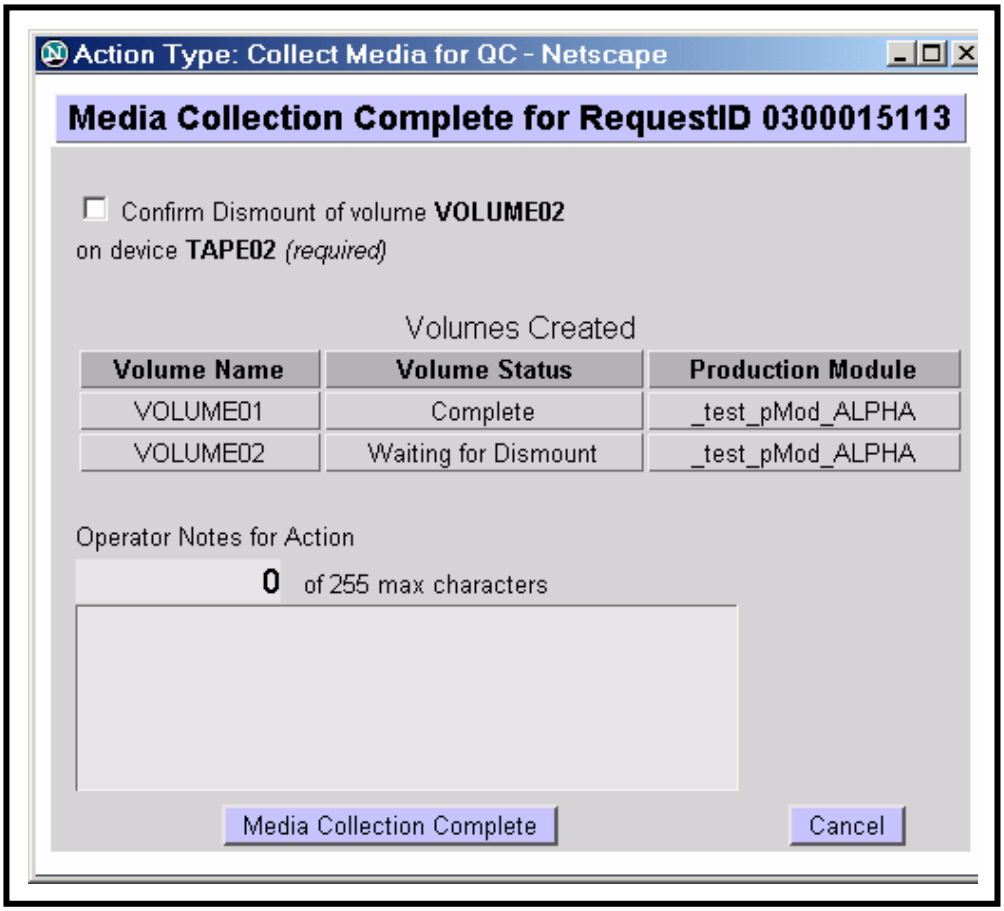

Figure 92. Media Collection Complete Page

The procedure for confirming media collection complete for PMD on the **OM GUI** starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

Confirming Media Collection Complete for PMD

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1 If it has not been expanded already, click on the **Physical Media Distribution** link in the navigation frame of the **OM GUI**.

- The **Physical Media Distribution** menu is expanded.

2 Click on the **Media Creation Actions** link in the navigation frame of the **OM GUI**.

- The **Media Creation Actions** page (Figure 85) is displayed.
- The **Filter** area of the **Media Creation Actions** page allows the operator to select the type(s) of actions to be displayed on the page. The following types of actions can be selected:
  - **Activate Media for QC.**
  - **Activate Request.**
  - **Assemble Package.**
  - **Collect Media for QC.**
  - **Mount Media for Production.**
  - **Mount Media for QC.**
- The **Listing** table has the following columns:
  - **OrderID.**
  - **RequestID.**
  - **Media Type.**
  - **Device Name.**
  - **Request Status.**
  - **Due Date.**
  - **Media Action Note.**
  - **Action Type.**
  - **Options.**

3 Observe information displayed in the **Listing** table of the **Media Creation Actions** page.

NOTE: In order to confirm media collection complete the entry in the **Action Type** column for that request must be **Collect Media for QC**.

4 To start the process of confirming media collection complete, click and hold the option button in the **Options** column for the row associated with the request to display a menu of options, move the mouse cursor to **Media Collection Complete** (highlighting it), then release the mouse button.

- A **Media Collection Complete** dialogue box (Figure 92) is displayed.
  - The **Media Collection Complete** dialogue box displays the following information concerning each volume created for the request:
    - **Volume Name.**
    - **Volume Status.**

5 Dismount the volume(s) identified as "waiting for dismount" in the **Volumes Created** table of the **Media Collection Complete** dialogue box.

6 Click in the **Confirm dismount of ... volume ... from device ...** check box.

- A checkmark is displayed in the **Confirm dismount of ... volume ... from device ...** check box.

7 If notes are to be entered for the "collection" action, type the appropriate text in the **Operator Notes for Action** text box of the **Media Collection Complete** dialogue box.

- Text is displayed in the **Operator Notes for Action** text box of the **Media Collection Complete** dialogue box.

8 To complete the process of confirming media collection complete click on the appropriate button from the following selections:

- **Media Collection Complete** - to dismiss the dialogue box and confirm media collection complete.
  - The dialogue box is dismissed.
  - The **Media Creation Actions** page (Figure 85) is displayed.
- **Cancel** - to dismiss the dialogue box without confirming media collection complete.
  - The dialogue box is dismissed unless the Operator Notes have changed, in which case the **Cancel** button provides an opportunity to save the updated notes before dismissing the dialogue box.
  - The **Media Creation Actions** page (Figure 85) is displayed.

9 Repeat Steps 3 through 8 as necessary to confirm media collection complete for additional requests.

10 Return to the procedure that specified confirming media collection complete [e.g., **Monitoring/Controlling PMD Media Creation Using the OM GUI** (previous section of this lesson)].

Failing PMD Media Collection

The procedure for **Failing PMD Media Collection** is used for notifying OMS that the media collection or dismount failed. The procedure is performed in response to a **Collect Media for QC** action displayed in the **Action Type** column of the **Media Creation Actions** page. **Failing PMD Media Collection** is typically performed in association with other procedures (e.g., **Monitoring/Controlling PMD Media Creation Using the OM GUI**).

The **Fail Media Collection** page (Figure 93) provides the full-capability operator with a means of indicating that the media collection or dismount failed. The full-capability operator has the option of annotating the action.

The procedure for failing PMD media collection on the **OM GUI** starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

Failing PMD Media Collection

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1 If it has not been expanded already, click on the **Physical Media Distribution** link in the navigation frame of the **OM GUI**.

- The **Physical Media Distribution** menu is expanded.

2 Click on the **Media Creation Actions** link in the navigation frame of the **OM GUI**.

- The **Media Creation Actions** page (Figure 85) is displayed.
- The **Filter** area of the **Media Creation Actions** page allows the operator to select the type(s) of actions to be displayed on the page. The following types of actions can be selected:
  - **Activate Media for QC.**
  - **Activate Request.**
  - **Assemble Package.**
  - **Collect Media for QC.**
  - **Mount Media for Production.**

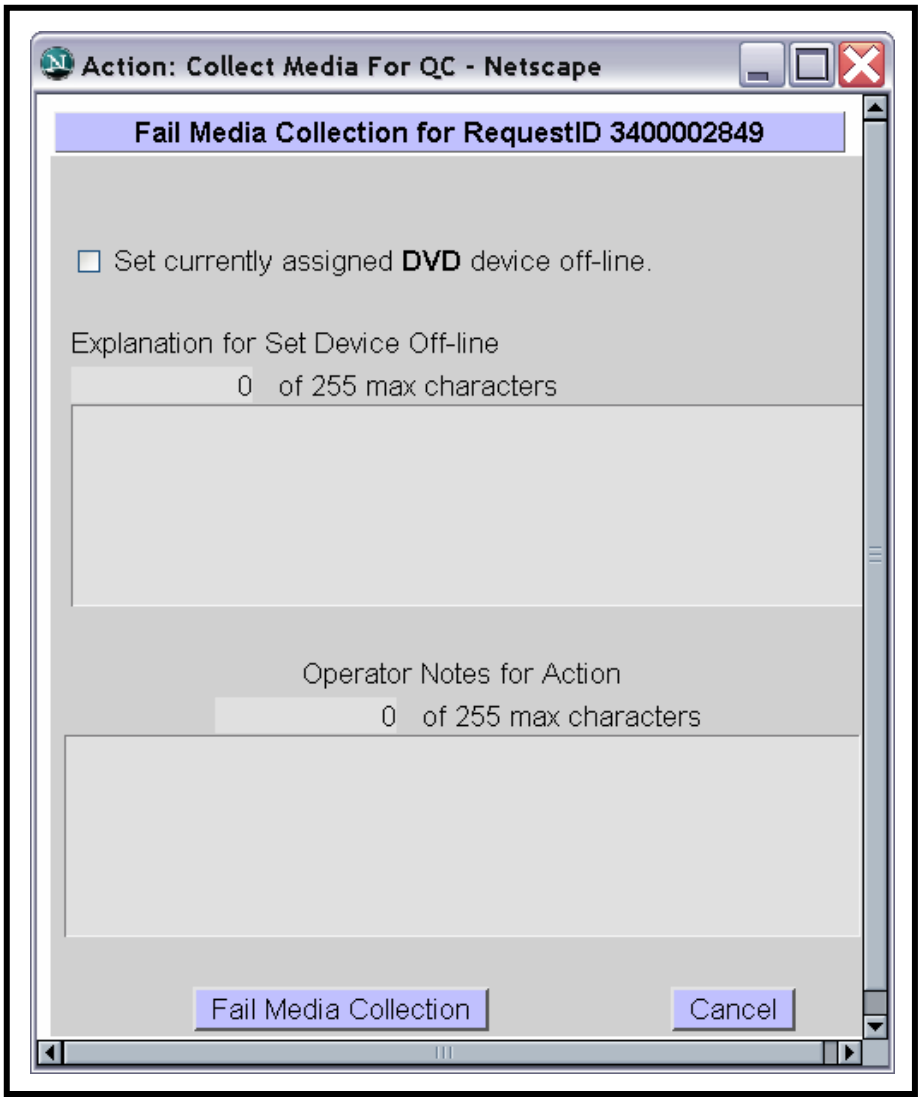

Figure 93. Fail Media Collection Page

  - **Mount Media for QC.**

- The **Listing** table has the following columns:
  - **OrderID.**
  - **RequestID.**
  - **Media Type.**
  - **Device Name.**
  - **Request Status.**
  - **Due Date.**

- **Media Action Note.**
- **Action Type.**
- **Options.**

3 Observe information displayed in the **Listing** table of the **Media Creation Actions** page.

NOTE: In order to fail media collection the entry in the **Action Type** column for that request must be **Collect Media for QC**.

4 To start the process of failing media collection, click and hold the option button in the **Options** column for the row associated with the request to display a menu of options, move the mouse cursor to **Fail Media Collection** (highlighting it), then release the mouse button.

- A **Fail Media Collection** dialogue box (Figure 93) is displayed.

5 If the currently assigned device is to be taken off line, first click in the **Set currently assigned … device off-line** check box.

- A checkmark is displayed in the **Set currently assigned … device off-line** check box.
- The mount can be failed without taking the currently assigned device off line.

6 If the currently assigned device is to be taken off line, type the appropriate text in the **Explanation for Set Device Off-line** text box of the **Fail Media Collection** dialogue box.

- Text is displayed in the **Explanation for Set Device Off-line** text box of the **Fail Media Collection** dialogue box.

7 If notes are to be entered for the "fail media collection" action, type the appropriate text in the **Operator Notes for Action** text box of the **Fail Media Collection** dialogue box.

- Text is displayed in the **Operator Notes for Action** text box of the **Fail Media Collection** dialogue box.

8 To complete the process of failing media collection click on the appropriate button from the following selections:

- **Fail Media Collection** - to dismiss the dialogue box and fail media collection.
  - The dialogue box is dismissed.
  - The **Media Creation Actions** page (Figure 85) is displayed.
  - If media collection is failed, OMS generates a QC error (due to media collection problems); however, it does not flag a volume as having passed or failed QC. The operator must identify which media are missing or appear to be damaged.

- **Cancel** - to dismiss the dialogue box without failing media collection.
  - The dialogue box is dismissed unless the Operator Notes have changed, in which case the **Cancel** button provides an opportunity to save the updated notes before dismissing the dialogue box.
  - The **Media Creation Actions** page (Figure 85) is displayed.

9 Repeat Steps 3 through 8 as necessary to fail media collection for additional requests.

10 Return to the procedure that specified failing media collection [e.g., **Monitoring/Controlling PMD Media Creation Using the OM GUI** (previous section of this lesson)].

Activating Media for QC

The OMS queues an action (i.e., **Activate Media for QC**) indicating to the operator (in the **Action Type** column of the **Media Creation Actions** page) to activate QC for a request by allocating it to a device. The "normal" operator response would be to select a device from the list of available devices and confirm the presence of the appropriate tape or disk in the device. However, activating the request is not the only possibility. When the **Activate Request** action for a particular request appears on the **Media Creation Actions** page, the operator has the following options:

- Activate QC [Refer to the **Activating QC for PMD Requests** procedure (subsequent section of this lesson).]
- Fail request [Refer to the **Failing a PMD Request** procedure (previous section of this lesson).]
- Annotate action [Refer to the **Annotating a PMD Action** procedure (previous section of this lesson).]

Activating QC for PMD Requests

The procedure for **Activating QC for PMD Requests** is used for activating QC by allocating distribution requests to devices (tape or disk drives). The operator must confirm the presence of the appropriate tape or disk in the device. The procedure is performed in response to an **Activate Media for QC** action displayed in the **Action Type** column of the **Media Creation Actions** page. **Activating QC for PMD Requests** is typically performed in association with other procedures (e.g., **Monitoring/Controlling PMD Media Creation Using the OM GUI**).

The following activities occur during disk/tape QC/verification:

- The medium is inserted in a different drive than that used to create the disk or tape.
  - QC of disks is typically done on a QC PC.
- The operator starts QC from the **OM GUI**.

- QC compares the summary file (generated when the data were set up for copying to the physical media) and a "tar –tvf" of the medium.

The **Activate QC** dialogue box (Figure 94) provides the full-capability operator with means of manually activating PMD QC. The full-capability operator has options for assigning a different device for performing QC of the volume, confirming tape mounting (if applicable), and/or annotating the action.

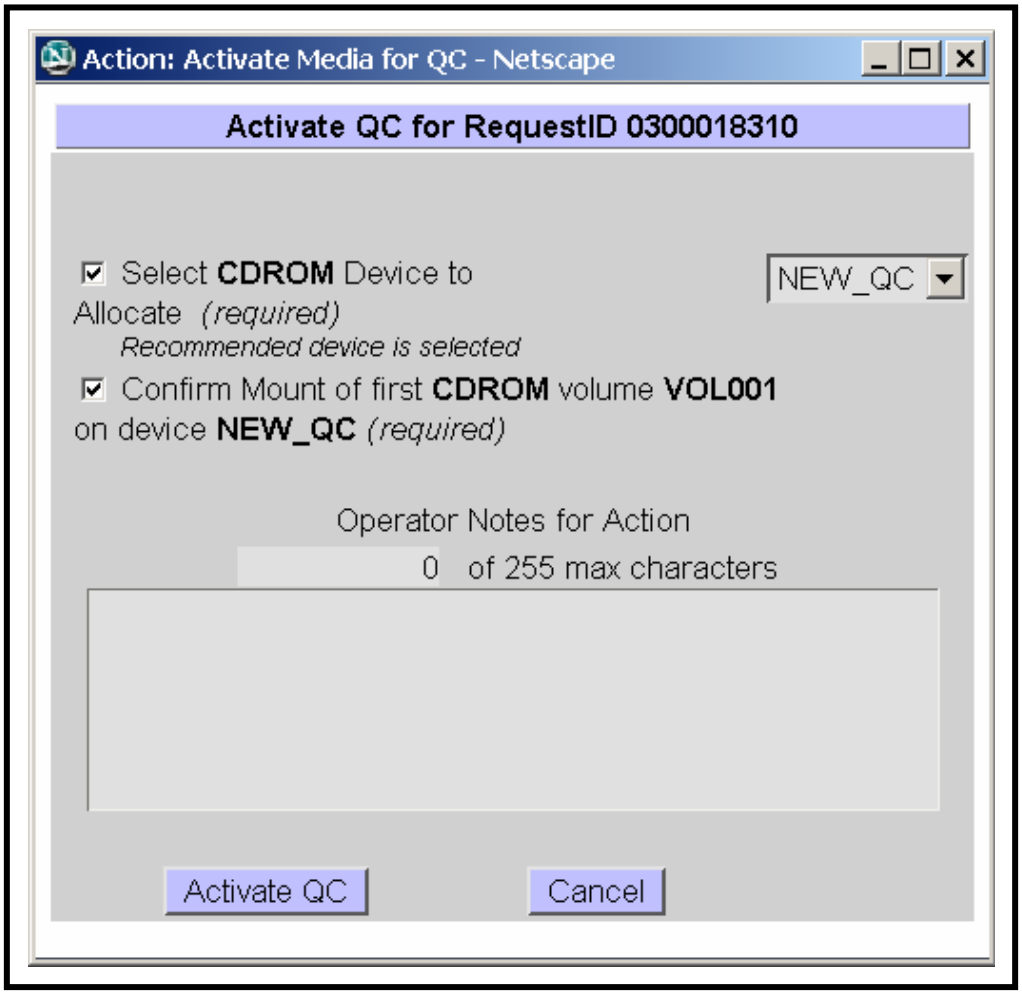

Figure 94. Activate QC Dialogue Box

The procedure for activating QC on the **OM GUI** starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

1 If it has not been expanded already, click on the **Physical Media Distribution** link in the navigation frame of the **OM GUI**.

- The **Physical Media Distribution** menu is expanded.

2 Click on the **Media Creation Actions** link in the navigation frame of the **OM GUI**.

- The **Media Creation Actions** page (Figure 85) is displayed.
- The **Filter** area of the **Media Creation Actions** page allows the operator to select the type(s) of actions to be displayed on the page. The following types of actions can be selected:
  - **Activate Media for QC.**
  - **Activate Request.**
  - **Assemble Package.**
  - **Collect Media for QC.**
  - **Mount Media for Production.**
  - **Mount Media for QC.**
- The **Listing** table has the following columns:
  - **OrderID.**
  - **RequestID.**
  - **Media Type.**
  - **Device Name.**
  - **Request Status.**
  - **Due Date.**
  - **Media Action Note.**
  - **Action Type.**
  - **Options.**

3 Observe information displayed in the **Listing** table of the **Media Creation Actions** page.

NOTE: In order to activate QC the entry in the **Action Type** column for that request must be **Activate Media for QC**.

4 To start the process of activating QC, click and hold the option button in the **Options** column for the row associated with the request to display a menu of options, move the mouse cursor to **Activate QC** (highlighting it), then release the mouse button.

- An **Activate QC** dialogue box (Figure 94) is displayed.
  - The **Activate QC** dialogue box displays the list of available devices of the required type, and either proposes one of them as a default choice or indicates that none are available.

5 If a device other than the one displayed in the **Activate QC** dialogue box is preferred, click and hold the option button in the dialogue box to display a menu of available devices, move the mouse cursor to the desired selection (highlighting it), then release the mouse button.

- The desired device is displayed in the **Activate QC** dialogue box.

6 Click in the **Select … Device to Allocate** check box.

- A checkmark is displayed in the **Select … Device to Allocate** check box.

7 Put the tape or disk of the first volume of the request into the drive to be used for QC.

8 Wait for the drive to come on line before confirming media mounting using the **Activate QC** dialogue box.

- Wait for light to stop flashing.

9 If there is a problem with the tape drive (e.g., it is malfunctioning and needs to be taken off line), go to the procedure for **Failing Mount Media for PMD** (previous section of this lesson).

10 After ensuring that the drive has come on line, click in the check box labeled **Confirm Mount of first ... volume ... on device ...** in the **Activate QC** dialogue box.

- A checkmark is displayed in the **Confirm Mount of first ... volume ... on device ...** check box.

11 If notes are to be entered for the "activate" action, type the appropriate text in the **Operator Notes for Action** text box of the **Activate QC** dialogue box.

- Text is displayed in the **Operator Notes for Action** text box of the **Activate QC** dialogue box.

12 To complete the process of activating QC click on the appropriate button from the following selections:

- **Activate QC** - to dismiss the dialogue box and activate QC of the request.
  - The dialogue box is dismissed.
  - The **Media Creation Actions** page (Figure 85) is displayed.

- **Cancel** - to dismiss the dialogue box without activating QC of the request.
  - The dialogue box is dismissed unless the Operator Notes have changed, in which case the **Cancel** button provides an opportunity to save the updated notes before dismissing the dialogue box.
  - The **Media Creation Actions** page (Figure 85) is displayed.

13 Repeat Steps 3 through 12 as necessary to activate QC for additional requests.

14 Return to the procedure that specified activating QC for PMD requests [e.g., **Monitoring/Controlling PMD Media Creation Using the OM GUI** (previous section of this lesson)].

Mounting Media for PMD QC

The OMS queues an action (i.e., **Mount Media for QC**) indicating to the operator (in the **Action Type** column of the **Media Creation Actions** page) to mount the second and subsequent volumes of a multi-volume request for QC. The "normal" operator response would be to confirm the presence of the appropriate tape or disk in the drive to be used for performing QC. However, that is not the only possibility. When the **Mount Media for QC** action for a particular request appears on the **Media Creation Actions** page, the operator has the following options:

- Confirm mount media [Refer to the **Confirming Mount Media for PMD** procedure (previous section of this lesson).]
- Fail mount media [Refer to the **Failing Mount Media for PMD** procedure (previous section of this lesson).]
- Annotate action [Refer to the **Annotating a PMD Action** procedure (previous section of this lesson).]

Assembling PMD Packages

The OMS queues an action (i.e., **Assemble Package**) indicating to the operator (in the **Action Type** column of the **Media Creation Actions** page) to confirm that the package (relevant to a particular request) is assembled and ready for shipment. The "normal" operator response would be to collect all printed outputs, assemble the distribution package and confirm the successful completion of package assembly. However, that is not the only possibility. When the **Assemble Package** action for a particular request appears on the **Media Creation Actions** page, the operator has the following options:

- Mark request shipped [Refer to the **Marking PMD Request Shipped** procedure (subsequent section of this lesson).]
- Confirm media dismounted [Refer to the **Confirming PMD Media Dismounted** procedure (previous section of this lesson).]

- Confirm package assembled [Refer to the **Confirming PMD Package Assembled** procedure (subsequent section of this lesson).]
- Package not assembled [Refer to the **Marking PMD Package Not Assembled** procedure (subsequent section of this lesson).]
- Fail request [Refer to the **Failing a PMD Request** procedure (previous section of this lesson).]
- Print outputs [Refer to the **Printing PMD Outputs** procedure (subsequent section of this lesson).]
- Annotate action [Refer to the **Annotating a PMD Action** procedure (previous section of this lesson).]

Marking PMD Request Shipped

The procedure for **Marking PMD Request Shipped** is used for notifying OMS that the volume(s) recently passed through QC and that was/were waiting for dismount has/have been dismounted and is/are ready to be marked "shipped." The procedure is performed in response to an **Assemble Package** action displayed in the **Action Type** column of the **Media Creation Actions** page. **Marking PMD Request Shipped** is typically performed in association with other procedures (e.g., **Monitoring/Controlling PMD Media Creation Using the OM GUI**).

The **Mark Request Shipped** page (Figure 95) provides the full-capability operator with a means of confirming the assembly of the PMD package for shipment (i.e., the volume(s) that successfully passed QC and was/were waiting for dismount has/have been dismounted and is/are ready to be marked "shipped"). In addition, the full-capability operator has options for suppressing the DN and/or annotating the action.

The procedure for marking a PMD request shipped on the **OM GUI** starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

Marking PMD Request Shipped

---

1 If it has not been expanded already, click on the **Physical Media Distribution** link in the navigation frame of the **OM GUI**.

- The **Physical Media Distribution** menu is expanded.

2 Click on the **Media Creation Actions** link in the navigation frame of the **OM GUI**.

- The **Media Creation Actions** page (Figure 85) is displayed.

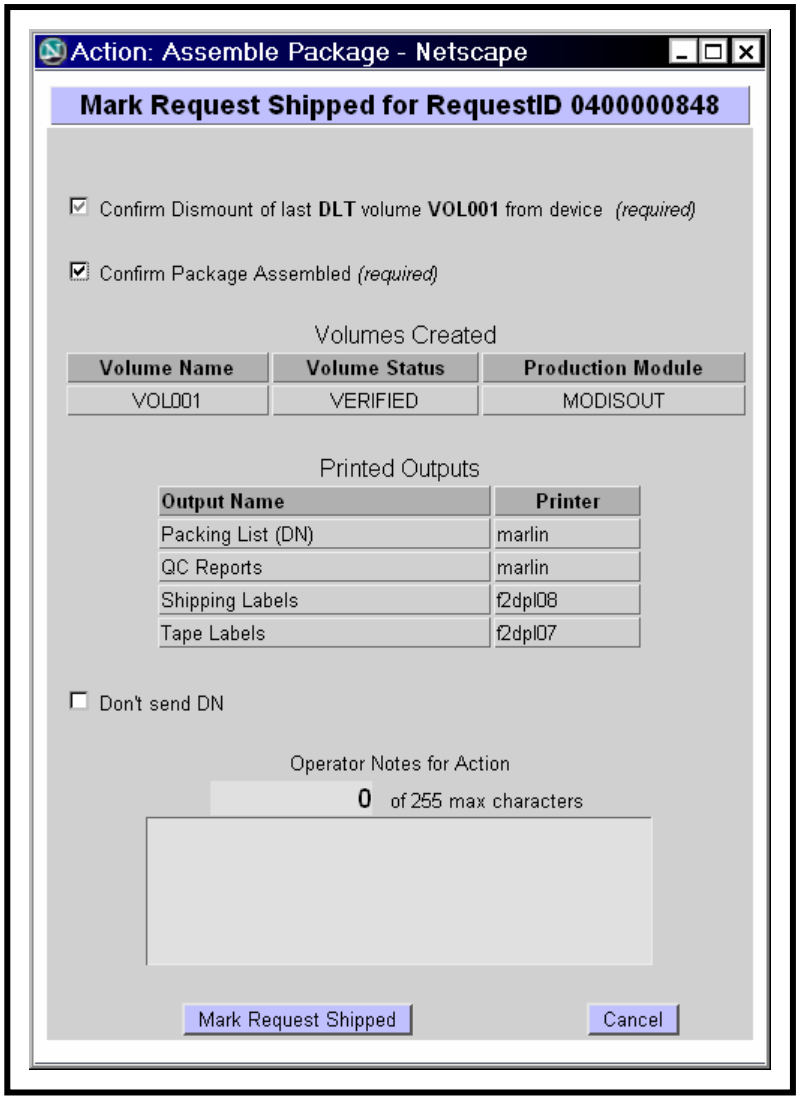

Figure 95. Mark Request Shipped Page

- The **Filter** area of the **Media Creation Actions** page allows the operator to select the type(s) of actions to be displayed on the page. The following types of actions can be selected:
  - **Activate Media for QC.**
  - **Activate Request.**
  - **Assemble Package.**

- **Collect Media for QC.**
- **Mount Media for Production.**
- **Mount Media for QC.**

- The **Listing** table has the following columns:
  - **OrderID.**
  - **RequestID.**
  - **Media Type.**
  - **Device Name.**
  - **Request Status.**
  - **Due Date.**
  - **Media Action Note.**
  - **Action Type.**
  - **Options.**

3 Observe information displayed in the **Listing** table of the **Media Creation Actions** page.

NOTE: In order to a mark a PMD request shipped the entry in the **Action Type** column for that request must be **Assemble Package**.

4 To start the process of confirming PMD package assembly, click and hold the option button in the **Options** column for the row associated with the request to display a menu of options, move the mouse cursor to **Mark Request Shipped** (highlighting it), then release the mouse button.

- A **Mark Request Shipped** dialogue box (Figure 95) is displayed.
  - The **Mark Request Shipped** dialogue box displays the following information concerning each volume created for the request:
    - **Volume Name.**
    - **Volume Status.**
    - **Production Module.**
  - In addition, the **Mark Request Shipped** dialogue box displays the following information concerning the outputs printed for the request:
    - **Output Name.**
    - **Printer.**

5 Dismount the volume(s) identified as "waiting for dismount" in the **Volumes Created** table of the **Mark Request Shipped** dialogue box.

6 Click in the **Confirm dismount of last ... volume ... from device** check box.

- A checkmark is displayed in the **Confirm dismount of last ... volume ... from device** check box.

7 Click in the **Confirm Package Assembled** check box.

- A checkmark is displayed in the **Confirm Package Assembled** check box.

8 If no DN is to be sent, click in the check box labeled **Don't send DN**.

- A checkmark is displayed in the **Don't send DN** check box.

9 If notes are to be entered for the "mark shipped" action, type the appropriate text in the **Operator Notes for Action** text box of the **Mark Request Shipped** dialogue box.

- Text is displayed in the **Operator Notes for Action** text box of the **Mark Request Shipped** dialogue box.

10 To complete the process of confirming PMD package assembly click on the appropriate button from the following selections:

- **Mark Request Shipped** - to dismiss the dialogue box and confirm PMD package assembled.
  - The dialogue box is dismissed.
  - The **Media Creation Actions** page (Figure 85) is displayed.
- **Cancel** - to dismiss the dialogue box without confirming PMD package assembly.
  - The dialogue box is dismissed unless the Operator Notes have changed, in which case the **Cancel** button provides an opportunity to save the updated notes before dismissing the dialogue box.
  - The **Media Creation Actions** page (Figure 85) is displayed.

11 Repeat Steps 3 through 10 as necessary to mark additional requests shipped.

12 Return to the procedure that specified marking a request shipped [e.g., **Monitoring/Controlling PMD Media Creation Using the OM GUI** (previous section of this lesson)].

Confirming PMD Media Dismounted

The procedure for **Confirming PMD Media Dismounted** is used for notifying OMS that a volume has been dismounted from the applicable device. The procedure is performed in response to an **Assemble Package** action displayed in the **Action Type** column of the **Media Creation Actions** page. **Confirming PMD Media Dismounted** is typically performed in association with other procedures (e.g., **Monitoring/Controlling PMD Media Creation Using the OM GUI**).

The **Confirm Media Dismounted** page (Figure 96) provides the full-capability operator with a means of confirming that the last volume used for QC for a particular request has been dismounted. Optionally, the full-capability operator can annotate the action and/or confirm that the package has been assembled.

The procedure for confirming media dismounted on the **OM GUI** starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

Confirming PMD Media Dismounted

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1 If it has not been expanded already, click on the **Physical Media Distribution** link in the navigation frame of the **OM GUI**.

- The **Physical Media Distribution** menu is expanded.

2 Click on the **Media Creation Actions** link in the navigation frame of the **OM GUI**.

- The **Media Creation Actions** page (Figure 85) is displayed.
- The **Filter** area of the **Media Creation Actions** page allows the operator to select the type(s) of actions to be displayed on the page. The following types of actions can be selected:
  - **Activate Media for QC.**
  - **Activate Request.**
  - **Assemble Package.**
  - **Collect Media for QC.**
  - **Mount Media for Production.**
  - **Mount Media for QC.**
- The **Listing** table has the following columns:
  - **OrderID.**
  - **RequestID.**
  - **Media Type.**
  - **Device Name.**
  - **Request Status.**
  - **Due Date.**

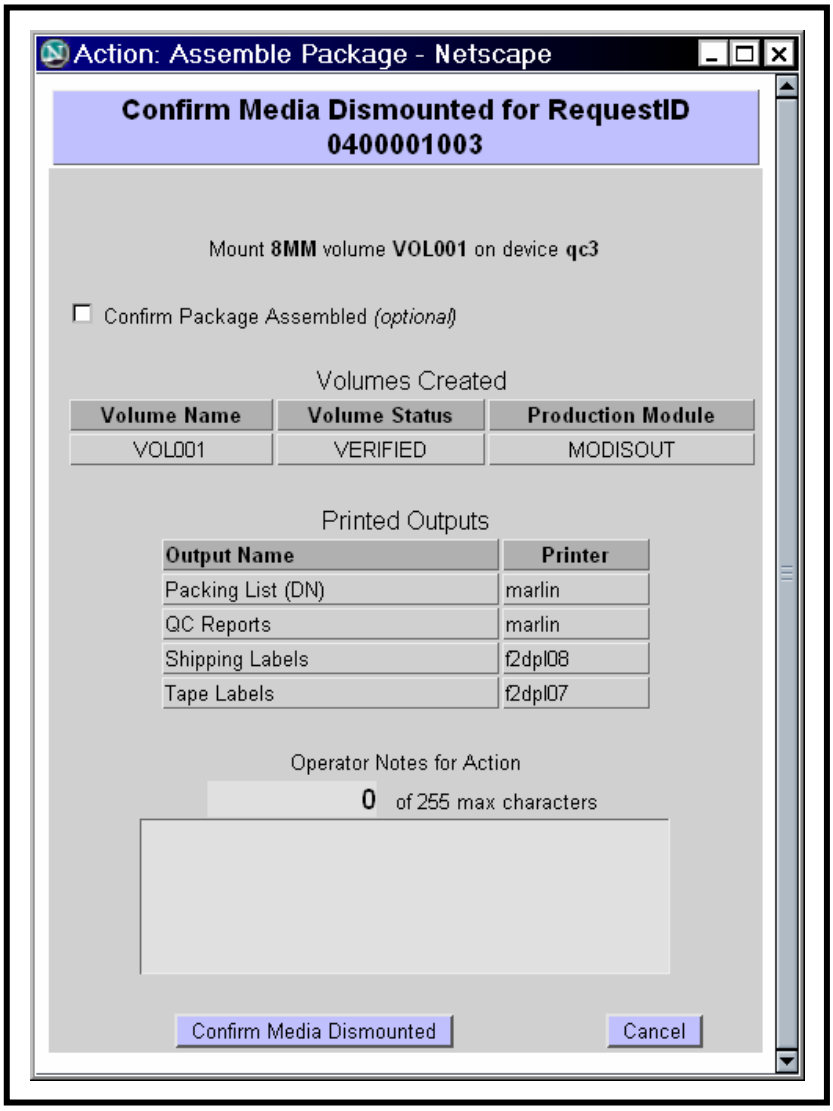


Figure 96 Confirm Media Dismounted Page

- **Media Action Note.**
- **Action Type.**
- **Options.**

3 Observe information displayed in the **Listing** table of the **Media Creation Actions** page.

NOTE: In order to confirm media dismounted the entry in the **Action Type** column for that request must be **Assemble Package**.

4 To start the process of confirming media dismounted, click and hold the option button in the **Options** column for the row associated with the request to display a menu of options, move the mouse cursor to **Confirm Media Dismounted** (highlighting it), then release the mouse button.

- A **Confirm Media Dismounted** dialogue box (Figure 96) is displayed.
  - The **Confirm Media Dismounted** dialogue box displays the following information concerning each volume created for the request:
    - **Volume Name.**
    - **Volume Status.**
    - **Production Module.**
  - In addition, the **Confirm Media Dismounted** dialogue box displays the following information concerning the outputs printed for the request:
    - **Output Name.**
    - **Printer.**

5 Dismount the specified volume for the request.

6 To confirm that the package is assembled (if applicable) click in the **Confirm Package Assembled** check box.

- A checkmark is displayed in the **Confirm Package Assembled** check box.

7 If notes are to be entered for the action, type the appropriate text in the **Operator Notes for Action** text box of the **Media Collection Complete** dialogue box.

- Text is displayed in the **Operator Notes for Action** text box of the **Media Collection Complete** dialogue box.

8 To complete the process of confirming media dismounted click on the appropriate button from the following selections:

- **Confirm Media Dismounted** - to dismiss the dialogue box and confirm media dismounted.
  - The dialogue box is dismissed.
  - The **Media Creation Actions** page (Figure 85) is displayed.
- **Cancel** - to dismiss the dialogue box without confirming media dismounted.
  - The dialogue box is dismissed unless the Operator Notes have changed, in which case the **Cancel** button provides an opportunity to save the updated notes before dismissing the dialogue box.
  - The **Media Creation Actions** page (Figure 85) is displayed.

9 Repeat Steps 3 through 8 as necessary to confirm media dismounted for additional requests.

10 Return to the procedure that specified confirming media dismounted [e.g., **Monitoring/Controlling PMD Media Creation Using the OM GUI** (previous section of this lesson)].

Confirming PMD Package Assembled

The procedure for **Confirming PMD Package Assembled** is used for notifying OMS that the last volume of a request passed QC and has been dismounted. The procedure is performed in response to an **Assemble Package** action displayed in the **Action Type** column of the **Media Creation Actions** page. **Confirming PMD Package Assembled** is typically performed in association with other procedures (e.g., **Monitoring/Controlling PMD Media Creation Using the OM GUI**).

The **Confirm Package Assembled** page (Figure 97) provides the full-capability operator with a means of confirming the assembly of the PMD package for shipment (i.e., the last volume of a request passed QC and has been dismounted). In addition, the full-capability operator has the option of annotating the action.

The procedure for confirming package assembly on the **OM GUI** starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

Confirming PMD Package Assembled

---

1 If it has not been expanded already, click on the **Physical Media Distribution** link in the navigation frame of the **OM GUI**.

- The **Physical Media Distribution** menu is expanded.

2 Click on the **Media Creation Actions** link in the navigation frame of the **OM GUI**.

- The **Media Creation Actions** page (Figure 85) is displayed.
- The **Filter** area of the **Media Creation Actions** page allows the operator to select the type(s) of actions to be displayed on the page. The following types of actions can be selected:
  - **Activate Media for QC.**
  - **Activate Request.**

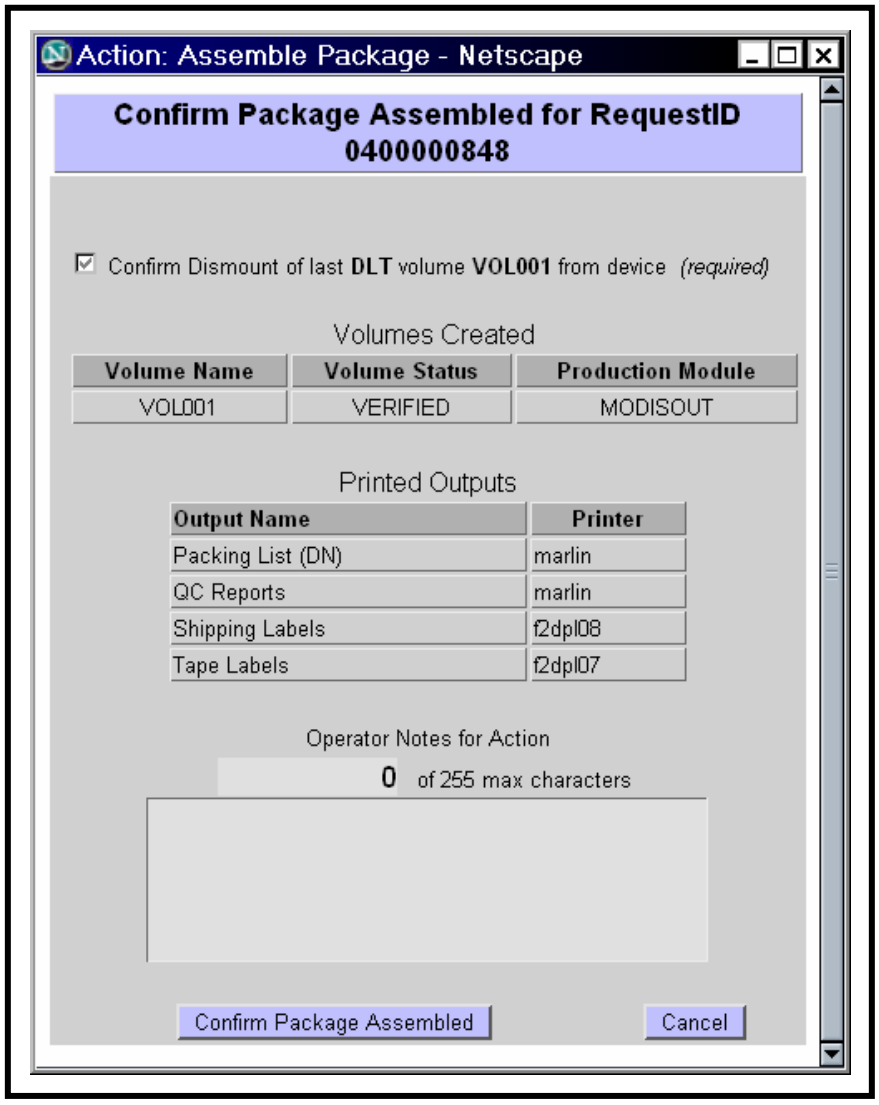


Figure 97. Confirm Package Assembled Page

  - **Assemble Package.**
  - **Collect Media for QC.**
  - **Mount Media for Production.**
  - **Mount Media for QC.**
- The **Listing** table has the following columns:
  - **OrderID.**
  - **RequestID.**
  - **Media Type.**

- **Device Name.**
- **Request Status.**
- **Due Date.**
- **Media Action Note.**
- **Action Type.**
- **Options.**

3 Observe information displayed in the **Listing** table of the **Media Creation Actions** page.

NOTE: In order to confirm PMD package assembled the entry in the **Action Type** column for that request must be **Assemble Package**.

4 To start the process of confirming PMD package assembly, click and hold the option button in the **Options** column for the row associated with the request to display a menu of options, move the mouse cursor to **Confirm Package Assembled** (highlighting it), then release the mouse button.

- A **Confirm Package Assembled** dialogue box (Figure 97) is displayed.
  - The **Confirm Package Assembled** dialogue box displays the following information concerning each volume created for the request:
    - **Volume Name.**
    - **Volume Status.**
    - **Production Module.**
  - In addition, the **Confirm Package Assembled** dialogue box displays the following information concerning the outputs printed for the request:
    - **Output Name.**
    - **Printer.**

5 Dismount the volume(s) identified as "waiting for dismount" in the **Volumes Created** table of the **Confirm Package Assembled** dialogue box.

6 Click in the **Confirm dismount of last ... volume ... from device** check box.

- A checkmark is displayed in the **Confirm dismount of last ... volume ... from device** check box.

7 If notes are to be entered for the "assemble" action, type the appropriate text in the **Operator Notes for Action** text box of the **Confirm Package Assembled** dialogue box.

- Text is displayed in the **Operator Notes for Action** text box of the **Confirm Package Assembled** dialogue box.

8 To complete the process of confirming PMD package assembly click on the appropriate button from the following selections:

- **Confirm Package Assembled** - to dismiss the dialogue box and confirm PMD package assembled.
  - The dialogue box is dismissed.
  - The **Media Creation Actions** page (Figure 85) is displayed.
- **Cancel** - to dismiss the dialogue box without confirming PMD package assembly.
  - The dialogue box is dismissed unless the Operator Notes have changed, in which case the **Cancel** button provides an opportunity to save the updated notes before dismissing the dialogue box.
  - The **Media Creation Actions** page (Figure 85) is displayed.

9 Repeat Steps 3 through 8 as necessary to confirm PMD package assembled for additional requests.

10 Return to the procedure that specified confirming PMD package assembly [e.g., **Monitoring/Controlling PMD Media Creation Using the OM GUI** (previous section of this lesson)].

Marking PMD Package Not Assembled

The procedure for **Marking PMD Package Not Assembled** is used for notifying OMS that the package was **not** assembled for shipment. The procedure is performed in response to an **Assemble Package** action displayed in the **Action Type** column of the **Media Creation Actions** page. **Marking PMD Package Not Assembled** is typically performed in association with other procedures (e.g., **Monitoring/Controlling PMD Media Creation Using the OM GUI**).

The **Package Not Assembled** page (Figure 98) provides the full-capability operator with a means of indicating that the package was **not** assembled for shipment. The full-capability operator has the option of annotating the action.

The procedure for marking a PMD package "not assembled" using the **OM GUI** starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

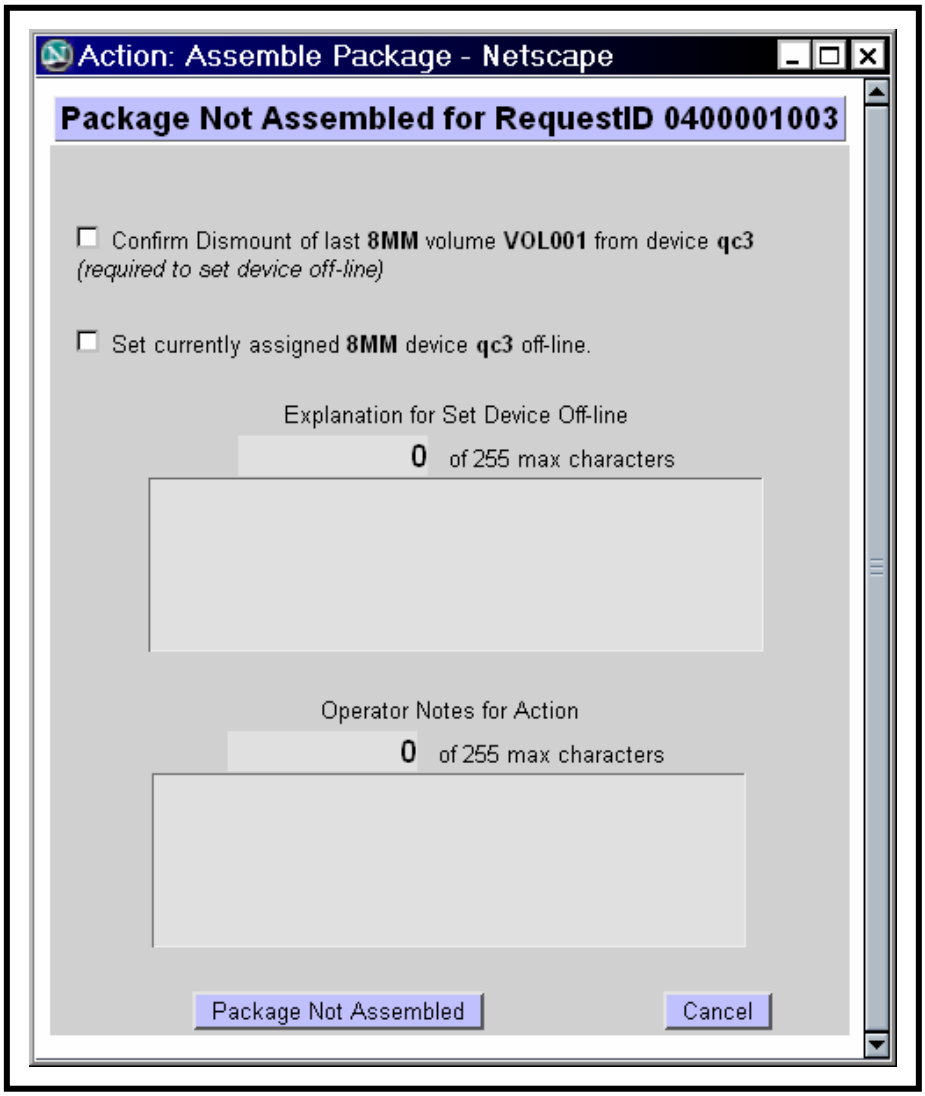


Figure 98. Package Not Assembled Page

Marking PMD Package Not Assembled

1 If it has not been expanded already, click on the **Physical Media Distribution** link in the navigation frame of the **OM GUI**.

- The **Physical Media Distribution** menu is expanded.

2 Click on the **Media Creation Actions** link in the navigation frame of the **OM GUI**.

- The **Media Creation Actions** page (Figure 85) is displayed.

- The **Filter** area of the **Media Creation Actions** page allows the operator to select the type(s) of actions to be displayed on the page. The following types of actions can be selected:
  - **Activate Media for QC.**
  - **Activate Request.**
  - **Assemble Package.**
  - **Collect Media for QC.**
  - **Mount Media for Production.**
  - **Mount Media for QC.**
- The **Listing** table has the following columns:
  - **OrderID.**
  - **RequestID.**
  - **Media Type.**
  - **Device Name.**
  - **Request Status.**
  - **Due Date.**
  - **Media Action Note.**
  - **Action Type.**
  - **Options.**

3 Observe information displayed in the **Listing** table of the **Media Creation Actions** page.

NOTE: In order to mark a PMD package "not assembled" the entry in the **Action Type** column for that request must be **Assemble Package**.

4 To start the process of marking a PMD package "not assembled," click and hold the option button in the **Options** column for the row associated with the request to display a menu of options, move the mouse cursor to **Package Not Assembled** (highlighting it), then release the mouse button.

- A **Package Not Assembled** dialogue box (Figure 98) is displayed.

5 If possible, dismount the volume identified in the **Confirm dismount of last ... volume ... from device** statement on the **Package Not Assembled** dialogue box.

6 If applicable, click in the **Confirm dismount of last ... volume ... from device ...** check box.

- A checkmark is displayed in the **Confirm dismount of last ... volume ... from device ...** check box.
- Confirmation of the dismount of the last volume is required if the device is to be taken off line.

7 If the currently assigned device is to be taken off line, click in the **Set currently assigned … device off-line** check box.

- A checkmark is displayed in the **Set currently assigned … device off-line** check box.

8 If the currently assigned device is to be taken off line, type the appropriate text in the **Explanation for Set Device Off-line** text box of the **Fail Mount Media** dialogue box.

- Text is displayed in the **Explanation for Set Device Off-line** text box of the **Fail Mount Media** dialogue box.

9 If notes are to be entered for the "package not assembled" action, type the appropriate text in the **Operator Notes for Action** text box of the **Package Not Assembled** dialogue box.

- Text is displayed in the **Operator Notes for Action** text box of the **Package Not Assembled** dialogue box.

10 To complete the process of marking the PMD package "not assembled" click on the appropriate button from the following selections:

- **Package Not Assembled** - to dismiss the dialogue box and mark the PMD package "not assembled."
  - The dialogue box is dismissed.
  - The **Media Creation Actions** page (Figure 85) is displayed.
  - If the PMD package is marked "not assembled," OMS generates a QC error, which results in a QC intervention that offers the operator a range of options for responding to the problem.
- **Cancel** - to dismiss the dialogue box without marking the PMD package "not assembled."
  - The dialogue box is dismissed unless the Operator Notes have changed, in which case the **Cancel** button provides an opportunity to save the updated notes before dismissing the dialogue box.
  - The **Media Creation Actions** page (Figure 85) is displayed.

11 Repeat Steps 3 through 10 as necessary to mark PMD packages "not assembled" for additional requests.

12 Return to the procedure that specified marking the PMD package "not assembled" [e.g., **Monitoring/Controlling PMD Media Creation Using the OM GUI** (previous section of this lesson)].

Printing PMD Outputs

The procedure for **Printing PMD Outputs** is used for reprinting certain documents associated with PMD production, including shipping label, DN, and/or (in the case of CD-R/DVD-R) the jewel case insert. The procedure is performed in response to an **Assemble Package** action displayed in the **Action Type** column of the **Media Creation Actions** page. **Printing PMD Outputs** is typically performed in association with other procedures (e.g., **Monitoring/Controlling PMD Media Creation Using the OM GUI**).

The **Print Outputs** page (Figure 99) provides the full-capability operator with a means of reprinting certain documents associated with PMD production.

The procedure for reprinting PMD outputs using the **OM GUI** starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched [e.g., as described in the procedure for **Launching the Order Manager GUI** (preceding section of this lesson)].

Printing PMD Outputs

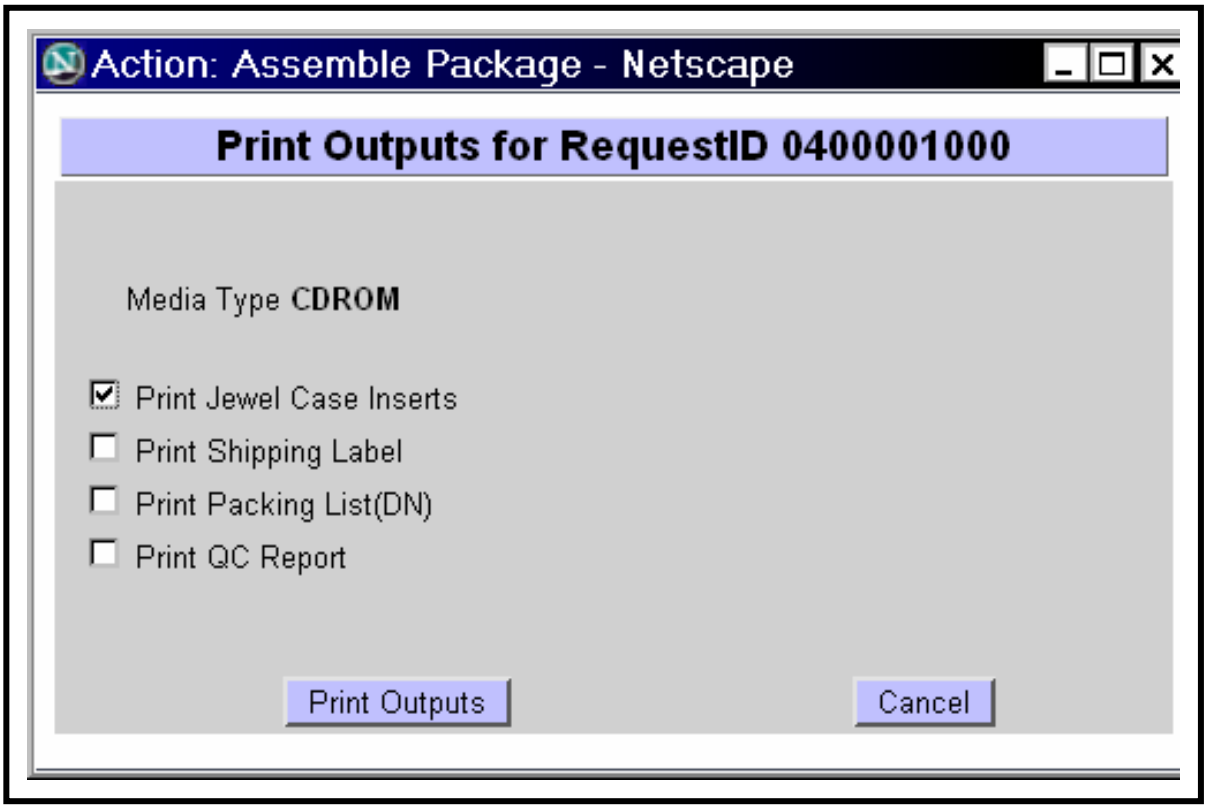
---

1 If it has not been expanded already, click on the **Physical Media Distribution** link in the navigation frame of the **OM GUI**.

- The **Physical Media Distribution** menu is expanded.

2 Click on the **Media Creation Actions** link in the navigation frame of the **OM GUI**.

- The **Media Creation Actions** page (Figure 85) is displayed.
- The **Filter** area of the **Media Creation Actions** page allows the operator to select the type(s) of actions to be displayed on the page. The following types of actions can be selected:
  - **Activate Media for QC.**
  - **Activate Request.**
  - **Assemble Package.**
  - **Collect Media for QC.**



  - **Mount Media for Production.**

Figure 99. Print Outputs Page

  - **Mount Media for QC.**

- The **Listing** table has the following columns:
  - **OrderID.**
  - **RequestID.**
  - **Media Type.**
  - **Device Name.**
  - **Request Status.**
  - **Due Date.**
  - **Media Action Note.**
  - **Action Type.**
  - **Options.**

3 Observe information displayed in the **Listing** table of the **Media Creation Actions** page.

NOTE: In order to reprint PMD outputs the entry in the **Action Type** column for that request must be **Assemble Package**.

4 To start the process of reprinting PMD outputs, click and hold the option button in the **Options** column for the row associated with the request to display a menu of options, move the mouse cursor to **Print Outputs** (highlighting it), then release the mouse button.

- A **Print Outputs** dialogue box (Figure 99) is displayed.
  - The **Print Outputs** dialogue box allows printing any/all of the following documents:
    - **Jewel case inserts.**
    - **Shipping label.**
    - **Packing List (DN).**
    - **QC Report.**

5 To have jewel case insert(s) printed, click in the check box labeled **Print Jewel Case Inserts** in the **Print Outputs** dialogue box.

- A checkmark is displayed in the **Print Jewel Case Inserts** check box.

6 To have a shipping label printed, click in the check box labeled **Print Shipping Label** in the **Print Outputs** dialogue box.

- A checkmark is displayed in the **Print Shipping Label** check box.

7 To have a packing list (DN) printed, click in the check box labeled **Print Packing List(DN)** in the **Print Outputs** dialogue box.

- A checkmark is displayed in the **Print Packing List(DN)** check box.

8 To have a QC report printed, click in the check box labeled **Print QC Report** in the **Print Outputs** dialogue box.

- A checkmark is displayed in the **Print QC Report** check box.

9 To complete the process of reprinting outputs click on the appropriate button from the following selections:

- **Print Outputs** - to dismiss the dialogue box and reprint the selected document(s).
  - The dialogue box is dismissed.
  - The **Media Creation Actions** page (Figure 85) is displayed.
  - The selected document(s) is/are reprinted on the applicable printer(s).

- **Cancel** - to dismiss the dialogue box without reprinting any documents.
  - The dialogue box is dismissed.
  - The **Media Creation Actions** page (Figure 85) is displayed.

10 Repeat Steps 3 through 9 as necessary to reprint outputs for additional requests.

11 Return to the procedure that specified printing outputs [e.g., **Monitoring/Controlling PMD Media Creation Using the OM GUI** (previous section of this lesson)].

Using the Order Manager Command Line Utility

Order Manager Command Line Utility

The **Order Manager (OM) Command Line Utility** provides a mechanism by which the Operations staff can submit product requests to the Order Manager Subsystem (OMS) database directly regardless of whether the Order Manager Server is "up" or "down." Product requests submitted using the **OM Command Line Utility** are in ODL format, consistent with the Product Request ODL protocol specified in 505-41-30, *Interface Control Document Between EOSDIS Core System (ECS) and the Version 0 System for Interoperability* (with a few extensions).

Running the OM Command Line Utility

Before running the **OM Command Line Utility**, it may be necessary to prepare input files that are specified in optional arguments when starting the utility. Each input file represents a separate request for data.

Preparing Input Files for Use with the OM Command Line Utility

Input files for product requests to be submitted using the **OM Command Line Utility** must be created before the utility is started. The input files are normally created using templates. The templates may be either previously used input files or the model templates in the /usr/ecs/*MODE*/CUSTOM/data/OMS/template directory. The applicable template should be copied and modified as necessary.

The model templates in the /usr/ecs/*MODE*/CUSTOM/data/OMS/template directory provide templates for requests involving various types of distribution media (e.g., ftp pull, ftp push, 8mm tape, or DVD). In addition, it is possible to submit a request for data to be inserted into the Data Pool. [For an example of a Data Pool insert request refer to the Order Manager Command Line Utility section of the *Release 7.11Operations Tools Manual for the EMD Project* (609-EMD-001).]

All requests to be submitted concurrently must have the same root name (e.g., "/usr/ecs/OPS/CUSTOM/data/OMS/request") but different numerical suffixes, starting with 0 (zero). For example, if three requests were to be submitted, input files with the following names would be prepared in advance:

- **/usr/ecs/OPS/CUSTOM/data/OMS/request.0**
- **/usr/ecs/OPS/CUSTOM/data/OMS/request.1**
- **/usr/ecs/OPS/CUSTOM/data/OMS/request.2**

In the example each file has the same root name (i.e., "/usr/ecs/OPS/CUSTOM/data/OMS/request") and each has a different numerical suffix, starting with 0. When the **OM Command Line Utility** is started, the operator specifies the root name

and the number of files to be processed. The **OM Command Line Utility** automatically determines the suffixes.

Preparing input files for use with the **OM Command Line Utility** starts with the assumption that the operator has logged in to the system.

Preparing Input Files for Use with the OM Command Line Utility

---

1 Access a terminal window logged in to the Sun Consolidation Internal Server host.

- Examples of Sun Consolidation Internal Server host names include **e0acs11**, **g0acs11**, **l0acs03,** and **n0acs04**.
- For detailed instructions refer to the procedure for **Logging in to System Hosts** (preceding section of this lesson).

2 Type **cd /usr/ecs/*MODE*/CUSTOM/data/OMS/template** then press **Return/Enter**.

- Change directory to the directory containing the Product Request ODL templates (e.g., prod.0, prod.1, prod.2, and prod.3).
- The ***MODE*** will most likely be one of the following operating modes:
  - OPS (for normal operation).
  - TS1 (new version checkout).
  - TS2 (new version checkout).
- Note that the separate subdirectories under /usr/ecs apply to different operating modes.

3 Type **ls -al** then press **Return/Enter**.

- A list of directory contents is displayed.
- For example:

```
total 62
drwxrwxr-x   2 cmops    cmops       512 Aug 19 09:39 ./
drwxrwxr-x   4 cmops    cmops      3584 Aug 23 13:11 ../
-r--r--r--   1 cmops    cmops      3924 Aug 19 09:39 prod.0
-r--r--r--   1 cmops    cmops      3627 Aug 19 09:39 prod.1
-r--r--r--   1 cmops    cmops      2273 Aug 19 09:39 prod.2
-r--r--r--   1 cmops    cmops      2271 Aug 19 09:39 prod.3
-r--r--r--   1 cmops    cmops      2271 Aug 19 09:39 prod.4
-r--r--r--   1 cmops    cmops      2271 Aug 19 09:39 prod.5
-r--r--r--   1 cmops    cmops      2594 Aug 19 09:39 prod.6
-r--r--r--   1 cmops    cmops      2570 Aug 19 09:39 prod.7
```

4 Type **cp** ***filename1 ../filename2*** then press **Return/Enter**.

- Copy the template to be used to a working directory.
- For example:

  cp prod.0 ../request.0

  - In the example the file **prod.0** is copied to the next directory up in the directory hierarchy (in this case **/usr/ecs/OPS/CUSTOM/data/OMS**) and given the name **request.0**.
- Although it may not be absolutely necessary to change the file name when copying a template, doing so can avoid problems, especially when the same template is being used to create multiple input files or when the template's file name is the same as one of the input files in the destination directory.

5 Type **cd ..** then press **Return/Enter**.

- Change directory to the directory containing the copy of the Product Request ODL template.

6 Type **ls -al** then press **Return/Enter**.

- A list of directory contents is displayed.
- For example:

  total 24
  drwxrwxr-x 4 cmops cmops 3584 Aug 23 13:11 ./
  drwxr-xr-x 16 cmops cmops 512 May 6 09:47 ../
  lrwxrwxrwx 1 cmops cmops 28 May 6 09:42 preamble ->
  /usr/ecs/OPS/CUSTOM/data/DSS/
  -r--r--r-- 1 cmshared cmshared 3924 Aug 23 13:11 request.0
  drwxrwxr-x 2 cmops cmops 512 May 18 2003 ResourceCatalogs/
  drwxrwxr-x 2 cmops cmops 512 Aug 19 09:39 template/

  - Note the file permissions of the template file that was copied to this directory. It is a read-only file.

7 To change the file permissions (if necessary), type **chmod 777** ***filename*** then press **Return/Enter**.

- The file permissions are changed.
  - 777 is an example only; it provides general access to the file for reading, writing, and execution.

8 Type **vi** ***filename*** then press **Return/Enter**.

- ***filename*** is the name of a file to be opened and modified.
- For example in response to the following command:

  x0acs11{cmshared}[10]->vi request.0

  the following response is displayed:

```
 GROUP = PRODUCT_REQUEST
   MESSAGE_ID = "B1027711830"
   [REQUEST_ID = "37475:27364"]
   DATA_CENTER_ID = "ECS-TEST"
   [ECS_AUTHENTICATOR = "cmshared"]
   GROUP = USER_AFFILIATION
      CATEGORY = "USA"
      TYPE = "GOVERNMENT"
   END_GROUP = USER_AFFILIATION
   {
  GROUP = CONTACT_ADDRESS
      TITLE = ""
      FIRST_NAME = "Jane"
      MIDDLE_INITIAL = ""
      LAST_NAME = "Doe"
      ORGANIZATION = ""
      ADDRESS = ("abcd")
      CITY = "Landover"
      STATE = "MD"
      ZIP = ""
      COUNTRY = "UNITED STATES"
      PHONE = "301-555-9999"
"request.0" 122 lines, 3924 characters
```

  – Only the first few lines of the file are shown in the example.

- The edited file will specify the request information to be sent to the OMS.
- Although this procedure has been written for the **vi** editor, any UNIX editor can be used to edit the file.

9 Using vi editor commands create a file that specifies the relevant request information to be sent to the OMS.

- In the template files there are brackets ([]), and braces ({}) around some of the lines and groups.

  – Brackets indicate optional entries containing content that is subject to change.

- Braces indicate entries that are required but the content is subject to change.
- Lines or groups of lines with no brackets or braces around them should not be changed.

- Remove the brackets and braces around the lines and groups in the file being edited.
- The following vi editor commands are useful:
  - **h** (move cursor left).
  - **j** (move cursor down).
  - **k** (move cursor up).
  - **l** (move cursor right).
  - **a** (append text).
  - **i** (insert text).
  - **r** (replace single character).
  - **x** (delete a character).
  - **dw** (delete a word).
  - **dd** (delete a line).
  - ***n*dd** (delete *n* lines).
  - **u** (undo previous change).
  - **Esc** (switch to command mode).

10 Press the **Esc** key.

11 Type **ZZ**.

- **vi** exits and the edited file is saved.
  - To exit **vi** without saving the new entries in the file type **:q!** then press **Return/Enter**.
- UNIX command line prompt is displayed.

12 Repeat Steps 2 through 11 as necessary to prepare additional files.

Running the OM Command Line Utility

Before running the **OM Command Line Utility**, any input files that are to be specified in optional arguments when starting the **OM Command Line Utility** must have been prepared. Each input file represents a separate request for data. If such input files are used, the operator

references the input file(s) in the command-line arguments when starting the **OM Command Line Utility**.

The procedure for running the **OM Command Line Utility** starts with the following assumptions:

- The operator has logged in to the system.
- Input files for requests are to be submitted using the **OM Command Line Utility** must have been created [e.g., as described in the procedure for **Preparing Input Files for Use with the OM Command Line Utility** (preceding section of this lesson)] before the utility is started.

Running the OM Command Line Utility

---

1 Access a terminal window logged in to the Sun Consolidation Internal Server host.

- Examples of Sun Consolidation Internal Server host names include **e0acs11**, **g0acs11**, **l0acs03,** and **n0acs04**.
- For detailed instructions refer to the procedure for **Logging in to System Hosts** (preceding section of this lesson).

2 Type **cd /usr/ecs/*MODE*/CUSTOM/utilities** then press **Return/Enter**.

- Change directory to the directory containing the Order Manager scripts (e.g., EcOmSrCliDriverStart).
- The ***MODE*** will most likely be one of the following operating modes:
  - OPS (for normal operation).
  - TS1 (new version checkout).
  - TS2 (new version checkout).
- Note that the separate subdirectories under /usr/ecs apply to different operating modes.

3 Type **EcOmSrCliDriverStart *MODE rootname #requests [sub-interval] [dBretries] [retry-interval]*** then press **Return/Enter**.

- The utility enters the request information (from the input files) in the OMS database.
- ***rootname*** is a required argument; it specifies the full path name of root name of the input (request) files.
  - For example:

    /usr/ecs/*MODE*/CUSTOM/data/OMS/request

- All input files to be submitted concurrently must have the same root name but different numerical suffixes, starting with 0 (zero). For example, if three requests were to be submitted, input files with the following names would have been prepared in advance:
  - **/usr/ecs/OPS/CUSTOM/data/OMS/request.0**
  - **/usr/ecs/OPS/CUSTOM/data/OMS/request.1**
  - **/usr/ecs/OPS/CUSTOM/data/OMS/request.2**
- Each file has the same root name (i.e., "/usr/ecs/OPS/CUSTOM/data/OMS/request") and each has a different numerical suffix. When the **OM Command Line Utility** is started, it automatically determines the suffixes.

- ***#requests*** is a required argument; it specifies the number of requests the **OM Command Line Utility** submits concurrently. The utility uses the number to determine the suffixes of the file names to be read.
- ***sub-interval*** is an optional argument; it specifies how many seconds apart the requests are submitted. If no value is specified, the default value of zero is used. When the value is zero, all requests are submitted with no submission interval (i.e., all at the same time).
- ***dBretries*** is an optional argument; it specifies how many times the utility tries to connect to the OMS database. If no value is specified, the default value of two times is used.
- ***retry-interval*** is an optional argument; it specifies the number of seconds between retries when the utility is trying to connect to the OMS database. If no value is specified, the default value of 10 seconds is used.
- Examples:

  EcOmSrCliDriverStart OPS /usr/ecs/OPS/CUSTOM/data/OMS/request 7

  - The example indicates that EcOmSrCliDriver should process the ten files named request.0, request.1, request.2, request.3, request.4, request.5, and request.6 in directory /usr/ecs/OPS/CUSTOM/data/OMS. Default conditions apply to when the requests are to be submitted (all at the same time), the number of retries for connecting to the database (two retries), and the retry interval (10 seconds).

  EcOmSrCliDriverStart OPS /usr/ecs/OPS/CUSTOM/data/OMS/item 3 5 4 15

  - The example indicates that EcOmSrCliDriver should process the three files named item.0, item.1, and item.2 in directory /usr/ecs/OPS/CUSTOM/data/OMS. The requests are to be submitted at five-

second intervals. Four retries may be made to connect to the database. The retries would occur at 15-second intervals.

Using the OMS Configuration Script (OMS Configuration CI)

OMS Configuration Script (OMS Configuration CI) Activities

The **OMS Configuration Script** or **OMS Configuration Command-Line Interface** (**OMS Configuration CI**) allows full-capability operators to configure certain attributes of the OMS that are not configured using the **OM GUI**; for example, switching between Synergy IV and Synergy III operations. For the most part the attributes that are configured using the **OMS Configuration CI** do not require frequent modification.

The **OMS Configuration CI** utility is intended for full-capability operators only. Because it is a UNIX utility, the **OMS Configuration CI** depends on standard UNIX permissions to restrict execution of the script to authorized users.

Starting the OMS Configuration CI

Before starting the **OMS Configuration CI**, it may be necessary to prepare input files that are specified in optional arguments when starting the **OMS Configuration CI**. If such input files are used, the full-capability operator references the input file(s) in the command-line arguments when starting the **OMS Configuration CI**.

Preparing Input Files for Use with the OMS Configuration CI

There are two general types of input files used with the **OMS Configuration CI**:

- Synergy III mode exception files.
- Order-tracking retention time data.

If any Synergy III mode exceptions are to be applied or removed using the **OMS Configuration CI**, the appropriate input file(s) must be prepared first so the file(s) can be included in arguments that are specified when the **OMS Configuration CI** is started. Each potential input is a "flat" file that contains one of the following types of data:

- ESDT collection(s).
- Media type(s).
- Ftp push destination(s).

The files can be used to specify either of the following dispositions for the data:

- Add the data in the file to the current types of data being processed in Synergy III mode.

- Delete the data in the file from the current types of data being processed in Synergy III mode.

Consequently, files may be created for the following six conditions:

- Add ESDT collection(s) to processing in Synergy III mode.
- Delete ESDT collection(s) from processing in Synergy III mode.
- Add media type(s) to processing in Synergy III mode.
- Delete media type(s) from processing in Synergy III mode.
- Add ftp push destination(s) to processing in Synergy III mode.
- Delete ftp push destination(s) from processing in Synergy III mode.

Each Synergy III mode exception file specified when starting the **OMS Configuration CI** must contain only one of the preceding types of data. For example, if a new ftp push destination is to be added and a current ftp push destination is to be deleted, two separate files must be created, one containing the destination to be added and the other containing the destination to be deleted. The same principle applies whether the additions or deletions relate to ftp push destinations, media types, or ESDTs.

NOTE: Once the capability to support the distribution of bulk browse (ECSBBR) granules through OMS (rather than SDSRV) has been implemented (e.g., with the installation of Release 7.11), Operations should change the OMS configuration to delete the ECSBBR collection from processing in Synergy III mode.

If order-tracking retention time (how long order-tracking information is kept in the OMS database) is to be modified using the **OMS Configuration CI**, a file of data "imported" from the OMS database (using the **OMS Configuration CI**) must be edited so the file can be included in an argument that is specified when the **OMS Configuration CI** is started the next time. The "imported" file contains the following three types of data:

- Order source [e.g., "D" (Data Pool), "S" (Spatial Subscription Server), "V" (V0 Gateway), or "M" (Machine-to-Machine Gateway)].
- Distribution medium.
- Retention time period in days.

The "imported" order-tracking retention time file is edited to incorporate the new configuration information (i.e., retention time for each set of order source/medium). The edited file is subsequently "exported" to the OMS database (using the **OMS Configuration CI**), where the new values are entered.

For information concerning the reasons for modifying order-tracking retention time, refer to the **OMS Database Cleanup Guidelines** subsection of the **Tuning Order Manager Subsystem Parameters** section (subsequent section of this lesson).

Preparing input files for use with the **OMS Configuration CI** starts with the assumption that the full-capability operator has logged in to the system.

Preparing Input Files for Use with the OMS Configuration CI

1 Access a terminal window logged in to the Sun Consolidation Internal Server host.

- Examples of Sun Consolidation Internal Server host names include **e0acs11**, **g0acs11**, **l0acs03,** and **n0acs04**.
- For detailed instructions refer to the procedure for **Logging in to System Hosts** (preceding section of this lesson).

2 Type **cd /usr/ecs/*MODE*/CUSTOM/utilities** then press **Return/Enter**.

- Change directory to the directory containing the Order Manager scripts (e.g., EcOmConfig.pl).
- The ***MODE*** will most likely be one of the following operating modes:
  - OPS (for normal operation).
  - TS1 (for SSI&T).
  - TS2 (new version checkout).
- Note that the separate subdirectories under /usr/ecs apply to different operating modes.

3 Type **vi *filename*** then press **Return/Enter**.

- ***filename*** is the name of a file to be opened.
  - It may be either the name of an existing file (e.g., a file of order-tracking retention time data "imported" from the OMS database) or the name of a new file (e.g., additional media types to be processed in Synergy III mode).
- For example:

  x0acs11{cmops}[10]->vi ESDT20040109.dat

  ~

  ~

  ~

  […]

  "ESDT20040109.dat" [New file]

  - Many blank lines have been deleted from the example.

- The new file will specify the values to be sent to the OMS.
- Although this procedure has been written for the **vi** editor, any UNIX editor can be used to create the file.

4 Using vi editor commands create a file that specifies the relevant values to be sent to the OMS.

- Each Synergy III mode exception file contains one item per line.
  - White space is ignored, so multiple lines can separate groups of collection.
  - For example the following entries are included in an ESDT collection file:

    MOD11_L2.001
    MOD11_L2.002
    GDAS_0ZF.001
    GDAS_0ZF.002

  - Another example shows entries included in a media file:

    8MM
    scp

  - Another example shows entries included in an ftp push destination file:

    "Fordham University"
    "Yale University"
    ftp.hbc.md.edu
    223.516.34.14

    - A destination may be a configured "Name" as created by the **OMS GUI** or a host/IP address.
    - If the configured name is used, it must be enclosed in double quotes (e.g., "Fordham University").
- Each line in an order-tracking retention time file contains an order source code, a distribution medium, and the retention time period in days.
  - For example, the following entries are included in an order-tracking retention time file:

    D FtpPull 0
    S FtpPull 0
    V FtpPull 0
    M FtpPull 0
    D FtpPush 0
    S FtpPush 0
    V FtpPush 0
    M FtpPush 0
    D CDROM 0

S CDROM 0
V CDROM 0
M CDROM 0
D DLT 0
S DLT 0
V DLT 0
M DLT 0
D DVD 0
S DVD 0
V DVD 0
M DVD 0
D 8MM 0
S 8MM 0
V 8MM 0
M 8MM 3
D scp 0
S scp 0
V scp 1.5
M scp 0

- Order source codes include “D” (Data Pool), “S” (Spatial Subscription Server), “V” (V0 Gateway), and “M” (Machine-to-Machine Gateway).

- The following vi editor commands are useful:
  - **h** (move cursor left).
  - **j** (move cursor down).
  - **k** (move cursor up).
  - **l** (move cursor right).
  - **a** (append text).
  - **i** (insert text).
  - **r** (replace single character).
  - **x** (delete a character).
  - **dw** (delete a word).
  - **dd** (delete a line).
  - ***n*dd** (delete *n* lines).
  - **u** (undo previous change).
  - **Esc** (switch to command mode).

5 Press the **Esc** key.

6 Type **ZZ**.

- **vi** exits and the new or edited file is saved.
  - To exit **vi** without saving the new entries in the file type **:q!** then press **Return/Enter**.
- UNIX command line prompt is displayed.

Starting the OMS Configuration CI

If any Synergy III mode exceptions are to be applied using the **OMS Configuration CI**, the appropriate input file(s) must have been prepared first so the file(s) can be included in arguments that are specified when the **OMS Configuration CI** is started. The **OMS Configuration CI** script can take several options to process input files for Synergy III mode exceptions. Each potential input is a "flat" file that contains one of the following types of data:

- ESDT collection(s).
- Media type(s).
- FtpPush destination(s).

Based on the file names included in arguments when it is started, the **OMS Configuration CI** determines which file was specified for which purpose (media, ESDTs, or destinations) and requests confirmation. Then the **OMS Configuration CI** requests whether the file entries are to be added or deleted from the relevant list.

The procedure for starting the **OMS Configuration CI** starts with the following assumptions:

- The full-capability operator has logged in to the system.
- If any Synergy III mode exceptions are to be applied using the **OMS Configuration CI**, the appropriate input file(s) has (have) been prepared and placed in the appropriate directory [e.g., as described in the procedure for **Preparing Input Files for use with the OMS Configuration CI** (preceding section of this lesson)].

Starting the OMS Configuration CI

---

1 Access a terminal window logged in to the Sun Consolidation Internal Server host.

- Examples of Sun Consolidation Internal Server host names include **e0acs11**, **g0acs11**, **l0acs03,** and **n0acs04**.
- For detailed instructions refer to the procedure for **Logging in to System Hosts** (preceding section of this lesson).

2 Type **cd /usr/ecs/*MODE*/CUSTOM/utilities** then press **Return/Enter**.

- Change directory to the directory containing the Order Manager scripts (e.g., EcOmConfig.pl).
- The ***MODE*** will most likely be one of the following operating modes:
  - OPS (for normal operation).
  - TS1 (for SSI&T).
  - TS2 (new version checkout).
- Note that the separate subdirectories under /usr/ecs apply to different operating modes.

3 Type **EcOmConfig.pl *MODE* [-s3col *filename*] [-s3media *filename*] [-s3dest *filename*] [-ot *filename*] [-help]** then press **Return/Enter**.

- The **OMS Configuration CI Main Menu** (Figure 101) is displayed.

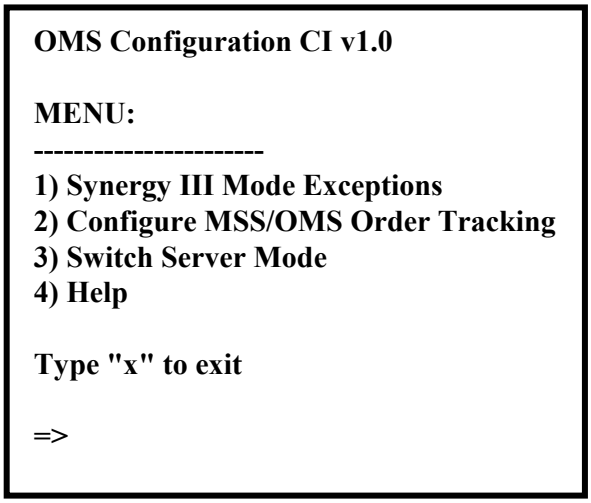


Figure 101. OMS Configuration CI Main Menu

- **-s3col *filename*** is an optional argument that specifies a flat file (***filename***) containing a list of ESDT collections to be added or deleted for processing in Synergy III mode, depending on the selection made by the operator.
- **-s3media *filename*** is an optional argument that specifies a flat file (***filename***) containing a list of media types to be added or deleted for processing in Synergy III mode, depending on the selection made by the operator.
- **-s3dest *filename*** is an optional argument that specifies a flat file (***filename***) containing a list of FtpPush destinations to be added or deleted for processing in Synergy III mode, depending on the selection made by the operator.

- **-ot** ***filename*** is an optional argument that specifies a flat file (***filename***) containing edited order-tracking retention times for update in the OMS database.
- **-help** is an optional argument that provides a brief overview of the input options that can be used with the **OMS Configuration CI** utility.

4 To perform another task using the **OMS Configuration CI** go to the applicable procedure from the following list:

- **Processing Input Files Specified for Synergy III Exceptions** (to add or delete ESDT collections, media types, and/or FtpPush destinations to/from those processed in S3 (Synergy III) processing mode).
- **Configuring How Long Order-Tracking Information is Kept in the OMS Database** (to configure how long order-tracking information is kept in the OMS database).
- **Switching Between Synergy IV and Synergy III Operations** (to switch OMS Server processing between S4 (Synergy IV) operations and S3 (Synergy III) operations).
- **Getting OMS Configuration CI Help** (to display help information for the **OMS Configuration CI**).

5 To exit from the **OMS Configuration CI** (when applicable) at the **OMS Configuration CI Main Menu** prompt type **x** then press **Return/Enter**.

- The **OMS Configuration CI** is closed.

Using the OMS Configuration CI

The full-capability operator can perform the following tasks using the **OMS Configuration CI**:

- **Processing Input Files Specified for Synergy III Exceptions.**
- **Configuring How Long Order-Tracking Information is Kept in the OMS Database.**
- **Switching Between Synergy IV and Synergy III Operations.**
- **Getting OMS Configuration CI Help.**

Limited-capability operators should not be able to get access to the **OMS Configuration CI**.

Processing Input Files Specified for Synergy III Exceptions

If any Synergy III mode exceptions are to be applied using the **OMS Configuration CI**, the appropriate input file(s) must have been prepared first and the file name(s) must have been included in arguments that were specified when the **OMS Configuration CI** was started. There may be as many as six Synergy III exception files to account for the following six conditions:

- Add ESDT collection(s) to processing in Synergy III mode.
- Delete ESDT collection(s) from processing in Synergy III mode.
- Add media type(s) to processing in Synergy III mode.
- Delete media type(s) from processing in Synergy III mode.
- Add ftp push destination(s) to processing in Synergy III mode.
- Delete ftp push destination(s) from processing in Synergy III mode.

The files can specify either types of data to be added to or types of data to be deleted from the current types of data being processed in Synergy III mode. For example, a file of media types can add to the media types processed in Synergy III mode or a file can specify media types to be deleted from the media types processed in Synergy III mode. The file specified when starting the **OMS Configuration CI** must contain either the one type of data or the other, not both. If both additions and deletions are to be made, two separate files must be created. The same principle applies whether additions or deletions of media types, ESDTs, or ftp push destinations are specified.

Based on the file names included in arguments when it is started, the **OMS Configuration CI** determines which file was specified for which purpose (media, ESDTs, or destinations) and requests confirmation. When the full-capability operator confirms the file and its content, the **OMS Configuration CI** requests whether the entries in the file are to be added or deleted from the relevant list.

The procedure for processing input files specified for Synergy III exceptions starts with the following assumptions:

- The **OMS Configuration CI** has been started.
- The appropriate input file(s) for all Synergy III mode exceptions to be applied has (have) been prepared and placed in the appropriate directory [e.g., as described in the procedure for **Preparing Input Files for Use with the OMS Configuration CI** (preceding section of this lesson)].

Processing Input Files Specified for Synergy III Exceptions

---

1 If it has not been started already, start the **OMS Configuration CI**.

- For detailed instructions refer to the procedure for **Starting the OMS Configuration CI** (preceding section of this lesson).

2 At the **OMS Configuration CI Main Menu** prompt type **1** then press **Return/Enter**.

- The **Synergy III Mode Exceptions Menu** (Figure 102) is displayed.

```
Synergy III Mode Exceptions:
----------------------------
1) Process input files...
2) Back to Main Menu

=>
```

Figure 102. Synergy III Mode Exceptions Menu

3 At the **Synergy III Mode Exceptions Menu** prompt, type the appropriate number from the following list then press **Return/Enter**:

- **1** - to process any of the input files specified for Synergy III Exceptions.
  - The following type of message is displayed:

    "media20040109.dat" has been specified as the file containing media types. Use this file? [y/n]

  - If the file specified in the confirmation message is the proper file, skip Steps 4 through 7 and go to Step 8.
  - If the file specified in the confirmation message is not the proper file, continue with Step 4.
- **2** - to return to the **OMS Configuration CI Main Menu**.
  - The **OMS Configuration CI Main Menu** (Figure 101) is displayed.
  - Return to Step 2.

4 If the file specified in the confirmation message is not the proper file, at the **Use this file? [y/n]** prompt type **n** then press **Return/Enter**.

- The **OMS Configuration CI Main Menu** (Figure 101) is displayed.
- A likely cause of the problem is having mistyped the file name when starting the **OMS Configuration CI**.

5 If the file specified in the confirmation message is not the proper file, at the **OMS Configuration CI Main Menu** prompt, type **x** then press **Return/Enter**.

6 If the file specified in the confirmation message is not the proper file, start the **OMS Configuration CI** using the appropriate option (i.e., **-s3col**, **-s3media**, or **-s3dest**) and the proper file name as an argument.

- For detailed instructions refer to the procedure for **Starting the OMS Configuration CI** (preceding section of this lesson).

7 If the file specified in the confirmation message is not the proper file, return to Step 2 of this procedure to start the process of processing the input file specified for Synergy III exception.

8 To process the file specified in the confirmation message, at the **Use this file? [y/n]** prompt type **y** then press **Return/Enter**.

- The **Synergy III Mode Actions Menu** (Figure 103) is displayed.

```
Select an action to take:

1) ADD the media types specified in the file

2) DELETE the media types specified in the file

3) Back to main menu

=>
```

Figure 103. Synergy III Mode Actions Menu

9 To continue processing the file specified in the confirmation message, at the **Synergy III Mode Actions Menu** prompt, type the appropriate number from the following list then press **Return/Enter**:

- **1** - to add the data in the file to the types of data to be processed in Synergy III mode.
  - The following type of message is displayed:

    Submission successful. Press <ENTER> to continue...
- **2** - to remove the data in the file from the types of data to be processed in Synergy III mode.
  - The following type of message is displayed:

    Submission successful. Press <ENTER> to continue...

- **3** - to abort the process of processing the file specified in the confirmation menu and return to the **OMS Configuration CI Main Menu**.
  - The **OMS Configuration CI Main Menu** (Figure 101) is displayed.
  - Return to Step 2.

10 If a "**Submission successful. Press <ENTER> to continue...**" message was displayed, press **Return/Enter**.

- The specified Synergy III exceptions have been successfully processed.
  - The **OMS Configuration CI Main Menu** (Figure 101) is displayed.

11 Repeat Steps 2 through 10 (as applicable) to apply additional Synergy III exceptions.

12 To perform another task using the **OMS Configuration CI** (if the **OMS Configuration CI Main Menu** is being displayed), go to the applicable procedure from the following list:

- **Configuring How Long Order-Tracking Information is Kept in the OMS Database** (to configure how long order-tracking information is kept in the OMS database).
- **Switching Between Synergy IV and Synergy III Operations** (to switch OMS Server processing between S4 (Synergy IV) operations and S3 (Synergy III) operations).
- **Getting OMS Configuration CI Help** (to display help information for the **OMS Configuration CI**).

13 To exit from the **OMS Configuration CI** (when applicable) at the **OMS Configuration CI Main Menu** prompt type **x** then press **Return/Enter**.

- The **OMS Configuration CI** is closed.
- A UNIX command line prompt is displayed.

Configuring How Long Order-Tracking Information is Kept in the OMS Database

The full-capability operator can configure how long order-tracking information is kept in the OMS database. The length of time can be different for each combination of media type and order source.

The process of configuring how long order-tracking information is kept in the OMS database involves "importing" the current configuration to a local file, editing the file, and exporting it back into the OMS database.

- When the full-capability operator requests the **OMS Configuration CI** to "import" the current configuration, the utility creates and saves a unique file in the current directory.
- The saved file contains the configuration for all media types and all order sources.
- The full-capability operator exits the **OMS Configuration CI** and edits the import file to incorporate changes.
- The full-capability operator starts the **OMS Configuration CI** using the **–ot** option and specifying the edited file.
- The full-capability operator uses the **OMS Configuration CI** to export the data in the file to the database.
- The **OMS Configuration CI** parses the file and submits the changes to the OMS database.

The procedure for configuring how long order-tracking information is kept in the OMS database starts with the following assumptions:

- The **OMS Configuration CI** has been started.
- If applicable, the appropriate input file for configuring how long order-tracking information is kept in the OMS database has been prepared and placed in the appropriate directory [e.g., as described in the procedure for **Preparing Input Files for Use with the OMS Configuration CI** (preceding section of this lesson)].

Configuring How Long Order-Tracking Information is Kept in the OMS Database

---

1 If it has not been started already, start the **OMS Configuration CI**.

- For detailed instructions refer to the procedure for **Starting the OMS Configuration CI** (preceding section of this lesson).

2 At the **OMS Configuration CI Main Menu** prompt type **2** then press **Return/Enter**.

- The **Configure Order Tracking Data Menu** (Figure 104) is displayed.

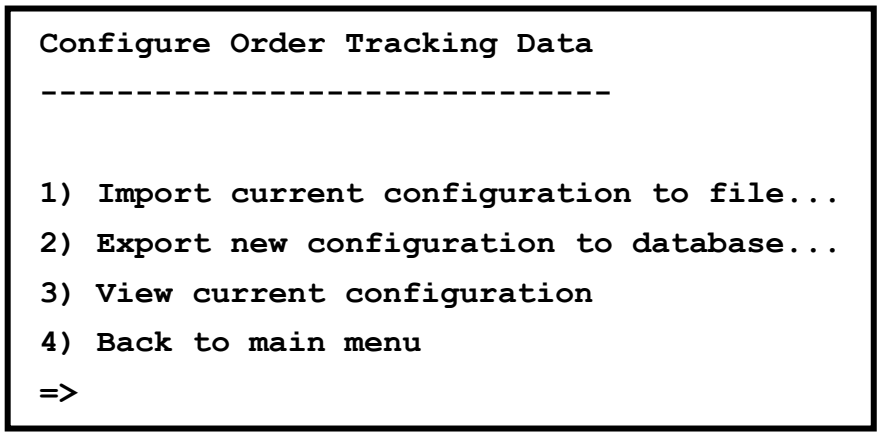


Figure 104. Configure Order Tracking Data Menu

3 At the **Configure Order Tracking Data Menu** prompt, type the appropriate number from the following list then press **Return/Enter**:

- **1** - to import the current order-tracking retention time configuration (from the OMS database) into a file.
  - The following type of message is displayed:

    Importing to local file "MssOmsOrderTracking.1067729076"...
    Import OK. Please edit this file and use this utility to export the new configuration.
  - The utility creates and saves a unique file (containing the current order-tracking retention time configuration from the OMS database) in the current directory.
  - The "imported" order-tracking retention time file would be edited to incorporate the new configuration information. The edited file would subsequently be "exported" to the OMS database, where the new order-tracking retention time values would be applied.
  - Press **Return/Enter**.
    - The **OMS Configuration CI Main Menu** (Figure 101) is displayed.
    - Go to Step 4.
- **2** - to export an edited order-tracking retention time file to the OMS database.
  - The following type of message is displayed:

    You are about to export an edited configuration file. Please make sure the fields are properly edited. These changes will be submitted to the OMS database.

"MssOmsOrderTracking.1067729243" was specified as the export file. Do you want to use this one? [y/n]

- The "exported" file would used to update the OMS database, where the new order-tracking retention time values would be applied.

– If the file specified in the confirmation message is not the proper file, go to Step 8.

– If the file specified in the confirmation message is the proper file, go to Step 12.

- **3** - to view the current configuration.
  - The current order-tracking retention time configuration (from the OMS database) is displayed.
  - Each line of the order-tracking retention time configuration contains the following three items:
    - Order source code [e.g., "D" (Data Pool), "S" (Spatial Subscription Server), "V" (V0 Gateway), and "M" (Machine-to-Machine Gateway)].
    - Distribution medium.
    - Retention time period in days.
  - For example:

```
Order   Media   Ret. Time
Source  Type    Period (Hours)
-------------------------
D       FtpPull     0
S       FtpPull     0
V       FtpPull     0
M       FtpPull     0
D       FtpPush     0
S       FtpPush     0
V       FtpPush     0
M       FtpPush     0
D       CDROM   0
S       CDROM   0
V       CDROM   0
M       CDROM   0
D       DLT     0
S       DLT     0
V       DLT     0
M       DLT     0
D       DVD     0
S       DVD     0
V       DVD     0
```

M DVD 0
D 8MM 0
S 8MM 0
V 8MM 0
M 8MM 0
D scp 0
S scp 0
V scp 0
M scp 0

Press <enter> to return to main menu...

– Press **Return/Enter**.

· The **OMS Configuration CI Main Menu** (Figure 101) is displayed.

· Return to Step 2.

- **4** - to return to the **OMS Configuration CI Main Menu**.

– The **OMS Configuration CI Main Menu** (Figure 101) is displayed.

– Return to Step 2.

4 After importing the current order-tracking retention time configuration into a file, at the **OMS Configuration CI Main Menu** prompt, type **x** then press **Return/Enter**.

- The **OMS Configuration CI** is closed.

5 After importing the current order-tracking retention time configuration into a file and closing the **OMS Configuration CI**, edit the import file (to incorporate changes) as described in the procedure for **Preparing Input Files for Use with the OMS Configuration CI** (preceding section of this lesson).

6 After editing the order-tracking retention time file (to incorporate changes), start the **OMS Configuration CI** using the **–ot** option and the file name of the edited file as an argument.

- For detailed instructions refer to the procedure for **Starting the OMS Configuration CI** (preceding section of this lesson).

7 After starting the **OMS Configuration CI** with reference to the edited file, return to Step 2 of this procedure to start the process of exporting the edited order-tracking retention time file to the OMS database.

8 If the file specified in the confirmation message is not the proper file, at the **Do you want to use this one? [y/n]** prompt type **n** then press **Return/Enter**.

- The **OMS Configuration CI Main Menu** (Figure 101) is displayed.
- A likely cause of the problem is having mistyped the file name when starting the **OMS Configuration CI**.

9 If the file specified in the confirmation message is not the proper file, at the **OMS Configuration CI Main Menu** prompt, type **x** then press **Return/Enter**.

10 If the file specified in the confirmation message is not the proper file, start the **OMS Configuration CI** using the **–ot** option and the proper file name as an argument.

- For detailed instructions refer to the procedure for **Starting the OMS Configuration CI** (preceding section of this lesson).

11 If the file specified in the confirmation message is not the proper file, return to Step 2 of this procedure to start the process of exporting the edited order-tracking retention time file to the OMS database.

12 To export an edited order-tracking retention time file to the OMS database, at the **Do you want to use this one? [y/n]** prompt type **y** then press **Return/Enter**.

- The following prompt is displayed:

  You are about to export file "<*filename*>". Continue? [y/n]

13 To continue the process of exporting an edited order-tracking retention time file to the OMS database, at the **Continue? [y/n]** prompt type **y** then press **Return/Enter**.

- If there is no problem exporting the file to the OMS database, the following messages are displayed:

  Submitting file to database...
  Syntax checking the input file...
  Export OK. Press <ENTER> to continue...

  - The edited order-tracking retention time file was successfully exported to the OMS database

14 Press **Return/Enter**.

- The **OMS Configuration CI Main Menu** (Figure 101) is displayed.

15 If there was a problem exporting the file to the OMS database, return to Step 2.

16 To perform another task using the **OMS Configuration CI** go to the applicable procedure from the following list:

- **Processing Input Files Specified for Synergy III Exceptions** (to add or delete ESDT collections, media types, and/or FtpPush destinations to/from those processed in S3 (Synergy III) processing mode).
- **Switching Between Synergy IV and Synergy III Operations** (to switch OMS Server processing between S4 (Synergy IV) operations and S3 (Synergy III) operations).
- **Getting OMS Configuration CI Help** (to display help information for the **OMS Configuration CI**).

17 To exit from the **OMS Configuration CI** (when applicable) at the **OMS Configuration CI Main Menu** prompt type **x** then press **Return/Enter**.

- The **OMS Configuration CI** is closed.
- A UNIX command line prompt is displayed.

Switching Between Synergy IV and Synergy III Operations

The option to switch server (processing) mode allows the full-capability operator to switch the OMS Server processing between S4 (Synergy IV) operations and S3 (Synergy III) operations. The feature works like a toggle; i.e., if the current mode is S3, the only option is to switch to S4 and vice versa.

Invoking the option to switch server (processing) mode allows also causes the current status of the OMS Server (i.e., "up" or "down") to be displayed. Because the processing mode is kept as a parameter in the OMS database, it can be changed regardless of OMS server status.

The procedure for switching between Synergy IV and Synergy III operations starts with the assumption that the **OMS Configuration CI** has been started.

Switching Between Synergy IV and Synergy III Operations

---

1 If it has not been started already, start the **OMS Configuration CI**.

- For detailed instructions refer to the procedure for **Starting the OMS Configuration CI** (preceding section of this lesson).

2 At the **OMS Configuration CI Main Menu** prompt type **3** then press **Return/Enter**.

- If the OMS Server is "up," the OMS Server status and current processing mode are displayed along with the following message:

  Please shut down the OMS Server before switching the server mode. You may then select this option again from the main menu. (No need to exit this program)

- If the OMS Server is "down," the **Switch Processing Mode Menu** (Figure 105) is displayed.
  - The OMS Server status and current processing mode are displayed.
- If the OMS Server is "up," continue with Step 3.
- If the OMS Server is "down," skip Steps 3 through 5 and go to Step 6.

3 If a "**Please shut down the OMS Server**" message is being displayed, press **Return/Enter**.

- The **OMS Configuration CI Main Menu** (Figure 101) is displayed.

```
1) Switch Processing mode to S3
2) Back to main menu
3) Exit
=>
```

Figure 105. Switch Processing Mode Menu

4 If a "**Please shut down the OMS Server**" message was displayed, shut down the OMS Server (EcOmOrderManager) or make a request to the Operations Controller/System Administrator to shut down the OMS Server for the appropriate mode.

- There is no need to exit from the **OMS Configuration CI** while the OMS Server is being shut down.
  - The shutdown can be accomplished in a separate terminal window.

NOTE The OMS Server (EcOmOrderManager) is typically installed on the Sun Consolidation Internal Server. Examples of Sun Consolidation Internal Server host names include **e0acs11**, **g0acs11**, **l0acs03**, and **n0acs04**.

5 If a "**Please shut down the OMS Server**" message was displayed, return to Step 2 after the OMS Server has been shut down.

6 At the **Switch Processing Mode Menu** prompt, type the appropriate number from the following list then press **Return/Enter**:

- **1** - to switch to the other processing mode.
  - The processing mode is switched (either from S3 to S4 or from S4 to S3, as applicable).
- **2** - to return to the **OMS Configuration CI Main Menu**.
  - The **OMS Configuration CI Main Menu** (Figure 101) is displayed.
- **3** - to exit from the **OMS Configuration CI**.
  - The **OMS Configuration CI** is closed.

8 If appropriate, start the OMS Server (EcOmOrderManager) or make a request to the Operations Controller/System Administrator to bring up (start) the OMS Server in the appropriate mode.

9 To perform another task using the **OMS Configuration CI** (if the **OMS Configuration CI Main Menu** is being displayed), go to the applicable procedure from the following list:

- **Processing Input Files Specified for Synergy III Exceptions** (to add or delete ESDT collections, media types, and/or FtpPush destinations to/from those processed in S3 (Synergy III) processing mode).
- **Configuring How Long Order-Tracking Information is Kept in the OMS Database** (to configure how long order-tracking information is kept in the OMS database).

- **Getting OMS Configuration CI Help** (to display help information for the **OMS Configuration CI**).

10 To exit from the **OMS Configuration CI** (when applicable) at the **OMS Configuration CI Main Menu** prompt type **x** then press **Return/Enter**.

- The **OMS Configuration CI** is closed.
- A UNIX command line prompt is displayed.

Getting OMS Configuration CI Help

The "help" function of the **OMS Configuration CI** allows the full-capability operator to display a complete synopsis of the options and all available functions of the CI.

The procedure for getting **OMS Configuration CI** help starts with the assumption that the **OMS Configuration CI** has been started.

Getting OMS Configuration CI Help

---

1 If it has not been started already, start the **OMS Configuration CI**.

- For detailed instructions refer to the procedure for **Starting the OMS Configuration CI** (preceding section of this lesson).

2 At the **OMS Configuration CI Main Menu** prompt type **4** then press **Return/Enter**.

- The first page of the **OMS Configuration CI Help** (Figure 106) is displayed.

3 To view additional help information press either **Return/Enter** or the space bar.

- Another line of the **OMS Configuration CI Help** is displayed if **Return/Enter** is pressed.

```
OMS Configuration CI 1.0 HELP
-------------------------------------------------------------

Type "q" at any time to quit help.

Usage:
EcOmConfig.pl [options]
-ot <file>              Order tracking export file
-s3col <file>           File containing Synergy III ESDT collections
-s3media <file>         File containing Synergy III media types
-s3dest <file>          File containing Synergy III FTP destinations



SWITCH SERVER MODE
This function toggles the server mode between "S3" and "S4". It
sets a parameter in the database that the OMS Server picks up
the next time it is started. It does not set the mode directly
in the server.
--MORE--
```

Figure 106. OMS Configuration CI Help

- Another page of the **OMS Configuration CI Help** is displayed if the space bar is pressed.

4 To exit from Help type **q**.

- A "**Press <ENTER> to return to main menu...**" message is displayed.

5 If a "**Press <ENTER> to return to main menu...**" message was displayed, press **Return/Enter**.

- The **OMS Configuration CI Main Menu** (Figure 101) is displayed.

6 To perform another task using the **OMS Configuration CI** (if the **OMS Configuration CI Main Menu** is being displayed), go to the applicable procedure from the following list:

- **Processing Input Files Specified for Synergy III Exceptions** (to add or delete ESDT collections, media types, and/or FtpPush destinations to/from those processed in S3 (Synergy III) processing mode).

- **Configuring How Long Order-Tracking Information is Kept in the OMS Database** (to configure how long order-tracking information is kept in the OMS database).
- **Switching Between Synergy IV and Synergy III Operations** (to switch OMS Server processing between S4 (Synergy IV) operations and S3 (Synergy III) operations).

7 To exit from the **OMS Configuration CI** (when applicable) at the **OMS Configuration CI Main Menu** prompt type **x** then press **Return/Enter**.

- The **OMS Configuration CI** is closed.
- A UNIX command line prompt is displayed.

Tuning Data Server Subsystem Parameters

Tuning Data Server Subsystem Configuration Parameters

The values assigned to system parameters affect the functioning and performance of the system. When certain parameters are modified, the system operates differently. Changes to some other parameters may not appear to affect the system although there may in fact be subtle effects. In any case before system parameters are modified it is essential to understand what will happen to system functioning and performance.

Many system parameters may be subject to control by Configuration Management (CM). When making or requesting a change to system parameters, the CM process at the particular site must be followed (if applicable).

Values are assigned to Storage Management and Data Distribution parameters in the following databases:

- Configuration Registry database.
- Storage Management and Data Distribution database.

With respect to Storage Management servers the Registry contains database connectivity information only. All other configuration information is in the Storage Management and Data Distribution database and is typically entered or modified using the **Storage Management Control GUI**.

Modifying System Parameters in the Configuration Registry Database

The Configuration Registry Server provides a single interface (via a Sybase server) for retrieving configuration attribute-value pairs for system servers from the Configuration Registry database. When system servers are started, they access the Configuration Registry Database to obtain needed configuration parameters.

The Database Administrator has access to a Configuration Registry GUI for viewing and editing configuration data in the database. Therefore, it is necessary to coordinate with the Database Administrator when changes to configuration parameters are needed. Also, as previously mentioned, changes to configuration-controlled parameters are subject to approval through the site CM process.

Default and adjusted values assigned to system parameters vary from site to site. For guidance concerning the assignment of values to parameters included in the Configuration Registry refer to document 910-TDA-022, *Custom Code Configuration Parameters for ECS*. The document is available at http://cmdm-ldo.raytheon.com/baseline/ under "Technical Documents."

The following parameters are examples of parameters whose values may be modified to enhance system functioning or performance:

- AppLogSize [parameter applies to all servers].
  - Maximum size of the application log (ALOG) file for a particular application.
  - Recommended size varies considerably depending the nature of the application for which the file is being written.
- AppLogLevel [parameter applies to all servers].
  - Level of detail provided in the ALOG file for a particular application.
  - Acceptable values are 0, 1, 2, or 3.
  - A setting of “0” provides the most data.
- DebugLevel [parameter applies to all servers].
  - Level of detail provided in the debug log file for a particular application.
  - Normally acceptable values are 0, 1, 2, or 3.
  - A setting of "0" turns off logging; a setting of “3” provides a significant amount of data.
  - STMGT offers "enhanced" debugging based on bitmaps.
    - Level 7 (the 4 bit) provides detailed database debugging.
    - Level 15 (the 8 bit) frequently dumps the in-memory request queue (in the Request Manager).
    - Both Level 7 and Level 15 quickly create enormous log files.
- DBMaxConnections [EcDsDistributionServer and EcDsDdistGui parameter].
  - Maximum number of database open connections (e.g., 15) allowed a particular application.
  - Increasing the assigned value may prevent other applications from getting access to the database.
- FtpPushThreshold [EcDsDistributionServer parameter].
  - Maximum number of bytes (e.g., 15000000000) per ftp push request.
  - The FtpPushThreshold should always be greater than the size of the largest input granule used by the Planning and Data Processing Subsystems (PDPS) to ensure that PDPS distribution requests are processed without manual intervention.

  - When a distribution request exceeds a threshold (e.g., FtpPushThreshold or FtpPullThreshold), the request is suspended in DDIST.

- FtpPullThreshold [EcDsDistributionServer parameter].
  - Maximum number of bytes (e.g., 20000000000) per ftp pull request.
- MaxThreads [EcDsDistributionServer parameter].
  - Worker threads (created at start up) used to process active requests.
  - Needs to be greater than or equal to the sum of all priority thread limits.
- RETRIEVAL_CHUNK_SIZE [EcDsDistributionServer parameter].
  - Number of per-request archived files (e.g., 40) to be retrieved from the archive server.
  - Must be greater than zero (0).
  - Should not be greater than half the number of service threads used by the STMGT cache managers for archive reading.
- SocketLimit [EcDsDistributionServer parameter].
  - Number of connections (e.g., 620) to a server through the Hubble Space Telescope (HST) sockets middleware.
  - Too low a number misses connections.
  - Too high a number may adversely affect the memory of the server's host.
- CheckSumStoreFreq [EcDsStArchiveServer parameter].
  - Percentage of StoreFile requests to be checksummed.
- CheckSumRetrieveFreq [EcDsStCacheManagerServer parameter].
  - Percentage of checksummed files to be checksummed for file retrieve requests.

When the value assigned to a parameter has been changed and saved in the Configuration Registry, the modified value does not take effect until the affected server has been restarted. For example, if the debug level for the Distribution Server log has been changed from "2" to "3" in the Configuration Registry, the modification does not affect the recording of data in the log until after a warm restart of the Distribution Server (at which time the server would read the parameters in the Configuration Registry).

Checksum Status

It is possible to have a checksum calculated for each file stored (inserted) in the archive. In addition, there is an option for having a checksum computed for each file retrieved from the archive and validating it by comparing it with the checksum previously computed.

The extent of check-summing is determined by the values assigned to the following two configuration parameters in the Configuration Registry:

- CheckSumStoreFreq.
- CheckSumRetrieveFreq.

CheckSumStoreFreq is an archive server (EcDsStArchiveServer) parameter that specifies the percentage of StoreFile requests to be checksummed. CheckSumRetrieveFreq is a cache manager server (EcDsStCacheManagerServer) parameter that specifies the percentage of file retrieve requests to be checksummed. The recommended value for both parameters is 100 (i.e., calculate a checksum for 100% of requests). If either value needs to be modified, coordinate the change with the Database Administrator.

Tuning System Parameters in the Storage Management and Data Distribution Database

Staging Area Size and Read-Only Cache Size

Cache and staging disk space requirements are defined in separate columns in different database tables in the Storage Management and Data Distribution Database.

- The TotalStagingSpace column in the DsStStagingDiskServer table contains the overall size of the space (in blocks) available for a staging disk.
  - It should reflect the available disk space in the file partition that is configured.
- The TotalCacheSpace column in the DsStCache table contains the overall size (in blocks) of a cache.
  - TotalCacheSpace is seen as "Original Cache Space" from the Storage Management Control GUI.
  - The value assigned to the cache manager that is configured as the Pull Monitor (Pull Area Manager) should be the size (in blocks) of the partition that houses the Pull Area.
  - If the value assigned to the Pull Monitor (Pull Area Manager) is changed while there are files in the Pull Area, the value should be higher than the cumulative size of files in the cache.

NOTE: In Storage Management configurations, capacity ("space") is consistently specified in blocks. File size is specified in bytes.

Each cache has its own path as shown in the following comparison of staging disk and cache paths:

- EcDsStCacheManagerServerACM1 cache path:
  - /usr/ecs/OPS/CUSTOM/apc/x0acg01/data/staging/cache
    - The cache area used to be identified as "user1".
- EcDsStStagingDiskServerACM1 root path:
  - /usr/ecs/OPS/CUSTOM/apc/x0acg01/data/staging//disks
    - Each staging disk has a unique number (e.g., disk1132), even across servers.

The cache and staging disk space parameters are modified using the **Storage Management Control** GUI. Refer to the section on **Modifying System Parameters in the Storage Management and Data Distribution Database Using the Storage Management Control GUI** (subsequent section of this lesson) for the applicable procedure.

Setting Expiration Thresholds for Cache Managers

A just-enough-cache cleanup strategy is used in Storage Management. A principal effect of the strategy is that caches (including the Pull Area) generally remain full because each cache manager (including the cache manager that is configured as the Pull Monitor or Pull Area Manager) identifies and removes just enough old files to accommodate new ones.

In the DsStCache database table there is an ExpirationThreshold column that contains the number of hours it takes for files to expire in the cache area managed by each cache manager. The ExpirationThreshold for the cache manager that is configured as the Pull Monitor (i.e., EcDsStCacheManagerServerPULL) specifies the number of hours it takes for files to expire in the Pull Area.

When setting the ExpirationThreshold for each cache manager the following factors should be taken into consideration:

- ExpirationThreshold specifies the number of hours a lien will be held against a cached file.
- If a lien expires and space is required, the lien will be automatically removed unless the ConfirmDelete flag (for expired files) is set to "Yes."

- ExpirationThreshold entries are typically set at 72 (hours) but may be set at some other value (usually in the range of 24 - 72).
  - Too short a time limits the ability of users to get their data before it is deleted (if ConfirmDelete is set to "No").
  - Too long a time increases the chance of filling up the cache.
- The ConfirmDelete column in the DsStCache table is a flag that indicates whether to automatically delete upon reaching the ExpirationThreshold.
  - Typically set to "No" (do not require confirmation before deleting).
- Files are pulled to the Pull Area by the Pull Monitor (Pull Area Manager); they are not pushed there by the ftp server.
- The Fault Level and Warning Level parameters are ignored.

Expiration thresholds and ConfirmDelete flags for expired files are modified using the **Storage Management Control** GUI. Refer to the section on **Modifying System Parameters in the Storage Management and Data Distribution Database Using the Storage Management Control GUI** (subsequent section of this lesson) for the applicable procedure.

Storage Management Service Thread Allocation

Service threads process requests submitted to the applicable server (e.g., EcDsStRequestManagerServer, EcDsStArchiveServer, EcDsStCacheManager-Server, EcDsStStagingDiskServer, or EcDsStFtpServer). The number of service threads assigned to a server should be set on the basis of the resources available and the server throughput.

The DsStServiceThreadConfig database table contains the number, types, and priorities of service threads for Storage Management servers.

- The following columns in the DsStServiceThreadConfig database table indicate the number of service threads assigned to each priority:
  - XpressThreads.
  - VhighThreads.
  - HighThreads.
  - NormalThreads.
  - LowThreads.
- The PoolType column identifies the type of threads within a certain pool. (i.e., Service Threads, Read Threads, Write Threads) applicable to the server.
  - In Storage Management Read Threads and Write Threads apply to the archive servers only.
- The NumThreads column contains the number of threads in a particular pool.

Table 1 lists representative default values as listed in the DsStServiceThreadConfig database table. In the table ServerId 1 refers to EcDsStArchiveServerACM4 and ServerId 2 refers to EcDsStArchiveServerDRP3.

Table 1. Representative Default Values Listed in the DsStServiceThreadConfig Database Table

ServerId	PoolType	Num Threads	Xpress Threads	Vhigh Threads	High Threads	Normal Threads	Low Threads
1	ReadThreadPool	30	0	10	10	0	10
1	ThreadPool	30	0	10	10	0	10
1	WriteThreadPool	30	0	10	10	0	10
2	ReadThreadPool	10	0	0	0	0	10
2	ThreadPool	50	0	10	10	0	30
2	WriteThreadPool	100	0	20	70	0	10

Storage Management service thread-related values are modified using the **Storage Management Control** GUI. Refer to the section on **Modifying System Parameters in the Storage Management and Data Distribution Database Using the Storage Management Control GUI** (subsequent section of this lesson) for the applicable procedure.

Data Distribution Priority Thread Allocation

Data Distribution (DDIST) has been enhanced to support a DAAC-configurable number of thread pools with each pool having a separate thread limit. The pools are defined in a DDIST database table called DsDdThreadPool. Each row in the table contains a unique pool identifier, a thread pool name, and the number of threads (thread limit) associated with the pool. Table 2 shows an example of DsDdThreadPool table contents.

Table 2. Example of DsDdThreadPool Table Contents

ThreadPoolId	ThreadPoolName	ThreadLimit
13	SUB_LARCINGMGR	15
14	DEFAULT	10

ThreadPoolId	ThreadPoolName	ThreadLimit
15	PRODUCTION	20
16	SUB_ASTERGDS	10
17	SUB_NOAASOAP	20
18	SUB_JSMITH	20
19	USER_FTPPUSH	35
20	USER_FTPPULL	10
21	S4POPS	20
22	SUB_PRIVUSER	80
23	SUB_REGUSER	60

The DsDdThreadPool table in the example (Table 2) defines the following 11 pools:

- SUB_LARCINGMGR (15 threads maximum).
- DEFAULT (10 threads maximum).
- PRODUCTION (20 threads maximum).
- SUB_ASTERGDS (10 threads maximum).
- SUB_NOAASOAP (20 threads maximum).
- SUB_JSMITH (20 threads maximum).
- USER_FTPPUSH (35 threads maximum).
- USER_FTPPULL (10 threads maximum).
- S4POPS (20 threads maximum).
- SUB_PRIVUSER (80 threads maximum).
- SUB_REGUSER (60 threads maximum).

There must always be a DEFAULT pool present in the DsDdThreadPool table because a distribution request that fails to match any of the other rules for assigning requests to thread pools is automatically assigned to the DEFAULT pool.

The rules for assigning requests to thread pools are specified in the DsDdAssignmentRule table. The rules are DAAC-configurable and are based on request attributes. The following attributes are used for establishing a thread pool assignment:

- ECSUserId.
- Priority.
- EsdtType.
- MediaType.

- EmailAddress.
- NumberOfGranules.

Each row in the DsDdAssignmentRule table defines an assignment rule. Table 3 shows an example of DsDdAssignmentRule table contents.

Table 3. Example of DsDdAssignmentRule Table Contents

SeqNum	Thread PoolId	ECSUserId	Priority	Esdt Type	Media Type	EmailAddress	NumberOf Granules
50	14	ANY	ANY	ANY	scp	ANY	ANY
100	15	$EcDpPrEM	ANY	ANY	ANY	ANY	ANY
200	16	aster_gds	NORMAL	ANY	ANY	ANY	ANY
300	13	LarcIngMgr	NORMAL	ANY	ANY	ANY	ANY
400	17	NOAA/SOAP	ANY	ANY	ANY	ANY	ANY
500	18	jsmith	NORMAL	ANY	ANY	ANY	ANY
900	22	s4opsaaf	ANY	ANY	ANY	ANY	ANY
1000	22	s4opsaar	ANY	ANY	ANY	ANY	ANY
1100	22	s4opsamf	ANY	ANY	ANY	ANY	ANY
1200	22	s4opsamr	ANY	ANY	ANY	ANY	ANY
1300	22	s4opsdpf	ANY	ANY	ANY	ANY	ANY
1400	22	s4opstmf	ANY	ANY	ANY	ANY	ANY
1500	22	s4opstmr	ANY	ANY	ANY	ANY	ANY
1600	23	PrivUser	ANY	ANY	FtpPush	userops@x0ins02.daac.ecs.nasa.gov	2
1700	24	RegUser	ANY	ANY	ANY	ANY	ANY
1800	17	NoneUser	ANY	ANY	ANY	ANY	ANY
1900	20	ANY	ANY	ANY	FtpPush	ANY	ANY
2000	21	ANY	ANY	ANY	FtpPull	ANY	ANY

For each new request, the rules (in the DsDdAssignmentRule table) are evaluated in order by SeqNum until a rule is found where all conditions evaluate to true, in which case the request is assigned to the pool specified in the ThreadPoolId column. A rule evaluates to true if the values of all request attributes (i.e., ECSUserId, Priority, EsdtType, MediaType, EmailAddress, and NumberOfGranules) match the values contained in the rule's row in the table. Note that a value of "ANY" automatically evaluates to true for that attribute. So, in the example, any request with the ECSUserId "s4opsaaf" is allocated to ThreadPoolId 22 (i.e., the S4POPS thread pool in Table 2) and any FtpPull request that does not meet the conditions specified for any other assignment rule are allocated to ThreadPoolId 21 (the USER_FTPPULL thread pool). Any request that fails to match the rules for any of the thread pool IDs in the assignment rule table is assigned to the DEFAULT thread pool.

In addition to enforcing rules for assigning requests to thread pools (as specified in the DsDdAssignmentRule table) Data Distribution has another mechanism for preventing certain types of requests from monopolizing distribution resources. The mechanism is called dynamic FTP server assignment and it involves using a set of rules in the DsDdAssignmentRuleHWCI table to evaluate each distribution request and allocate it to the appropriate Data Distribution FTP server.

The rules for assigning a distribution request to a specific FTP server (identified by HWCI) are DAAC-configurable and are based on request attributes. The following attributes are used for making an HWCI assignment:

- ECSUserId.
- SeniorClient.
- MediaType.
- EsdtType.
- PushDest.
- EmailAddress.

Each row in the DsDdAssignmentRuleHWCI table defines an HWCI assignment rule. Table 4 shows an example of DsDdAssignmentRuleHWCI table contents.

Table 4. Example of DsDdAssignmentRuleHWCI Table Contents

SeqNum	HWCI	ECSUserId	Senior Client	Media Type	Esdt Type	PushDest	EmailAddress
200	DRP1	ANY	PD	ANY	ANY	ANY	ANY
300	DRP1	ANY	IN	ANY	ANY	ANY	ANY
500	DRP2	PrivUser	ANY	FtpPush	ANY	ANY	ANY
600	DRP1	RegUser	ANY	FtpPush	ANY	ANY	ANY
700	DRP1	s4opsaaf	ANY	FtpPush	ANY	ANY	ANY
800	DRP1	s4opsaar	ANY	FtpPush	ANY	ANY	ANY
900	DRP1	s4opsamf	ANY	FtpPush	ANY	ANY	ANY
1000	DRP1	s4opsamr	ANY	FtpPush	ANY	ANY	ANY
1100	DRP2	s4opsdpf	ANY	FtpPush	ANY	ANY	ANY
1200	DRP1	s4opstmf	ANY	FtpPush	ANY	ANY	ANY
1400	DRP1	s4opstmr	ANY	FtpPush	ANY	ANY	ANY
1500	DRP1_auto	ANY	ANY	scp	ANY	ANY	ANY

In the example shown in Table 4 FtpPush requests from either PrivUser or s4opsdpf that do not have a senior client of either “PD” or “IN” are assigned to DRP2 (EcDsStFtpServerDRP2). All other requests are allocated to DRP1 (EcDsStFtpServerDRP1).

When DDIST receives a request, a stored procedure executes to assign the request to the appropriate thread pool based on the rules contained in the DsDdAssignmentRule table (Table 3).

- Once all threads in a given thread pool have been allocated, new requests assigned to that pool are put in a "pending" state until a thread becomes available.
- Requests are no longer automatically assigned to threads in other pools if there are no available threads in their assigned pool.
- Pending requests for each pool are activated in first-in-first-out order by request priority.

Another stored procedure executes to map the request to an HWCI based on the rules contained in the DsDdAssignmentRuleHWCI table (Table 4).

DAACs may adjust configurations by updating the DsDdThreadPool, DsDdAssignmentRule, and DsDdAssignmentRuleHWCI tables.

- Assignment rules may be added, deleted or updated at any time without warm-starting DDIST.
  - Changes to assignment rules take effect immediately upon being entered in the database.
  - All new requests entering DDIST are subject to the updated rules.
- The ThreadLimit attribute in the DsDdThreadPool table may be dynamically changed as well.
  - The DDIST server reloads thread limits every 90 seconds so thread limit changes take effect within 90 seconds after being entered.
  - New thread pools can be added by inserting rows in the DsDdThreadPool table.
  - However, they are not used until the DDIST server is warm-started.
  - A thread pool can be deleted as long as there are no rules in the DsDdAssignmentRule table that point to the thread pool and all requests that have been assigned to the thread pool have been completed and have migrated out of the DDIST database.

When DDIST is warm-started, all requests are reassigned to thread pools based on the current set of rules.

If necessary, it is possible to reassign requests after they have been assigned to a thread pool. The following process is used:

- Update the rules in the DsDdAssignmentRule table as necessary to ensure that the request will be assigned to the desired thread pool.
- Warm-start DDIST (EcDsDistributionServer).

There is no GUI support for making changes to either the thread pool configuration or the FTP server assignment. Thread pool configuration or FTP server assignment changes are made by a DAAC DBA using the isql interface to update the DsDdThreadPool, DsDdAssignmentRule and/or DsDdAssignmentRuleHWCI tables in the database.

The following guidelines are provided for tuning DDIST priority thread allocation:

- In most cases, each FtpPush destination site should have its own thread pool.
- For each FtpPush destination, the DAAC should determine the number of concurrent file transfers it takes to fully utilize the available network bandwidth.
  - The number represents a parameter called "MaxTransfers."
- For subscription-based FtpPush distribution, the thread limit for the associated thread pool should be set to 130% of MaxTransfers (rounded up).
  - This should provide a sufficient number of threads to utilize the available network bandwidth plus allow for one or more threads to be concurrently staging data out of the AMASS cache.
- For non-subscription-based FtpPush distribution, the thread limit for the associated thread pool should be set to 200% of MaxTransfers (rounded up).
  - This should provide sufficient threads to utilize the available network bandwidth plus allow for staging of data from archive tapes.
- The total number of threads in DsDdThreadPool (i.e., sum of ThreadLimit for all rows) represents the maximum number of threads that can be active concurrently n DDIST.
  - The total must be less than the number of worker threads configured for DDIST.
  - The default number of worker threads configured for DDIST is 228.
- Although DDIST thread pools can be configured around request attributes other than priority, it is important to remember that STMGT CacheManager thread pools are organized by priority; consequently, it is important to ensure that STMGT thread pools are configured to optimally handle the likely mix of request priorities.

- During warm-start, it takes DDIST 0.83 second to recover each active or pending request; consequently, for a 2000-request backlog, it takes DDIST approximately 28 minutes to reach the end of start monitoring and begin accepting new requests.
  - However, note that DDIST immediately begins to work off its request backlog as requests are assigned to thread pools.

Procedures for modifying thread pools and thread-pool-assignment rules are included in the section on **Modifying System Parameters in the Storage Management and Data Distribution Database Using ISQL** (subsequent section of this lesson).

Modifying System Parameters in the Storage Management and Data Distribution Database Using the Storage Management Control GUI

As previously mentioned the effects on system functioning and performance must be considered before modifying system parameters. In addition, when making or requesting a change to system parameters, the CM process at the particular site must be followed (if applicable). Depending on circumstances (e.g., operator permissions) at a particular site, it may be necessary to request that someone else make parameter modifications using the **Storage Management Control** GUI. The procedure that follows is provided to assist Distribution Technicians who have to make parameter modifications using the **Storage Management Control** GUI.

The procedure for changing system parameters using the **Storage Management Control** GUI starts with the assumption that all applicable servers and the **Storage Management Control** GUI are running and the **Storage Config.** screen (Figure 7) is being displayed.

Modifying System Parameters in the Storage Management and Data Distribution Database Using the Storage Management Control GUI

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1 Click on the appropriate server type in the **Configuration Parameter Reporting** window on the **Storage Config.** tab.

- The selected server type is highlighted in the **Configuration Parameter Reporting** window on the **Storage Config.** tab.
- The following server types are listed in the **Configuration Parameter Reporting** window on the **Storage Config.** tab:
  - **8MM** (8mm Stacker Server).
  - **ARCHIVE** (Archive Server).
  - **CACHE MANAGER** (Cache Management Server).
  - **CDROM** (CDROM Device Server).
  - **DLT** (DLT Stacker Server).
  - **DTF** (DTF Device Server).

- **FTP** (FTP Server).
- **REQUEST MANAGER** (Request Manager Server).
- **STAGING DISK** (Staging Disk Server).

- Associated servers are listed in the server information window on the **Storage Config.** tab.

2 Click on the appropriate server in the server information window on the **Storage Config.** tab.

- The selected server is highlighted in the server information window on the **Storage Config.** tab.
- For example, if **CACHE MANAGER** were selected from the **Configuration Parameter Reporting** window on the **Storage Config.** tab, the following servers might be listed in the server information window:
  - EcDsStCacheManagerServerACM1.
  - EcDsStCacheManagerServerDRP3.
  - EcDsStCacheManagerServerPULL.
  - EcDsStCacheManagerServerWKS1.

3 Click on the **Modify Server/View Stackers** button.

- The applicable server configuration dialogue box is displayed.
  - For example, if **CACHE MANAGER** had been selected, the **Cache Manager Server Configuration** dialogue box (Figure 107) would be displayed.
  - For example, the **Cache Manager Server Configuration** dialogue box (Figure 107) displays data in the following fields (as applicable):
    - **Server Name**.
    - **RPC** [remote procedure call] **Tag**.
    - **Original Cache Space (blocks)**.
    - **Available Cache Space (blocks)** [cannot be modified from GUI].
    - **Allocation Block Size (bytes)**.
    - **Description** [e.g., "Cache Manager"].
    - **Expiration Threshold (hours)**.
    - **Expired Files Confirm Delete** [option button with **Yes** and **No** as the options].
    - **Disk Capacity: Fault Level** [currently ignored].

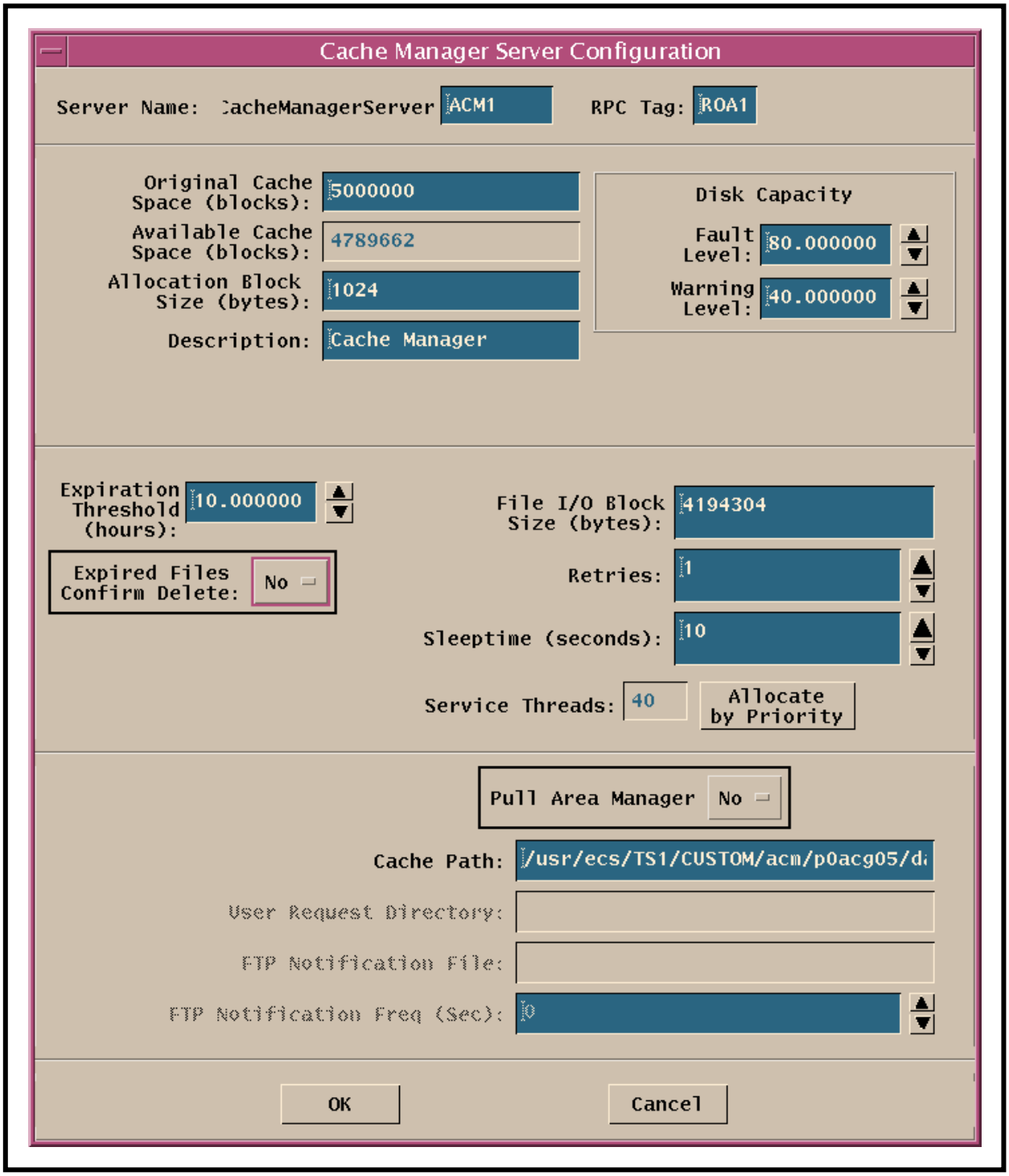

Figure 107. Cache Manager Server Configuration Dialogue Box

- **Disk Capacity: Warning Level** [currently ignored].
- **File I/O Block Size (bytes)** [typically set to 4194304 (4MB)].
- **Service Threads** [number of worker threads that are allocated within the server instance to process requests - modified through the **Allocate by Priority** button].
- **Pull Area Manager** [option button with **Yes** and **No** as the options].
- **Cache Path**.
- **User Request Directory**.
- **FTP Notification File**.
- **FTP Notification Freq (Sec)**.

- Refer to the Installation Instructions for the relevant software release to find recommended values for the configuration of Storage Management servers.
  - Installation Instructions are included in the Release Notes for the software release and are available at http://cmdm-ldo.raytheon.com/baseline/ under "Release Notes/CCRs."

4 Type modified data in relevant field(s) as necessary.

5 If service-thread (or read-thread or write-thread) priority allocations are to be modified, click on the corresponding **Allocate by Priority** button.

- The appropriate **Allocate by Priority** window [e.g., the **Service Threads: Allocate by Priority** window (Figure 108)] is displayed.

6 If thread priority allocations are being modified, type the desired values in the appropriate fields in the appropriate **Allocate by Priority** window, starting with the **Total** field.

- Lower-priority threads may be used to service higher priority requests, but never vice versa.
- By default, all service threads are created as low priority service threads, since they may be pre-empted by any priority request.
- The number of low threads is automatically re-calculated whenever the number of any of the other thread types is changed.
  - Consequently, the total of the numbers in each of the five different thread type fields equals the number in the **Total** field.

7 If thread priority allocations are being modified, click on the appropriate button from the following selections:

- **OK** - to approve the new value(s) and dismiss the **Allocate by Priority** window.
  - The **Cache Manager Server Configuration** dialogue box (Figure 108) is displayed.

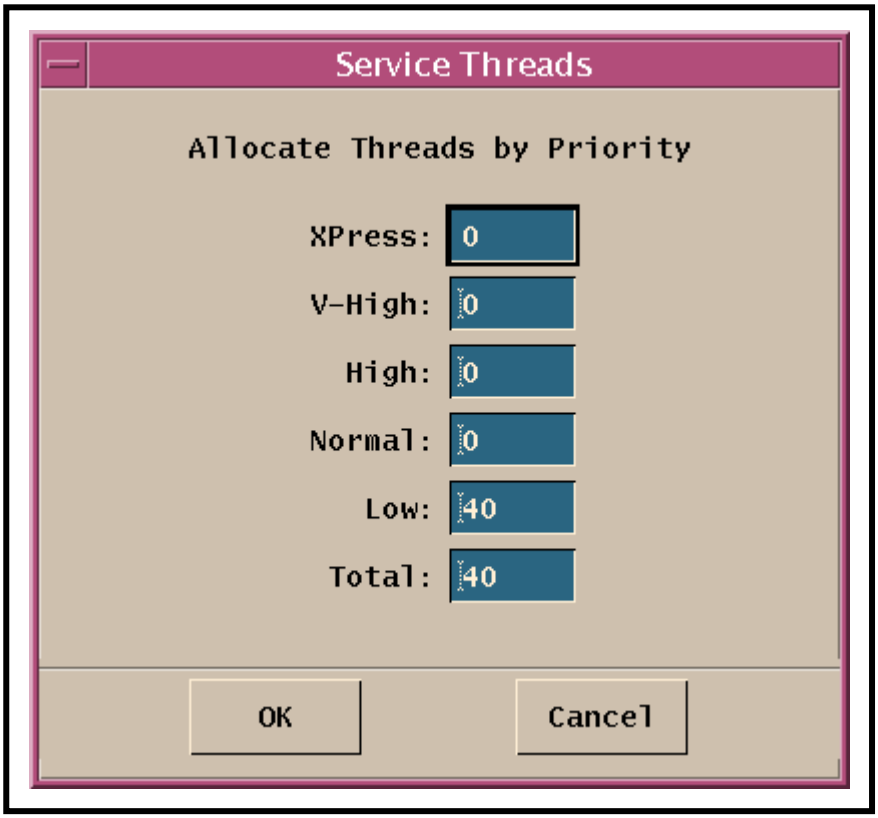

Figure 108. Service Threads: Allocate by Priority Window

- **Cancel** - to return to the **Cache Manager Server Configuration** dialogue box without saving the new value(s).
  - The **Cache Manager Server Configuration Dialogue Box** (Figure 107) is displayed.

NOTE: Sometimes when a secondary window (such as Figure 68, Service Threads: Allocate by Priority Window) has been accessed to modify parameters (e.g., to configure service threads), changes that were previously made in the primary window (such as Figure 107, Cache Manager Server Configuration Dialogue Box) are lost. Consequently, it is recommended that either values be changed in the secondary window first or that changes already made in the primary window be verified after the secondary window has been closed.

8 When new values have been entered in all fields to be modified, click on the appropriate button from the following selections:

- **OK** - to approve the new value(s) and dismiss the configuration dialogue box.
  - The **Storage Config.** screen (Figure 7) is displayed.
- **Cancel** - to return to the **Storage Config.** screen without saving the new value(s).
  - The **Storage Config.** screen (Figure 7) is displayed.

9 Repeat Steps 1 through 8 as necessary.

Modifying System Parameters in the Storage Management and Data Distribution Database Using ISQL

As previously mentioned the effects on system functioning and performance must be considered before modifying system parameters. In addition, when making or requesting a change to system parameters, the CM process at the particular site must be followed (if applicable). Depending on circumstances at a particular site it may be necessary to request that the Database Administrator modify parameters in the Storage Management and Data Distribution database. The procedures that follow are provided to assist Distribution Technicians who have to make the database modifications themselves.

The procedures vary somewhat depending on what database table is to be modified. For example:

- Modifications can be made to the DsDdAssignmentRule or DsDdAssignmentRuleHWCI table at any time as described in the procedure for **Modifying System Parameters in the Storage Management and Data Distribution Database Using ISQL** that follows.
  - If the Distribution Server is running when the table is updated, the changes will take effect immediately (i.e., any new distribution requests will be allocated to a thread pool using the updated rules).
  - Consequently, rule changes to one of the tables must be self-consistent and are typically made within the scope of a single Sybase transaction.
- Modifications to the DsDdThreadPool table must be made while the Distribution Server is idle, as described in the procedure for **Modifying Parameters in the DsDdThreadPool Table Using ISQL** (subsequent section of this lesson).

The procedure for changing system parameters specified in the Storage Management and Data Distribution database using interactive structured query language (isql) starts with the assumption that the Distribution Technician has logged in to the system.

NOTE: If modifications to the DsDdThreadPool table are to be made, go to the procedure for **Modifying Parameters in the DsDdThreadPool Table Using ISQL** (subsequent section of this lesson).

1 Access a terminal window logged in to the Access/Process Coordinators (APC) Server host.

- Examples of APC Server host names include **e0acg11**, **g0acg01**, **l0acg02,** and **n0acg01.**
- For detailed instructions refer to the procedure for **Logging in to System Hosts** (preceding section of this lesson).

2 Type **isql –U*userID* -S*DBServer*** then press **Return/Enter**.

- For example:

  isql –Ustmgt_role –Sx0acg01_srvr

3 At the **Password:** prompt type ***dbpassword*** then press **Return/Enter**.

- The ***dbpassword*** is the password for logging in to the database using the specified ***userID***.

4 Type **use *dbname*** at the **1>** prompt then press **Return/Enter**.

- The ***dbname*** is likely to be one of the following names:
  - **stmgtdb1** [OPS mode].
  - **stmgtdb1_TS1** [TS1 mode].
  - **stmgtdb1_TS2** [TS2 mode].

5 Type **go** at the **2>** prompt then press **Return/Enter**.

6 Type **select * from *TableName*** at the **1>** prompt then press **Return/Enter**.

- For example:

  select * from DsDdAssignmentRule

- Alternatively, type **select *columnName* from *TableName*** at the **1>** prompt then press **Return/Enter**.
  - For example:

    select ThreadPoolId from DsDdAssignmentRule

- Another alternative is to type **select *columnName1,columnName2[,columnName3,…]* from *TableName*** at the **1>** prompt then press **Return/Enter**.
  - For example:

    select ThreadPoolId,Priority from DsDdAssignmentRule

7 Type **go** at the **2>** prompt then press **Return/Enter**.

- Table contents are displayed.
  - If * (wildcard) was specified, all entries in the table are displayed.
  - If specific columnNames were entered, the data associated with those columns only are displayed.
- For example:

```
1> select * from DsDdAssignmentRule
2> go
     SeqNum      ThreadPoolId ECSUserId
     Priority       EsdtType
     MediaType
     EmailAddress
     NumberOfGranules
 ----------- ----------- ----------------------------------------------
     -------------- ---------------------------------------------
     ------------------------------------------
     ------------------------------------------------------------------------------------
--------
     ---------------
     100         15 $EcDpPrEM
     ANY             ANY
     ANY
     ANY
     ANY
     200         16 aster_gds
     NORMAL          ANY
     ANY
     ANY
     ANY
     300         13 LarcIngMgr
     NORMAL          ANY
     ANY
     ANY
     ANY
```

900 22 s4opsaaf
ANY ANY
ANY
ANY
ANY
1000 22 s4opsaar
ANY ANY
ANY
ANY
ANY
1100 22 s4opsamf
ANY ANY
ANY
ANY
ANY
1200 22 s4opsamr
ANY ANY
ANY
ANY
ANY
1300 22 s4opsdpf
ANY ANY
ANY
ANY
ANY
1400 22 s4opstmf
ANY ANY
ANY
ANY
ANY
1500 22 s4opstmr
ANY ANY
ANY
ANY
ANY
1700 24 RegUser
ANY ANY

```
ANY
ANY
ANY
1800          17 NoneUser
ANY           ANY
ANY
ANY
ANY
1900          20 ANY
ANY           ANY
FtpPush
ANY
ANY
2000          21 ANY
ANY           ANY
FtpPull
ANY
ANY
400           17 NOAA/SOAP
ANY           ANY
ANY
ANY
ANY
500           18 sjones
NORMAL        ANY
ANY
ANY
ANY
1600          23 PrivUser
ANY           ANY
FtpPush
userops@x0ins02.daac.ecs.nasa.gov
2

(19 rows affected)
```

8 If updating a row in a database table, type **update *TableName* set *columnName1=value1* where *columnName2=value2*** at the **1>** prompt then press **Return/Enter**.

- For example:

  update DsDdAssignmentRule set ECSUserId="jsmith" where ThreadPoolId=18

  - The effect of the modification shown in the example would be to change the ECSUserId in the row(s) of the database table containing ThreadPoolId 18 from "sjones" to "jsmith."
    - Subsequently all distribution requests with an ECSUserId of "jsmith" would be assigned to ThreadPoolId 18.
    - Distribution requests with an ECSUserId of "sjones" would no longer be assigned to ThreadPoolId 18.

- Go to Step 12.

9 If deleting a row from a database table, type **delete *TableName* where *columnName=value*** at the **1>** prompt then press **Return/Enter**.

- For example:

  1> delete DsDdAssignmentRule where ThreadPoolId=16

  - The effect of the modification shown in the example would be to delete any database row(s) with "16" in the ThreadPoolId column.

- Go to Step 12.

10 If adding a row to a database table, first type **insert *TableName* (*columnName1*,*columnName2*,…)** at the **1>** prompt then press **Return/Enter**.

- For example:

  1> insert DsDdAssignmentRule (SeqNum,ThreadPoolId,ECSUserId,Priority,EsdtType,MediaType, EmailAddress,NumberOfGranules)

11 If adding a row to a database table, type **values (*value1*,*value2*,…)** at the **2>** prompt then press **Return/Enter**.

- For example:

  2> values (1550,23,"MODAPS","HIGH","ANY","FtpPush","ANY","ANY")

  – The effect of the modification shown in the examples in Steps 10 and 11 would be to insert in the DsDdAssignmentRule database table a row containing the following values:

    · 1550 (SeqNum column).

    · 23 (ThreadPoolId column).

    · MODAPS (ECSUserId column).

    · HIGH (Priority column).

    · ANY (EsdtType column).

    · FtpPush (MediaType column).

    · ANY (EmailAddress column).

    · ANY (NumberOfGranules column).

- If modifying the DsDdAssignmentRule table (as shown in the examples in this procedure) the following attributes must be specified for each row:

  – SeqNum.

    · Determines the order in which a rule is evaluated.

    · Integer whose value is greater than or equal to zero.

    · Each rule must have a unique sequence number.

    · Rules are evaluated in order from the lowest sequence number to the highest sequence number.

    · It is recommended that sequence numbers not be created consecutively (e.g., instead of numbering 1, 2, 3, use 100, 200, 300) so new rules can be inserted without having to renumber subsequent rules.

  – ThreadPoolId.

    · Unique identifier of the thread pool to be assigned if the rule is the first one to evaluate to true.

    · Integer with a value greater than zero.

- Must match one of the values in the ThreadPoolId column in the DsDdThreadPool table.
- Multiple rules can assign the same ThreadPoolId.

– ECSUserId.

- User identifier associated with a distribution request.
- String of up to 24 characters in length.
- If the user identifier of a distribution request matches the string, the attribute evaluates to true.
- If the string is set to the reserved word "ANY," the attribute always evaluates to true.
- String comparisons are case-sensitive.

– Priority.

- Request priority associated with a distribution request.
- String that must be set to one of the following six values: "XPRESS", "VHIGH", "HIGH", "NORMAL", "LOW", or "ANY".
- If the priority of a distribution request matches the string then the attribute evaluates to true.
- If the string is set to the reserved word "ANY," the attribute always evaluates to true.
- String comparisons are case-sensitive.

– EsdtType.

- Data type associated with a distribution request.
- String of up to twelve (12) characters in length.
- Must be set to a valid ESDT name and version number or the reserved words "MULTIPLE" or "ANY."
- When an ESDT name and version number are specified, the string has the form "Name.Version" (e.g., "MOD021KM.003").
- A distribution request has its EsdtType set to "MULTIPLE" if granules from more than one ESDT are being distributed. If the data type of a distribution request matches the string, the attribute evaluates to true.

- If the string is set to the reserved word "ANY," the attribute always evaluates to true.
- String comparisons are case-sensitive.

– MediaType.
  - Type of distribution medium to be used in fulfilling a distribution request.
  - String that must be set to one of the following seven values: "FtpPush", "FtpPull", "8MM", "CDROM", "DLT", “scp”, "ANY."
  - If the "media type" of a distribution request matches the string then the attribute evaluates to true.
  - If the string is set to the reserved word "ANY," the attribute always evaluates to true.
  - String comparisons are case-sensitive.
  - Currently “8MM”, “CDROM”, and “DLT” never appear in distribution requests because media requests are redirected to OMS.

– EmailAddress.
  - An e-mail address that can be used to distinguish among different accounts with the same ECSUserId (e.g., to map specific ECSGuest requests to the appropriate thread pools).
  - The e-mail address is especially useful when a particular ECSGuest user submits so many requests that it is necessary to control how much of the distribution capacity those requests can utilize at any given time.
  - If the "e-mail address" associated with a distribution request matches the string, the attribute evaluates to true.
  - If the string is set to the reserved word "ANY," the attribute always evaluates to true.
  - String comparisons are case-sensitive.

– NumberOfGranules.
  - Number of granules in a distribution request.
  - The NumberOfGranules criterion can be used to map distribution requests to thread pools based on the size (in terms of granules) of the request.

- NumberOfGranules is useful in controlling the distribution capacity available to large requests versus small requests. So it can be used to avoid having small requests back up behind large requests.
- If the "NumberOfGranules" of a distribution request matches the value stored in the database, the attribute evaluates to true.
- If the value of NumberOfGranules in the database is set to the reserved word "ANY," the attribute always evaluates to true.

12 Type **go** at the **>** prompt (e.g., **2>** or **3>**) then press **Return/Enter**.

13 Start verification of the update by typing **select * from *TableName*** (or one of the options described in Step 6) at the **1>** prompt then pressing **Return/Enter**.

14 Type **go** at the **2>** prompt then press **Return/Enter**.

- Table contents are displayed.
- Specified value should have been updated.
- For example:

```
1> select * from DsDdAssignmentRule
2> go
     SeqNum      ThreadPoolId ECSUserId
     Priority       EsdtType
     MediaType
     EmailAddress
     NumberOfGranules
 ----------- ----------- ----------------------------------------------
     -------------- ----------------------------------------------
     ---------------------------------------------
     ------------------------------------------------------------------------------------------
-------
     ---------------
     100          15 $EcDpPrEM
     ANY             ANY
     ANY
     ANY
     ANY
     200          16 aster_gds
     NORMAL          ANY
     ANY
     ANY
     ANY
     300          13 LarcIngMgr
```

```
NORMAL        ANY
ANY
ANY
ANY
900         22 s4opsaaf
ANY           ANY
ANY
ANY
ANY
1000        22 s4opsaar
ANY           ANY
ANY
ANY
ANY
1100        22 s4opsamf
ANY           ANY
ANY
ANY
ANY
1200        22 s4opsamr
ANY           ANY
ANY
ANY
ANY
1300        22 s4opsdpf
ANY           ANY
ANY
ANY
ANY
1400        22 s4opstmf
ANY           ANY
ANY
ANY
ANY
1500        22 s4opstmr
ANY           ANY
ANY
```

ANY
ANY
1700 24 RegUser
ANY ANY
ANY
ANY
ANY
1800 17 NoneUser
ANY ANY
ANY
ANY
ANY
1900 20 ANY
ANY ANY
FtpPush
ANY
ANY
2000 21 ANY
ANY ANY
FtpPull
ANY
ANY
400 17 NOAA/SOAP
ANY ANY
ANY
ANY
ANY
500 18 jsmith
NORMAL ANY
ANY
ANY
ANY
1600 23 PrivUser
ANY ANY
FtpPush
userops@x0ins02.daac.ecs.nasa.gov
2

(19 rows affected)

- The preceding example indicates that the DsDdAssignmentRule table has been updated (from what was shown in the example in Step 7) to change the ECSUserId from "sjones" to "jsmith" in the row containing "18" for ThreadPoolId.

15 To exit from isql type **quit** at the **1>** prompt then press **Return/Enter**.

Modifying Parameters in the DsDdThreadPool Table Using ISQL

Modifications to the DsDdThreadPool table must be made while the Distribution Server is idle, as described in the procedure that follows.

The procedure for modifying parameters in the DsDdThreadPool table using isql starts with the assumption that the Distribution Technician has logged in to the system.

Modifying Parameters in the DsDdThreadPool Table Using ISQL

1 If any rule in the DsDdAssignmentRule table references a thread pool that is going to be deleted from the DsDdThreadPool table, update the rules in the DsDdAssignmentRule table so that no additional requests will be assigned to the thread pool that is to be deleted.

- Refer to the procedure for **Modifying System Parameters in the Storage Management and Data Distribution Database Using ISQL** (preceding section of this lesson).
- Thread pool assignment rules are defined by the rows in the DsDdAssignmentRule table.
- A thread pool should not be deleted while any rule in the DsDdAssignmentRule table references that thread pool.

2 If any request in the DsDdRequest table references a thread pool that is to be deleted, wait until all requests that are currently assigned to the thread pool have been completed before continuing.

- A thread pool should not be deleted while there is a request in the DsDdRequest table that references the thread pool.

3 When there are no current requests assigned to any thread pool to be deleted (if any), make a request to the Operations Controller/System Administrator to bring down (stop) the Distribution Server (EcDsDistributionServer) in the appropriate mode.

- If a new pool is added to DsDdThreadPool and new rules are added to DsDdAssignmentRule while the Distribution Server is running and the new rules result in a request being assigned to the new pool, the request will be suspended with a DsEDdMissingPool error code.
  - The suspended request cannot be resumed until the Distribution Server is warm-started.

4 Wait until the Distribution Server has stopped.

5 If a thread pool is to be deleted, use isql to set the ThreadLimit in the DsDdThreadPool table to zero.

- Refer to the procedure for **Modifying System Parameters in the Storage Management and Data Distribution Database Using ISQL** (preceding section of this lesson).

6 If a thread pool is to be added to the DsDdThreadPool table or an existing thread pool is to be modified, modify the DsDdThreadPool table using isql.

- Refer to the procedure for **Modifying System Parameters in the Storage Management and Data Distribution Database Using ISQL** (preceding section of this lesson).
- Each thread pool is defined by a row in the DsDdThreadPool table.
- The following attributes must be specified for each row in the DsDdThreadPool table:
  - ThreadPoolId.
    - Unique identifier for the thread pool.
    - Integer with a value greater than zero.
    - Each row in DsDdThreadPool must have a unique TheadPoolId.
  - ThreadPoolName.
    - Name of the thread pool.
    - String with a length less than or equal to 24 characters.
    - Each row in DsDdThreadPool must have a unique ThreadPoolName.

- ThreadLimit.
  - Number of threads available for processing requests assigned to the thread pool.
  - Integer with a value greater than or equal to zero.
  - If the ThreadLimit for a given thread pool is zero, any requests that are assigned to the thread pool will remain in the pending state until the ThreadLimit is set to a value greater than zero.
  - If the ThreadLimit for a given thread pool is updated from a non-zero value to zero, no new requests assigned to the thread pool will be activated; however, any currently active requests will be allowed to complete.
  - The total of the thread limits for all thread pools must be less than the number of worker threads configured for DDIST.
  - The default worker thread configuration for DDIST is 228 threads.

7 When the appropriate modifications to the DsDdThreadPool table have been made using isql, make a request to the Operations Controller/System Administrator to perform a warm start of the Distribution Server (EcDsDistributionServer) in the appropriate mode.

8 If a thread pool is to be deleted (i.e., the ThreadLimit in the DsDdThreadPool table has been set to zero), wait until all completed requests that were assigned to the thread pool have been subject to garbage collection from the DsDdRequest table before continuing.

- A waiting time of 24 hours should be adequate.

9 If a thread pool is to be deleted (i.e., the ThreadLimit in the DsDdThreadPool table has been set to zero) and the waiting period has expired, use isql to delete the relevant row from DsDdThreadPool table.

- Refer to the procedure for **Modifying System Parameters in the Storage Management and Data Distribution Database Using ISQL** (preceding section of this lesson).

Tuning Order Manager Subsystem and Data Pool Parameters

Tuning Order Manager Subsystem and Data Pool Configuration Parameters

When operating in Synergy IV mode the OMS has responsibility for most orders, i.e., for staging data from the archive into the Data Pool in preparation for distribution and for completing ftp pull and ftp push orders. The OMS handles orders for distribution on physical media and the data required for completing the physical media orders get staged to the Data Pool.

The following rules apply to the staging of data:

- If an ordered granule is in the Data Pool, it is considered staged.
- If an ordered granule is in AMASS cache, a request for inserting it into the Data Pool is sent immediately to the DPL insert service and the granule is copied from the cache into the Data Pool as quickly as possible via a separate Data Pool in-cache queue.
- If a distribution request references any additional granules that are not in either the Data Pool or AMASS cache, the request is eventually promoted into the "Staging" state and its granules are queued for Data Pool insert. The DPL insert service places the granules in the from-tape queue.

The following rules apply to order/request completion:

- An ftp pull order is considered complete when all its granules are in the Data Pool; however, the granules are retained in the Data Pool until the ftp pull order expires (according to the DAAC configured ftp pull retention time).
- For an ftp push order, the OMS queues an ftp push operation for each granule as soon as the granule is available in the Data Pool, provided the order has either reached the Staging state or requires no staging. The ftp push order is considered complete when all granules have been pushed.
- The OMS submits each physical media distribution request to the Production Module after all the relevant granules are in the Data Pool.

Provisions exist to account for failed granules (which no longer need to be staged), and for orders that are canceled.

To support orders/requests that cannot be processed in Synergy IV mode each DAAC configures DDIST and STMGT thread pools to regulate how the available archive bandwidth is made available to the orders that are being queued up (as described in the section on **Tuning Data Server Subsystem Parameters**). In Synergy IV mode it is irrelevant whether a granule is in the read-only cache, the AMASS cache, or needs to be fetched from tape because OMS schedules

archive operations in a different manner. As previously mentioned, granules that do not require actual tape access are processed in an expedited fashion. The OMS and the DPL insert service allocate the archive resources (i.e., tape mounts) to the remaining granules using a set of staging policies.

Staging Policies

The tape archive is one of the critical limited resources for data distribution. Each archive has a limited number of tape drives and not all of them can be used for data distribution because some of them have to be reserved for other purposes (e.g., ingest). The most time-consuming operations in the archive include the mounting and dismounting of a tape and advancing the tape to the beginning of the requested file. Consequently, the OMS and Data Pool services implement a number of policies to optimize the use of archive resources. In some cases, a DAAC can influence the OMS behavior via tuning parameters; in other cases, the behavior is fully automatic and requires no tuning.

The staging policies have the following goals:

- Do not let a small set of distribution requests occupy a large number of archive tape drives for extended time periods.
- Adjust the pace of staging for a given device (or ftp connection) to slow down if the device or connection cannot keep up with the staging rate. (Do not let the staging rate significantly outstrip the pace of request completion.)
- Throttle the archive staging activity for output devices and ftp connections to prevent consuming a lot of disk space for orders that cannot be completed.
- Ensure that even low-priority requests move through the staging state at a reasonable pace.
- Ensure that high-priority requests are processed in an expedited fashion.
- Ensure that enough archive tape drives remain available for non-OMS/non-DPL-related activities.
- Manage Data Pool in-cache and from-tape insert processes efficiently.
  - Ensure that throughput keeps up with demand so granules are retrieved before AMASS removes them from its cache.
  - Ensure that additional insert processes can be dispatched in the eventuality that an archive tape that is mounted contains several requested granules.
- Optimize the use of tape archive resources as much as possible:
  - Use a single tape mount to read all granules that are currently on order and that reside on the same tape.

- Do not let the drives of an archive become idle as long as there are granules from the archive on order that still need to be staged, regardless of where the corresponding order is in the distribution queue.
- If an order includes granules that are currently in an archive cache, copy the granules to the Data Pool as soon as possible to preclude the eventual need for a tape mount.

The paragraphs that follow describe the goals of the staging policies and the tuning parameters that can be modified to achieve those goals. Some of the tuning parameters are OMS parameters; others are Data Pool parameters. It is important to coordinate the settings for OMS and DPL parameters to facilitate achieving the goals of staging and to avoid conflicts between OMS and DPL.

Preventing a Set of Distribution Requests from Monopolizing Archive Tape Drives

A small set of distribution requests should not be allowed to occupy a large number of archive tape drives for extended time periods. The effect would be to block other distribution requests that also require tape mounts. Although it is unlikely that a single request would cause a very long delay (because of the limits the DAAC can configure for the maximum size of a distribution request before it is partitioned), if several large requests are dispatched simultaneously, they could keep the archive tape drives busy for many hours. This could happen, for example, if within a short time frame a single user submits a large number of orders for thousands of granules. When these requests work their way to the top of the distribution queue, they could block other orders.

The following tuning parameters can be used to prevent a set of distribution requests from occupying a large number of archive tape drives for extended time periods:

- **MaxTapeMountPerRequest** parameter on the **Data Pool Maintenance GUI** (**DPM GUI**).
- **Max Cheap Requests** parameter on the **OM GUI**.
- **Max Moderate Requests** parameter on the **OM GUI**.
- **Max Expensive Requests** parameter on the **OM GUI**.

MaxTapeMountPerRequest is a Data Pool configuration parameter that is set on the **List of Configuration Parameters** page of the **DPM GUI**. It is used to configure the maximum number of tape mounts that will be made for a single request.

Occasionally, a DAAC receives orders containing requests that require many, many tape mounts. The **MaxTapeMountPerRequest** parameter prevents such requests from occupying too many tape drives, which could keep some other requests from being serviced at all. However, while it is important to keep such requests from blocking all drives, it is also important to keep the requests moving through staging at a reasonable pace. For example, assuming three (3) minutes per tape mount, a request that requires 1,000 tape mounts and is allowed five (5) concurrent mounts at a time, would require at least 3*1,000/5 = 600 minutes (10 hours) to get through

staging. If DAAC policy required even large requests to complete staging within about three (3) hours, it would be necessary to either permit up to 16 or 17 tape mounts for a single request (3*1,000/16 = 187.5 minutes or three hours, seven and a half minutes), or reduce the maximum number of granules in a request to a few hundred (e.g., 3*300/5 = 180 minutes).

Use the following guidelines to determine the appropriate value for the parameter:

- Initially set the value of the **MaxTapeMountPerRequest** parameter on the **DPM GUI** at five (5).
  - For detailed instructions on how to modify DPL parameter values refer to the **Modify DPM Configuration Parameter Values** procedure in the **Archive Processing** lesson.
- Based on DAAC experience and policy, adjust the setting (as necessary) to accommodate the number of tape mounts that are required for the largest requests that do not require partitioning.
  - Determine the average amount of time for a tape mount. If not known, assume three (3) minutes per tape mount.
  - Determine the maximum number of tape mounts for completing the largest request, assuming one tape mount per granule. The maximum number of granules in a request can be viewed as the value assigned to the **Max Request Granules** parameter on the **OM GUI** (e.g., 5,000).
  - Determine the maximum allowable time (in minutes) for completing the largest request [e.g., 720 minutes (12 hours)].
  - Calculate the maximum number of tape mounts as follows:
    - Multiply the average amount of time for a tape mount by the maximum number of tape mounts for completing the largest request and divide the product of that operation by the maximum allowable time for completing the largest request.
    - For example, three minutes for a tape mount times 5,000 tape mounts for the largest request equals 15,000 minutes, which is divided by 720 minutes (maximum allowable time for a request) to give an answer of 20.8 (i.e., 21) tape mounts.
  - If the maximum number of tape mounts is too large, consider getting permission to change some combination of the following values:
    - Maximum allowable time for completing the largest request.
    - Maximum number of granules in a request (**Max Request Granules** parameter on the **OM GUI**).

Max Cheap Requests, **Max Moderate Requests**, and **Max Expensive Requests** are OMS configuration parameters that are used for limiting the number of concurrent requests in a

particular class that can be promoted to staging. The number of archive tape mounts the request needs in order to stage its granules is the basis for defining the classes. The OMS performs the classification when the request is initially validated. A request is reclassified if it is revalidated because it was resubmitted (e.g., following an operator intervention).

It is possible to configure three classes of request; i.e., Cheap, Moderate, and Expensive:

- Requests are classified as Expensive when the number of tapes they require exceeds the lower limit for Expensive requests as configured by DAAC operations (**Min Expensive Request** parameter on the **OM GUI**).
- Requests that are below this limit are classified Moderate if their tape mounts exceed the lower limit configured by DAAC operations for Moderate requests. (**Min Moderate Request** parameter on the **OM GUI**).
- All other requests are considered Cheap.

To limit the number of requests in each class that are in staging concurrently, as well as the total number of tape mounts these requests may require, the following three configuration parameters are configurable on the **OMS Server and Database Configuration** page of the **OM GUI**:

- **Max Cheap Requests -** maximum number of concurrent requests classified as Cheap that can be promoted to staging.
- **Max Moderate Requests -** maximum number of concurrent requests classified as Moderate that can be promoted to staging.
- **Max Expensive Requests -** maximum number of concurrent requests classified as Expensive that can be promoted to staging.

The parameters allow DAAC Operations to limit the number of requests in each class that are in staging concurrently, as well as the total number of tape mounts these requests may require. Thereby it is possible to ensure that expensive and moderate requests do not at times consume all available drives.

Use the following guidelines to determine the appropriate values for the parameters:

- Reserve the Expensive category for requests that will require several hours to get through staging because of their size even if they never had to yield tape mounts to lower-priority requests (e.g., several hundred tape mounts).
  - Set the request limit for this category (**Max Expensive Requests** parameter) to one (1).
    - For detailed instructions on how to modify OMS parameter values refer to the procedure for **Checking/Modifying Values Assigned to OMS Server or Database Parameters** (previous section of this lesson).
- Do not limit the number of Cheap requests (**Max Cheap Requests** parameter).

- Reserve the Moderate category (**Max Moderate Requests** parameter) for requests that require more (but not significantly more) tape mounts than the configured limit per request.
  - Limit the number of these requests in staging such that they together with the Expensive request cannot consume more than 60 to 70 percent of the tape drives.
  - For example, if 60 drives are available for staging and the maximum number of concurrent tape mounts for a single request is set to five (5), limit the number of concurrent Moderate requests to seven (7) or fewer. Note that OMS will allocate the remaining tape drives to these requests (on a priority basis) if there is no competing workload from Cheap requests.
- If available, use a curve showing the distribution of requests by number of granules [excluding the requests known to get their granules from cache (e.g., subscriptions)].
  - Determine how many of these requests fall into the Moderate category.
  - Sum up the number of granules they require as the number of tape mounts they need (this assumes each granule requires a separate tape mount - where known otherwise, make appropriate adjustments).
  - Verify that the imposed limit will not make it impossible to achieve the average daily throughput.
  - For example, assume the Moderate requests require about 12,000 granules/tape mounts. A limit of seven (7) concurrent Moderate requests allows at most 35 concurrent tape mounts for Moderate requests [assuming the maximum number of concurrent tape mounts for a single request is set to five (5)], or at most 35*15 = 525 tape mounts/hour, or 12,600 granules in a 24-hour day. This is very close to the requirement and it may be advisable to either raise the number of concurrent Moderate requests permitted in staging, or raise the limit at which requests are classified as Moderate (**Min Moderate Request** parameter on the **OM GUI**).
- Adjust the parameters as necessary to accommodate the current user demand.

Adjusting the Pace of Staging

Simply servicing orders in the sequence in which they are submitted may result in poor utilization of media devices or ftp connections. For example, assume that the DAAC receives a large number of medium-sized orders to be distributed on 8mm tape and all of them need to have their data staged from the archive. Since the individual orders are not very large, the preceding limits would not prevent them from going into staging and subsequently keeping all the archive drives busy for some time. However, because 8mm tape drives are slow, most of the data would pile up in the Data Pool waiting for access to an 8mm tape drive. On the other hand, orders for other media types might get only sporadic service or no service and their output devices could eventually sit idle. The result is poor utilization of output devices. To prevent this type of

situation OMS has the following two types of tuning parameters for adjusting the pace of staging for a given device or ftp connection (to slow down if the device or connection cannot keep up with the staging rate):

- **RHWM** (Request High Water Mark) parameters on the **OM GUI**.
- **DHWM** (Data Volume High Water Mark) parameters on the **OM GUI**.

It is possible to set Request and Data Volume High Water Marks (RHWM, DHWM) for all physical media types and all ftp push destinations. The OMS uses the RHWM to limit the number of requests that are in progress (i.e., in staging or staged but not yet distributed) and DHWM to limit the amount of this data. The OMS can override the RHWM and DHWM settings for high-priority requests (see the description of low water marks in the subsequent section on **Ensuring That High-Priority Requests Are Expedited**). OMS ignores the RHWM/DHWM settings when there is no other work competing for archive resources.

The RHWM and DHWM settings have no effect on copying granules from the AMASS cache or retrieving granules that happen to reside on tapes mounted for other orders. However, when a request is promoted to the Staging state, all of its granules (including those fetched from AMASS cache) are counted when calculating the amount of work that is in progress. Note that the OMS continues to promote requests into staging until both the RHWM and the DHWM for that device/ftp destination have been reached.

RHWM and DHWM are OMS configuration parameters that are set using the **OM GUI**. RHWM and DHWM for physical media are configured on the **Media Configuration** page of the **OM GUI**. For ftp push destinations, the parameters are accessible on the **FTP Push Destination Details** page of the **OM GUI**.

The RHWM and DHWM parameters are used to prevent a peak in demand for some media type from temporarily blocking archive resources even though the data is staged faster than the device or ftp connection can distribute it. For example, assume that a group of users submitted several hundred orders for several thousand granules, all to be distributed via 8mm tape. Since the requests were submitted as a group, they would reach the head of the queue together and keep the archive busy for several hours with staging, even though it would be impossible to write the data to 8mm tape as fast as it was being staged. However, thanks to the RHWM and DHWM parameters this does not happen. Instead, the OMS limits the number of requests for 8mm tape that are in progress to the RHWM and DHWM settings. Once the assigned values are reached, OMS promotes a new request into staging only when a previous one completes.

More generally, the RHWM and DHWM are useful in preventing staging for an output device or ftp connection to occur much faster than the data can actually be distributed. The remaining archive bandwidth becomes available to service distribution requests for other media types or destinations.

RHWM and DHWM interfere with normal priority based on first-in-first-out dispatching of archive resources. It is necessary to determine when this is appropriate. For example, it may be desirable only if there is some abnormality in the distribution workload, such as a peak in order arrival for a particular device, or if an error occurs and some distribution channel operates at a degraded bandwidth. In such cases, RHWM and DHWM eventually limit the archive resources

to match the speed with which the staged data can be processed. In essence, RHWM and DHWM limit the amount of work the OMS buffers up for a given output channel. For a given media type or ftp destination, they must be larger than what needs to be kept "in work" to achieve the daily distribution targets. The recommendations that follow are based on the assumption that this is what is intended.

The DHWM for ftp pull requests is the point at which such requests are no longer eligible for promotion into the Staging state, effectively stopping the further influx of ftp pull data into the Data Pool. (However, granules staged for normal Data Pool use that also happen to be ordered for ftp pull do not count against the DHWM.)

The OMS removes ftp pull requests from its "books" during the day following their expiration. If ftp pull was stopped because the DHWM was reached, it resumes when enough requests have been removed. Of course, the actual removal of expired ftp pull granules from the Data Pool is done by the DPL cleanup utility; consequently, actual ftp pull usage at any particular moment can be higher or lower than the DHWM depending on when granule cleanup actually occurs.

The DHWM for ftp pull has no effect on copying granules for ftp pull from the AMASS cache. When an ftp pull request references granules that reside in the AMASS cache, the request continues to be serviced even if the ftp pull DHWM is reached. In addition, it is possible to configure a priority limit (**Min Pri to Preempt** parameter on the **OM GUI**) that causes the OMS to disregard the DHWM when processing requests with a priority that equals or exceeds the **Min Pri To Preempt** (see the description of **Min Pri to Preempt Parameter** in the subsequent section on **Ensuring That High-Priority Requests Are Expedited**).

Use the following guidelines to determine the appropriate values for the parameters:

- For a physical media type:
  - Set the RHWM to at least the number of available devices ("N") times two (2).
  - Set the DHWM to the media capacity times "N" times two (2).
  - If the distribution workload for the media type is much less than what the available devices can handle, use as "N" the number of devices actually needed to achieve the workload.
    - For detailed instructions on how to modify media parameter values refer to the procedure for **Checking/Modifying Values Assigned to Media Parameters** (previous section of this lesson).

- For ftp push:
  - The archive will require a few minutes ("Ta") to stage data for a request from tape (assuming the request has sufficient priority and there are adequate archive resources). Add to this the average amount of time it takes to complete an ftp push request ("Tftp"). Set DHWM to at least the throughput (in MB) during Ta+Tftp that is required to achieve the workload target (alternatively, set it to several times that amount). For most ftp destinations, setting DHWM to the average 30-minute throughput (in MB) is adequate.
    - It ensures that DHWM does not throttle the distribution under normal circumstances, yet never queues up more than 30 minutes of ftp push work when there is either an unusual peak in the orders for that destination or a bandwidth problem.
    - For detailed instructions on how to modify ftp push parameter values refer to the procedure for **Checking/Modifying FTP Push Policy Configuration** (previous section of this lesson).
  - Set the RHWM to DHWM divided by the average request size (or set RHWM to the number of requests that typically need to be processed in a 30-minute interval).
  - Some ftp push destinations are connected to the system via high-throughput networks. Unless such destinations receive large amounts of data from AMASS cache, they never have a significant ftp push queue because data is distributed as quickly as it can be staged. So DHWM and RHWM serve as throttles only when the connection experiences problems. Under normal circumstances, such destinations receive archive resources as quickly as their priority and the competing archive workload permit.
  - Ftp push requests that do not match any of the explicitly configured ftp push destinations are collected into a general ftp push group. The ftp hosts in the group vary from day to day, and the connection bandwidth to the hosts is generally unpredictable.
    - Set the RHWM to twice the number of ftp connections that the DAAC is willing to devote to these orders
    - Set the DHWM to the hourly amount of data that typically needs to be pushed for such orders. Ensure that the limit is several [e.g., five (5)] times larger than the configured maximum size for a single un-partitioned ftp push distribution request (so OMS can make full use of the configured number of connections).

- For ftp pull:
  - Start out by setting DHWM to the current size of the ftp pull area.
    - For detailed instructions on how to modify media parameter values refer to the procedure for **Checking/Modifying Values Assigned to Media Parameters** (previous section of this lesson).
  - Adjust the ftp pull DHWM parameter as necessary to accommodate the current user demand for ftp pull.
    - For example, the DHWM could be set to the expected maximum daily ftp pull order volume times one day more than the number of days of ftp pull retention.
- Adjust the parameters based on experience.
  - For example, if it turns out that most of the orders are fairly large, the DHWM may need to be raised so it does not act as a throttle for normal distribution workloads.

Throttling Archive Staging for Output Devices and FTP Connections

Under normal circumstances the archive drives are the key distribution bottleneck. In many cases the output devices and ftp connections are able to distribute data as quickly as it can be staged. However, this can change if one of the output channels experiences problems; for example, if media drives fail or the throughput for some ftp connection suddenly deteriorates. If staging were to continue regardless of such problems, a lot of disk space might be consumed by orders that could not be completed and (consequently) could not have their data removed. At a minimum, it is desirable to throttle the archive staging activity for such devices or connections. The applicable tuning parameters are the same as those used in adjusting the pace of staging, specifically:

- **RHWM** (Request High Water Mark) parameters on the **OM GUI**.
- **DHWM** (Data Volume High Water Mark) parameters on the **OM GUI**.

Note that the OMS stops dispatching distribution requests that require resources that have been suspended. This behavior is automatic and there are no related tuning parameters apart from the retry behavior.

For additional information on RHWM/DHWM refer to the section on **Adjusting the Pace of Staging** (previous section of this lesson).

Ensuring the Staging of Low-Priority Requests at a Reasonable Pace

If the archive staging workload is close to the archive capacity for extended periods of time, requests that have a low priority could wait for a long time before being serviced. Once they are submitted to staging their tape-mount requests may be serviced infrequently and intermittently because higher-priority requests that get promoted into staging would be given preference. As a

result, low-priority requests may have to wait for a long time to get into the staging state and then stay in staging for a very long time. Eventually, a backlog of low-priority requests could build up and the response time would be very poor. Furthermore, once such a low-priority request got in staging, its data would accumulate in the Data Pool and could not be removed until the request completed. So it could end up blocking disk resources for an extended period of time.

To alleviate the problem of low-priority requests seeming to hang in Queued or Staging forever one can implement request aging, which is implemented through the following two types of aging parameters:

- OMS **Age Step** parameters on the **OM GUI**.
- OMS **Maximum Priority** parameters on the **OM GUI**.
- DPL **Age Step** parameters (**agingStep** column in the DPL database).
- DPL **Maximum Priority** parameters (**MaxPriLevel** column in the DPL database).

OMS aging parameters (**Age Step** and **Maximum Priority**) cause OMS to increase the priority of a distribution request as it waits for promotion into the Staging state. This can help reduce the order completion time for low-priority requests.

DPL aging parameters raise the priority of requests that are in staging but have had long waits for tape mounts. By implementing DPL aging even low-priority requests can be made to move through the Staging state at a reasonable pace.

So OMS aging parameters are useful in increasing the priority of low-priority requests so the eventually get into the Staging state. DPL aging parameters raise the priority of requests so they get access to tape mounts and get out of the Staging state.

When request aging is in effect, OMS and DPL update request priorities regularly. The DAAC can enable or disable aging for each ECS priority level separately (e.g., aging may be in effect for LOW priority requests but not for any others); and the DAAC can set the hourly rate of priority increase and the maximum priority a request can achieve.

The OMS configuration parameters **Age Step** and **Maximum Priority** can be configured separately for each ECS priority level on the **Aging Parameters** page of the **OM GUI**.

The DPL **Age Step** and **Maximum Priority** configuration parameters are set by changing values of entries in the **agingStep** and **MaxPriLevel** columns in the **DlAgingConfig** table of the DPL database. Values for **agingStep** and **MaxPriLevel** can be set in the DPL database for each ECS priority level (**ECSPriority** column) using isql commands.

Use the following guidelines to determine the appropriate values for the parameters:

- Settings are at the discretion of each DAAC; however, it is recommended that OMS request aging be turned off initially.
  - For detailed instructions on how to modify aging parameter values refer to the procedure for **Checking/Modifying Values Assigned to Aging Parameters** (previous section of this lesson).
- It is recommended that request aging be turned on for the DPL insert service for LOW and NORMAL priority requests to ensure that they complete staging promptly once they have started.
  - For example, a LOW or NORMAL priority request should attain the next higher ECS priority level after one or two hours of remaining in staging (but not go beyond that).
  - To change the DPL aging parameters notify the Database Administrator that values need to be modified in the DPL database and specify [for each ECS priority level (in the **ECSPriority** column)] the values for **agingStep** (how many points the priority should be raised every hour) and **MaxPriLevel** (maximum priority value for the ECS priority).
- Adjust the aging parameters as necessary to accommodate the current user demand.

Ensuring That High-Priority Requests Are Expedited

The mechanisms described in the preceding sections on **Adjusting the Pace of Staging** and **Throttling Archive Staging for Output Devices and FTP Connections** limit the number of requests that are submitted for staging from the archive. However, occasionally high-priority requests are received and should be processed in an expedited fashion. The following tuning parameters affect the expedited processing of high-priority requests:

- **RLWM** (Request Low Water Mark) parameters on the **OM GUI**.
- **DLWM** (Data Volume Low Water Mark) parameters on the **OM GUI**.
- **Min Pri to Preempt** parameter on the **OM GUI.**

It is possible to mark a point in the distribution queue where new requests that are queued below RLWM or DLWM values become eligible for preemptive dispatching, even if the requests/data in work are at RHWM/DHWM. An RLWM can be set for physical media only; a DLWM is available for physical media and each ftp push destination. Neither RLWM nor DLWM has much relevance to ftp pull, which has a special preemptive dispatching parameter, **Min Pri to Preempt**.

RLWM and DLWM are OMS configuration parameters that are set using the **OM GUI**. RLWM and DLWM for physical media are configured on the **Media Configuration** page of the **OM GUI**. For ftp push destinations, DLWM (only) can be configured on the **FTP Push Destination Details** page of the **OM GUI**.

The OMS and the DPL dispatch work in priority order and within the same priority on a first-in-first-out basis. This normally ensures that within a given output queue, higher-priority requests are serviced before lower-priority requests unless request aging is configured. However, if the output channel for some queue is fairly slow (e.g., 8mm tape or slow ftp connections), then the amount of work in progress usually will be at RHWM/DHWM. High-priority requests might be dispatched next as soon as other work completes, but this could be viewed as an unacceptable delay. It may be preferable for OMS to dispatch such requests in a preemptive manner, i.e., regardless of how much work is currently in progress (even if RHWM and DHWM have been reached or exceeded).

Use the following guidelines to determine the appropriate values for the parameters:

- No general recommendation is made; the settings for RLWM and DLWM are at the discretion of each DAAC.
  - A low setting for RLWM/DLWM requires most high-priority requests in the applicable output queue to wait for normal dispatching, i.e., until the work that is in progress drops below RHWM and DHWM.
    - That waiting time may be negligible if the output channel is fast.
  - If the amount of work in progress is hardly ever at RHWM and DHWM, configuring low watermarks is superfluous except to account for unusual circumstances.
    - For example, if some temporary device or connection problems caused a significant amount of data to be staged that is now waiting for ftp or transfer to a device (i.e., in a backlog situation).
  - For detailed instructions on how to modify ftp push parameter values refer to the procedure for **Checking/Modifying FTP Push Policy Configuration** (previous section of this lesson).
  - For detailed instructions on how to modify other media parameter values refer to the procedure for **Checking/Modifying Values Assigned to Media Parameters** (previous section of this lesson).
- Adjust the RLWM/DLWM parameters as necessary to accommodate the current user demand.

Min Pri to Preempt is the preemptive dispatch priority for ftp pull requests. When an ftp pull request has the **Min Pri to Preempt** or a higher priority, it is dispatched even if the disk space currently consumed by unexpired ftp pull requests is at or above the HWM. So the **Min Pri to Preempt** parameter makes it possible to service high-priority ftp pull requests while lower-priority requests have to wait for disk space to become available.

Min Pri to Preempt is an OMS configuration parameter that is configured on the **OMS Server and Database Configuration** page of the **OM GUI**.

Use the following guidelines to determine the appropriate value for the parameter:

- No general recommendation is made; the setting for **Min Pri to Preempt** is at the discretion of each DAAC.
- Adjust the **Min Pri to Preempt** parameter as necessary to accommodate the current user demand for ftp pull.
  - For detailed instructions on how to modify OMS parameter values refer to the procedure for **Checking/Modifying Values Assigned to OMS Server or Database Parameters** (previous section of this lesson).

Reserving Enough Tape Drives for Non-OMS/Non-DPL-Related Activities

The DAAC must be able to limit the number of tape drives that are made available for DPL staging in each archive. This ensures that there is a sufficient number of tape drives available for other, non-OMS/non-DPL-related activities. The following tuning parameters affect the number of available tape drives:

- MAX_READ_DRIVES_*x*0*xx*g*nn* (e.g., MAX_READ_DRIVES_e0acg11, MAX_READ_DRIVES_e0drg11, and MAX_READ_DRIVES_e0drg12) – parameters on the **List of Configuration Parameters** page of the **DPM GUI**.

Use the following guidelines to determine the appropriate values for the parameters:

- Based on historical data, estimate (for each archive) the total number of granules per day that are handled in the course of the following operations:
  - Ingest.
  - Synergy III-style (i.e., SDSRV-serviced) distribution (e.g., to handle billable granules, restricted granules, or secure ftp distributions) and that would not be expected to be in cache (e.g., EDG user orders).
  - Other archive accesses that are not managed by the OMS (such as routine and on-demand processing and external subsetting).
- If the number of daily tape mounts a single drive can support is not known; assume that one tape drive is needed for every 250 granules ordered per day to support the workload.
- Use the estimated workload (total granules per day per archive) to estimate the number of archive tape drives that need to be set aside for the non-OMS/non-DPL-related activities.
- Allocate the remaining tape drives to DPL Staging by setting the **MAX_READ_DRIVES_*x*0*xx*g*nn*** parameter for each archive using the **DPM GUI**.
  - For detailed instructions on how to modify DPL configuration parameter values refer to the **Modify DPM Configuration Parameter Values** procedure in the **Archive Processing** lesson.

- Continue to monitor the ingest and non-OMS/DPL staging activities to verify that they receive neither too little nor too much archive bandwidth. Adjust the parameters as necessary.

Managing Data Pool In-Cache and From-Tape Insert Processes Efficiently

Managing Data Pool insert processes efficiently involves configuring the maximum number of concurrent Data Pool insert processes. The number of concurrent insert processes can be configured separately for data that is found in AMASS cache and data that needs to be read from archive tapes. The following tuning parameters affect the management of Data Pool insert processes:

- **NumOfAllowedCacheProcesses** parameter on the **DPM GUI**.
- **NumOfAllowedInsertProcesses** parameter on the **DPM GUI**.
- **NumOfAllowedNonCacheProcesses** parameter on the **DPM GUI**.

The **NumOfAllowedCacheProcesses** is the maximum number of insert processes that require access to cache (i.e., **in-cache** insert processes). The **NumOfAllowedNonCacheProcesses** is the maximum number of insert processes that require access to archive tapes (i.e., **from-tape** insert processes). The **NumOfAllowedInsertProcesses** is maximum number of insert processes running at any time (i.e., the total of **in-cache** insert processes and **from-tape** insert processes).

The number of **in-cache** insert processes must be limited to avoid overloading the Data Pool platform or the Data Pool database server. However, a sufficient number of in-cache insert processes must be available to ensure that throughput keeps up with demand so granules are retrieved before AMASS removes them from its cache (usually several hours).

A large enough number of **from-tape** insert processes must be provided so all the drives allocated for Data Pool staging can be kept busy (if there is sufficient distribution workload). Additional from-tape insert processes must be available so more insert processes can be dispatched in the eventuality that a tape that is mounted contains several requested granules. This is important in that it gives AMASS an opportunity to order the tape accesses by tape location.

NumOfAllowedCacheProcesses, **NumOfAllowedInsertProcesses**, and **NumOfAllowedNonCacheProcesses** are Data Pool configuration parameters that are configured on the **List of Configuration Parameters** page of the **DPM GUI**.

Use the following guidelines to determine the appropriate values for the parameters:

- Set the maximum number of **from-tape** insert processes (**NumOfAllowedNonCacheProcesses** parameter) to several (e.g., five) times the total number of tape drives allocated for Data Pool inserts.
  - The total number of tape drives allocated for Data Pool inserts is the sum of all the **MAX_READ_DRIVES_*x0xxgnn*** parameters for the various archives, as indicated on the **DPM GUI**.

- For detailed instructions on how to modify DPL configuration parameter values refer to the **Modify DPM Configuration Parameter Values** procedure in the **Archive Processing** lesson.

- Set the number of **in-cache** insert processes (**NumOfAllowedCacheProcesses** parameter) as follows:
  - Determine the average number ("N") of granules per hour that an in-cache insert process can complete. This number depends on file sizes and checksum workload. (Testing during development indicated N = ~100.) A usable figure can be determined by dividing 3,600 by the average number of seconds needed to insert a granule into the Data Pool. The insert time for granules can be obtained from the Data Pool Action Driver (DPAD) log (EcDlActionDriver.ALOG on the Data Pool Server host, *x*0dps01).
  - Set the number of **in-cache** insert processes to the number of granules that need to be inserted per hour from AMASS cache divided by "N" and adjust the number upwards to leave room for peak demands (e.g., during catch-up situations).
    - The total number of granules expected to be inserted into the Data Pool from AMASS cache per hour equals the hourly average number of granules inserted into the Data Pool via subscriptions plus the hourly average number of granules ordered via subscriptions minus the estimated overlap between the two.
- Set the **NumOfAllowedInsertProcesses** to the sum of **NumOfAllowedCacheProcesses** and **NumOfAllowedNonCacheProcesses**.
- Adjust the settings based on experience.

Optimizing Tape Archive Resources

Since the tape archive is the most likely distribution bottleneck, it is desirable to optimize the use of this resource as much as possible. The following features optimize tape archive resources:

- Using a single tape mount to read all granules currently on order that reside on the same tape.
- Not letting the drives of an archive go idle as long as there are granules from the archive on order that still need to be staged, regardless of where the corresponding order is in the distribution queue.
- Copying ordered granules from archive cache to the Data Pool as soon as possible to preclude the eventual need for a tape mount.

There are no configuration parameters associated with the behaviors listed. They do not require tuning because they are automatic.

Summary

The OMS and the DPL offer a number of parameters that can be used to tune staging activity. With the exception of the number of tape drives available for staging, the parameters have no impact on archive throughput because the OMS and the DPL insert service always attempt to maximize staging throughput. However, the parameters are useful for regulating archive activity across the different data distribution streams (i.e., by media type and ftp destination) and for preventing the kinds of situations mentioned in the preceding paragraphs. The parameters can be set such that they have no practical impact during normal operation, in which case archive tape capacity will be allocated strictly by priority and within the same priority on a first-come-first-served basis. Finally, the tuning parameters have no impact on distribution requests whose data is either already in the Data Pool or found in the AMASS cache. Such requests are processed in priority order as quickly as possible to reduce the chances of needing a tape access.

OMS Database Cleanup Guidelines

From the perspective of system performance it is very important to clean up the OMS database and MSS order-tracking tables on a regular basis. Not cleaning up the database tables would have the following effects:

- Overall order-processing throughput would slow down due to the deterioration of OMS/MSS response times.
- Response time of the OMS GUI would increase.

If order information must be kept for extended periods of time (e.g., for reporting purposes), it is recommended that on a regular basis information be copied (via scripts or Sybase replication) from the operational tables to a separate set of historical tables. The OMS database itself is an operational database and is not suited for long-term retention of order information.

To assist with database cleanup, the OMS provides the following two levels of cleanup:

- Removal of completed OMS actions, interventions and notifications.
- Removal of order-tracking information for completed orders.
  - Order-tracking information for completed orders includes order, request, and granule information.

Removal of Completed OMS Actions, Interventions and Notifications

The removal of completed OMS actions, interventions and notifications is configured by setting the values of the following parameters on the **OM GUI**:

- **Delete Complete Interventions After**.
- **Delete Complete Actions After.**

Except for special circumstances when the DAAC needs to retain information for subsequent analysis by system support staff or DAAC performance engineers, the parameter settings should be as short as possible (e.g., two hours).

For detailed instructions on how to modify OMS parameter values using the **OM GUI** refer to the procedure for **Checking/Modifying Values Assigned to OMS Server or Database Parameters** (previous section of this lesson).

Removal of Order-Tracking Information for Completed Orders

The removal of order-tracking information for completed orders is configured using the **OMS Configuration CI**.

It is possible to configure separate retention time periods (in days) for each combination of the following factors:

- Order source (e.g., Data Pool, Spatial Subscription Server, V0 Gateway, or Machine-to-Machine Gateway).
- Distribution medium.

Order-tracking information is not removed until all distribution requests that belong to a particular order have been completed. Note that in this context an ftp pull request is considered "completed" when the time for retaining its granules in the ftp pull area has expired. At that time the order-tracking retention time begins. (In other words the ftp pull retention time should not be considered when determining the order-tracking information retention time for ftp pull because the latter is calculated from the end of the ftp pull retention time.)

The main purpose of retaining order-tracking information in the OMS database past order completion time is to allow DAAC Operations/User Services to use the OM GUI to investigate the history of distribution requests when responding to user inquiries or complaints. The retention time period should be the minimum necessary or there could be negative effects on OMS throughput.

The following order-tracking retention settings are recommended (but each DAAC should make adjustments based on local conditions/needs):

- Successful ftp push subscriptions: one day.
- Successful media and ftp pull subscriptions: no more than 7 days.
- Successful Machine-to-Machine Gateway orders: one day.
- Successful orders submitted via the V0 Gateway: no more than 120 days.
- Successful Data Pool Web GUI orders: no more than 120 days.
- All failed orders: no more than 120 days.

For detailed instructions on how to set/modify order-tracking retention time refer to the section on **Using the OMS Configuration Script (OMS Configuration CI)** (previous section of this lesson).

Troubleshooting DDIST and Order Manager GUI Problems

Trouble Symptoms

Troubleshooting is a process of identifying the source of problems on the basis of observed trouble symptoms. Most problems with data distribution can be traced to some part of the Data Server Subsystem:

- Data Distribution.
- Science Data Server.
- Storage Management.

However, a common source of problems involves the reliance on messages or data from other subsystems. Like many other operational areas in the system, data distribution has interfaces with other subsystems. Consequently, it is possible to trace some problems to another subsystem, including (but not necessarily limited to) those in the following list:

- Communications Subsystem (CSS).
- System Management Subsystem (MSS).
- Order Manager Subsystem (OMS).

The general process of troubleshooting involves the following activities:

- Review the trouble symptoms.
- Check the status of relevant hosts/servers (as necessary).
- Check log files (as necessary).
- Take action to correct the problem(s).

Fault Recovery

Each request that crosses a client/server boundary is assigned a system-unique identifier referred to as an RPC ID. (RPC refers to Remote Procedure Call, the mechanism by which requests are submitted from client to server.) The RPC ID facilitates the automatic fault recovery events that occur whenever there is a client or server failure.

- As a request propagates through the system, each associated client/server exchange is assigned a unique RPC ID.
  - The RPC ID for each interaction is derived from the previous RPC ID received by the client for the request.
    - Consequently, all RPC IDs associated with a given request have a common portion that relates the various client/server calls to one another.
  - Given the previous RPC ID, clients consistently reproduce the same RPC ID that was submitted to the server on the subsequent event.
- The concept of reproducible RPC IDs is central to the system fault recovery capability.
  - When requests are retried from client to server, they are always submitted with the same RPC ID that was used in the original submission of the request, even if either the client or server has crashed between retries.
- The RPC ID is also central to the check-pointing aspect of fault recovery.
  - As requests arrive at fault recovery-enabled servers, they are recorded in a persistent store (typically a database), tagged with the RPC ID, which identifies the request.
  - As the request is serviced, check-pointing state information may be updated in the persistent store, up to and including the completion status of the request.
  - This allows the servers to resume servicing from the last check-pointed state, particularly upon resubmission from a client.

Data Server Subsystem and Order Manager Subsystem components checkpoint the following types of information:

- **EcDsScienceDataServer** - Asynchronous "acquire" requests that have been accepted for processing and subscription server event notifications.
- **EcDsHdfEosServer** - None.
- **EcDsDistributionServer** - Requests (which have been accepted for processing).
- **EcDsStArchiveServer** - "Store" and "retrieve" request state information.

- **EcDsStStagingDiskServer** - Resource allocation and ownership for staging disks.
- **EcDsStFtpServer** - Request state information.
- **EcDsStCacheManagerServer** - None.
- **EcDsStDTFServer** - None.
- **EcDsStRequestManagerServer** - None.
- **EcOmOrderManager** - Requests (which have been submitted).

Fault Handling

Failure events are classified according to the following three severity levels:

- Fatal error.
  - Returned when a request cannot be serviced, even with operator intervention.
  - For example, if a request is made to distribute data via ftp to a non-existent host, the request is failed with a fatal error.
- Retry error.
  - Potentially recoverable error.
  - Normally, a retry error would be returned to the client only when the server cannot recover from the error automatically.
  - A retry error may require operator assistance during recovery.
    - For example, the Distribution Technician would use the Data Distribution Operator GUI to manually request resumption of a distribution request that had been "suspended with errors."
- Warning.
  - Provided when operations can proceed without interruption, but an unexpected circumstance was detected.
  - For example, if a client requests a file to be removed but the file does not exist, there is no error per se; however, a warning is generated to caution the client that the file to be removed did not exist in the first place.

Transient errors (such as network errors) are always retry errors.

- In general, clients and servers that experience transient retry errors first attempt to recover by retrying the operation automatically.

- One special case of this is "rebinding," which refers to the process by which a client automatically attempts to re-establish communication with a server in the event communication is disrupted.
  - The disruption may be caused by transient network failure, or by the server crashing or being brought down.
  - In any case, the client automatically attempts to reconnect to the server for a configurable period of time on a client-by-client basis.

System processes encountering an error or receiving an error from a server request can either pass the error back to a higher-level client or present it to the operator for operator intervention. The specific fault handling policies for Data Server Subsystem and Order Manager Subsystem client processes are shown in Table 5.

Table 5. Data Server Subsystem and Order Manager Subsystem Fault Handling Policies

Client Process	Fault Handling Policy
EcDsScienceDataServer **EcDsHdfEosServer**	**Retry errors:** Errors are retried a configurable number of times, then passed back to the calling client process unchanged. The default retry policy for Science Data Servers is "retry forever." For asynchronous "acquire" requests involving subsetting, retry errors encountered with the HDF servers are not returned to the client. Instead, the request is queued for future execution. **Fatal errors:** Errors are passed back to the calling client process. **NOTE:** Errors associated with asynchronous requests are logged but do not appear on any GUI. The Operator restarts HDF servers manually.
EcDsDistributionServer	Errors are presented to the operator via the Data Distribution Operator GUI. **Retry errors:** Errors are presented as "Suspended with Errors" and can be resumed by the operator. **Fatal errors:** Errors are presented as "Failed." For synchronous requests, fatal errors are also passed back to the calling client process. For asynchronous requests, fatal errors are sent as part of the e-mail notification.
EcDsStRequestManagerServer **EcDsStDTFServer**	**Retry errors:** Errors are passed back to the calling client process. **Fatal errors:** Errors are passed back to the calling client process.
EcOmOrderManager	**Retry errors:** Errors are retried a configurable number of times and then the request status is changed to "Operator Intervention" in the MSS database.

Client Crash and Restart

When a client of a SDSRV or DDIST server crashes, the server (i.e., EcDsScienceDataServer, EcDsHdfEosServer, or EcDsDistributionServer) continues to service the requests that were in process at the time of the client's crash. When a client of a STMGT server (i.e., EcDsStArchiveServer, EcDsStRequestManagerServer, EcDsStCacheManagerServer, EcDsStPullMonitorServer, EcDsStFtpServer, EcDsStDTFServer, or EcDsStStagingDiskServer) crashes, the requests that were in process are cancelled by another client process and there is no impact to the outside requester server.

The EcOmOrderManager does not care whether or not a client crashes.

When a client restarts in the system, it sends a restart notification to each server with which it interacts.

- Clients notify servers that they have come up either "cold" or "warm."
- Generally, the notification temperature sent to the server matches the temperature at which the client process is restarted.
- However, there are some exceptions; for example:
  - EcDsScienceDataServer always notifies EcDsDistributionServer that it has performed a warm restart.
  - The default behavior for both EcDsHdfEosServer and EcDsStDTFServer is to send EcDsStRequestManagerServer cold restart notification.
- When a client sends restart notification to the EcDsStRequestManagerServer, the server calls a stored procedure to clean up the old request and staging disk (if any) created by the client, based on whether it was a cold or warm start.
  - The Storage Management Servers are not directly notified when a restart has occurred.
  - The Storage Management Servers respond to the event according to the fact that a previous request has been marked as failed and any staging disk resources they have allocated have been released.

The default server behavior in response to startup notification from a client is as follows:

- Warm Notification.
  - Outstanding requests for the restarted clients remain available in the persistent store.
  - The outstanding requests may be resubmitted by the client, and are serviced to completion upon resubmission.
  - Associated resources are left allocated until the requests are completed.

- Cold Notification.
  - All outstanding requests for the restarted client are cancelled.
  - If the client resubmits any cancelled request using the same RPC ID (e.g., by pressing the Retry button from an operator GUI), it is failed with a fatal error due to the client cold startup notification.
  - Any resources associated with the cancelled requests are released and reclaimed by the system.

The following servers have some non-standard responses to startup notification:

- **EcDsStArchiveServer**.
  - **Warm Notification:**
    - Default server behavior (as previously described).
  - **Cold Notification:**
    - For partially completed Ingest operations, all files stored are removed. (Partial granules are never permitted in the archive.)
- **EcDsStStagingDiskServer**.
  - **Warm Notification:**
    - All staging disks owned by the restarted client are retained, including temporary staging disks.
  - **Cold Notification:**
    - All staging disks owned by the restarted client are released.

Server Crash and Restart

When a server crashes, clients cannot continue to submit requests for processing.

- Synchronous requests in progress result in a Distributed Computing Environment (DCE) exception being thrown back to the client process, which enters a rebinding failure recovery mode (as previously mentioned).
- Attempts to submit requests while the server is down result in the client blocking until a communication timeout has been reached.
- Although DCE has been replaced by socket-based library calls (i.e., CCS Middleware), the DCE exception code is handled by the CCS Middleware.

When a server restarts, it may perform various resynchronization activities in order to recover from an unexpected termination.

- In the event of a server cold start or cold restart, the server typically cancels all outstanding requests and reclaims all associated resources.

- In general, existing request queues are retained for warm restarts and cleared for cold starts or cold restarts.
- **EcDsScienceDataServer-** and **EcDsHdfEosServer-**specific activities upon start/restart:
  - **Warm Restart:**
    - Restart asynchronous "acquire" requests that were in progress before the crash.
    - Retain the queue of asynchronous "acquire" requests.
    - It is expected that synchronous requests would be resubmitted by the respective senior client applications (i.e., PRONG or INGST).
    - Send event notifications to the Subscription Server for any services completed before the crash for which a subscribed event is registered but has not been sent to the Subscription Server.
  - **Cold Start or Cold Restart:**
    - Purge the queue of asynchronous "acquire" requests.
    - Purge the queue of Subscription Server Event Notifications.
- **EcDsDistributionServer**-specific activities upon start/restart:
  - **Warm Restart:**
    - Request Processing is restarted from the last check-pointed state.
  - **Cold Start or Cold Restart:**
    - STMGT CI is informed of a cold start.
    - EcDsDistributionServer deletes all (prior) request information from its database.
- **EcDsStArchiveServer**-specific activities upon start/restart:
  - **Warm Restart:**
    - Retains existing request queues.
  - **Cold Start or Cold Restart:**
    - For partially completed "store" requests, the files copied into the archive are removed.
    - For partially completed "retrieve" requests, the access count is decremented in the read-only cache.
- **EcDsStCacheManagerServer**-specific activities upon start/restart:

- **Warm Restart:**
  - The contents of the read-only cache are synchronized with the database.
  - Discrepancies are logged and removed.
- **Cold Start or Cold Restart:**
  - All files are removed from the read-only cache.

- **EcDsStStagingDiskServer**-specific activities upon start/restart:
  - **Warm Restart:**
    - The set of staging disks in the staging area is synchronized with the database.
    - Discrepancies are logged and removed.
    - Existing request queues are cleared.
  - **Cold Start or Cold Restart:**
    - All staging disks are removed.
- **EcDsStPullMonitorServer**-specific activities upon start/restart:
  - **Warm Restart:**
    - The contents of the Pull Area and user request areas are synchronized with the database.
    - Discrepancies are logged and removed.
  - **Cold Start or Cold Restart:**
    - All files in the Pull Area and all user request areas are removed.
- **EcDsStFtpServer**-specific activities upon start/restart:
  - **Warm Restart:**
    - Existing request queues are retained.
  - **Cold Start or Cold Restart:**
    - Existing request queues are cleared.

Request Resubmission

Upon restarting a crashed client or server, requests are typically resubmitted. If the restarted process was started warm, the fault-recovery capabilities permit the server to resume processing of the request from its last check-pointed state. This prevents needless repetition of potentially time-consuming activities.

- **EcDsScienceDataServer**- and **EcDsHdfEosServer**-specific activities upon resubmission of a request:
  - All requests are serviced as if they are new requests.
  - RPC IDs are generated automatically and reproducibly; consequently, the Science Data Server typically recreates the same allocation requests on a resubmission.
    - This can trigger special logic to handle requests for which an allocated staging disk has been transferred to the Data Distribution Server.
- **EcDsDistributionServer**-specific activities upon resubmission of a request:
  - If previously submitted and completed with the same RPCId, the request status is returned based on the check-pointed request status.
  - If previously submitted and completed with different RPCIds, the request is re-executed.
  - Otherwise, the client request thread is synchronized with the worker thread actually servicing the request.
- **EcDsStArchiveServer**-specific activities upon resubmission of a request:
  - The request is restored from the last check-pointed state.
  - For "store" requests, copies into the archive are resumed from the last file copied.
  - For "retrieve" requests, the entire "retrieve" request is reprocessed.
    - However, files previously retrieved for the request are, in all likelihood, still in the read-only cache.
- **EcDsStCacheManagerServer**- and **EcDsStFtpServer**-specific activities upon resubmission of a request:
  - If previously submitted and completed, the request status is returned based on the check-pointed request status.
  - Otherwise, the request is processed anew.
- **EcDsStStagingDiskServer**-specific activities upon resubmission of a request:
  - For staging disk allocation, the results are returned to the client if the client resubmits the allocation request under which the disk was created.
- **EcDsStPullMonitorServer**- and **EcDsStDTFServer**-specific activities upon resubmission of a request:
  - The resubmitted request is processed as if it were a new request.

- **EcOmOrderManager**-specific activities upon resubmission of a request:
  - EcOmOrderManager uses a different RPC ID for request resubmission.

Troubleshooting a DDIST, STMGT, or Order Manager GUI Failure

Actions to be taken in response to some common DDIST, STMGT, and OM GUI problems are described in the following tables:

- Table 6. Troubleshooting Data Distribution and Order Manager GUI Problems.
- Table 7. Data Distribution Operator GUI User Messages.
- Table 8. Storage Management User Messages.
- Table 9. Order Manager GUI User Messages.

If the problem cannot be identified and fixed without help within a reasonable period of time, the appropriate response is to call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 10 is a list of host machines that identifies the servers, clients and other software relevant to Data Distribution and the Order Manager GUI.

Table 6. Troubleshooting Data Distribution and Order Manager GUI Problems (1 of 2)

Symptom	Response
Unable to log in to any host (e.g., Operations Workstation, g0acs02).	Check with the Operations Controller/System Administrator to ensure that the host is “up."
GUI or web browser (as applicable) not displayed when the start-up script/command has been properly invoked.	Ensure that the DISPLAY variable was set properly. [For detailed instructions refer to the procedure for **Launching the Data Distribution Operator and Storage Management Control GUIs** (previous section of this lesson).]
Error message associated with the Data Distribution Operator GUI.	Refer to Table 7, Data Distribution Operator GUI User Messages (adapted from the corresponding table in 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*) and Table 8, Storage Management User Messages (adapted from DsShErrorMessages.txt and DsStErrorMessages.txt in the /usr/ecs/*MODE*/CUSTOM/data/DSS directory on the DSS hosts).

Table 6. Troubleshooting Data Distribution and Order Manager GUI Problems (2 of 2)

Symptom	Response
Error message associated with the Storage Management Control GUI.	Refer to Table 8, Storage Management User Messages (adapted from DsShErrorMessages.txt and DsStErrorMessages.txt in the /usr/ecs/*MODE*/CUSTOM/data/DSS directory on the DSS hosts).
Error message associated with the Order Manager GUI.	Refer to Table 9, Order Manager GUI User Messages (adapted from the corresponding table in 609-EMD-001, *Release 7.11Operations Tools Manual for the EMD Project*).
Request status change to "Suspended with Errors," indicating a data distribution failure.	1. If a suspended request is an FtpPush request to a remote host (e.g., ftp.averstar.com), check the connection to the remote host. [For detailed instructions refer to the procedure for **Checking the Connection to the Remote FTP Host** (subsequent section of this lesson).] 2. Ensure (e.g., using EcCsIdPingServers) that it is possible to connect to the necessary hosts and servers (listed in Table 10). [For detailed instructions refer to the procedure for **Checking Connections to Hosts/Servers** (subsequent section of this lesson).] 3. If it is not possible to connect to any needed host(s)/server(s), notify the Operations Controller/System Administrator to check the hosts/servers and bring them back up if necessary. 4. If hosts/servers are all "up," notify the Operations Controller/System Administrator to have the STMGT servers bounced (shut down and immediately restarted). 5. When all relevant servers are "up," resume processing of the suspended request. [For detailed instructions refer to the procedure for **Suspending/Resuming Data Distribution Requests** (previous section of this lesson).] 6. If processing does not resume, refer to the procedure for **Recovering from a Data Distribution Failure** (subsequent section of this lesson).
Other problems.	Check the log files (e.g., EcDsDdistGui.ALOG, EcDsDistributionServer.ALOG, EcDsStRequestManagerServer.ALOG, EcDsStStagingDiskServerDIP1.ALOG) in the /usr/ecs/*MODE*/CUSTOM/logs directory of the applicable host for error messages. [For detailed instructions refer to the procedure for **Checking Log Files** (subsequent section of this lesson).]

Table 7. Data Distribution Operator GUI User Messages (1 of 7)

Message Text	Impact	Cause and Corrective Action
Cannot create connection pool.	Attempt to create connection pool to database failed.	1. Refresh the GUI display (click on the **Refresh** button). 2. Check the database connections. [For detailed instructions refer to the procedure for **Checking Database Connections** (subsequent section of this lesson).] 3. Refresh the GUI display (click on the **Refresh** button). 4. If the problem recurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
Cannot create the DsDdDistRequestList.	The Data Distribution Request List was not created.	1. Refresh the GUI display (click on the **Refresh** button). 2. Check the database connections. [For detailed instructions refer to the procedure for **Checking Database Connections** (subsequent section of this lesson).] 3. Refresh the GUI display (click on the **Refresh** button). 4. If the problem recurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
Cannot get a dbInterface connection pool.	Attempt to get a dbInterface from connection pool to database failed.	1. Refresh the GUI display (click on the **Refresh** button). 2. Check the database connections. [For detailed instructions refer to the procedure for **Checking Database Connections** (subsequent section of this lesson).] 3. Refresh the GUI display (click on the **Refresh** button). 4. If the problem recurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 7. Data Distribution Operator GUI User Messages (2 of 7)

Message Text	Impact	Cause and Corrective Action
DDist Cancel Failure.	GUI received failure from server. Request was not canceled.	1. Check the current state of the distribution request (**State** column of the **Data Distribution Requests** list on the **Distrib'n Requests** tab (Figure 6)). Canceling the request may not be a valid operation in the current state (e.g., if the current state is "Shipped"). 2. Ensure (e.g., by typing **ps -ef | grep EcDsDistributionServer**) that the Distribution Server is "up." 3. If the Distribution Server has gone down, notify the Operations Controller/System Administrator to have the server brought back up. 4. Refresh the GUI display (click on the **Refresh** button). 5. Try again to cancel the request. [For detailed instructions refer to the procedure for **Canceling Data Distribution Requests** (previous section of this lesson).] 6. If repeated attempts to cancel the request fail, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
DDist Mark Shipped Failure.	GUI received failure from server. Request was not marked "Shipped."	No Longer Applicable.
DDist Refresh Failure.	Data Distribution Refresh Error. Dialogue Message GUI was not able to get new request list from server.	1. Check the database connections. [For detailed instructions refer to the procedure for **Checking Database Connections** (subsequent section of this lesson).] 2. Refresh the GUI display (click on the **Refresh** button). 3. If the problem recurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 7. Data Distribution Operator GUI User Messages (3 of 7)

Message Text	Impact	Cause and Corrective Action
DDist Resume All Failure.	GUI received failure from server. Requests were not resumed.	1. Check the current state of the distribution request(s) (**State** column of the **Data Distribution Requests** list on the **Distrib'n Requests** tab (Figure 6)). Resuming the request(s) may not be a valid operation in the current state(s) (e.g., if the current state is "Shipped"). 2. Ensure (e.g., by typing **ps -ef | grep EcDsDistributionServer**) that the Distribution Server is "up." 3. If the Distribution Server has gone down, notify the Operations Controller/System Administrator to have the server brought back up. 4. Refresh the GUI display (click on the **Refresh** button). 5. Try again to resume the request(s). [For detailed instructions refer to the procedure for **Suspending/Resuming Data Distribution Requests** (previous section of this lesson).] 6. If repeated attempts to resume request processing fail, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
DDist Resume Failure.	GUI received failure from server. Request was not resumed.	1. Check the current state of the distribution request (**State** column of the **Data Distribution Requests** list on the **Distrib'n Requests** tab (Figure 6)). Resuming the request may not be a valid operation in the current state (e.g., if the current state is "Shipped"). 2. Ensure (e.g., by typing **ps -ef | grep EcDsDistributionServer**) that the Distribution Server is "up." 3. If the Distribution Server has gone down, notify the Operations Controller/System Administrator to have the server brought back up. 4. Refresh the GUI display (click on the **Refresh** button). 5. Try again to resume the request. [For detailed instructions refer to the procedure for **Suspending/Resuming Data Distribution Requests** (previous section of this lesson).] 6. If repeated attempts to resume request processing fail, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 7. Data Distribution Operator GUI User Messages (4 of 7)

Message Text	Impact	Cause and Corrective Action
DDist Set Priority Failure.	GUI received failure from server. Request set priority failed.	1. Check the current state of the distribution request (**State** column of the **Data Distribution Requests** list on the **Distrib'n Requests** tab (Figure 6)). Setting priority may not be a valid operation in the current state (e.g., if the current state is "Shipped"). 2. Ensure (e.g., by typing **ps -ef | grep EcDsDistributionServer**) that the Distribution Server is "up." 3. If the server has gone down, notify the Operations Controller/System Administrator to have it brought back up. 4. Try again to set the priority of the selected distribution request. [For detailed instructions refer to the procedure for **Changing the Priority of Data Distribution Requests** (previous section of this lesson).] 5. If repeated attempts to set the request priority fail, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
DDist Suspend All Failure.	GUI received failure from server. Requests will not be submitted in a SuspendAll state.	1. Check the current state of the distribution request(s) (**State** column of the **Data Distribution Requests** list on the **Distrib'n Requests** tab (Figure 6)). Suspending the request(s) may not be a valid operation in the current state(s) (e.g., if the current state is "Shipped"). 2. Ensure (e.g., by typing **ps -ef | grep EcDsDistributionServer**) that the Distribution Server is "up." 3. If the Distribution Server has gone down, notify the Operations Controller/System Administrator to have the server brought back up. 4. Refresh the GUI display (click on the **Refresh** button). 5. Try again to suspend the request(s). [For detailed instructions refer to the procedure for **Suspending/Resuming Data Distribution Requests** (previous section of this lesson).] 6. If repeated attempts to suspend request processing fail, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 7. Data Distribution Operator GUI User Messages (5 of 7)

Message Text	Impact	Cause and Corrective Action
DDist Suspend Failure.	GUI received failure from server. Request was not suspended.	1. Check the current state of the distribution request (**State** column of the **Data Distribution Requests** list on the **Distrib'n Requests** tab (Figure 6)). Suspending the request may not be a valid operation in the current state (e.g., if the current state is "Shipped"). 2. Ensure (e.g., by typing **ps -ef | grep EcDsDistributionServer**) that the Distribution Server is "up." 3. If the Distribution Server has gone down, notify the Operations Controller/System Administrator to have the server brought back up. 4. Refresh the GUI display (click on the **Refresh** button). 5. Try again to suspend the request. [For detailed instructions refer to the procedure for **Suspending/Resuming Data Distribution Requests** (previous section of this lesson).] 6. If repeated attempts to suspend request processing fail, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
DsDdRequestMgrC Cancel Failure.	GUI received failure from server. Request was not canceled.	1. Check the current state of the distribution request (**State** column of the **Data Distribution Requests** list on the **Distrib'n Requests** tab (Figure 6)). Canceling the request may not be a valid operation in the current state (e.g., if the current state is "Shipped"). 2. Ensure (e.g., by typing **ps -ef | grep EcDsDistributionServer**) that the Distribution Server is "up." 3. If the Distribution Server has gone down, notify the Operations Controller/System Administrator to have the server brought back up. 4. Refresh the GUI display (click on the **Refresh** button). 5. Try again to cancel the request. [For detailed instructions refer to the procedure for **Canceling Data Distribution Requests** (previous section of this lesson).] 6. If repeated attempts to cancel the request fail, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 7. Data Distribution Operator GUI User Messages (6 of 7)

Message Text	Impact	Cause and Corrective Action
DsDdRequestMgrC create handle error.	Error cannot create Request Manager Handle to the Data Distribution Server.	1. Click on the **Refresh** button to try again. 2. Check the database connections. [For detailed instructions refer to the procedure for **Checking Database Connections** (subsequent section of this lesson).] 3. Refresh the GUI display (click on the **Refresh** button). 4. If the problem recurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
DsDdRequestMgrC Mark Shipped Failure.	GUI received failure from server. Request was not marked "Shipped."	No Longer Applicable.
DsDdRequestMgrC Resume Failure.	GUI received failure from server. Request was not resumed.	1. Check the current state of the distribution request (**State** column of the **Data Distribution Requests** list on the **Distrib'n Requests** tab (Figure 6)). Resuming the request may not be a valid operation in the current state (e.g., if the current state is "Shipped"). 2. Ensure (e.g., by typing **ps -ef | grep EcDsDistributionServer**) that the Distribution Server is "up." 3. If the Distribution Server has gone down, notify the Operations Controller/System Administrator to have the server brought back up. 4. Refresh the GUI display (click on the **Refresh** button). 5. Try again to resume the request. [For detailed instructions refer to the procedure for **Suspending/Resuming Data Distribution Requests** (previous section of this lesson).] 6. If repeated attempts to resume request processing fail, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 7. Data Distribution Operator GUI User Messages (7 of 7)

Message Text	Impact	Cause and Corrective Action
DsDdRequestMgrC Set Priority Failure.	GUI received failure from server. Request priority was not changed.	1. Check the current state of the distribution request (**State** column of the **Data Distribution Requests** list on the **Distrib'n Requests** tab (Figure 6)). Setting priority may not be a valid operation in the current state (e.g., if the current state is "Shipped"). 2. Ensure (e.g., by typing **ps -ef | grep EcDsDistributionServer**) that the Distribution Server is "up." 3. If the server has gone down, notify the Operations Controller/System Administrator to have it brought back up. 4. Try again to set the priority of the selected distribution request. [For detailed instructions refer to the procedure for **Changing the Priority of Data Distribution Requests** (previous section of this lesson).] 5. If repeated attempts to set the request priority fail, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
Invalid text field entry.	Invalid data was entered.	1. Enter valid data in the relevant field. 2. Retry the operation that led to the error message.
No Ddist request selected. Please select one.	An operation was performed without first selecting a request from the scrolled list.	1. Select (highlight) the appropriate request in the list. 2. Retry the operation that led to the error message.

Table 8. Storage Management User Messages (1 of 40)

Message Text	Impact	Cause and Corrective Action
.lib section in a.out corrupted	Standard system error.	
550 The file to be ftp pulled does not exist at the source location. Either the file never existed at the source location or the source locations file system or network is having problems.	Error returned by the FTP protocol.	Retry.

Table 8. Storage Management User Messages (2 of 40)

Message Text	Impact	Cause and Corrective Action
553 The destination for the file does not exist or the destination exist but the permissions are such on the directory that the file cannot be written or the file already exist and can not be overwritten.	Error returned by the FTP protocol.	Retry.
A command to remove a file failed	Error from DsStStagingMonitor.	
A component of the path prefix is not a directory.	Error from SCSI.	
A configuration parameter had a null or invalid value	Error from DsStStagingMonitor.	
A daemon process was cold restarted so your request has been cancelled	Error returned from DsStCacheManagerServer.	
A [sic] error occured [sic] using a class destructor [sic].	Error for Archive.	[This is an internal error in the system.] 1. Note all circumstances associated with the error (including capturing the Debug.log and ALOGs for both the reporting server and the Request Manager). 2. Submit a high-priority trouble ticket against STMGT. (Send logs in support of the trouble ticket.)
A file name was not found as expected in the database	Error from DsStStagingMonitor.	
A file size was not the length expected.	Error for Archive.	Retry.
A [sic] interrupted signal was caught.	Error from SCSI.	Retry.
A network error has occurred	Staging disk error message.	Retry.
A request has completed all processing	Error from DsStStagingMonitor.	[No action necessary.]
A request has not completed all processing	Error from DsStStagingMonitor.	[No action necessary.]
A Restart Backup request has failed.	Error for Archive.	Retry.

Table 8. Storage Management User Messages (3 of 40)

Message Text	Impact	Cause and Corrective Action
A search for a file to be retrieved has exhausted all locations.	Error for Archive.	Retry.
A staging disk object was not created in GetLocation()	Error for Archive.	1. Note all possible details related to the error. 2. Report all possible details to the vendor. 3. Retry.
A Store request failed because the volume group is closed.	Error for Archive.	1. Modify the desired volume group location to the valid path. 2. Retry.
Access to this science data is restricted	Standard system error (fatal).	
Accessing a corrupted shared library	Standard system error.	
Address already in use	Standard system error.	Specify a free port on the server or specify a different server.
Address family not supported by protocol family	Standard system error.	
Advertise error	Standard system error.	
After the directory was made, the directory could not be stat [sic]	Staging disk error message.	1. Check the SYSLOG for errors. [For detailed instructions refer to the procedure for **Checking Log Files** (subsequent section of this lesson).] 2. Retry after problems have been corrected.
All granules of request individually failed.	Media error message (retry).	Check each granule status.
All request slots are currently busy	Error returned from DsStCacheManagerServer.	Retry.
An attempt to delete a file failed.	Error for Archive.	1. Change the permissions on the file. 2. Retry the request.
An attempt to find a Cache Manager serverId has failed.	Error for Archive.	Retry.
An attempt to find a needed server has failed.	Error for Archive.	Retry.
An attempt to generate Restart Backup File requests failed.	Error for Archive.	Retry.

Table 8. Storage Management User Messages (4 of 40)

Message Text	Impact	Cause and Corrective Action
An attempt to generate Store File requests failed.	Error for Archive.	Retry.
An attempt to reserve space for a Retrieve request failed.	Error for Archive.	Retry.
An attempt to retrieve data values from the database failed.	Error from DsStStagingMonitor.	
An attempt to spawn a read thread failed.	Error for Archive.	Retry.
An attempt to spawn a service thread failed.	Error for Archive.	Retry.
An attempt to spawn a write thread failed.	Error for Archive.	Retry.
An attempt to submit a reserve file for a Retrieve request failed.	Error for Archive.	Retry.
An attempt to submit a reserve space for a Retrieve request failed.	Error for Archive.	Retry.
An error was encountered generating ArDeleteFile requests.	Error for Archive.	Retry.
An internal error has occurred while communicating with Sybase	Error from database.	1. Check the Sybase error log for Sybase communication errors. 2. Ensure that Sybase is up and running properly. 3. Bounce the STMGT server warm to clear any transient error that may have corrupted the connection to the database.
An unknown exception has occurred	DsSt error.	[This error is an internal error in STMGT. It should never happen.] Report the error to the DAAC Help Desk immediately.
An unknown request checkpoint state was found in the database.	Error for Archive.	[This is an internal error in the system.] 1. Note all circumstances associated with the error (including capturing the Debug.log and ALOGs for both the reporting server and the Request Manager). 2. Submit a high-priority trouble ticket against STMGT. (Send logs in support of the trouble ticket.)

Table 8. Storage Management User Messages (5 of 40)

Message Text	Impact	Cause and Corrective Action
An unknown request type has been submitted to this server	Error returned from DsStCacheManagerServer.	[This is an internal error in the system.] 1. Note all circumstances associated with the error (including capturing the Debug.log and ALOGs for both the reporting server and the Request Manager). 2. Submit a high-priority trouble ticket against STMGT. (Send logs in support of the trouble ticket.)
Anode table overflow	Standard system error.	
Archive location does not contain requested file	Error for Archive.	Verify the spelling/path name of the requested file.
Archive location does not exist as defined in db tables	Error for Archive.	1. Check the spelling of the archive location that was entered. 2. If the spelling is correct, contact the System Administrator to determine whether the name should be made a new entry.
Archive location does not have adequate permissions	Error for Archive.	1. Ensure that the user ID used when logging in has the proper permissions. 2. If necessary, contact the Archive Administrator to have the permissions set properly.
Archive location does not have adequate permissions for files	Error for Archive.	1. Ensure that the user ID used when logging in has the proper permissions. 2. If necessary, contact the Archive Administrator to have the permissions set properly. 3. Retry.
Archive Store failed due to illegal file path	Error for Archive.	1. Verify that the file path given is a valid file path. 2. Retry.
Archive Store Failed EcUtFileCopy.Copy() failed	Error for Archive.	
Arg list too long	Standard system error.	
Attempting to link in more shared libraries than system limit	Standard system error.	
BackupOffsite() failed -- Offsite ID == DsCStEmptyString	Error for Archive.	1. Modify the ID of the desired offsite location. (The ID of the desired offsite location must be given, and must not be an empty string.) 2. Retry
BackupOnlineLocation failed -- SP DsCStVGSelectHistory execute failed	Error for Archive.	Retry.

Table 8. Storage Management User Messages (6 of 40)

Message Text	Impact	Cause and Corrective Action
BackupTemporaryAndOffsite() failed -- Offsite ID == DsCStEmptyString	Error for Archive.	1. Modify the ID of the desired offsite location. (The ID of the desired offsite location must be given, and must not be an empty string.) 2. Retry
Bad address	Standard system error.	If the error arose from a gethostname() call, check the name and namelen parameters.
Bad command sequence -- error in ftp #503	Error returned by the FTP protocol.	
Bad exchange descriptor	Standard system error.	
Bad file descriptor	Standard system error.	1. Check whether the file exists. 2. Check file permissions.
Bad font file format	Standard system error.	
Bad request code	Standard system error.	
Bad request descriptor	Standard system error.	
Bad XDR Stream	Error from DsStFileInfo.	Retry.
Block device required	Standard system error.	
Broken pipe	Standard system error.	
Cache file entry not in db	Error returned from DsStCacheManagerServer.	[No action necessary.]
calculate checksum is disabled	DsSt message.	[Not an error.]
calculated checksum not equal to specified	DsSt error.	Retry.
Cancelled by a STMGT client	STMGT restart code.	
Cancelled due to client restart	STMGT restart code.	
Cancelled due to STMGT server cold start	STMGT restart code.	[The STMGT server reporting the error was cold started while the submitted request was in queue.] Resubmit the request. (It will be re-processed as if it were a new request.)
Cannot access a needed shared library	Standard system error.	
Cannot assign requested address	Standard system error.	Specify a free port on the server.

Table 8. Storage Management User Messages (7 of 40)

Message Text	Impact	Cause and Corrective Action
Cannot delete from DsStBackup Table -- SP DsCStBDelete execute() failed	Error for Archive.	[No action necessary.]
Cannot delete from DsStRestore Table -- SP DsCStRDelete execute() failed	Error for Archive.	[No action necessary.]
Cannot exec a shared library directly	Standard system error.	
Cannot insert key -- file already exist [sic] in list	Error from DsStStagingDataList.	[No action necessary.]
Cannot open input file	Error from DsStPosixUtil.	Verify that the current user ID has read permission for the file.
Cannot open output file	Error from DsStPosixUtil.	1. Verify that the file is not already open for output. 2. Verify that the current user ID has write permission for the file.
Cannot send after socket shutdown	Standard system error.	
Can't open data connection -- error in ftp #425	Error returned by the FTP protocol.	
CDS path is null	Error for DsStArchiveProxy.	
Channel number out of range	Standard system error.	
Command not available -- error in ftp #502	Error returned by the FTP protocol.	
Command not implemented for that parameter -- error in ftp #504	Error returned by the FTP protocol.	
Communication error on send	Standard system error.	
Components of path require hopping to multiple remote machines and the file system does not allow it.	Error from SCSI.	
Connecting to host failed	Error returned by the FTP protocol (retry).	Retry.

Table 8. Storage Management User Messages (8 of 40)

Message Text	Impact	Cause and Corrective Action
Connection closed, transfer aborted -- error in ftp #426	Error returned by the FTP protocol.	
Connection lost for some reason	Error returned by the FTP protocol (retry).	Retry.
Connection refused	Standard system error.	1. Verify that the target machine is connected. 2. Verify that the listening server is running.
Connection reset by peer	Standard system error.	
Connection timed out	Standard system error.	1. Check the condition of the network. 2. Retry.
Copy process was forceably [sic] killed	Error returned by the FTP protocol (fatal).	
Copy source is a directory	Error returned by the FTP protocol (fatal).	
could not close input file	Error from DsStPosixUtil.	[No action necessary.]
could not close output file	Error from DsStPosixUtil.	[No action necessary.]
could not create a pull monitor object	Error from DsStDistributionFtp.	Retry.
could not create a stagingdisk for inftp	Error from inftp.	Retry.
could not create global pointer	Error from DsStDistributionFtp.	
could not create pointer to config file	Error from DsStDistributionFtp.	
Could not determine file size of file.	Error for Archive.	Verify the spelling/path name of the requested file.
Could not remove the staging disk entry from the database	Staging disk error message.	1. Check whether the staging disk exists in the database. (Probable that the disk does not exist.) 2. Retry.
Could not stat [sic] the file, possible NFS problems or file does not exist	Staging disk error message.	1. Check whether the file exists in the file system. 2. If the file does exist, check the SYSLOG for network file system (NFS) errors. [For detailed instructions refer to the procedure for **Checking Log Files** (subsequent section of this lesson).] 3. Retry after problems have been corrected.
Cross-device link	Standard system error.	Substitute a symbolic link.

Table 8. Storage Management User Messages (9 of 40)

Message Text	Impact	Cause and Corrective Action
DB Session unusable to previous error	Error from database.	[An attempt has been made to continue with a database operation when the previous operation failed. The previous failure has left the connection in a state that is unsuitable for continuing.] Retry.
DCE object not created	Error for DsStArchiveProxy.	Retry.
Deadlock situation detected/avoided	Standard system error.	
default	Error from DsStDistributionFtp.	
Denial of service -- error in ftp #702	Error returned by the FTP protocol.	
Destination address required	Standard system error.	
Destination directory does not exist	Error returned by the FTP protocol (fatal).	
Destination is not directory	Error returned by the FTP protocol (fatal).	
Device busy	Standard system error.	
Device is already open.	Error from SCSI.	
Device is not open.	Error from SCSI.	
Device Name should be specified to this device control operation	Media error message.	
Directory access to file denied	Error returned by the FTP protocol (fatal).	
Directory not empty	Standard system error.	
Distribution rejected request	Standard system error (fatal).	Contact User Services.
Distribution was not responding	Standard system error (retry).	Try again later.
Drive element number in database does not match any of the physical drives.	Media error message.	
Eject tape Failed	Media error message.	

Table 8. Storage Management User Messages (10 of 40)

Message Text	Impact	Cause and Corrective Action
Empty archive location -- (myArchiveLocation == DsCStEmptyString)	Error for Archive.	[The name of the desired archive location must be given.]
empty archive location -- failed in SetBackupOnlineLocation()	Error for Archive.	Retry.
Empty file in move request not added to database	Error from DsStStagingMonitor.	
Empty Offline Location	Error for Archive.	[The name of the off-line location must be given.]
empty VG Key	Error for Archive.	
Empty Volume group error	Error for DsStArchiveProxy.	
Environmental variable POSIXUTILCONFIG not set	Error from DsStPosixUtil.	1. Determine an appropriate value for the variable. 2. Set the variable to the appropriate value. 3. Run the command.
Error : User | Password | Host | Source | RequestID are not entered	Error from inftp.	[Any one or more of the following have not been entered: User, Password, Host, Source, or RequestID.] Verify that non-empty strings have been provided for all fields.
Error 47	Standard system error.	
Error close ftp control connection	DsSt error.	Retry.
Error close ftp data connection	DsSt error.	Retry.
Error closing server	Error for DsStFtpUtility.	Retry.
Error encountered in stored procedure	Error for Archive.	[See the description from the stored procedure DsCStSPBSelectByName.] Retry.
Error encountered in stored procedure	Error from database.	[See the description from the stored procedure.] Retry.
Error in accepting socket with accept	DsSt error.	Retry.
Error in closing server	Error for DsStFtpUtility.	Retry.
Error in closing the server	Error for DsStFtpUtility.	Retry.

Table 8. Storage Management User Messages (11 of 40)

Message Text	Impact	Cause and Corrective Action
Error in closing the server	Error from DsStNetworkResource.	Retry.
Error in executing ftp command	DsSt error.	Retry.
Error in executing ftp Exec()	Error from DsStNetworkResource.	Retry.
Error in FTP Unable to open file to FTP	Error from DsStNetworkResource.	1. Verify that the file exists. 2. Retry.
Error in opening server	Error for DsStFtpUtility.	Retry.
Error in opening the server	Error from DsStNetworkResource.	Retry.
Error in Receiving files	Error for DsStFtpUtility.	Retry.
Error in receiving files	Error from DsStNetworkResource.	Retry.
Error in sending files	Error from DsStNetworkResource.	Retry.
Error in setting hostname	Error for DsStFtpUtility.	Retry.
Error in setting local directory	Error for DsStFtpUtility.	Retry.
Error in setting the local directory	Error from DsStNetworkResource.	Retry.
Error in setting the remote directory	Error from DsStNetworkResource.	Retry.
Error in setting user	Error for DsStFtpUtility.	Retry.
Error in setting user name	Error from DsStNetworkResource.	Retry.
Error in setting User Password	Error for DsStFtpUtility.	Retry.
Error Open File descriptor	DsSt error.	Fatal
Error opening the server	Error for DsStFtpUtility.	Retry.

Table 8. Storage Management User Messages (12 of 40)

Message Text	Impact	Cause and Corrective Action
Error receiving files	Error for DsStFtpUtility.	Retry.
Error Recieving [sic] file	Error for DsStFtpUtility.	Retry.
Error returned when distributes [sic] files from a staging disk to the tape media in tar format.	Error for tape.	
Error returned when ingests [sic] files from the tape media to a staging disk in tar format.	Error for tape.	
Error returned when verify [sic] the source file list.	Error for tape.	
Error selecting data from the database	Error for Archive.	[A stored procedure is returning a failed status code for a stored procedure.] 1. Set the debug level (for the relevant server) at 3 in the Registry database. 2. Reproduce the error.
Error setting hostname	Error for DsStFtpUtility.	Retry.
Error setting hostname -- host not exist [sic] or network error	Error from DsStNetworkResource.	Retry.
Error setting local directory	Error for DsStFtpUtility.	Retry.
Error setting remote directory	Error for DsStFtpUtility.	Retry.
Error setting server	Error for DsStFtpUtility.	Retry.
Error setting user	Error for DsStFtpUtility.	Retry.
Error setting user name	Error for DsStFtpUtility.	Retry.
Error setting user password	Error from DsStNetworkResource.	Retry.
Error setting user password function	Error for DsStFtpUtility.	Retry.

Table 8. Storage Management User Messages (13 of 40)

Message Text	Impact	Cause and Corrective Action
Error updating the initial RegMgrNotifiedFlag	Media error message.	[No action necessary.]
Error writing file in fast copy	Error from DsStPosixUtil.	Retry.
ESDT request failed	Standard system error (fatal).	Contact User Services.
Exceeded maximum number of allowable connections to Sybase	Error from database.	1. Verify that the Sybase database configuration has been configured with an adequate number of connections. 2. Retry.
Exceeded storage allocation for current directory or dataset -- error in ftp #552	Error returned by the FTP protocol.	
Exec format error	Standard system error.	
execute() of Stored Procedure -- DsStGRInsert -- failed	Error from DsStDistributionFtp.	[No action necessary.]
Failed attempting to connect to Sybase server	Error from database.	1. Ensure that DBServer for the server has been set properly in the Registry database. 2. Ensure that DBName for the server has been set properly in the Registry database. 3. Retry.
Failed attempting to login to Sybase	Error from database.	1. Verify that the Application ID for the server has been properly set in the Registry database. 2. Verify that login accounts have been properly set up in the Sybase database. 3. Retry.
Failed in checking the slot status.	Media error message.	
Failed in checking the status of tape drive	Media error message.	
Failed in executing stored procedure to retrieve device info by stackerId.	Media error message.	
Failed in executing stored procedure to retrieve slot info by stackerId.	Media error message.	
Failed in executing stored procedure to retrieve stacker info by stackerId.	Media error message.	

Table 8. Storage Management User Messages (14 of 40)

Message Text	Impact	Cause and Corrective Action
Failed to allocate a tape device	Error from SCSI.	
failed to build the client object with parameters for the CDS path	Error for DsStArchiveProxy.	
Failed to deallocate a tape device	Error from SCSI.	
Failed to get necessary information from database	Error for Archive.	[No action necessary.]
Failed to get the cellname	Error for DsStArchiveProxy.	
Failed to get the client mode	Error for DsStArchiveProxy.	1. Ensure that a mode has been specified as an option on the command line or in the calling script. 2. If a mode has been entered, ensure that it is a valid mode and that all other required command-line options have been entered.
Failed to get the PF config File Pointer	Error for DsStArchiveProxy.	[This command requires a ConfigFile option, where the word ConfigFile is followed by a valid PF config file name.]
Failed to get the PF Global pointer	Error for DsStArchiveProxy.	
Failed to insert the file into the staging disk inventory	Staging disk error message.	(This error should not occur.) 1. Verify that the staging disk exists. 2 Retry.
Failed to load tape (time out).	Error from SCSI.	Retry.
Failed to rename the file in the file system	Staging disk error message.	1. Check the SYSLOG for errors. [For detailed instructions refer to the procedure for **Checking Log Files** (subsequent section of this lesson).] 2. Resubmit the request after problems have been corrected.
Failed to rename the file in the file system and could not reset the original file in the staging disk inventory	Staging disk error message.	Retry.
Failed to rename the file in the staging disk inventory	Staging disk error message.	1. Check the staging disk inventory for the file to be renamed. 2. Retry if the file exists. (If the file does not exist, the request should not be attempted again.)

Table 8. Storage Management User Messages (15 of 40)

Message Text	Impact	Cause and Corrective Action
Failed to stat [sic] the created staging disk directory and the staging disk entry could not be removed from the database	Staging disk error message.	1. Check NFS for errors. 2. The directory entry should be cleaned out of the database upon a warm or cold startup. 3. Retry.
Failed to stat [sic] the created staging disk directory.	Staging disk error message.	1. Check for NFS errors. 2. Retry. [If the directory does exist, the directory entry should be removed upon a warm or cold start of the server.]
Failed trying to make the directory entry in the file system.	Staging disk error message.	1. Check the SYSLOG for NFS errors. [For detailed instructions refer to the procedure for **Checking Log Files** (subsequent section of this lesson).] 2. Check the permissions of the rootpath. 3. Retry after problems have been corrected.
Failed trying to make the directory entry in the file system. The directory entry could not be removed from the Database.	Staging disk error message.	1. Check the SYSLOG for NFS errors. [For detailed instructions refer to the procedure for **Checking Log Files** (subsequent section of this lesson).] 2. Check the permissions on the rootpath. (the directory entry will be cleaned out of the database upon a warm start or cold start of the server.)
Failure in updating database table(s).	Media error message.	
Failure to close file -- not enough space to flush unwritten bytes	Error from DsStStream.	Retry.
Failure to close file in DsStStream	Error from DsStStream.	
Failure to establish a tcp connection	Error returned by the FTP protocol.	
Failure to open file in DsStStream	Error from DsStStream.	Verify that the file name is spelled correctly and the path is correct.
Fatal error returned by Data Distribution.	Error detected by Data Distribution.	
Fildes is not a valid open file descriptor.	Error from SCSI.	
Fildes is not associated with a device driver that accepts control functions.	Error from SCSI.	
File descriptor in bad state	Standard system error.	

Table 8. Storage Management User Messages (16 of 40)

Message Text	Impact	Cause and Corrective Action
File does not exist	Error from DsStUnixCompress.	Verify that the file name is spelled correctly and its path is correct.
File does not exist to copy	Error from DsStPosixUtil.	Verify the path and the spelling of the file name.
File exists	Standard system error.	
File locking deadlock	Standard system error.	
File name of type RWCString is null	Error from DsStFileCompress.	[The file to be compressed was not given a name.] Enter a non-empty string to indicate file name before attempting this operation.
File name too long	Standard system error.	
File not found	Error from DsStFileCompress.	
File size in archive and DsMdFileStorage are different.	DsSt error.	1. Notify the Archive Manager to compare the entries in the SDSRV database DsMdFileStorage table and the file in the archive to determine whether the file size is incorrect in the database table or the file in archive is corrupted. 2. When the Archive Manager reports that the problem has been corrected, cancel the distribution request using the Data Distribution Operator GUI. 3. Resubmit the distribution request.
File table overflow	Standard system error.	
file to [sic] big for buffer -- cannot do fast copy	Error from DsStPosixUtil.	
file to [sic] big to read	Error from DsStPosixUtil.	
File too large	Standard system error.	
File transfer protocol mismatch	Error returned by the FTP protocol (fatal).	
FTP file transfer failed without an FTP error code (unknown cause)	Error returned from DsStCacheManagerServer.	Retry.
Generic error returned by Data Distribution.	Error detected by Data Distribution.	
Get Location failed -- pathIndex > DsStNullIndex	Error for Archive.	

Table 8. Storage Management User Messages (17 of 40)

Message Text	Impact	Cause and Corrective Action
Get Sense Data failed.	Error from SCSI.	
GetVolGroupLocation failed -- SP DsCStVGSelectHistory execute failed	Error for Archive.	Retry.
Granule insert failed	Standard system error (retry).	Try again later.
Hdf server failer [sic] during processing.	Standard system error (retry).	To regain Hdf server all Hdf servers must be restarted.
Host is down	Standard system error.	
I/O error	Standard system error.	Retry.
ID not set	Error from DsStDistributionFtp.	[Could not find the parameter that indicates the request ID for this request (request parameter is currently an empty string).]
Identifier removed	Standard system error.	
If the file exist [sic] with enforced record locking enabled, record locks are on the file	Error from SCSI.	
Illegal byte sequence	Standard system error.	
Illegal seek	Standard system error.	
Inappropriate I/O control operation for device	Standard system error.	
Ingest starts	Media error message.	[No action necessary.]
InsertBackupTable() failed -- Unable to Insert into the DsStBackup table -- SP DsCStBInsert execute() failed	Error for Archive.	
InsertRestoreTable() failed - Unable to Insert into the DsStRestore table -- SP DsCStRInsert execute() failed	Error for Archive.	

Table 8. Storage Management User Messages (18 of 40)

Message Text	Impact	Cause and Corrective Action
Insufficient space to move file to the read only cache area	Error from DsStStagingMonitor.	Retry.
Insufficient storage -- error in ftp #452	Error returned by the FTP protocol.	
Interrupted system call, possibly during a select() call	Standard system error.	
Invalid Archive area specified for retrieve	Error for Archive.	
Invalid command line options	Error returned by the FTP protocol (fatal).	
Invalid command sent to Science Data Server	Standard system error (fatal).	
Invalid drive path.	Media error message.	
Invalid function argument.	Standard system error.	[If this occurred after the bind() command, the namelen parameter may indicate an incorrect size, or the indicated socket may already be bound.]
Invalid or unsupported checksum type	Standard system error (fatal).	
Invalid password	Error returned by the FTP protocol (fatal).	
Invalid put method type	Error returned from DsStCacheManagerServer.	
Invalid slot	Standard system error.	
Invalid slot number.	Media error message.	
Invalid stacker path.	Media error message.	
Invalid Transfer stage returned from DB -- err in RestartBackup() or RestartRestore()	Error for Archive.	
Is a directory	Standard system error.	Either select a different file name, select a file under the specified directory, or delete the directory.
Level 2 halted	Standard system error.	
Level 2 not synchronized	Standard system error.	
Level 3 halted	Standard system error.	

Table 8. Storage Management User Messages (19 of 40)

Message Text	Impact	Cause and Corrective Action
Level 3 reset	Standard system error.	
Link exists	Error returned from DsStCacheManagerServer.	
Link has been severed	Standard system error.	
Link number out of range	Standard system error.	
Link of files failed	Staging disk error message.	1. Check the staging disk log to identify the reason for the symlink failure. 2. Retry.
Local error in processing -- error in ftp #451	Error returned by the FTP protocol.	
Machine is not on the network	Standard system error.	
Making space	Error returned from DsStCacheManagerServer.	[Space needed in cache.] Retry
Managed directory path is invalid	Error returned from DsStCacheManagerServer.	Check path and mount points.
Math argument out of domain of function	Standard system error.	
Message tables full	Standard system error.	
Message too long for message buffer	Standard system error.	
Missing request parameters	Media error message.	
More granules match the search	Standard system message. This is only a warning, not an error.	[No action necessary.]
MountTape Failed	Media error message.	
msg	Error for DsStArchiveProxy.	Retry.
Multihop attempted	Standard system error.	
Name not unique on network	Standard system error.	
Need account for storing files -- error in ftp #532	Error returned by the FTP protocol.	

Table 8. Storage Management User Messages (20 of 40)

Message Text	Impact	Cause and Corrective Action
Network dropped connection because of reset	Standard system error.	
Network is down	Standard system error.	Wait for the network to come back up.
Network is unreachable	Standard system error.	
No available drive.	Media error message.	
No buffer space available	Standard system error.	
No child processes	Standard system error.	
No CSI structure available	Standard system error.	
No data available	Standard system error.	
No disk space in pull monitor	Error from DsStDistributionFtp.	Retry.
No entries available to be deleted by Batch Delete function	Error for Archive.	[No action necessary.]
No entries in the queue	From DsStDiskRequestManager.	[No action necessary.]
No filename to delete from the amass cache	Error for DsStArchiveProxy.	Retry.
No granules have been selected for request	Standard system error (fatal).	Correct the request and resubmit.
NO hwci	Error for DsStArchiveProxy.	1. Ensure that a Hardware Configuration Item (HWCI) has been specified as an option on the command line or in the calling script. 2. If an HWCI has been entered, ensure that it is valid and that all other required command-line options have been entered.
No hwci:volgrp error	Error for DsStArchiveProxy.	
No HWCI:volumegroup was passed	Error for Archive.	
No instance of queue exists	Error from DsStDiskRequestManager.	1. Note all circumstances related to the error. 2. Submit a trouble ticket.

Table 8. Storage Management User Messages (21 of 40)

Message Text	Impact	Cause and Corrective Action
No message of desired type	Standard system error.	
No online stacker.	Media error message.	
No permission to access file	Error returned by the FTP protocol (fatal).	
No permission to write file	Error returned by the FTP protocol (fatal).	
No record locks available	Standard system error.	
No records found in file to FTP	Error from DsStNetworkResource.	Check staging disk for file with list. Retry.
No requests have been cancelled for this server	Message returned from DsStCacheManagerServer.	[Not an error.] [The server is checking to see if any requests have been cancelled in order to process the cancellation. No requests have been cancelled. This error can be safely ignored as it is internal to STMGT.]
No resource (drive/slot) available for request	Error for tape.	1. Check stacker/drive status. 2. If appropriate, refill stacker. 3. Retry.
No route to host	Standard system error.	
NO SCSI device	Error from SCSI.	
No servers need to be awakened to service this request	Message returned from DsStCacheManagerServer.	[Not an error.] [The submitted request is a trivial request that can be fulfilled solely from the database. No servers will be notified as part of the request processing.]
No space left on device	Standard system error.	
No space left on device.	Error from SCSI.	
No such device	Standard system error.	
No such device or address; server exited before connection was complete	Standard system error.	
No such file or directory	Standard system error.	Verify the path name of the file or directory.
No such process	Standard system error.	
No such volume group	Error for Archive.	

Table 8. Storage Management User Messages (22 of 40)

Message Text	Impact	Cause and Corrective Action
No value for Capacity set in configuration file	Error from DsStFtpResourceConfig.	1. Ensure that the capacity has been queried on a valid device. 2. Ensure that the ftp resource config file exists. 3. Ensure that the ftp resource config file contains a value for CAPACITY.
Not a data message	Standard system error.	
Not a directory	Standard system error.	Verify the directory path.
Not a stream device	Standard system error.	
Not enough space	Standard system error.	1. Kill unnecessary processes. 2. Re-nice necessary processes if possible.
Not logged in - error in ftp #530 - username or password incorrect	Error returned by the FTP protocol.	
Not owner	Standard system error.	Either change the permissions or ownership of the file/executable, or run as a different user.
Null UserId or Password	Error for Archive.	[A valid UNIX userID must be entered and must contain at least one character.]
Number of symbolic links encountered during path name traversal exceeds MAXSYMLINKS	Standard system error.	[There are probably symbolic links pointing to each other.]
Object is remote	Standard system error.	
Online Backup Failed EcUtFileCopy.Copy() failed	Error for Archive.	[No action necessary.]
Operation already in progress	Standard system error.	Wait for an operation on the socket or other object to complete.
Operation not applicable/not implemented	Standard system error.	
Operation not supported on transport endpoint	Standard system error.	
Operation now in progress	Standard system error.	
Option not supported by protocol	Standard system error.	
Out of stream resources	Standard system error.	Wait for other processes to release resources.

Table 8. Storage Management User Messages (23 of 40)

Message Text	Impact	Cause and Corrective Action
Package not installed	Standard system error.	
Page type unknown -- error in ftp #551	Error returned by the FTP protocol.	
Parameter syntax error in FTP -- error in ftp #501	Error returned by the FTP protocol.	
Partial failure. Some granules of request individually failed.	Media error message (retry).	Check each granule status.
Partial failure: some granules failed prior to reaching DDIST server.	Media error message (retry).	Check each granule status.
Path points to a remote machine, and the link to that machine is no longer active.	Error from SCSI.	
Path points to an illegal address.	Error from SCSI.	
path to pull monitor not set	Error from DsStDistributionFtp.	[Could not find the parameter that indicates the effective root directory for the pull monitor.] Verify that a path is being supplied.
Pending write is greater than the allocated space	Error from DsStStream.	Temporarily write data to a disk with more free space.
Permission denied	Standard system error.	1. Execute as root. 2. If already root, choose another socket type or protocol.
Possible space limitation or the disk does not exist in the database	Staging disk error message.	1. Check whether the server has space available. 2. Retry when sufficient space exists. (If the disk does not exist in the database, the request should be failed.)
Process chosen as database deadlock victim	Error from database.	[Command is automatically re-run.]
Protocol driver not attached	Standard system error.	
Protocol error	Standard system error.	
Protocol family not supported	Standard system error.	
Protocol not supported	Standard system error.	Call socket() with a different protocol.

Table 8. Storage Management User Messages (24 of 40)

Message Text	Impact	Cause and Corrective Action
Protocol wrong type for socket	Standard system error.	[Source code needs to be checked; name struct passed to connect command must reflect the protocol type used to open the socket.]
Pull monitors [sic] pull directory is null	Error from DsStDistributionFtp.	[Could not find the parameter that indicates the pull directory for this ftp request.] Verify that a path is being supplied.
Read only cache location does not have adequate permissions	Error for Archive.	1. Ensure that the user ID used when logging in has the proper permissions. 2. If necessary, contact the Cache Manager Administrator to have the permissions set properly.
Read-only file system	Standard system error.	1. Determine whether it is possible to write to the destination directory (i.e., check permissions). 2. If it is possible to write to the destination directory, remount the device that contains the directory.
Remote address changed	Standard system error.	
Remote archive not created for BackupOnline or BackupOffline	Error for Archive.	Retry.
Request has been cancelled	Standard system error (fatal).	Contact User Services.
Request or arg is not valid for this device.	Error from SCSI.	
Request size exceeds Capacity or Threshold.	Error detected by Data Distribution.	Retry.
Requested file action not taken -- error in ftp #450	Error returned by the FTP protocol.	
RequestMgrCleanup Thread Logging status	Media error message (retry).	Retry.
Resource temporarily unavailable	Standard system error.	Either kill all unnecessary processes or wait for other processes to terminate.
RestartBackup() failed -- SP DsCStBSelectByNam e execute() failed	Error for Archive.	
RestartNotification function failed	Error for DsStArchiveProxy.	[No action necessary.]
RestartRestore() failed -- SP DsCStRSelectByNam e execute() failed	Error for Archive.	

Table 8. Storage Management User Messages (25 of 40)

Message Text	Impact	Cause and Corrective Action
Restore Offline failed	Error for Archive.	
Result too large	Standard system error.	
Retry error returned by Data Distribution.	Error detected by Data Distribution.	Retry.
SCSI device is busy	Error from SCSI.	Retry.
SCSI device is in check status	Error from SCSI.	Retry.
SCSI device is not accessible.	Error from SCSI.	
Server crashed	STMGT restart code.	1. Check the logs for the identified server to ascertain the cause of the crash. 2. Restart the server as soon as possible 3. Contact the DAAC Help Desk for additional support.
Server crashed and is being automatically restarted (warm)	STMGT restart code.	Check the logs for the identified server to ascertain the cause of the crash.
Server is temporarily unavailable	STMGT restart code.	[The requested server is not running.} 1. If the server is expected to be running, check the logs to determine why the server is no longer running. 2. Restart the server. 3. Resubmit the request.
Service not available -- error in ftp #421	Error returned by the FTP protocol.	
ShortName attribute value mismatch	Standard system error (fatal).	Check ShortName in both metadata file and PDR file.
Slot number in database does not match any of the physical slot numbers.	Media error message.	
Socket operation on non-socket	Standard system error.	[Source code needs to be checked; program should not attempt to perform socket operations on non-socket file descriptors.] Submit a trouble ticket.
Socket type not supported	Standard system error.	
Software caused connection abort	Standard system error.	
Some physical I/O error has occurred.	Error from SCSI.	
Source file does not exist	Error returned by the FTP protocol (fatal).	

Table 8. Storage Management User Messages (26 of 40)

Message Text	Impact	Cause and Corrective Action
Source file for a retrieve request was not found	Error for Archive.	1. Verify the spelling and pathname of the file to be retrieved. 2. Retry.
Source file for link or delete not found	Staging disk error message.	Verify the spelling and pathname of the file to be deleted or linked.
source parameters are not set	Error from DsStDistributionFtp.	[Could not find the parameter that indicates the source for the ftp transfer (source parameter is currently an empty string).] Ensure that the source is being supplied.
Space has not been reserved in cache for this file	Error returned from DsStCacheManagerServer.	1. Check for server cold start. 2. Resubmit request.
space not available on staging disk for inftp	Error from inftp.	1. If the file is bigger than the space allocated for staging disk, modify the staging disk configuration. 2. If the file is not bigger, wait for other requests to complete so that space will be freed on the staging disk. 3. Retry.
Spatial query against this ESDT is not supported	Standard system error (fatal).	
Srmount error	Standard system error.	
StagingMonitor object was not created in GetStagingMonitor()	Error for Archive.	Retry.
Stale NFS file handle	Standard system error.	
Stored procedure not found or invalid	Error from database.	1. Check the database and/or contact the Database Administrator. 2. Retry.
Suspended by a STMGT client, could be resumed later.	Media error message (retry).	Retry.
Sybase does not recognize the specified login name	Error from database.	1. Ensure that, if the DBLoginName parameter has been set in the Registry database, it has been set to a login that actually exists in the Sybase database. 2. Retry.
system compress 'compress' function failed	Error from DsStUnixCompress.	[There may not be enough space on the partition for the compressed and uncompressed versions to exist simultaneously.] 1. Temporarily move the file to a partition with more space. 2. Compress the file in the temporary location. 3. Move the compressed file back to the original location.

Table 8. Storage Management User Messages (27 of 40)

Message Text	Impact	Cause and Corrective Action
System copy function failed	Error from DsStFileCompress.	
system move 'mv' failed	Error from DsStUnixCompress.	1. Verify that the current user ID has write permission for the file. 2. Verify that the current user ID has write permission in the target directory. 3. Verify that the destination file does not exist already.
system symlink failed to make a symbolic link from a source file to the target filename	Error from DsStUtility.C.	
system uncompress 'uncompress' failed	Error from DsStUnixCompress.	[There may not be enough space on the partition for the compressed and uncompressed versions to exist simultaneously.] 1. Temporarily move the file to a partition with more space. 2. Compress the file in the temporary location. 3. Move the compressed file back to the original location.
Temporary Backup Failed EcUtFileCopy.Copy() failed	Error for Archive.	[No action necessary.]
Text file busy	Standard system error.	
The Cache Manager Copy Into Cache function failed	Error for Archive.	Retry.
The Cache Manager Reserve Space function failed	Error for Archive.	Retry.
The child of a daemon process servicing your request crashed	Error returned from DsStCacheManagerServer.	Retry.
The construction invoked is not valid for use.	Error for Archive.	
The database could not create a staging disk. Possible space limitations	Staging disk error message.	1. Check the available space of the staging disk server on the Storage Management Control GUI (Storage Config tab). 2. Retry.

Table 8. Storage Management User Messages (28 of 40)

Message Text	Impact	Cause and Corrective Action
The destination directory where the file is to be copied does not exist	Staging disk error message.	1. Check the SYSLOG for NFS errors. [For detailed instructions refer to the procedure for **Checking Log Files** (subsequent section of this lesson).] 2. If the destination is a staging disk, verify that the staging disk exists. 3. Retry after problems have been corrected.
The execute() failed in Commit Transaction	Error for Archive.	Retry.
The execute() failed in DsStCommonDBIF	Error for Archive.	Retry.
The file could not be removed from the staging disk database inventory and no attempt will be made to remove the file from the file system	Staging disk error message.	1. Check the staging disk logs for database errors concerning the removal of the file from the database. 2. Retry.
The file does not exist and write permission is denied by the parent directory of the file to be created.	Error from SCSI.	
The file to be deleted does not exist in the file system	Staging disk error message.	1. Check the SYSLOG for NFS errors. [For detailed instructions refer to the procedure for **Checking Log Files** (subsequent section of this lesson).] 2. Verify that the staging disk exists. 3. Retry after problems have been corrected.
The file was deleted from the staging disk database inventory but was unable to be removed from the file system.	Staging disk error message.	1. Verify that the file exists. 2. Check for NFS errors in the SYSLOG. [For detailed instructions refer to the procedure for **Checking Log Files** (subsequent section of this lesson).] 3. Retry after problems have been corrected.
The file was not found	DsSt error.	1. Verify that the file name is spelled correctly. 2. Verify that the path is correct. 3. Retry.
The host for ftp does not have a valid IP address and can not be connect to.	Media error message.	1. Verify the host name. 2. Retry.

Table 8. Storage Management User Messages (29 of 40)

Message Text	Impact	Cause and Corrective Action
The host for ftp exist [sic] but cannot be connected to. Check the FtpServers [sic] debug log for the errno.	Media error message.	1. Check the FtpServer debug log for the errno. 2. Respond to the error. 3. Retry.
The input path is neither a regular file nor a directory	Error from DsStUtility.C.	[It appears that a device-special file has been passed as a source path for a copy operation. This type of operation is not supported.] 1. Verify that the input path is correct. 2. Retry.
The length of the path argument exceeds {PATH_MAX}, or the length of a path component exceeds {NAME_MAX}.	Error from SCSI.	
The linked file created by the Cache Manger does not exist	Staging disk error message.	1. Check the SYSLOG for NFS errors. [For detailed instructions refer to the procedure for **Checking Log Files** (subsequent section of this lesson).] 2. Check the CacheManager logs for errors. 3. Retry after problems have been corrected.
The method to suspend a request to be deleted failed	Error for DsStArchiveProxy.	Retry.
the mode the client passed does not match the mode the client is running in – backup mode should match primary mode	Error for Archive.	Retry.
the move request failed during the copy	Error from DsStStagingMonitor.	Retry.
The move request was failed because it is a dupe of a failed request	Error from DsStStagingMonitor.	Retry.
The named file does not exist.	Error from SCSI.	
The named file exists	Error from SCSI.	

Table 8. Storage Management User Messages (30 of 40)

Message Text	Impact	Cause and Corrective Action
The named file is a character special or block special file, and the device associated with this special file does not exist.	Error from SCSI.	
The named file is a directory and flag is write or read/write	Error from SCSI.	
The named file resides on a read-only file system.	Error from SCSI.	
The options provided for this request are not valid.	Standard system error (fatal).	Contact User Services.
the passed MasterList must be same size as retrieve from DB in ResumeStoreRequest or ResumeRetrieveRequest	Error for Archive.	
The process has too many open files	Error from SCSI.	
The request has invalid input parameters	Error for Archive.	
The request has invalid input parameters	Error from DsStStagingMonitor.	
The request has not completed in the maximum amount of time allocated	Error from DsStStagingMonitor.	Retry.
The request is already being serviced	Error returned from DsStCacheManagerServer.	[This is an internal error detected by STMGT. A request that is already being serviced by a thread was identified by a manager thread as being available for servicing. The attempt to assign the request to a second thread has failed.]
The request was cancelled because of a failure earlier in the processing.	Error for Archive.	1. Check the error code of all sub-requests of the main request. 2. Retry.

Table 8. Storage Management User Messages (31 of 40)

Message Text	Impact	Cause and Corrective Action
The requested function cannot be performed due to the permission settings on the file/directory	Staging disk error message.	1. Change the permissions on the file. 2. Retry.
The server was unable to allocate a socket for listening	Error returned from DsStCacheManagerServer.	[A UNIX error has occurred preventing the allocation of a socket for listening purposes. This is an extremely unusual circumstance.] 1. Document the error. 2. Refer the error to the System Administrator for investigation.
The slot or drive returned from allocate is invalid	Error for tape.	1. Check stacker/drive status. 2. If appropriate, refill stacker. 3. Retry.
The source file for a link does not exist	Staging disk error message.	1. Check the file system for the source file. 2. If the source file exists in the file system, check the SYSLOG for NFS errors. [For detailed instructions refer to the procedure for **Checking Log Files** (subsequent section of this lesson).] 3. Retry after problems have been corrected.
The source file to be copied does not exist in the file system	Staging disk error message.	1. Check the SYSLOG for NFS error. [For detailed instructions refer to the procedure for **Checking Log Files** (subsequent section of this lesson).] 2. Retry after problems have been corrected.
The specified granule is not valid	Standard system error (fatal).	
The specified tape drive is empty.	Media error message.	
The specified tape drive is occupied.	Media error message.	
The Staging Disk no longer exist [sic] in the Database	Staging disk error message.	1. Check whether the staging disk was cold started, which would have destroyed the disks. 2. If the disk was a virtual disk, check whether the path still exists. 3. Check the SYSLOG for file system errors. [For detailed instructions refer to the procedure for **Checking Log Files** (subsequent section of this lesson).] 4. Retry if possible after problems have been corrected.
The Staging Monitor Move function failed	Error for Archive.	

Table 8. Storage Management User Messages (32 of 40)

Message Text	Impact	Cause and Corrective Action
The staging monitor request queue encountered an error retrieving or writing data.	Error from DsStStagingMonitor.	
The submission of a Cache Manager Copy Into Cache function failed	Error for Archive.	Retry.
The system file table is full.	Error from SCSI.	
The system is currently busy and cannot accept your request at this time	Standard system error (retry).	Resubmit the request later.
The system is currently undergoing maintenance and can not accept your request at this time	Standard system error (retry).	Resubmit the request later.
The system is unable to allocate a send descriptor.	Error from SCSI.	
The system remove function failed in Delete()	Error for Archive.	[No action necessary.]
The system was unable to process your order. Please contact User Services	Standard system error (fatal).	Contact User Services.
The thread pool is not configured for the server	Error returned from DsStCacheManagerServer.	1. Check the configuration of the server to be started (i.e., verify from the Storage Management Control GUI that the service thread pool has been defined.) 2. Retry.
This granule has been deleted and is no longer available	Standard system error (fatal).	
This granule has been deleted from the archive and is no longer available	Standard system error (fatal).	
This is not an error -- detailed portion is null	Message returned by the FTP protocol.	[No action necessary.]
This request is a duplicate	Standard system error (fatal).	

Table 8. Storage Management User Messages (33 of 40)

Message Text	Impact	Cause and Corrective Action
Timeout during connect	Error returned by the FTP protocol (retry).	Retry.
Timeout during read	Error returned by the FTP protocol (retry).	Retry.
Timer expired	Standard system error.	
Too many links	Standard system error.	
Too many open files	Standard system error.	1. Direct the process to close some open files. 2. Retry.
Too many references: cannot splice	Standard system error.	
Too many symbolic links were encountered in translating path.	Error from SCSI.	
Too many users	Standard system error.	
Transport endpoint is already connected	Standard system error.	[It may not be necessary to attempt to establish a connection.] 1. If necessary, disconnect. 2. Retry.
Transport endpoint is not connected	Standard system error.	
Type mismatch in retreiving [sic] data from database	Error for Archive.	[A stored procedure is returning a different type of data than is expected by the code.] 1. Set the debug level (for the relevant server) at 3 in the Registry database. 2. Reproduce the error.
Type mismatch in retreiving [sic] data from database	Error from DsStDistributionFtp.	[A stored procedure is returning a different type of data than is expected by the code.] 1. Set the debug level (for the relevant server) at 3 in the Registry database. 2. Reproduce the error.
Unable to allocate a stream.	Error from SCSI.	
Unable to attach/stat [sic] to source location	Error returned from DsStCacheManagerServer.	1. Create/verify source path. 2. Retry.
Unable to checkpoint file -- SP DsCStSPCheckpoint File execute() failed	Error from DsStFileParameters.	[No action necessary.]

Table 8. Storage Management User Messages (34 of 40)

Message Text	Impact	Cause and Corrective Action
Unable to checkpoint inftp request as generic request -- SP DsCStSPCheckpoint GenericRequest execute() failed	Error from inftp.	[No action necessary.]
Unable to checkpoint inftp request as inftp request	Error from inftp.	[No action necessary.]
Unable to checkpoint retrieve request as generic request	Error for Archive.	[No action necessary.]
Unable to checkpoint store request as generic request	Error for Archive.	[No action necessary.]
Unable to clean files from destination dir when cancelling a push	Error from DsStNetworkResource.	1. Check destination permissions. 2. Retry.
Unable to clean files from pull cache when cancelling a pull	Error from DsStNetworkResource.	1. Check pull cache permissions. 2. Retry.
Unable to construct SQL for query	Standard system error (fatal).	Verify query constraints and resubmit.
Unable to create entry for link	Error returned from DsStCacheManagerServer.	1. Check the database for permissions/errors. 2. Verify that the entry exists. 3. Retry.
Unable to free sufficient space	Error returned from DsStCacheManagerServer.	1. Manually expire cache files to free more space. 2. Retry.
Unable to get the temporary directory from Backup -- SP DsCStBSelectTempDir execute() failed	Error for Archive.	
Unable to get the temporary directory from restore -- SP DsCStRSelectTempDir execute() failed	Error for Archive.	
Unable to insert BackupID -- BackupID is Null	Error from DsStFileParameters.	1. Modify the BackupID. (A valid BackupID is required. It must be a string with at least one character.) 2. Retry.
Unable to insert checkSum of file -- CheckSum = 0	Error from DsStFileParameters.	If possible, rerun the checksum on the file. (A checksum of 0 is meaningless.)

Table 8. Storage Management User Messages (35 of 40)

Message Text	Impact	Cause and Corrective Action
Unable to insert current position of a search of a volume group	Error from DsStFileParameters.	[This is an internal error in the system.] 1. Note all circumstances associated with the error (including capturing the Debug.log and ALOGs for both the reporting server and the Request Manager). 2. Submit a high-priority trouble ticket against STMGT. (Send logs in support of the trouble ticket.)
Unable to insert file size of file -- file size = 0	Error from DsStFileParameters.	Try to get file size again. (File size of 0 represents a file containing no information.)
Unable to insert managed directory entry	Error returned from DsStCacheManagerServer.	1. Check the database for permissions/errors. 2. Verify that the entry exists. 3. Retry
Unable to insert OffsiteID -- OffsiteID is Null	Error from DsStFileParameters.	1. Modify the ArchiveID. (A valid ArchiveID is required. It must be a string with at least one character.) 2. Retry.
Unable to insert the archive unique name of file -- UniqueFileName is Null	Error from DsStFileParameters.	[A non-empty unique file name must be entered here.]
Unable to Insert the ArchiveID -- ArchiveID is Null	Error from DsStFileParameters.	1. Modify the ArchiveID. (A valid ArchiveID is required. It must be a string with at least one character.) 2. Retry.
Unable to insert the checkpoint state of the request -- CheckpointState is Null	Error from DsStFileParameters.	[This is an internal error in the system.] 1. Note all circumstances associated with the error (including capturing the Debug.log and ALOGs for both the reporting server and the Request Manager). 2. Submit a high-priority trouble ticket against STMGT. (Send logs in support of the trouble ticket.)
Unable to insert the file index of the request -- EventMessage is Null	Error from DsStFileParameters.	
Unable to insert the file index of the request -- file index is less than 0	Error from DsStFileParameters.	[This is an internal error in the system.] 1. Note all circumstances associated with the error (including capturing the Debug.log and ALOGs for both the reporting server and the Request Manager). 2. Submit a high-priority trouble ticket against STMGT. (Send logs in support of the trouble ticket.)
Unable to insert the location of a source file.	Error from DsStFileParameters.	[This is an internal error in the system.] 1. Note all circumstances associated with the error (including capturing the Debug.log and ALOGs for both the reporting server and the Request Manager). 2. Submit a high-priority trouble ticket against STMGT. (Send logs in support of the trouble ticket.)

Table 8. Storage Management User Messages (36 of 40)

Message Text	Impact	Cause and Corrective Action
Unable to insert the serverid of a remote archive server.	Error from DsStFileParameters.	[This is an internal error in the system.] 1. Note all circumstances associated with the error (including capturing the Debug.log and ALOGs for both the reporting server and the Request Manager). 2. Submit a high-priority trouble ticket against STMGT. (Send logs in support of the trouble ticket.)
Unable to Insert the StagingID -- StagingID is Null	Error from DsStFileParameters.	1. Modify the ArchiveID. (A valid StagingID is required. It must be a string with at least one character.) 2. Retry.
Unable to insert the status of the file (success or failure) -- errorMsg is Null	Error from DsStFileParameters.	[No action necessary.]
Unable to insert the user(client) name of file -- UserFileName is Null	Error from DsStFileParameters.	1. Modify the path/filename. (The file name must have a full path or staging disk ID and must be non-empty.) 2. Retry.
Unable to insert the VolumeGroupId.	Error from DsStFileParameters.	[This is an internal error in the system.] 1. Note all circumstances associated with the error (including capturing the Debug.log and ALOGs for both the reporting server and the Request Manager). 2. Submit a high-priority trouble ticket against STMGT. (Send logs in support of the trouble ticket.)
Unable to insert type of search on a retrieve request.	Error from DsStFileParameters.	[This is an internal error in the system.] 1. Note all circumstances associated with the error (including capturing the Debug.log and ALOGs for both the reporting server and the Request Manager). 2. Submit a high-priority trouble ticket against STMGT. (Send logs in support of the trouble ticket.)
Unable to make the directory	Staging disk error message.	1. Check the SYSLOG for errors. [For detailed instructions refer to the procedure for **Checking Log Files** (subsequent section of this lesson).] 2. Retry after problems have been corrected.
Unable to mark request as suspended	Error returned from DsStCacheManagerServer.	[The stored procedure used to mark a request as suspended (or internally pending) failed. The request cannot be marked as suspended. This may result in the request needlessly being processed repeatedly.] Retry.
Unable to mark server as up in the database	Error returned from DsStCacheManagerServer.	[The database could not be updated to reflect that the server is up.] 1. Check for previous errors that might indicate why the stored procedure could not be executed. 2. Correct the errors.
Unable to read files from source directory when storing a file	DsSt error.	Check the source directory file.

Table 8. Storage Management User Messages (37 of 40)

Message Text	Impact	Cause and Corrective Action
Unable to remove a stored file from the archive.	Error from DsStFileParameters.	1. Check the archive for permission errors. 2. Submit a request to the System Administrator to correct permission errors. 3. Retry when permission errors have been corrected.
Unable to remove link entry	Error returned from DsStCacheManagerServer.	1. Check the database for permissions/errors. 2. Verify that the entry exists. 3. Retry
Unable to remove managed directory entry	Error returned from DsStCacheManagerServer.	1. Check the database for permissions/errors. 2. Verify that the entry exists. 3. Retry
Unable to restore checkpointed IngestFtp request from DB	Error from inftp.	
Unable to restore checkpointed retrieve request from database	Error for Archive.	
Unable to restore checkpointed store request from database	Error for Archive.	
Unable to retrieve granule from database	Standard system error (retry).	Try again later.
Unable to retrieve the base block size value from configuration file	Error from DsStFtpResourceConfig.	1. Ensure that the block size has been queried on a valid device. 2. Ensure that the ftp resource config file exists. 3. Ensure that the ftp resource config file contains a value for BLOCKSIZE.
Unable to retrieve the number of FTP retries from configuration file	Error from DsStFtpResourceConfig.	1. Ensure that the number of retries has been queried on a valid device. 2. Ensure that the ftp resource config file exists. 3. Ensure that the ftp resource config file contains a value for RETRIES.
Unable to retrieve the pause time from the resource configuration file	Error from DsStFtpResourceConfig.	1. Ensure that the sleep time has been queried on a valid device. 2. Ensure that the ftp resource config file exists. 3. Ensure that the ftp resource config file contains a value for SLEEPTIME.
Unable to retrieve the value for Pullfile from the configuration file	Error from DsStFtpResourceConfig.	1. Ensure that the pullfile name has been queried on a valid device. 2. Ensure that the ftp resource config file exists. 3. Ensure that the ftp resource config file contains a value for PULLFILENAME.

Table 8. Storage Management User Messages (38 of 40)

Message Text	Impact	Cause and Corrective Action
Unable to update checkpoint state for checkpointed request	Error for Archive.	[No action necessary.]
Unable to update checkpoint state for checkpointed request	Error from inftp.	[No action necessary.]
Unable to update checkpoint state for file -- SP DsCStSPCheckpoint FileState execute() failed	Error from DsStFileParameters.	[No action necessary.]
Unable to update checkpoint status for checkpointed request	Error for Archive.	
Unable to update checksum for file -- SP DsCStSPCheckpoint Checksum execute() failed	Error from DsStFileParameters.	[A checksum is a way of validating a file. From this point, it may not be possible to verify the file's completeness and genuineness.] [No action necessary.]
Unable to update file index for checkpointed request	Error for Archive.	[No action necessary.]
Unable to update file size	Error returned from DsStCacheManagerServer.	1. Check the database for permissions/errors. 2. Verify that the entry exists. 3. Retry.
Unable to update file state	Error returned from DsStCacheManagerServer.	1. Check the database for permissions/errors. 2. Verify that the entry exists. 3. Retry
Unable to update fileSize for file -- SP DsStFUpdateFileSize execute() failed	Error from DsStFileParameters.	N/A
Unable to update physical location for file -- SP DsCStSPCheckpoint FileLoc execute() failed	Error from DsStFileParameters.	[No action necessary.]

Table 8. Storage Management User Messages (39 of 40)

Message Text	Impact	Cause and Corrective Action
Unable to update stage and status in DsStBackup table -- SP DsCStBUpdStageAndStatus execute() failed	Error for Archive.	[No action necessary.]
Unable to update stage and status in DsStRestoreTable -- SP DsCStRUpdStageAndStatus execute() failed	Error for Archive.	[No action necessary.]
Unable to update staging disk tag for file -- SP DsCStSPCheckpointSDTag execute() failed	Error from DsStFileParameters.	[No action necessary.]
Unable to update status(failed) for file -- SP DsCStSPCheckpointFileFailure execute() failed	Error from DsStFileParameters.	
Unable to write a block of data. Check if the destination directory is full or if there are network errors	Error from DsStNetworkResource.	1. Check whether the destination directory has space available. 2. Check for network errors. 3. Retry when sufficient space exists or network errors have been corrected.
Unauthenicated [sic] kftp user -- error in ftp #705	Error returned by the FTP protocol.	
Undetermined error from sshfilexfer, possibly remote directory missing	Error returned by the FTP protocol (retry).	Retry.
Undetermined error within sshfilecopy	Error returned by the FTP protocol (retry).	Retry.
Unknown command -- error in ftp #500	Error returned by the FTP protocol.	
Unknown device error returned.	Error from SCSI.	

Table 8. Storage Management User Messages (40 of 40)

Message Text	Impact	Cause and Corrective Action
Unknown Error	Error returned by the FTP protocol (fatal).	
Unknown failure in secure copy	Error returned by the FTP protocol (retry).	Retry.
Unknown or unsupported checksum type	Standard system error (retry).	Retry.
Unknown RPC failure	Staging disk error message.	Retry.
UnMountTape Failed	Media error message.	
Update of multiple row selects not supported	Error from database.	[This is an internal STMGT error.] 1. Note all circumstances associated with the error, including the identity of the server reporting the error. 2. Report the error to the DAAC Help Desk as soon as possible.
Users [sic] quota full	Error from SCSI.	
Value too large for defined data type	Standard system error.	
Your granule search was taking too long to complete and has been aborted	Standard system error (fatal).	Further constrain the spatial or temporal coverage and try again.
Your order contains too many granules. Please break into two or more orders.	Standard system error (fatal).	Break the request into two or more smaller requests.
Your request is still in process – please be patient	Error returned from DsStCacheManagerServer.	1. Wait. 2. Retry if necessary.
Your request specified invalid distribution media options and could not be accepted	Standard system error (fatal).	Contact User Services.

Table 9. Order Manager GUI User Messages (1 of 12)

Message Text	Impact	Cause and Corrective Action
!!! ERROR: It appears that all granules have been failed. You can not submit or partition a request with all FAILED granules. This request should be failed. To do this, Select "Fail Request" from the Request Disposition section and try again. [Displayed in a dialogue box]	Intervention cannot be resolved.	The message appears on the **Open Intervention Detail** page. If all the granules in a request have been failed, the request can no longer be submitted or partitioned. The only corrective action is to fail the entire request or place it on hold. 1. Click on the **OK** button to dismiss the dialogue box. 2. Either fail the entire request or place it on hold. [For detailed instructions refer to the procedure for **Responding to an Open Intervention** (previous section of this lesson).]
All of the granules for this request have been failed. You can not submit or partition the request because the submission will fail and another operator intervention will be created for it. This request should be failed. Return to the previous page and select "Fail Request" under the Request Disposition section.	Intervention cannot be resolved.	The operator failed all the granules for a particular request and tried to submit or partition it. Since there are no granules, there is nothing to submit or partition. The entire request should be failed. 1. Click on the ← icon in the **OM GUI** navigation frame to redisplay the **Open Intervention Detail** (**Intervention for Request *x***) page. 2. Fail the entire request. [For detailed instructions refer to the procedure for **Responding to an Open Intervention** (previous section of this lesson).]
An error has occurred with the page you are requesting. Error Message: <message>	Various.	The message appears on the **Error** page and is displayed in response to a stored procedure or system fault. Although the previously attempted operation can be retried, in most cases the error is a fatal one (e.g., a binary was installed incorrectly or is missing). 1. If feasible, retry the operation that resulted in the error message. 2. If repeated attempts to perform the operation fail, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
An error message was not available. Please contact the system administrator for further assistance.	Various.	The message appears on the **Error** page when there is a problem with the Perl code or a stored procedure that did not give a specific reason as to why it failed. There is no operator-level corrective action to take in this case. Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 9. Order Manager GUI User Messages (2 of 12)

Message Text	Impact	Cause and Corrective Action
An undefined error occurred executing the stored procedure	Various.	The problem is an internal error due to a bad database connection, incorrect stored procedure arguments, or a system fault. It is not due to operator error. The first possible solution is to resubmit the changes for the Intervention (essentially retrying the database connection). 1. Resubmit the changes for the intervention. [For detailed instructions refer to the procedure for **Responding to an Open Intervention** (previous section of this lesson).] 2. If resubmitting the changes for the intervention is not successful, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
Error executing SweeperStart: <message>	Server Statistics or Queue Status page does not display correct information, or the affected pages do not display at all.	The message appears either on the **Error** page, **OM Queue Status** page, or **OM Server Statistics** page. **SweeperStart** is a shell script that runs the Sweeper binary, which tells the system whether or not certain servers are up and running. If either the shell script or the Sweeper binary is corrupt, missing, not executable, or has the wrong permissions, the error message is displayed. The **OM GUI** must be reinstalled or the binary or shell script must be manually copied to its proper location and given the proper permissions. Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
Error: <VALUE> is an invalid number for this parameter." [Displayed in a dialogue box]	A parameter value does not get modified.	The error message can appear on the **Media Configuration** page or **Server Configuration** page. It is probably the result of trying to change a parameter value (which requires a number) to a value that either contains non-numeric characters, is outside the valid range for the parameter, or contains a decimal point when the value should be an integer. 1. Click on the **OK** button to dismiss the dialogue box. 2. Enter a valid value for the parameter. [For detailed instructions refer to the procedure for **Checking/Modifying OM Configuration Parameters** (previous section of this lesson).]

Table 9. Order Manager GUI User Messages (3 of 12)

Message Text	Impact	Cause and Corrective Action
Error: A worker must be assigned to this intervention before any actions may be taken. [Displayed in a dialogue box]	Actions cannot be taken on an intervention.	The message appears on the **Open Intervention Detail** page if the operator attempted to take an action on an open intervention before assigning a name in the **Worked by:** text box. (No worker name is required to view the intervention without taking any action.) A real name or a user ID must be entered in the field. Numbers and spaces are allowed. 1. Click on the **OK** button to dismiss the dialogue box. 2. Enter a valid name in the **Worked by:** text entry box on the **Open Intervention Detail** page. [For detailed instructions refer to the procedure for **Responding to an Open Intervention** (previous section of this lesson).]
ERROR: An [sic] database error was encountered: deadlock could not be resolved after <NUMBER> tries	An action requiring a call to a stored procedure or access to a database table is not taken.	The message appears on the **Error** page after a stored procedure could not be executed due to a database (or table) deadlock. The command is retried a number of times (depending on the DEADLOCK_RETRIES parameter in the configuration file) before the message is displayed. Retrying later may be successful. However, it may be that the OMS or MSS database is experiencing a heavy load or is corrupt in some way. If the problem cannot be quickly resolved, there might be a performance issue or the stored procedure may contain an error. 1. At a later time retry the operation that resulted in the error message. 2. If the operation fails again, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
ERROR: Can't open session file: <message>	Requested page does not display.	This error message can occur on any page. The session file is like a cookie – it can expire or become corrupt. For this reason, bookmarks should not be saved for specific **OM GUI** pages. If a session is more than five (5) days old, and the GUI has not been restarted in that amount of time, the error is certain to occur. 1. Reload the GUI by starting it from a bookmark or manually typing the base URL (without a session ID). [For detailed instructions refer to the procedure for **Launching the Order Manager GUI** (previous section of this lesson).]

Table 9. Order Manager GUI User Messages (4 of 12)

Message Text	Impact	Cause and Corrective Action
ERROR: Invalid name entered into Worked by field. You must enter a name into this field before proceeding. [Displayed in a dialogue box]	Actions cannot be taken on an intervention.	The message appears on the **Open Intervention Detail** page when the operator attempts to enter non-alphanumeric characters, nothing, or just white space into the **Worked by:** field. A real name or a user ID must be entered in the field. Numbers and spaces are allowed. 1. Click on the **OK** button to dismiss the dialogue box. 2. Enter a valid name in the **Worked by:** text entry box on the **Open Intervention Detail** page. [For detailed instructions refer to the procedure for **Responding to an Open Intervention** (previous section of this lesson).]
ERROR: It appears that all granules have been failed. You can not submit or partition a request with all FAILED granules. This request should be failed. To do this, Select "Fail Request" from the Request Disposition section and try again. [Displayed in a dialogue box]	Intervention cannot be resolved.	The message appears on the **Open Intervention Detail** page. If all the granules in a request have been failed, the request can no longer be submitted or partitioned. The only corrective action is to fail the entire request or place it on hold. 1. Click on the **OK** button to dismiss the dialogue box. 2. Either fail the entire request or place it on hold. [For detailed instructions refer to the procedure for **Responding to an Open Intervention** (previous section of this lesson).]
Error: Not that many rows or invalid row number. [Displayed in a dialogue box]	The Operator is unable to navigate through rows (on various pages).	An invalid row number was entered in the navigation box at the top of a listing. The error can appear on any page with the navigation feature. 1. Click on the **OK** button to dismiss the dialogue box. 2. In the navigation box type a row number within the range of rows displayed on the GUI screen. 3. Click on the **ok** button.
ERROR: Partition days must be an integer. [Displayed in a dialogue box]	Intervention cannot be resolved.	The message appears on the **Open Intervention Detail** page if the operator was partitioning the request and entered a fractional number (or some garbage characters) in the **days** field. The number of days should be entered as a whole number only. 1. Click on the **OK** button to dismiss the dialogue box. 2. Verify that the **Partition (current size is *x* MB)** button has been selected (click on the button if necessary). 3. Type the appropriate value (as a whole number) in the **days** text box to specify the time period. 4. Complete the intervention. [For detailed instructions refer to the procedure for **Responding to an Open Intervention** (previous section of this lesson).]

Table 9. Order Manager GUI User Messages (5 of 12)

Message Text	Impact	Cause and Corrective Action
ERROR: Partition hours must be an integer. [Displayed in a dialogue box]	Intervention cannot be resolved.	The message appears on the **Open Intervention Detail** page if the operator was partitioning the request and entered a fractional number (or some garbage characters) in the **hours** field. The number of hours should be entered as a whole number only. 1. Click on the **OK** button to dismiss the dialogue box. 2. Verify that the **Partition (current size is *x* MB)** box has been selected (click on the box if necessary). 3. Type the appropriate value (as a whole number) in the **hours** text box to specify the time period. 4. Complete the intervention. [For detailed instructions refer to the procedure for **Responding to an Open Intervention** (previous section of this lesson).]
ERROR: You can not change the media type and update the FTP Push parameters. [Displayed in a dialogue box]	Intervention cannot be resolved.	The message appears on the **Open Intervention Detail** page, probably due to inadvertently checking the **Update FtpPush Parameters** box. Either the button should be un-checked or the distribution medium should be changed the proper way. 1. Click on the **OK** button to dismiss the dialogue box. 2. If the **Update FtpPush Parameters** box was inadvertently checked, click on the box to uncheck it. 3. If the **Update FtpPush Parameters** box was checked on purpose, verify that the **Change Media to:** box is not checked. (Click on it if necessary). 4. If the **Update FtpPush Parameters** box was checked on purpose, verify that the **New Medium** option button is displaying "**- -**". [If necessary, click and **hold** the **New Medium** option button to display a menu of media, move the mouse cursor to the desired selection (highlighting it), then release the mouse button.] 5. Complete the intervention. [For detailed instructions refer to the procedure for **Responding to an Open Intervention** (previous section of this lesson).]

Table 9. Order Manager GUI User Messages (6 of 12)

Message Text	Impact	Cause and Corrective Action
ERROR: You can not change the media type from <MEDIA> to <MEDIA> - the media types are the same. [Displayed in a dialogue box]	Intervention cannot be resolved.	The message appears on the **Open Intervention Detail** page if the operator tried to change the media type to whatever it already is. If the media type should not be changed, the **New Medium** option button should be set to "**- -**". 1. Click on the **OK** button to dismiss the dialogue box. 2. Verify that the **Change Media to:** box is not checked. (Click on it if necessary). 3. Verify that the **New Medium** option button is displaying "**- -**". [If necessary, click and **hold** the **New Medium** option button to display a menu of media, move the mouse cursor to the desired selection (highlighting it), then release the mouse button.] 4. Complete the intervention. [For detailed instructions refer to the procedure for **Responding to an Open Intervention** (previous section of this lesson).]
ERROR: You can not modify request-level attributes and place the intervention on hold. [Displayed in a dialogue box]	Intervention cannot be resolved.	The message appears on the **Open Intervention Detail** page if the operator attempted to modify request-level attributes (e.g., change the media type, update ftp push parameters, or disable limit checking) and then tried to place the intervention on hold. If the selected request-level attribute(s) should be implemented, the request should either be submitted or partitioned. If the selected request-level attribute(s) should not be implemented, the intervention may be placed on hold. 1. Click on the **OK** button to dismiss the dialogue box. 2. If the selected request-level attribute(s) should be implemented, either submit or partition the request. 3. If the selected request-level attribute(s) should not be implemented, click on the **Reset** button, then place the intervention on hold. [For detailed instructions refer to the procedure for **Responding to an Open Intervention** (previous section of this lesson).]

Table 9. Order Manager GUI User Messages (7 of 12)

Message Text	Impact	Cause and Corrective Action
ERROR: You can not modify request-level attributes if you are failing the request. [Displayed in a dialogue box]	Intervention cannot be resolved.	The message appears on the **Open Intervention Detail** page if the operator attempted to modify request-level attributes (e.g., change the media type, update ftp push parameters, or disable limit checking), then tried to fail the entire request. If the request should be failed, the request-level attribute changes should be deselected, then the request can be failed. 1. Click on the **OK** button to dismiss the dialogue box. 2. If the selected request-level attribute(s) should be implemented, either submit or partition the request. 3. If the request should be failed, first deselect the request-level attribute(s), then fail the request. [For detailed instructions refer to the procedure for **Responding to an Open Intervention** (previous section of this lesson).]
ERROR: You must assign a worker to this intervention before proceeding. [Displayed in a dialogue box]	Actions cannot be taken on an intervention.	The message appears on the **Open Intervention Detail** page if the operator attempted to take an action on an open intervention before assigning a name in the **Worked by:** text box. (No worker name is required to view the intervention without taking any action.) A real name or a user ID must be entered in the field. Numbers and spaces are allowed. 1. Click on the **OK** button to dismiss the dialogue box. 2. Enter a valid name in the **Worked by:** text entry box on the **Open Intervention Detail** page. [For detailed instructions refer to the procedure for **Responding to an Open Intervention** (previous section of this lesson).]
ERROR: You must enter a name into the Worked by field before proceeding. [Displayed in a dialogue box]	Actions cannot be taken on an intervention.	The message appears on the **Open Intervention Detail** page if the operator attempted to take an action on an open intervention before assigning a name in the **Worked by:** text box. (No worker name is required to view the intervention without taking any action.) A real name or a user ID must be entered in the field. Numbers and spaces are allowed. 1. Click on the **OK** button to dismiss the dialogue box. 2. Enter a valid name in the **Worked by:** text entry box on the **Open Intervention Detail** page. [For detailed instructions refer to the procedure for **Responding to an Open Intervention** (previous section of this lesson).]

Table 9. Order Manager GUI User Messages (8 of 12)

Message Text	Impact	Cause and Corrective Action
INPUT ERROR: There was a problem with the input parameter for a User Profile. Please contact your system's administrator to fix this problem.	Information about a User profile is not displayed.	The error message is rare; it appears when the UserId parameter (usually embedded in the URL) is empty. It indicates that the page was probably accessed directly (i.e., the operator did not arrive at the page via a link). If the operator did arrive at the page through a link, there could be a serious database error or a problem with the Perl code, since the User ID associated with the order was not passed to the page. 1. Click on the ← icon in the **OM GUI** navigation frame to redisplay the previous page. 2. Attempt to access the desired page by clicking on the appropriate link. 3. If the same error message is displayed again, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
INPUT ERROR: There was a problem with the input parameter for ECS Order. Please contact your system's administrator to fix this problem.	Information about an ECS Order does not get displayed.	The error message is rare; it appears when the ecs_order parameter (usually embedded in the URL) is empty. It indicates that the page was accessed directly (i.e., the operator did not arrive at the page via a link). If the operator did arrive at that page through a link, there could be a serious database error or a problem with the Perl code, since the ECS Order ID was not passed to the page. 1. Click on the ← icon in the **OM GUI** navigation frame to redisplay the previous page. 2. Attempt to access the desired page by clicking on the appropriate link. 3. If the same error message is displayed again, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
Please hit your browser's Back button and enter a valid name into the "worked by" field and click on "Override Current Worker	Intervention cannot be resolved.	No name has been entered in the **Worked by:** field on the **Open Intervention Detail** page . Before any action on the intervention will be accepted, a name must be entered. 1. Click on the ← icon in the **OM GUI** navigation frame to redisplay the **Open Intervention Detail** page. 2. Enter a valid name in the **Worked by:** text entry box on the **Open Intervention Detail** page. [For detailed instructions refer to the procedure for **Responding to an Open Intervention** (previous section of this lesson).]

Table 9. Order Manager GUI User Messages (9 of 12)

Message Text	Impact	Cause and Corrective Action
Please hit your browser's Back button and select a disposition.	Intervention cannot be resolved.	No disposition was selected on the **Open Intervention Detail** page. Go to the previous page and select a disposition. 1. Click on the ← icon in the **OM GUI** navigation frame to redisplay the **Open Intervention Detail** page. 2. Select an appropriate disposition on the **Open Intervention Detail** page. [For detailed instructions refer to the procedure for **Responding to an Open Intervention** (previous section of this lesson).]
Sweeper error: <message>	Server Statistics or Queue Status page does not display correct information, or the affected pages do not display at all.	The message appears either on the **Error** page, **Queue Status** page, or **OM Server Statistics** page. **SweeperStart** is a shell script that runs the Sweeper binary, which tells the system whether or not certain servers are up and running. If either the shell script or the Sweeper binary is corrupt, missing, not executable, or has the wrong permissions, the error message is displayed. The **OM GUI** must be reinstalled or the binary or shell script must be manually copied to its proper location and given the proper permissions. Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
The e-mail text box is empty – it should contain a message to the user if you want e-mail sent out. [Displayed in a dialogue box]	Intervention resolution cannot be submitted.	The message appears if there is an e-mail text box on the **Close Confirmation** page and the operator did not enter any message text. Some text should be entered and the form should be resubmitted. 1. Click on the **OK** button to dismiss the dialogue box. 2. Enter appropriate text in the e-mail text box or click on the **Don't send e-mail** box (as applicable). 3. Complete the intervention. [For detailed instructions refer to the procedure for **Responding to an Open Intervention** (previous section of this lesson).]
You can not change the FTP Push parameters and change the media type at the same time. Please hit your browser's Back button and correct this	Intervention cannot be resolved.	The message appears if the media type for the request is ftp push. The operator probably elected to change the media type and checked the **Update FtpPush Parameters** box at the same time. The operator should go back to the previous page and uncheck the box. 1. Click on the ← icon in the **OM GUI** navigation frame to redisplay the **Open Intervention Detail** page. 2. Click on the **Update FtpPush Parameters** box to uncheck it. 3. Complete the intervention. [For detailed instructions refer to the procedure for **Responding to an Open Intervention** (previous section of this lesson).]

Table 9. Order Manager GUI User Messages (10 of 12)

Message Text	Impact	Cause and Corrective Action
You can not update the FTP Push parameters for this request because the media type is <old media>. Please hit your browser's Back button and correct this.	Intervention cannot be resolved.	This message appears if the operator inadvertently checked the **Update FtpPush Parameters** box, even though the media type for the request is not ftp push. The operator should go back and uncheck this box. The error message should be quite rare, because normally the **Update FtpPush Parameters** box does not appear if the media type is not ftp push. 1. Click on the ← icon in the **OM GUI** navigation frame to redisplay the **Open Intervention Detail** page. 2. Click on the **Update FtpPush Parameters** box to uncheck it. 3. Complete the intervention. [For detailed instructions refer to the procedure for **Responding to an Open Intervention** (previous section of this lesson).]
You have entered partitioning days/hours, but have not indicated that you want to spread the request over this time period! (you probably forgot to check the AND box). Hit your browser's Back button to correct this.	Intervention cannot be resolved.	The operator probably intended to partition the request but forgot to check the "and" box. The redundancy is intended to ensure that the correct action is taken. 1. Click on the ← icon in the **OM GUI** navigation frame to redisplay the **Open Intervention Detail** page. 2. Click on the box in front of **and spread request over**. 3. Complete the intervention. [For detailed instructions refer to the procedure for **Responding to an Open Intervention** (previous section of this lesson).]

Table 9. Order Manager GUI User Messages (11 of 12)

Message Text	Impact	Cause and Corrective Action
You have indicated you want to change the media, but did not select the media type. Hit your browser's Back button to correct this	Intervention cannot be resolved.	The operator checked the **Change Media to:** but did not select a different medium from the **New Medium** option button. The operator should go back to the previous page and either select a new medium or uncheck the **Change Media to:** box and ensure that the **New Medium** option button is set to "**- -**". 1. Click on the ← icon in the **OM GUI** navigation frame to redisplay the **Open Intervention Detail** page. 2. If a new distribution medium is being selected, verify that the **Change Media to:** box is checked. (Click on it if necessary). 3. If a new distribution medium is being selected, verify that the **New Medium** option button is displaying the appropriate medium. [If necessary, click and **hold** the **New Medium** option button to display a menu of media, move the mouse cursor to the desired selection (highlighting it), then release the mouse button.] 4. If the old distribution medium is being retained, verify that the **Change Media to:** box is not checked. (Click on it if necessary). 5. If the old distribution medium is being retained, verify that the **New Medium** option button is displaying "**– –**". [If necessary, click and **hold** the **New Medium** option button to display a menu of media, move the mouse cursor to the desired selection (highlighting it), then release the mouse button.] 6. Complete the intervention. [For detailed instructions refer to the procedure for **Responding to an Open Intervention** (previous section of this lesson).]

Table 9. Order Manager GUI User Messages (12 of 12)

Message Text	Impact	Cause and Corrective Action
You have selected a new media type, but not did indicate you actually wanted the media changed. Hit your browser's Back button to correct this.	Intervention cannot be resolved.	The operator changed the distribution medium for the request on the **Open Intervention Detail** page but did not check the **Change Media to:** box. The redundancy is intended to ensure that the operator does indeed want to change the distribution medium. The operator should go back to the previous page and either check the **Change Media to:** box or ensure that the **New Medium** option button is set to "**- -**". (indicating no change). 1. Click on the ← icon in the **OM GUI** navigation frame to redisplay the **Open Intervention Detail** page. 2. If a new distribution medium is being selected, verify that the **Change Media to:** box is checked. (Click on it if necessary). 3. If a new distribution medium is being selected, verify that the **New Medium** option button is displaying the appropriate medium. [If necessary, click and **hold** the **New Medium** option button to display a menu of media, move the mouse cursor to the desired selection (highlighting it), then release the mouse button.] 4. If the old distribution medium is to be retained, verify that the **Change Media to:** box is not checked. (Click on it if necessary). 5. If the old distribution medium is to be retained, verify that the **New Medium** option button is displaying "**– –**". [If necessary, click and **hold** the **New Medium** option button to display a menu of media, move the mouse cursor to the desired selection (highlighting it), then release the mouse button.] 6. Complete the intervention. [For detailed instructions refer to the procedure for **Responding to an Open Intervention** (previous section of this lesson).]

Table 10. Hosts, Servers, Clients and Other Software Relevant to Data Distribution and the Order Manager GUI

HOST	SERVER/CLIENT/OTHER SOFTWARE
Sun internal server (e.g., x0acs0n)	Distribution Server (EcDsDistribution Server) 8mm Server (EcDsSt8MMServer) Storage Management Request Manager (EcDsStRequestManagerServer) Staging Disk Server (EcDsStStagingDiskServer) Granule Deletion Process (EcDsGranuleDelete) Science Data Server (EcDsScienceDataServer) Science Data Server Client (EcDsScienceDataServerClient) Subscription Server (EcSbSubServer)
Operations Workstation (e.g., x0acs02)	Data Distribution Operator GUI (EcDsDdistGui) Storage Management Control GUI (EcDsStmgtGui) Science Data Server GUI (EcDsSdSrvGui)
Access/Process Coordinators (APC) Server (e.g., x0acg01)	Archive Server (EcDsStArchiveServer) Cache Manager Servers (EcDsStCacheManagerServer) (including Pull Area Manager) FTP Server (EcDsStFtpServer) Staging Disk Server (EcDsStStagingDiskServer)
FSMS Server (e.g., x0drg01)	HDF EOS Server (EcDsHdfEosServer) Archive Server (EcDsStArchiveServer) Cache Manager Server (EcDsStCacheManagerServer) FTP Server (EcDsStFtpServer) Staging Disk Server (EcDsStStagingDiskServer)
Ingest Server (e.g., x0icg01)	Name Server (EcCsIdNameServer) Registry Server (EcCsRegistry)
Data Pool Server (e.g., x0dps01)	Order Manager GUI (EcOmGuiHomePage.pl)

DDIST Troubleshooting Procedures

The following procedures for correcting DDIST or STMGT problems are provided in this section:

- Checking Connections to Hosts/Servers
- Recovering from a Data Distribution Failure
- Responding to Requests that Exceed the Distribution Request Threshold
- Checking the Request Manager Server Debug Log

- Checking the Science Data Server Log Files
- Checking the Archive Server Log Files
- Checking the Staging Disk
- Checking the Staging Disk ALOG File
- Checking the Space Available in the Staging Area
- Checking Log Files
- Checking Database Connections

Checking Connections to Hosts/Servers

The procedure for checking connections to hosts/servers is a part of the general troubleshooting process for data distribution failures. The procedure starts with the assumption that the applicable hosts are operational and the Distribution Technician has logged in to a workstation or X-term that has access to the applicable network in the system.

Checking Connections to Hosts/Servers

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1 Access a terminal window logged in to the Distribution Server host.

- Examples of Distribution Server host (Sun internal server host) names include **e0acs11**, **g0acs11**, **l0acs03**, and **n0acs04**.
- Most other system hosts are acceptable for checking connections.
- Log-in is described in the **Logging in to System Hosts** procedure (previous section of this lesson).

2 At the command line prompt type **cd /usr/ecs/*MODE*/CUSTOM/utilities** then press **Return/Enter**.

- Change directory to the directory containing the utility scripts.

3 At the command line prompt type **EcCsIdPingServers *MODE*** then press **Return/Enter**.

- The following type of response is displayed (only a few representative lines are shown):

  /usr/ecs/TS2/CUSTOM/bin/CSS/Sweeper -nsh x0icg01 -nsp 18202
  FoSwSweeper application started...
  We made a connection with EntryId =x0acs06:38709:23057 ---
  EcSrTransportSubServer

We made a connection with EntryId =x0acs06:38712:23057 --- EcSrTransportSubEventServer
We made a connection with EntryId =x0acs06:33379:17033 --- DsShQuitIDL
[…]

4 Observe the results displayed on the screen to determine whether connections can be made with the necessary local hosts and servers.

- The necessary local hosts and servers are listed in Table 10, Hosts, Servers, Clients and Other Software Relevant to Data Distribution and the Order Manager GUI.

5 If pinging the servers (Step 3) indicated a problem with any connection, ping the servers again (at the command line prompt type **EcCsIdPingServers** ***MODE*** then press **Return/Enter**).

6 Observe the results displayed on the screen to determine whether connections can be made with the necessary hosts and servers.

7 If it is not possible to connect to any needed local host(s)/server(s), notify the Operations Controller/System Administrator to check the hosts/servers and bring them back up if necessary.

8 Return to the procedure that recommended checking connections to hosts.

Recovering from a Data Distribution Failure

The automated data distribution processes (push and pull) normally do not require intervention by the Distribution Technician. However, when a data distribution fault (error) occurs, there may be a requirement for action to recover from the error. For example, recovery actions may be made necessary by the failure of storage management to acquire granules from the archive so they can be distributed. When a fault (error) occurs, the request status on the **Distrib'n Requests** tab of the **Data Distribution Operator GUI** is likely to change to "Suspended with Errors."

The Distribution Technician may use the **Data Distribution Operator GUI Distrib'n Requests** tab (refer to the section on Monitoring/Controlling Data Distribution Requests) and/or log files on various host machines to review the failure event.

When recovering from a data distribution failure, use the procedure that follows. The procedure starts with the assumption that all applicable servers and the **Data Distribution Operator GUI** are currently running and the **Distrib'n Requests** screen (Figure 6) is being displayed.

Recovering from a Data Distribution Failure

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1 Observe the information displayed on the **Distrib'n Requests** tab of the **Data Distribution Operator GUI** to identify distribution requests with a status of "Suspended with Errors."

2 If a suspended request has the error mnemonic **DsEDdXLargeRequest** associated with it, perform the procedure for **Responding to Requests that Exceed the Distribution Request Threshold** (subsequent section of this lesson).

3 If a suspended request is an FtpPush request to a remote host (e.g., ftp.averstar.com) and the connection to the remote host has not been checked, check the connection to the remote host.

- For detailed instructions refer to the procedure for **Checking the Connection to the Remote FTP Host** (subsequent section of this lesson).

4 Perform the procedure for **Handling an Acquire Failure** (subsequent section of this lesson).

5 If additional information is needed, open and read the appropriate log file in the **/usr/ecs/*MODE*/CUSTOM/logs** directory on the appropriate host machine(s).

- Applicable host machines are listed in Table 10. Hosts, Servers, Clients and Other Software Relevant to Data Distribution and the Order Manager GUI.
- For detailed instructions refer to the procedure for **Checking Log Files** (subsequent section of this lesson).

6 If the problem could not be identified through any of the preceding steps, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

7 When the problem has been corrected, review the information displayed on the **Distrib'n Requests** tab of the **Data Distribution Operator GUI** to determine whether the distribution request resumed processing.

8 If the distribution request does not resume processing after the problem has been corrected, return to Step 4.

Responding to Requests that Exceed the Distribution Request Threshold

When a distribution request exceeds the corresponding distribution request threshold (e.g., FtpPushThreshold or FtpPullThreshold), the request is suspended in DDIST with the following error mnemonic:

- DsEDdXLargeRequest

The procedure for responding to requests that exceed the distribution request threshold starts with the assumption that all applicable servers and the **Data Distribution Operator GUI** are currently running and the **Distrib'n Requests** screen (Figure 6) is being displayed.

1 Record (e.g., write down) the Request ID (as displayed on the **Distrib'n Requests** tab of the **Data Distribution Operator GUI**) for the request that exceeds the distribution request threshold.

2 Cancel the request using the procedure for **Canceling Data Distribution Requests** (previous section of this lesson).

3 Contact User Services to determine whether or not the user's request should be processed.

- User Services may contact the requester to verify whether or not the requester intended to order so much data.

4 If User Services responds that the request should be completed, determine whether User Services or Distribution will partition and resubmit the request.

5 If User Services responds that the request should be completed and that Distribution should partition the request, partition and resubmit the request using the procedure for **Monitoring/Controlling Distribution Request Information on the OM GUI** (previous section of this lesson).

Checking the Connection to the Remote FTP Host

The problem is that a distribution request for FtpPush of data to a remote host (e.g., ftp.averstar.com) shows a status of "Suspended with Errors" and it is suspected that it may not be possible to connect to the remote host.

The procedure starts with the following assumptions:

- The applicable local hosts are operational.
- The Distribution Technician has logged in to a workstation or X-term that has access to the APC Server host (e.g., **e0acg11**, **g0acg01**, **l0acg02,** or **n0acg01**) and the applicable network in the system.
- The necessary script to support pinging (e.g., "st") is available on the system and the Distribution Technician knows its location.
  - For example, at one DAAC script "st" might be available in the home directory for the "train1" user.
    - The script was written to be run in OPS mode.

1 Access a terminal window logged in to the APC Server host.

- Examples of APC Server host names include **e0acg11**, **g0acg01**, **l0acg02**, and **n0acg01**.
- Log-in is described in the **Logging in to System Hosts** procedure (previous section of this lesson).

2 At the command line prompt type **cd *path*** then press **Return/Enter**.

- ***path*** represents the directory path (e.g., /home/train1) to the directory containing the necessary script.
- As stated in the assumptions preceding this procedure, the necessary script (e.g., "st") to support pinging the remote host through the firewall must be available and the Distribution Technician must know its location.

3 At the command line prompt type **./st -ping *remotehost*** then press **Return/Enter** to check the accessibility of the remote host.

- ***remotehost*** represents the remote host to be checked.
- For example:

  ./st -ping ftp.averstar.com

- The following type of response indicates successful pinging of the remote host:

  PING 192.5.114.4: (192.5.114.4): 56 data bytes
  64 bytes from 192.5.114.4: icmp_seq=0 ttl=247 time=26 ms
  64 bytes from 192.5.114.4: icmp_seq=1 ttl=247 time=23 ms
  64 bytes from 192.5.114.4: icmp_seq=2 ttl=247 time=23 ms
  64 bytes from 192.5.114.4: icmp_seq=3 ttl=247 time=28 ms
  64 bytes from 192.5.114.4: icmp_seq=4 ttl=247 time=25 ms

- If there is no such response within a few seconds (no more than 20 seconds), it is likely that pinging has failed and the remote host is not currently accessible.
- The same general syntax can be used to perform a trace; i.e., type **./st -trace *remotehost*** then press **Return/Enter**.

4 Type **Ctrl-c** to stop sending packets to the remote host.

- The following type of response after typing **Ctrl-c** is another type of indication that pinging failed:

```
----ftp.averstar.com PING Statistics----
43 packets transmitted, 0 packets received, 100.0% packet loss
```

5 If pinging the remote host failed, go to Step 12.

6 If pinging the remote host was successful, at the command line prompt type **ftp** ***firewall-host*** then press **Return/Enter**.

- ***firewall-host*** represents the firewall host.
  - The System Administrator can identify the firewall host if necessary.
- The following type of response should be displayed:

```
Connected to x0host0.daac.ecs.nasa.gov.
220-**********************************************************************
220-*
220-*  THIS U.S. GOVERNMENT COMPUTING SYSTEM IS FOR
AUTHORIZED USERS
220-*  ONLY.  ANYONE USING IT IS SUBJECT TO MONITORING AND
RECORDING
220-*  OF ALL KEYSTROKES WITHOUT FURTHER NOTICE.  THIS RECORD
MAY BE
220-*  PROVIDED AS EVIDENCE TO LAW ENFORCEMENT OFFICIALS.
220-*
220-**********************************************************************
220 [002-0018] x0host0.daac.ecs.nasa.gov FTP proxy 4.0.1 ready.
Name (x0host0:user1):
```

7 At the **Name (…):** prompt press the **Enter** key.

- The following type of response should be displayed:

```
230- user user1 logged in.
230 [002-0024] Specify Remote Destination with: quote site hostname
Remote system type is UNIX.
ftp>
```

8 At the **ftp>** prompt type **quote site** ***remotehost*** then press **Return/Enter**.

- ***remotehost*** represents the remote host to be checked.

- For example:

  quote site ftp.averstar.com

- The following type of response should be displayed:

  220-([002-0059] Firewall connected to ftp.averstar.com (192.5.114.4).)
  220-(220 ftp FTP server (Version wu-2.4(3) Thu Jan 9 12:48:46 EST 1997) ready.)
  220 [002-0060] login with: user name
  ftp>

9 At the **ftp>** prompt type **user anonymous** then press **Return/Enter**.

- Log in to the remote host for anonymous ftp.
- The following type of response should be displayed:

  331 Guest login ok, send your complete e-mail address as password.
  Password:

10 At the **Password:** prompt type ***password*** then press **Return/Enter**.

- Use a valid e-mail address as the password.
- The following type of response should be displayed:

  230 Guest login ok, access restrictions apply.
  ftp>

11 At the **ftp>** prompt type **ls** then press **Return/Enter**.

- The following type of response should be displayed:

  200 PORT command successful.
  150 Opening ASCII mode data connection for /bin/ls.
  total 16
  dr-xr-xr-x 6 root other 512 Feb 11 1997 .
  dr-xr-xr-x 6 root other 512 Feb 11 1997 ..
  -r-------- 1 root other 0 Feb 10 1997 .forward
  -r-------- 1 root other 0 Feb 10 1997 .rhosts
  lrwxrwxrwx 1 root other 7 Feb 7 1997 bin -> usr/bin
  dr-xr-xr-x 2 root other 512 Feb 7 1997 dev
  d--x--x--x 2 root other 512 Feb 7 1997 etc
  dr-xr-sr-x 57 root ftp 1536 Jan 8 2002 pub
  d--x--x--x 5 root other 512 Feb 7 1997 usr
  226 Transfer complete.
  ftp>

- The purpose of this step is to verify accessibility to directories on the remote host.

12 At the **ftp>** prompt type **quit** then press **Return/Enter**.

- The connection to the ftp host is terminated.

13 If a connection could not be made with the remote ftp server or if pinging was successful but the ftp could not be negotiated, notify the remote system's point of contact of the problem.

14 If the remote system's point of contact has been notified of a problem pinging or making an ftp connection, wait until the communication problem has been resolved.

15 When the communication problem has been resolved (or after waiting a reasonable period of time), return to Step 1.

- If necessary, the supervisor can provide guidance concerning what is a "reasonable" period of time to wait.

16 After a successful ftp test of the connection with the remote host, resume the affected distribution request(s).

- For detailed instructions refer to the procedure for **Suspending/Resuming Data Distribution Requests** (previous section of this lesson).

17 If the same distribution request(s) show(s) a status of "Suspended with Errors" again, recover from the data distribution failure using the procedure for **Recovering from a Data Distribution Failure** (previous section of this lesson).

Handling an Acquire Failure

Diagnosing an acquire failure involves examining the following system log files and directories involved in the process:

- Request Manager server debug log file (EcDsStRequestManagerServerDebug.log), if available.
- Science Data Server ALOG file (EcDsScienceDataServer.ALOG) and/or Science Data Server debug log file (EcDsScienceDataServerDebug.log).
- Archive Server ALOG file (EcDsStArchiveServer*HWCIn*.ALOG) and/or Archive Server debug log file (EcDsArchiveServerDebug.log).
  - *HWCIn* represents a particular hardware configuration item; for example, EcDsStArchiveServerACM1.ALOG would be located on the APC Server x0acg01.

- Staging Area.
  - Presence of the relevant file(s).
  - Staging disk log files (EcDsStStagingDiskServer*HWCIn*.ALOG, EcDsStagingDiskServerDebug.log) or cache manager log files (EcDsStCacheManagerServer*HWCIn*.ALOG, EcDsCacheManagerServerDebug.log).
  - Space available in the staging area.

Checking the Request Manager Server Debug Log

The Request Manager server processes requests from external clients (processes outside of Storage Management). Requests between Storage Management servers are passed directly from one server to another.

- Requests that require one of the Storage Management servers to perform processing are checkpointed (except requests that can be serviced solely through SQL).
  - Checkpointing involves recording the request's state (e.g., "checkpointed," "failed," "completed") in the database to assist in error recovery.
- Requests that can be serviced solely through SQL are considered "trivial" requests.
  - Trivial requests are not checkpointed.
  - Examples include attaching to a staging disk, getting capacity, and getting block size.
  - Trivial requests submitted from outside Storage Management are serviced by the Request Manager server.
  - Trivial requests originating within Storage Management are passed directly from the client to the database server.

The Request Manager server (like other Storage Management servers) can manage several concurrent activities. This is accomplished through the use of threads. There are several different kinds of threads:

- Manager thread.
  - One per Storage Management server.
  - Responsible for dequeuing requests and assigning them to service threads.
  - Checks for cancelled requests.
- Service thread.
  - Multiple threads per Storage Management server.

  - Responsible for the actual servicing of requests.
  - Logs all progress including all changes of request state.
  - Notifies submitter when request has been completed.
- Receptionist thread.
  - One per Storage Management server.
  - Registers the server as "up" in the database.
  - Sits on a socket, waiting for connections from other Storage Management servers.
  - Unregisters the server at shutdown.
- Inbound RPC thread.
  - Spawned by a request from a Storage Management client.
  - Hands off the request to the manager thread and waits for completion of the request.
- Housekeeper thread.
  - Watches for completed requests, which haven't previously been seen and processed.

Information concerning Request Manager server processing of requests (identified by thread) is recorded in the Request Manager server debug log (assuming some level of debug log recording is specified in the Registry database).

Trivial requests typically involve the following types of activities:

- Inbound RPC thread appears with a request.
- Manager thread dequeues the request and assigns it to a service thread.
- Service thread recognizes the thread as "trivial."
  - A "No checkpointing required -- going straight to responded" message is recorded in the Request Manager server debug log.
- Service thread executes the database transaction for results.
  - When the request is completed, a "Done servicing" message is recorded in the Request Manager server debug log.
  - If the request fails, an "Unable to service" message is recorded in the Request Manager server debug log.

- Service thread hands the results to the inbound RPC thread.
  - A "Notifying the client" message is recorded in the Request Manager server debug log.
- Inbound RPC thread silently returns to the client with the results.

Non-trivial requests are forwarded to the appropriate Storage Management server (e.g., EcDsStFtpServer, EcDsStStagingDiskServer, or EcDsStArchiveServer) for processing.

- Some of the same types of entries are made in the Request Manager server debug log for non-trivial requests as for trivial requests.
  - For example:
    - "Waking up service thread" (Request Manager is preparing to process the request).
    - "Done servicing" (request processing has been completed).
    - "Unable to service" (the request has failed).
- Although some trivial requests include "token" statements, tokens are characteristic of non-trivial requests.
  - A token includes request information that varies with the type of operation to be performed.
  - For example, a token for an ftp request might include the following types of data:
    - Stored procedure (e.g., DsStFRInsert) [other types of stored procedures include DsStSDRInsert and DsStGRMapLogicalArchiveId].
    - RPC ID (e.g., RPCId=1821_535_1109-1124464729_171062001_x0acs06.xdc.ecs.nasa.gov:SBSVSDSV1DSDD1DSDD4:).
    - Username.
    - Encrypted password.
    - Host.
    - Source path.
    - Destination path.
    - External request ID.
    - Server name (e.g., EcDsStFtpServerNONE) [other types of operations might involve the EcDsStStagingDiskServerDRP1 for example].

- Type of operation (e.g., FtpPush) [other types of operations include ArRetrieve, SDAllocateDisk, SDLinkFile].
- Submitter (e.g., DSDD) [other types of operations might involve SDSV].
- Priority.

– The server to which the request was sent is identified by name (ServerName).

– Transaction ID is embedded in the RPC ID (the portion before the first colon in the RPC ID).

A "transaction" may involve multiple operations on a host or several hosts. Consequently, multiple threads may be used on each relevant host.

The procedure for checking the Request Manager server debug log files starts with the assumption that the operator has logged in to the system.

Checking the Request Manager Server Debug Log

1 Access a terminal window logged in to the Distribution Server host.

- Examples of Distribution Server host (Sun internal server host) names include **e0acs11**, **g0acs11**, **l0acs03**, and **n0acs04**.
- For detailed instructions refer to the procedure for **Logging in to System Hosts** (preceding section of this lesson).

2 Type **cd /usr/ecs/*MODE*/CUSTOM/logs** then press **Return/Enter**.

3 Type **pg *filename*** then press **Return/Enter**.

- ***filename*** refers to the appropriate Request Manager debug log.
- For example:

  pg EcDsStRequestManagerServerDebug.log

- The content of the first page of the specified file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **vi**, **view**, **more**) can be used to review the log file.

4 At the **:** prompt type **/*date time*** then press **Return/Enter**.

- ***date time*** refers to the approximate date and time of the problem.
  – For example:

  06/18/01 12:17:31

- The file is searched for the specified text.
  - If the specified text is in the log file, the following type of response is displayed.

    ...skipping forward
    06/18/01 12:17:31: Thread ID : 105 : DsShTSStorage: creating the MutexVec for this thread
    […]

  - If the specified text is not in the log file, the following type of response is displayed.

    Pattern not found:

  - If the specified text is not in the log file, verify the following aspects of Steps 3 and 4:
    - Date and time were entered correctly (Step 4).
    - Proper file was opened (Step 3).

5 At the **:** prompt type **/Unable to service** then press **Return/Enter**.

- **pg** searches the file for the specified text.
  - If the specified text is in the log file, the following type of response is displayed.

    ...skipping forward
    2:IngestRQ409GR1 Unable to service | Thread 52
    […]

  - If the specified text is not in the log file, the following type of response is displayed.

    Pattern not found:

- If the specified text is in the file, go to Step 7.
- If the specified text is not in the file, go to Step 6.

6 Examine the contents of the log file to determine which thread is associated with the problem being investigated.

- The following **pg** commands (at the **:** prompt) are useful:
  - ***n*** then **Return/Enter** (go to Page *n*).
  - **Return/Enter** or **+1** then **Return/Enter** (go down to the next page).
  - **-1** then **Return/Enter** (go back to the preceding page).
  - **+*n*** then **Return/Enter** (go down *n* number of pages).
  - **-*n*** then **Return/Enter** (go back *n* number of pages).

- **+*n*l** then **Return/Enter** (go down *n* number of lines).
- **-*n*l** then **Return/Enter** (go back *n* number of lines).
- **$** then **Return/Enter** [go to the last page (end of file)].
- **q** then **Return/Enter** (exit from **pg**).

7 At the **:** prompt type the appropriate text (depending on the direction of the desired search) then press **Return/Enter**:

Type **^Waking up service thread *n*^** then press **Return/Enter** to search back toward the beginning of the file.

Type **/Waking up service thread *n*** then press **Return/Enter** to search toward the end of the file.

- For example:

  ^Waking up service thread 52^

  - The file is searched back toward the beginning of the file for the specified text.

- If the specified text is in the log file, the following type of response is displayed.

  ...skipping backward
  06/18/01 12:17:31: Thread ID : 102 : Waking up service thread 52 | Thread 102
  […]

- If the specified text is not in the log file, the following type of response is displayed.

  Pattern not found:

- The entries "Waking up service thread *n*" and "Unable to service | Thread *n*" bracket the thread servicing in which an error occurred.

NOTE: Thread IDs are reused frequently. There are likely to be many processes with the same thread ID in any particular log file. It is important to follow the correct instance of the thread.

NOTE: It is likely that the Request Manager would try again to process a failed request. Subsequent request processing may use the same thread ID or a different thread ID. However, it would involve the same transaction ID.

- A "No checkpointing required -- going straight to responded" entry associated with the thread ID indicates that the request is "trivial."

8 At the **:** prompt type **/SEARCHING** then press **Return/Enter**.

- The file is searched for the specified text.
  - If the specified text is in the log file, the following type of response is displayed.

    ...skipping forward
    06/18/01 12:17:31: Thread ID : 52 : SEARCHING FOR: 30148 (Found) | Thread 52
    06/18/01 12:17:31: Thread ID : 52 : SEARCHING FOR: 30148 (Found) | Thread 52
    06/18/01 12:17:31: Thread ID : 52 : DsStStoredProcedures::Execute - ERROR: Could not execute stored procedure | Thread 52
    06/18/01 12:17:31: Thread ID : 52 : Error encountered in stored procedure | Thread 52
    06/18/01 12:17:31: Thread ID : 52 : DBIF:Execute: Ultimate SQL: ROLLBACK TRANSACTION OUTER_7077776 | Thread 52
    06/18/01 12:17:32: Thread ID : 52 : 1_4501810_1217-1124633447_169062001_x0icg01.xdc.ecs.nasa.gov:IPOBIPOB1INRM1IGSA15:IngestRQ409GR1 Done servicing | Thread 52
    06/18/01 12:17:32: Thread ID : 52 : 1_4501810_1217-1124633447_169062001_x0icg01.xdc.ecs.nasa.gov:IPOBIPOB1INRM1IGSA15:IngestRQ409GR1 Unable to service | Thread 52
    06/18/01 12:17:32: Thread ID : 52 : 1_4501810_1217-1124633447_169062001_x0icg01.xdc.ecs.nasa.gov:IPOBIPOB1INRM1IGSA15:IngestRQ409GR1 Marked as unassigned | Thread 52
    06/18/01 12:17:32: Thread ID : 52 : 1_4501810_1217-1124633447_169062001_x0icg01.xdc.ecs.nasa.gov:IPOBIPOB1INRM1IGSA15:IngestRQ409GR1 Notifying the client | Thread 52
    06/18/01 12:17:32: Thread ID : 52 : Waiting for work | Thread 52
    06/18/01 12:17:32: Thread ID : 52 : Waking up manager thread | Thread 52
    […]

    - In the preceding example the expression **SEARCHING** is associated with Thread ID 52.
    - The context of the SEARCHING statement indicates the type and source of the problem; in this case there appears to be a problem executing a stored procedure.

  - If the specified text is not in the log file, the following type of response is displayed.

    Pattern not found:

9 If the expression **SEARCHING** is not associated with the specified thread in the lines displayed, repeat Step 8.

10 If necessary, at the **:** prompt type **-2l** [lower-case letter l] then press **Return/Enter**.

- **pg** simulates scrolling the screen backward two lines (or any other number of lines that is typed at the prompt).
  - The file is redisplayed to include the two lines that preceded the page previously displayed.
  - For example:

    ...skipping backward
    06/18/01 12:17:31: Thread ID : 52 : DBIF:Execute: Ultimate SQL: exec DsStSDAttachDisk "/usr/ecs/TS2/CUSTOM/pdps/x0spg01/data/DpPrRm/x0spg01_disk", "SDSV", 0 | Thread 52
    06/18/01 12:17:31: Thread ID : 52 : SEARCHING FOR: 30148 (Found) | Thread 52
    06/18/01 12:17:31: Thread ID : 52 : SEARCHING FOR: 30148 (Found) | Thread 52
    06/18/01 12:17:31: Thread ID : 52 : DsStStoredProcedures::Execute - ERROR: Could not execute stored procedure | Thread 52
    06/18/01 12:17:31: Thread ID : 52 : Error encountered in stored procedure | Thread 52
    […]

  - The additional lines preceding "SEARCHING FOR" in the example indicate that the stored procedure in which the error was encountered is DsStSDAttachDisk.

11 At the **:** prompt type **q** then press **Return/Enter**.

- **pg** exits from the Request Manager server debug log file.

12 If the request is a trivial request, go to Step 22.

13 If the request is a non-trivial request, open a separate UNIX window.

- The results of related operations on the server involved in performing copy or ftp functions for the transaction are going to be checked in a separate UNIX window.

14 In the new UNIX window log in to the appropriate server host (e.g., e0drg11, g0drg01, l0drg01, or n0drg01) for the server involved in performing copy or ftp functions for the transaction.

- Logging in to a server host is described in Steps 1 through 5 of the procedure for **Launching the Data Distribution Operator and Storage Management Control GUIs** (previous section of this lesson).

15 At the shell prompt type **grep '*TransactionId*' *filename* | grep 'LogProgress'** then press **Return/Enter**.

- For example:

  grep 'af610628-' EcDsStArchiveServerDebug.log | grep '*LogProgress*'

- ***filename*** refers to the name of the log file for the process involved in performing copy or ftp functions for the transaction.
- ***TransactionId*** refers to the Transaction ID associated with the applicable request.
- In this example af610628-1dd1-11b2-a047-af3a589fd88e is the relevant Transaction ID.
  - However, usually it is not necessary to use the entire Transaction ID in the command; a representative sample (e.g., af610628- from the example) should be sufficient.
  - References to other Transaction IDs and entries that do not contain the string "LogProgress" are filtered out so references to the specified Transaction ID that contain the string "LogProgress" are the only log entries displayed.
    - The string "LogProgress" is a filter for references to stored procedure DsStGRLogProgress.
  - Progress is logged for copy and ftp input/output at each block.
  - The following type of response is displayed:

    06/26/01 12:46:00: Thread ID : 65674 : myTransactionList[1]: exec DsStGRLogProgress "af610628-1dd1-11b2-a047-af3a589fd88e:PDPSSDSV1DSDD1DSDD10DSDD1DSDD1:MoPGE02#sy14182000TS2SC:MOD03.001:55732", 0, 1, "files" | Thread 65674

    06/26/01 12:46:00: Thread ID : 65674 : DBIF:Execute: Ultimate SQL: exec DsStGRLogProgress "af610628-1dd1-11b2-a047-af3a589fd88e:PDPSSDSV1DSDD1DSDD10DSDD1DSDD1:MoPGE02#sy14182000TS2SC:MOD03.001:55732", 0, 1, "files" | Thread 65674

    06/26/01 12:46:43: Thread ID : 65674 : : 06/26/01 12:46:43: read ID : 2:46:43: myTransactionmyTransactionList[1]: exec DsStGRLogProgress "af610628-1dd1-11b2-a047-af3a589fd88e:PDPSSDSV1DSDD1DSDD10DSDD1DSDD1:MoPGE02#sy14182000TS2SC:MOD03.001:55732", 60, 60, "MB"List[1]: exec DsStGRLogProgress "af610628-1dd1-11b2-a047-af3a589fd88e:PDPSSDSV1DSDD1DSDD10DSDD1DSDD1:MoPGE02#sy14182000TS2SC:MOD03.001:55732", 60, 60, "MB"65714read 65674 : 74

06/26/01 12:46:43: Thread ID : 65674 : DBIF:Execute: Ultimate SQL: exec DsStGRLogProgress "af610628-1dd1-11b2-a047-af3a589fd88e:PDPSSDSV1DSDD1DSDD10DSDD1DSDD1:MoPGE02#sy14182000TS2SC:MOD03.001:55732", 60, 60, "MB"0DBIF:Execute: Ultimate SQL: exec DsStGRLogProgress "af610628-1dd1-11b2-a047-af3a589fd88e:PDPSSDSV1DSDD1DSDD10DSDD1DSDD1:MoPGE02#sy14182000TS2SC:MOD03.001:55732", 60, 60, "MB"06/26/01 12:46:43: 6/26/01 12:46:43: | Thread : 65714read 65674 : 74

- If no progress is indicated, go to Step 22.

16 Click in the UNIX window for the Distribution Server host (Sun internal server host).

17 In the UNIX window for the Distribution Server host (Sun internal server host) type **cd /usr/ecs/*MODE*/CUSTOM/logs** then press **Return/Enter**.

18 Type **grep '*TransactionId*' *filename* | grep 'Done servicing'** then press **Return/Enter**.

- ***filename*** refers to the appropriate Request Manager debug log.
- For example:

  grep 'af610628-' EcDsStRequestManagerServerDebug.log | grep 'Done servicing'

- If the operation has been completed, the following type of response is displayed:

  06/26/01 12:46:00: Thread ID : 52 : af610628-1dd1-11b2-a047-af3a589fd88e:PDPSSDSV1DSDD1DSDD10DSDD1DSDD1:MoPGE02#sy14182000TS2SC:MOD03.001:55732 Done servicing | Thread 52

  06/26/01 12:46:44: Thread ID : 52 : af610628-1dd1-11b2-a047-af3a589fd88e:PDPSSDSV1DSDD1DSDD10DSDD1DSDD1:MoPGE02#sy14182000TS2SC:MOD03.001:55732 Done servicing | Thread 52

  06/26/01 12:46:45: Thread ID : 52 : af610628-1dd1-11b2-a047-af3a589fd88e:PDPSSDSV1DSDD1DSDD2DSDD1DSDD3:MoPGE02#sy14182000TS2SC:MOD03.001:55732 Done servicing | Thread 52

  06/26/01 12:46:47: Thread ID : 52 : af610628-1dd1-11b2-a047-af3a589fd88e:PDPSSDSV1DSDD1DSDD2DSDD1DSDD3:MoPGE02#sy14182000TS2SC:MOD03.001:55732 Done servicing | Thread 52

  06/26/01 12:46:47: Thread ID : 52 : af610628-1dd1-11b2-a047-af3a589fd88e:PDPSSDSV1DSDD1DSDD2DSDD1DSDD7:MoPGE02#sy14182000TS2SC:MOD03.001:55732 Done servicing | Thread 52

  06/26/01 12:46:50: Thread ID : 52 : af610628-1dd1-11b2-a047-af3a589fd88e:PDPSSDSV1DSDD1DSDD2DSDD1DSDD7:MoPGE02#sy14182000TS2SC:MOD03.001:55732 Done servicing | Thread 52

06/26/01 12:46:51: Thread ID : 52 : af610628-1dd1-11b2-a047-af3a589fd88e:PDPSSDSV1DSDD1DSDD4:MoPGE02#sy14182000TS2SC:MOD03.001:55732 Done servicing | Thread 52

06/26/01 12:46:56: Thread ID : 52 : af610628-1dd1-11b2-a047-af3a589fd88e:PDPSSDSV1DSDD1DSDD4:MoPGE02#sy14182000TS2SC:MOD03.001:55732 Done servicing | Thread 52

06/26/01 12:46:56: Thread ID : 52 : af610628-1dd1-11b2-a047-af3a589fd88e:PDPSSDSV1DSDD1DSDD8:MoPGE02#sy14182000TS2SC:MOD03.001:55732 Done servicing | Thread 52

06/26/01 12:46:59: Thread ID : 52 : af610628-1dd1-11b2-a047-af3a589fd88e:PDPSSDSV1DSDD1DSDD8:MoPGE02#sy14182000TS2SC:MOD03.001:55732 Done servicing | Thread 52

  - The statement "Done servicing" shows that the operation has been completed; however, it provides no indication as to whether the operation succeeded or failed.
  - If "Done servicing" is followed by "Unable to service," (as described in Step 19) the operation failed.

- If the operation has not been completed, no file entries are displayed (the UNIX prompt is displayed).
  - It may just be slow to complete.
- If the operation has been completed, go to Step 19.
- If the operation has not been completed, go to Step 20.

19 Type **grep '*TransactionId*' *filename* | grep 'Unable to service'** then press **Return/Enter**.

- ***filename*** refers to the appropriate Request Manager debug log.
- For example:

  grep '2a7d4168-' EcDsStRequestManagerServerDebug.log | grep 'Unable to service'

- If the request has failed, the following type of response is displayed:

  06/26/01 12:56:22: Thread ID : 52 : 2a7d4168-1dd2-11b2-8c52-99d0f708dce5:PDPSSDSV1:MoPGE02#sy14182000TS2MOD02OBC Unable to service | Thread 52

06/26/01 12:56:22: Thread ID : 52 : 2a7d4168-1dd2-11b2-8c52-99d0f708dce5:PDPSSDSV4:MoPGE02#sy14182000TS2MOD02OBC Unable to service | Thread 52

  - If the operation has failed, return to Step 7.

- If the operation has not failed, no file entries are displayed (the UNIX prompt is displayed).

20 If the operation has not failed, at the shell prompt type **tail -f *filename* | grep '*TransactionId*'** then press **Return/Enter**.

- ***filename*** refers to the appropriate Request Manager debug log.
- ***TransactionId*** refers to the Transaction ID associated with the applicable request.
- For example:

  tail -f EcDsStRequestManagerServerDebug.log | grep 'af610628-'

- If new entries are being posted to the log, the operation has not finished yet.
  - If the same entries continue to be repeated over and over, there could be a problem with the server.
  - Notify the Operations Controller/System Administrator of suspected server problems.
- If it is necessary to exit from a tailed log, type **^c** [Ctrl c] then press **Return/Enter**.

21 If the operation has not finished yet, monitor the tailed log for a while.

- If the operation does not seem to finish (i.e., if entries continue to be made to the tailed log) after a reasonable period of time (e.g., 30 minutes), notify the Operations Controller/System Administrator of the problem.
- If it is necessary to exit from a tailed log, type **^c** [Ctrl c] then press **Return/Enter**.

22 If problems were detected in the Request Manager server debug log and/or the log file for the process involved in performing copy or ftp functions for the transaction, notify the Operations Controller/System Administrator of the problem.

- Return to the procedure for **Recovering from a Data Distribution Failure** after the problem has been corrected.

23 If no problems were detected in the Request Manager server debug log or the log file for the process involved in performing copy or ftp functions for the transaction, continue with the procedure for **Checking the Science Data Server Log Files**.

Checking the Science Data Server Log Files

The procedure for checking the Science Data Server log files starts with the assumption that the operator has logged in to the system.

Checking the Science Data Server Log Files

---

1 Access a terminal window logged in to the SDSRV Server host.

- Examples of SDSRV Server host (Sun internal server host) names include **e0acs11**, **g0acs11**, **l0acs03**, and **n0acs04**.
- For detailed instructions refer to the procedure for **Logging in to System Hosts** (preceding section of this lesson).

2 Type **cd /usr/ecs/*MODE*/CUSTOM/logs** then press **Return/Enter**.

3 Type **view *filename*** then press **Return/Enter**.

- For example:

  view EcDsScienceDataServer.ALOG

- Although this procedure has been written for the **view** command, any UNIX editor or visualizing command (e.g., **vi**, **pg**, **more**) can be used to review the log file.

4 Review the log file to determine whether the relevant file was successfully acquired.

- The EcDsScienceDataServer.ALOG file should contain entries identifying the file to be acquired by the ShortName of the corresponding ESDT.
- The EcDsScienceDataServer.ALOG file should contain entries regarding the acquire activity. The following types of messages should be included in the ALOG file:

  PID : 5497:Thread ID : 525 : MsgLink :0 meaningfulname :DsSrWorkingCollectionDistributeOneDistributFile

  Msg: File 1 to be distributed: :SC:MOD03.001:55732:1.HDF-EOS, rpcID = 4_18442_1727-1124614837_169062001_x0sps06.xdc.ecs.nasa.gov:PDPS: MoPGE 02#sy14182000TS2SC:MOD03.001:55732 Priority: 0 Time : 06/18/01 17:27:47

  PID : 5497:Thread ID : 525 : MsgLink :0 meaningfulname :DsSrWorkingCollectionDistributeOneDistributFile

  Msg: File 2 to be distributed: SCMOD03.00155732.met, rpcID = 4_18442_1727-1124614837_169062001_x0sps06.xdc.ecs.nasa.gov:PDPS:MoPGE02# sy14182000TS2SC:MOD03.001:55732 Priority: 0 Time : 06/18/01 17:27:47

PID : 5497:Thread ID : 525 : MsgLink :0 meaningfulname :DsSrWorkingCollectionDoDitributeCreateDsDdRequestMgrC

Msg: Calling routine to execute DsDdRequestMgrC::Create, ddistRpcID=4_18442_1727-1124614837_169062001_x0sps06.xdc.ecs.nasa.gov: PDPSSDSV1:MoPGE02#sy14182000TS2SC:MOD03.001:55732 Priority: 0 Time :

06/18/01 17:27:47

PID : 5497:Thread ID : 525 : MsgLink :0 meaningfulname :DsSrWorkingCollectionDoDitributeSubmitAcquireToDDist

Msg: Calling routine to execute DsDdRequestMgrC::Submit(), ddistRpcID=4_18442_1727-1124614837_169062001_x0sps06.xdc.ecs.nasa.gov: PDPSSDSV1:MoPGE02#sy14182000TS2SC:MOD03.001:55732 Priority: 0 Time : 06/18/01 17:27:47

PID : 5497:Thread ID : 525 : MsgLink :0 meaningfulname :DsSrWorkingCollectionDDISTSubmitDDistSubmitReturned

Msg: Calling routine to execute DsDdRequestMgrC::Submit, DDistRpcID=4_18442_1727-1124614837_169062001_x0sps06.xdc.ecs.nasa.gov: PDPSSDSV1:MoPGE02#sy14182000TS2SC:MOD03.001:55732 Priority: 0 Time : 06/18/01 17:27:47

PID : 5497:Thread ID : 525 : MsgLink :0 meaningfulname :DsSrWorkingCollectionDDISTSubmitDDistSubmitReturned

Msg: Returned from DsDdRequestMgrC::Submit(), DDistRpcID=4_18442_1727-1124614837_169062001_x0sps06.xdc.ecs.nasa.gov: PDPSSDSV1:MoPGE02#sy14182000TS2SC:MOD03.001:55732 Priority: 0 Time : 06/18/01 17:28:16

PID : 5497:Thread ID : 525 : MsgLink :0 meaningfulname :DsSrWorkingCollectionDoDitributeDistributeFile

Msg: Acquire Succeeded - DISTRIBUTED 2 filecount, rpcID = 4_18442_1727-1124614837_169062001_x0sps06.xdc.ecs.nasa.gov:PDPS:MoPGE02#sy14182000 TS2SC:MOD03.001:55732 Priority: 0 Time : 06/18/01 17:28:16

PID : 5497:Thread ID : 525 : MsgLink :0 meaningfulname :DsSrSessionExecuteCommandComplt

Msg: Command 1/1 execution complete for Request ID 4_18442_1727-1124614837_169062001_x0sps06.xdc.ecs.nasa.gov:PDPS:MoPGE02#sy14182000 TS2SC:MOD03.001:55732, Success: 1 Priority: 0 Time : 06/18/01 17:28:16

PID : 5497:Thread ID : 525 : MsgLink :0 meaningfulname :DsShSRequestRealSetStateSettingState

Msg: Request 4_18442_1727-1124614837_169062001_x0sps06.xdc.ecs.nasa.gov: PDPS:MoPGE02#sy14182000TS2SC:MOD03.001:55732 state set to DONE Priority: 0 Time : 06/18/01 17:28:16

- If the ShortName does not appear in the ALOG file, with a timestamp corresponding to the time of the attempted acquire, SDSRV may not be running, or may not be communicating with other servers.
- If the ALOG file does contain entries for that ShortName and indicates that two files (the file and its associated metadata file) are being distributed, SDSRV has completed its role in the acquire.
- If the ALOG contains the ShortName and also contains an error showing that the data file time stamp does not match the time stamp required by the acquire, the data file needs to be removed from the Science Data Server and reinserted.
  - This is usually done using a script called DsDbCleanGranules.

5 Type **:q!** then press **Return/Enter** to quit the view application.

6 If the ShortName does **not** appear in the ALOG file, with a timestamp corresponding to the time of the attempted acquire, ensure (e.g., using EcCsIdPingServers) that it is possible to connect to the necessary hosts and servers (listed in Table 10).

- If it is not possible to connect to any needed host(s)/server(s), notify the Operations Controller/System Administrator to check the hosts/servers and bring them back up if necessary.
- Return to the procedure for **Recovering from a Data Distribution Failure** after the problem has been corrected.

7 If the ALOG contains the ShortName and also contains an error showing that the data file time stamp does not match the time stamp required by the acquire, notify the Archive Manager to have the data file removed from the Science Data Server and reinserted.

- Return to the procedure for **Recovering from a Data Distribution Failure** after the problem has been corrected.

8 If the ALOG file does contain entries for the ShortName and indicates that two files (the file and its associated metadata file) are being distributed, continue with the procedure for **Checking the Archive Server Log Files**.

Checking the Archive Server Log Files

Acquire success from the Science Data Server is only part of the acquire process. Since any file entered into SDSRV is stored in the archive, the Archive Server must be involved during an acquire. Consequently, it may be useful to inspect the Archive Server log files (e.g., EcDsStArchiveServer*HWCIn*.ALOG) to check for error messages associated with the ShortName of the file type.

The procedure for checking the archive server log files starts with the assumption that the operator has logged in to the system.

Checking the Archive Server Log Files

---

1 Access a terminal window logged in to the appropriate host.

- Examples of appropriate host names include **e0acg11, g0acg01, l0acg02**, and **n0acg01**.
- For detailed instructions refer to the procedure for **Logging in to System Hosts** (preceding section of this lesson).

2 Type **cd /usr/ecs/*MODE*/CUSTOM/logs** then press **Return/Enter**.

3 Type **view *filename*** then press **Return/Enter**.

- For example:

  view EcDsStArchiveServerACM1.ALOG

- Although this procedure has been written for the **view** command, any UNIX editor or visualizing command (e.g., **vi**, **pg**, **more**) can be used to review the log file.

4 Review the log file to determine whether the relevant file was successfully acquired.

5 Type **:q!** then press **Return/Enter** to quit the view application.

6 If the relevant file was **not** successfully acquired, notify the Archive Manager to have the data file reacquired for Data Processing.

- Return to the procedure for **Recovering from a Data Distribution Failure** after the problem has been corrected.

7 If the relevant file was successfully acquired, continue with the procedure for **Checking the Staging Disk**.

Checking the Staging Disk

During an acquire, files are copied to a staging area as an intermediate step before distributing them to their destination. As part of diagnosing an acquire failure it is useful to check the staging area to ascertain whether the files have completed part of their journey. A subdirectory containing both the data granule and metadata file should have been written to the staging area.

The procedure for checking the staging disk starts with the assumption that the operator has logged in to the system.

Checking the Staging Disk

---

1 Access a terminal window logged in to the Distribution Server host.

- Examples of Distribution Server host (Sun internal server host) names include **e0acs11**, **g0acs11**, **l0acs03**, and **n0acs04**.
- For detailed instructions refer to the procedure for **Logging in to System Hosts** (preceding section of this lesson).

2 Type **cd /usr/ecs/*MODE*/CUSTOM/drp/*archivehost*/data/staging/*disk#*** then press **Return/Enter**.

3 Type **ls -lrt** then press **Return/Enter**.

4 Review the directory to determine whether the relevant file was successfully staged.

5 If the relevant file was successfully staged, ensure (e.g., using EcCsIdPingServers) that it is possible to connect to the necessary hosts and servers (listed in Table 10).

- If it is not possible to connect to any needed host(s)/server(s), notify the Operations Controller/System Administrator to check the hosts/servers and bring them back up if necessary.
- Return to the procedure for **Recovering from a Data Distribution Failure** after the problem has been corrected.

6 If the relevant file was **not** successfully staged, continue with the procedure for **Checking the Staging Disk ALOG File** to determine why it was not successfully staged.

Checking the Staging Disk ALOG File

If a failure occurs in copying files to the staging area, then the staging disk ALOG files (e.g., EcDsStStagingDiskServer.ALOG or EcDsStCacheManagerServer.ALOG) may reveal the cause.

The procedure for checking the staging disk ALOG file starts with the assumption that the operator has logged in to the system.

Checking the Staging Disk ALOG File

---

1 Access a terminal window logged in to the Distribution Server host.

- Examples of Distribution Server host (Sun internal server host) names include **e0acs11**, **g0acs11**, **l0acs03**, and **n0acs04**.
- For detailed instructions refer to the procedure for **Logging in to System Hosts** (preceding section of this lesson).

2 Type **cd /usr/ecs/*MODE*/CUSTOM/logs** then press **Return/Enter**.

3 Type **view EcDsStStagingDiskServer.ALOG** or **EcDsStCacheManagerServer.ALOG** then press **Return/Enter**.

- Although this procedure has been written for the **view** command, any UNIX editor or visualizing command (e.g., **vi**, **pg**, **more**) can be used to review the log file.

4 Review the log file to determine whether the relevant file was successfully staged.

5 Type **:q!** then press **Return/Enter** to quit the view application.

6 If the relevant file was successfully staged, ensure (e.g., using EcCsIdPingServers) that it is possible to connect to the necessary hosts and servers (listed in Table 10).

- If it is not possible to connect to any needed host(s)/server(s), notify the Operations Controller/System Administrator to check the hosts/servers and bring them back up if necessary.
- Return to the procedure for **Recovering from a Data Distribution Failure** after the problem has been corrected.

7 If the relevant file was **not** successfully staged, continue with the procedure for **Checking the Space Available in the Staging Area**.

Checking the Space Available in the Staging Area

Failure can be caused by a lack of space in the staging area.

The procedure for checking the space available in the staging area starts with the assumption that the operator has logged in to the system.

Checking the Space Available in the Staging Area

1 Access a terminal window logged in to the Distribution Server host.

- Examples of Distribution Server host (Sun internal server host) names include **e0acs11**, **g0acs11**, **l0acs03**, and **n0acs04**.
- For detailed instructions refer to the procedure for **Logging in to System Hosts** (preceding section of this lesson).

2 Type **cd /usr/ecs/*MODE*/CUSTOM/drp/*archivehost*/data/** then press **Return/Enter**.

3 Type **df -k .** (being sure to include the dot) then press **Return/Enter**.

4 Review the available space listed to determine whether there is adequate space for staging the relevant file.

5 If there is **not** adequate space for staging the relevant file, notify the Operations Controller/System Administrator of the lack of space.

6 If there is adequate space for staging the relevant file, notify the Archive Manager to have the data file reacquired for Data Processing.

7 Return to the procedure for **Recovering from a Data Distribution Failure** after the problem has been corrected.

Checking Log Files

Log files can provide indications of the following types of problems:

- Communication problems.
- Database problems.
- Lack of disk space.

The procedure for checking log files starts with the assumption that the operator has logged in to the system and the appropriate host.

1 Access a terminal window logged in to the appropriate host.

- Sun internal server (e.g., e0acs11, g0acs11, l0acs03, or n0acs04) host has the following data distribution, storage management, science data server, subscription server (SBSRV), and Order Manager ALOG files:
  - EcDsDistributionServer.ALOG.
  - EcDsSt8MMServerNONE.ALOG.
  - EcDsStRequestManagerServer.ALOG
  - EcDsStStagingDiskServerDIP1.ALOG.
  - EcDsGranuleDelete.ALOG.
  - EcDsScienceDataServer.ALOG.
  - EcDsScienceDataServerClient.ALOG.
  - EcDsSdSrvGui.ALOG.
  - EcSbSubServer.ALOG.
  - EcOmOrderManager.ALOG
- APC Server (e.g., e0acg11, g0acg01, l0acg02, or n0acg01) host has the following storage management ALOG files:
  - EcDsStArchiveServerACM1.ALOG.
  - EcDsStCacheManagerServerACM1.ALOG.
  - EcDsStFtpServerNONE.ALOG.
  - EcDsStStagingDiskServerACM1.ALOG.
- FSMS Server (e.g., e0drg11, g0drg01, l0drg01, or n0drg01) host has the following storage management ALOG files:
  - EcDsHdfEosServer.ALOG.
  - EcDsStArchiveServerDRP1.ALOG
  - EcDsStCacheManagerServerDRP1.ALOG.
  - EcDsStFtpServerDRP1.ALOG.
  - EcDsStStagingDiskServerDRP1.ALOG.

- Operations Workstation (e.g., e0acs12, g0acs02, l0acs01, or n0acs03) host has the following GUI ALOG files:
  - EcDsDdistGui.ALOG.
  - EcDsStmgtGui.ALOG.
  - EcDsSdSrvGui.ALOG.
- Data Pool Server (e.g., e0dps01, g0dps01, l0dps01, or n0dps01) host has the following Data Pool and Spatial Subscription Server log files:
  - EcDlActionDriver.ALOG.
  - EcDlInsertUtility.log.
  - EcDlMostRecentInsert.log.
  - EcDlWebaccess.log.
  - EcDlWebaccess.DEBUGLOG.
  - EcDlDpmDataPoolGUI.log.
  - EcDlM2XT.ALOG.
  - EcDlRollupFwFtpLogs.log.
  - EcNbGUI.log.
- In addition to the ALOG files mentioned the preceding hosts have corresponding debug log files.
- For detailed instructions refer to the procedure for **Logging in to System Hosts** (preceding section of this lesson).

2 Type **cd /usr/ecs/*MODE*/CUSTOM/logs** then press **Return/Enter**.

- Change directory to the directory containing the data distribution, science data server, or storage management log files (e.g., EcDsDdistGui.ALOG, EcDsDistributionServer.ALOG).

3 Type **pg *filename*** then press **Return/Enter**.

- ***filename*** refers to the data distribution, science data server, or storage management log file to be reviewed (e.g., EcDsDdistGui.ALOG, EcDsDistributionServer.ALOG).
- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **vi**, **view, more**) can be used to review the log file.

4 Review the log file to identify problems that have occurred.

5 Respond to problems as follows:

- DDIST- or STMGT-related problems.
  - Perform the appropriate procedure(s) from the list near the beginning of the **DDIST Troubleshooting Procedures** section.
- Communication problems.
  - Notify the Operations Controller/System Administrator of suspected communication problems.
- Database problems.
  - Verify that relevant database servers are running.
  - Check for lack of (or corruption of) data in the database using either a database browser or isql commands.
  - Notify the Database Administrator of suspected database problems.
- Lack of disk space.
  - Remove unnecessary files.
  - Notify the Operations Controller/System Administrator of recurring disk space problems.

Checking Database Connections

The storage management/data distribution shared database is the repository of data concerning data distribution requests. If applications (including the Data Distribution Operator GUI) are unable to connect to the database, the data distribution request data cannot be retrieved or (in the case of the GUI) displayed. Consequently, if the GUI does not display data or if the display does not refresh, checking the database connections is a logical step in trying to isolate the problem.

The procedure for checking database connections starts with the assumption that the operator has logged in to the system.

Checking Database Connections

---

1 Submit a request to the Database Administrator to identify the values for the following parameters associated with the EcDsDistributionServer:

- **DBName.**
- **DBServer.**
- **DBMaxConnections.**

2 Access a terminal window logged in to the APC Server host.

- Examples of APC Server host names include **e0acg11**, **g0acg01**, **l0acg02,** and **n0acg01**.
- For detailed instructions refer to the procedure for **Logging in to System Hosts** (preceding section of this lesson).
- APC Server typically hosts Sybase for the storage management/data distribution shared database.

3 Type **isql –U*userID* -S*DBServer*** then press **Return/Enter**.

- For example:

  isql –Ustmgt_role –Sx0acg01_srvr

4 At the **Password:** prompt type ***dbpassword*** then press **Return/Enter**.

- The ***dbpassword*** is the password for logging in to the database using the specified ***userID***.

5 Type **sp_who** at the **1>** prompt then press **Return/Enter**.

6 Type **go** at the **2>** prompt then press **Return/Enter**.

- A listing similar to the following one is displayed (some lines have been deleted):

```
 spid  status      loginame                 hostname   blk
     dbname                  cmd
------ ----------- ------------------------------ ---------- -----
     ---------------------------- ----------------
   1 recv sleep   stmgt_role                x0acs03     0
     stmgtdb1_TS1              AWAITING COMMAND
   2 sleeping    NULL                            0
     master                  NETWORK HANDLER
   3 sleeping    NULL                            0
     master                  DEADLOCK TUNE
   4 sleeping    NULL                            0
     master                  MIRROR HANDLER
   5 sleeping    NULL                            0
     master                  HOUSEKEEPER
   6 sleeping    NULL                            0
     master                  CHECKPOINT SLEEP
   7 sleeping    NULL                            0
     master                  AUDIT PROCESS
   8 recv sleep   stmgt_role                x0ais01   0
     stmgtdb1_TS1              AWAITING COMMAND
   9 recv sleep   EcDsStArchiveServer                0
     stmgtdb1_TS2              AWAITING COMMAND
  10 recv sleep   EcInReqMgr                         0
```

Ingest_TS3 AWAITING COMMAND
11 recv sleep EcDsStCacheManagerServer 0
stmgtdb1_TS2 AWAITING COMMAND
12 recv sleep EcDsStStagingDiskServer 0
stmgtdb1_TS2 AWAITING COMMAND
13 recv sleep EcInGran x0icg01 0
Ingest_TS3 AWAITING COMMAND
14 recv sleep EcDsStFtpServer 0
stmgtdb1_TS2 AWAITING COMMAND
15 recv sleep EcDsStArchiveServer 0
stmgtdb1_TS1 AWAITING COMMAND
16 recv sleep EcDsStCacheManagerServer 0
stmgtdb1_TS1 AWAITING COMMAND
17 recv sleep EcDsStStagingDiskServer 0
stmgtdb1_TS1 AWAITING COMMAND
18 recv sleep EcInGran 0
Ingest_TS3 AWAITING COMMAND
19 recv sleep EcDsStStagingDiskServer 0
stmgtdb1_TS1 AWAITING COMMAND
20 recv sleep EcInGUI 0
Ingest_TS1 AWAITING COMMAND
21 recv sleep EcDsDistributionServer 0
stmgtdb1_TS1 AWAITING COMMAND
22 recv sleep EcDsDistributionServer 0
stmgtdb1_TS1 AWAITING COMMAND
23 recv sleep EcDsDistributionServer 0
stmgtdb1_TS1 AWAITING COMMAND
24 recv sleep EcDsDistributionServer 0
stmgtdb1_TS1 AWAITING COMMAND
25 recv sleep EcDsDistributionServer 0
stmgtdb1_TS1 AWAITING COMMAND
26 recv sleep EcDsDistributionServer 0
stmgtdb1_TS1 AWAITING COMMAND
27 recv sleep EcDsDistributionServer 0
stmgtdb1_TS1 AWAITING COMMAND
28 recv sleep EcDsDistributionServer 0
stmgtdb1_TS1 AWAITING COMMAND
29 recv sleep EcDsDistributionServer 0
stmgtdb1_TS1 AWAITING COMMAND
30 recv sleep EcDsDistributionServer 0
stmgtdb1_TS1 AWAITING COMMAND
31 recv sleep EcDsDistributionServer 0
stmgtdb1_TS1 AWAITING COMMAND
32 recv sleep EcDsDistributionServer 0
stmgtdb1_TS1 AWAITING COMMAND

```
   33 recv sleep   EcDsDistributionServer              0
     stmgtdb1_TS1              AWAITING COMMAND
   34 recv sleep   EcDsDistributionServer              0
     stmgtdb1_TS1              AWAITING COMMAND
   35 recv sleep   EcDsDistributionServer              0
     stmgtdb1_TS1              AWAITING COMMAND
   36 recv sleep   EcInPolling                         0
     Ingest_TS1                AWAITING COMMAND
[…]
   49 recv sleep   EcDsStmgtGui                       0
     stmgtdb1_TS1              AWAITING COMMAND
   50 recv sleep   EcDsDdistGui                       0
     stmgtdb1_TS1              AWAITING COMMAND
   51 recv sleep   EcDsDdistGui                       0
     stmgtdb1_TS1              AWAITING COMMAND
   52 recv sleep   EcDsDdistGui                       0
     stmgtdb1_TS1              AWAITING COMMAND
   53 recv sleep   EcDsDdistGui                       0
     stmgtdb1_TS1              AWAITING COMMAND
   54 running      stmgt_role              x0icg01   0
     stmgtdb1                  SELECT
   55 recv sleep   EcDsStArchiveServer                0
     stmgtdb1                  AWAITING COMMAND
(55 rows affected)
(return status = 0)
```

7 Type **sp_configure "user connections"** at the **1>** prompt then press **Return/Enter**.

8 Type **go** at the **2>** prompt then press **Return/Enter**.

- A listing similar to the following one is displayed:

```
Parameter Name              Default     Memory Used Config Value
      Run Value
 --------------------------- ----------- ----------- ------------
      -----------
 number of user connections            25      20195        255
           255
(1 row affected)
(return status = 0)
```

9 Type **quit** at the **1>** prompt then press **Return/Enter**.

10 Compare the number of actual connections (results of **sp_who**) with the number of connections for which the database has been configured (results of **sp_configure "user connections"**).

11 If the number of actual connections is very close to the number of connections for which the database has been configured, notify the Database Administrator of the fact.

12 If the number of actual connections is **not** very close to the number of connections for which the database has been configured, compare the number of actual connections with the value for DBMaxConnections that the Database Administrator specified (Step 1).

13 If the number of actual connections is very close to the value for DBMaxConnections, notify the Database Administrator of the fact.

- It may be advisable to increase the value assigned to the DBMaxConnections parameter in the Configuration Registry.

Recovering from Order Manager Failures

Actions to be taken when recovering from some common Order Manager problems are described in Table 11:

Table 11. Recovering from Order Manager Failures (1 of 6)

Symptom	Likely Cause(s)	Response
Request is hanging in Queued status	Global Staging Status parameter is set to "S."	On the **OMS Server and Database Configuration** page determine whether or not Global Staging Status is set to "S." [For detailed instructions refer to the procedure for **Checking/Modifying Values Assigned to OMS Server or Database Parameters** (previous section of this lesson).]
	Archive Server queue is suspended.	On the **OM Queue Status** page determine whether or not the archive server queue where the data comes from is suspended. [For detailed instructions refer to the procedure for **Checking/Modifying OM Queue Status** (previous section of this lesson).]

Table 11. Recovering from Order Manager Failures (2 of 6)

Symptom	Likely Cause(s)	Response
Request is hanging in Queued status (Cont.)	Media type specific staging parameter(s) set to 0.	1. For a hard media or ftp pull request, on the **Media Configuration** page check the two parameters under the media type of the request. (If either of the two sets to 0, the request cannot be promoted to "Staging.") [For detailed instructions refer to the procedure for **Checking/Modifying Values Assigned to Media Parameters** (previous section of this lesson).] 2. For an ftp push request, check the configuration on the **FTP Push Policy Configuration** page (If it is a request for the general group, check the RHWM and DHWM. If it is a request for a configured destination, click into that destination to check its RHWM and DHWM.) [For detailed instructions refer to the procedure for **Checking/Modifying FTP Push Policy Configuration** (previous section of this lesson).]
	Number of requests in the request resource category hits the limit.	1. On the **Staging Distribution Requests** page determine the request category for the request (in the "Resource Class" column). [For detailed instructions refer to the procedure for **Monitoring/Controlling Distribution Request Information on the OM GUI** (previous section of this lesson).] 2. On the **OMS Server and Database Configuration** page determine the maximum number of requests in the appropriate category (i.e., Max Cheap Requests, Max Moderate Requests, or Max Expensive Requests) that could be processed concurrently by OMS. [For detailed instructions refer to the procedure for **Checking/Modifying Values Assigned to OMS Server or Database Parameters** (previous section of this lesson).] 3. Count the number of requests in the appropriate resource class in "Staging." If the number is greater than or equal to the value of the maximum number of requests for the category, that is why the request is stuck in "Queued." (The system has to work off its load before it gets to process the request.) [For detailed instructions refer to the procedure for **Monitoring/Controlling Distribution Request Information on the OM GUI** (previous section of this lesson).]

Table 11. Recovering from Order Manager Failures (3 of 6)

Symptom	Likely Cause(s)	Response
Request is hanging in Queued status (Cont.)	RHWP/DHWP exceeds RHWM/DHWM in the staging pool of the media type.	If the Order Manager Server is running at DebugLogLevel 3, open the server debug log, search for the following keywords: OmSrStagingPool(FtpPull)::UpdateWaterMarks Adding ReqId=XXX ReqSize=XXX ReqPriority=XXX pending=xxx, active=xxx, RHWP=aaa RHWM=bbb DHWP=ddd DHWM=eee. (RHWP is the number of requests currently active in the staging pool. DHWP is the amount of data currently being staging in the staging pool. Usually both RHWP and DHWP must be lower than the corresponding RHWM and DHWM. (NOTE: There are some exceptions.) This could be the reason why the request is stuck in "Queued;" the system has to work off its load before it gets to process the request. [For detailed instructions refer to the procedure for **Checking Log Files** (previous section of this lesson).]
	All archive tape drivers are busy.	Determine whether all archive tape drivers are busy. (The number of archive tape drivers per archive that OMS could use is maintained by the Data Pool Maintenance GUI. The OM Server could not dispatch more granules to DPL if all the archive tape drivers are busy for the archive. So the system has to work off its load before it gets to process the request.) [For detailed instructions refer to the **Monitor Data Pool Active Insert Processes Using the DPM GUI** procedure in the Archive Processing lesson (625-EMD-010).]
	DPL file system is down/not available.	On the **Operator Alerts** page determine whether a specific file system alert has been generated. (If one of DPL file systems is down or not available, ESDTs that are configured for staging to that file system are suspended for staging in OMS.) [For detailed instructions refer to the procedure for **Viewing Operator Alerts on the OM GUI** (previous section of this lesson).]
	Queue is suspended.	On the **OM Queue Status** page determine whether or not the corresponding queue has been suspended. (If so, the request is not going to be worked off until the queue is reactivated.) [For detailed instructions refer to the procedure for **Checking/Modifying OM Queue Status** (previous section of this lesson).]

Table 11. Recovering from Order Manager Failures (4 of 6)

Symptom	Likely Cause(s)	Response
Request is hanging in Staging status (Cont.)	Granule(s) of the request is (are) stuck in "Staging."	1. On the **Distribution Requests** page click on the request ID to bring up the **Distribution Request Detail** page. [For detailed instructions refer to the procedure for **Monitoring/Controlling Distribution Request Information on the OM GUI** (previous section of this lesson).] 2. Check the status of each individual granule in the request. (If one of them stays in "Staging," the whole request will remain in "Staging" until the granule finishes staging.) [For detailed instructions refer to the procedure for **Monitoring/Controlling Distribution Request Information on the OM GUI** (previous section of this lesson).] 3. If at least one of the granules in the request is still in "Staging," check the DPL DlActionDriver log and DlInsertUtility log to determine why the granule has not completed staging yet. [For detailed instructions refer to the procedure for **Checking Log Files** (previous section of this lesson).]
	Global Staging Status Parameter flag is suspended while the request is in the middle of staging.	Check the Global Staging Status parameter. (If the flag is suspended while the request is in the middle of staging, the request will stay in "Staging" until the suspension is lifted.) [For detailed instructions refer to the procedure for **Checking/Modifying Values Assigned to OMS Server or Database Parameters** (previous section of this lesson).]
	Archive Sever queue is suspended while the request is in the middle of staging.	On the **OM Queue Status** page determine whether or not the Archive Server queue has been suspended. (If the archive is suspended while the request is in the middle of staging, the request will remain in that status until the suspension is lifted.) [For detailed instructions refer to the procedure for **Checking/Modifying OM Queue Status** (previous section of this lesson).]
Request goes to Operator Intervention from Staging	There is a bad granule in the request.	On the **Open Interventions Detail** page fail the bad granule (or replace it with a good one) then resubmit the request. [For detailed instructions refer to the procedure for **Responding to an Open Intervention** (previous section of this lesson).]

Table 11. Recovering from Order Manager Failures (5 of 6)

Symptom	Likely Cause(s)	Response
Request is hanging in Transferring status	A request usually stays in "Transferring" for one of the following reasons: · Ftp Push login/password failure. · Destination host not reachable. · Destination disk space is full. · Ftp Push operation timed out. · Number consecutive failure for that destination exceeds configured maximum number. If one of the preceding situations occurs, the destination of the request is suspended.	1. On the **Operator Alerts** page or **Suspended Destinations** page get access to the detailed explanation for the alert associated with the ftp push destination name/target host. (Ftp push operations that caused the suspension of destination are listed.) [For detailed instructions refer to the procedure for **Viewing Operator Alerts on the OM GUI** (previous section of this lesson).] 2. If there is a large ftp push load within a certain period of time and it seems that the request stays in "Transferring" for a very long time check the configuration on the **FTP Push Policy Configuration** page (The number of concurrent ftp push requests for the destination may be set too low.) [For detailed instructions refer to the procedure for **Checking/Modifying FTP Push Policy Configuration** (previous section of this lesson).] 3. If it is a request for a configured destination, first check Max Operations on the upper left corner. (If its value is 0, there is no ftp push operation allowed for the configured destination. If the value is too low, the workload will be worked off very slowly.) [For detailed instructions refer to the procedure for **Checking/Modifying FTP Push Policy Configuration** (previous section of this lesson).] 4. If it is a request for the general group, check the Max Operations. [For detailed instructions refer to the procedure for **Checking/Modifying FTP Push Policy Configuration** (previous section of this lesson).]
Request goes to Operator Intervention from Transferring status	A granule of the request failed ftp push for a reason other than those listed under "Request is hanging in Transferring status."	1. On the **Open Interventions Detail** page fail the bad request (or replace it with a good one) then resubmit the request. [For detailed instructions refer to the procedure for **Responding to an Open Intervention** (previous section of this lesson).]
Ftp pull request goes to Operator Intervention	Quick Server on the APC Server host (e.g., e0acg11, g0acg01, l0acg02, or n0acg01) is down.	On the APC Server host (e.g., e0acg11, g0acg01, l0acg02, or n0acg01) determine the status (up or down) of the Quick Server. [For detailed instructions refer to the procedure for **Checking Connections to Hosts/Servers** (previous section of this lesson).]

Table 11. Recovering from Order Manager Failures (6 of 6)

Symptom	Likely Cause(s)	Response
Ftp pull request goes to Operator Intervention (Cont.)	Permission for creating a subdirectory is denied on the APC Server host.	On the APC Server host determine the permissions for creating an Ftp Pull subdirectory. [For detailed instructions refer to the procedure for **Determining the Permissions for Creating an FtpPull Subdirectory** (subsequent section of this lesson).]

Determining the Permissions for Creating an Ftp Pull Subdirectory

One of the criteria for a successful Ftp Pull distribution is the creation of an Ftp Pull subdirectory for staging the data to be distributed. If permission for creating a subdirectory is denied on the host, the Ftp Pull distribution cannot be accomplished.

The procedure for determining the permissions for creating an Ftp Pull subdirectory starts with the assumption that the operator has logged in to the system.

Determining the Permissions for Creating an Ftp Pull Subdirectory

---

1 Access a terminal window logged in to the appropriate host.

- For example APC Server host names include **e0acg11**, **g0acg01**, **l0acg02,** and **n0acg01**.
- For detailed instructions refer to the procedure for **Logging in to System Hosts** (preceding section of this lesson).

2 At the command line prompt type **cd** ***path*** then press **Return/Enter**.

- ***path*** indicates the path to the directory with the permissions to be checked.
- For example:

  cd /usr/ecs/OPS/CUSTOM/acm/x0acg01/data/PullDisk/user

3 Type **ls -al** then press **Return/Enter**.

- The following type of result is obtained:

```
total 32
drwxrwxr-x   30 cmops    cmops      4096 Mar 21  2005 ./
drwxrwxr-x    4 cmops    cmops        88 Nov  9  2002 ../
drwxr-xr-x    2 cmshared cmshared     135 Jun  7  2004 0800011693bFwLJA/
drwxr-xr-x    2 cmshared cmshared     135 Jul  7  2004 0800011693rPWeDb/
[…]
```

4 Observe the results of the **ls –al** command.

- In the example in Step 3 the permissions for the current directory (represented by ./ at the end of the end of the line) allow user cmops and other members of the same group (including cmshared, cmts1, and cmts2) but no others to write to the directory. So cmshared could create a subdirectory in the current directory.
- In the example that follows the permissions for the current directory allow the owner (i.e., cmops) only to write to the directory. So cmshared could not create a subdirectory in the current directory.

total 960
drwxr-xr-x 5 cmops 4096 Jul 30 2004 .
drwxr-xr-x 37 cmops 28672 Oct 7 10:48 ..
-rw-r--r-- 1 cmops 20210 Jul 30 2004
MISR_AM1_AS_AEROSOL_P015_O008407_F06_0013.hdf
-rw-r--r-- 1 cmops 78009 Jul 30 2004
MISR_AM1_AS_AEROSOL_P015_O008407_F06_0013.hdf.met
[…]

Notes Concerning the OMS Database

The OMS database contains a wealth of information, most of which can be accessed from the GUI. However, to see system-wide issues clearly it sometimes helps to use SQL queries.

Warning

Do not update the OMS database using SQL commands because it is very easy to get the database out of sync.

- The OmRequest table has CreationDate (time of order creation), MediaTypeId, Source (e.g., MTMGW), UserId (ECS User Profile) and RequestId (requestId from MSS EcAcRequest).
- The status of a request is in MSS DB table EcAcRequest, requestStatus field **only**.
- Use **select * from OmMediaType** to get all the values for MediaTypeId.
- Table OmGranule has all the granules including:
    - ECS_GranuleId (ECS dbID), DPL_GranuleId (granuleId from DPL DB) and GranId (granule ID in OMS DB).
    - GranStatus (Status of granule not request). Use **select * from OmStatus** to get possible values.

- EsdtType. For example AST_L1B.003.

- Multiple requests can order the same granule. The table OmRequestGranule is a cross-reference table, with GranId (OMS granule Id) and RequestId.
- The CompletionTime field of OmGranule can be populated even for a failed granule. It is just the time a final state (or Operator Intervention) was reached.

Recovering from HEG Failures

Troubleshooting a HEG Failure

A common means of detecting a HEG failure is the appearance of an intervention on the **OM GUI** [refer to the procedure for **Viewing Open HEG Intervention Information on the OM GUI** (previous section of this lesson)]. Another means of detecting a HEG failure is receiving notification from a user (i.e., via User Services) that the order has not been shipped.

The procedure for troubleshooting a HEG failure starts with the following assumptions:

- All applicable servers are currently running.
- The **OM GUI** has been launched.

Troubleshooting a HEG Failure

---

1 View information concerning the pertinent open HEG intervention on the **OM GUI**.

- For detailed instructions refer to the procedure for **Viewing Open HEG Intervention Information on the OM GUI** (previous section of this lesson).
- On the **Open HEG Intervention Detail** page there is a link for viewing the HEG processing instructions (XML file).
  - The XML processing instructions may provide indications as to why the request could not be completed.

2 If review of the HEG information on the **OM GUI** indicates that there are no impediments to completing the HEG request, retry processing of the request.

- For detailed instructions refer to the procedure for **Responding to an Open HEG Intervention** (previous section of this lesson).

3 If additional information is needed before taking action, check the log files for error codes.

- Log files include the following files:
  - HEG Server operations log (HegServer.ops.log).
  - HEG Server debug log (HegServer.debug.log).

- HEG Server performance log (HegServer.perf.log), if available (typically turned off in normal operations)

- Log files are located in the /usr/ecs/*MODE*/CUSTOM/logs directory.
- Error codes and the appropriate responses to them are described in Table 12.
- For detailed instructions refer to the **Checking HEG Server Log Files** procedure (subsequent section of this lesson).

4 If further information is needed before taking action, check the files in the HEG tempfiles directory.

- The tempfiles directory contains the following types of files:
  - Converter logs.
    - resample.log.
    - swtif.log.
    - gdtif.log.
  - Parameter file (.prm).
  - EcHgHEGConversion.log.
- If debug is on (HegServer.application.debugFlag = true in the EcHgServerConfig.properties file in the /usr/ecs/*MODE*/CUSTOM/cfg directory), a tempfiles directory containing pertinent files is created at the configurable location ***tempDirRoot*/*MODE*/*tempDirTop*/*outputdirectory*/tempfiles**.
  - ***tempDirRoot*** and ***tempDirTop*** arespecified in the EcHgServerConfig.properties file in the /usr/ecs/*MODE*/CUSTOM/cfg directory.
  - ***outputdirectory*** is specified in the HEG request XML file.
- For detailed instructions refer to the procedure for **Checking Files in the HEG Tempfiles Directory** (subsequent section of this lesson).

5 If the problem cannot be identified and fixed without help within a reasonable period of time, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 12. Troubleshooting HEG Problems (1 of 16)

Error Code/String	Response
-3 ClientDown	Ensure that the client is up.
-2 Rejected	1. Ensure that the MAX_NUM_OF_CONCURRENT_HEG_PROCESS value in the OMS Database OmConfigParameter table (Max Num of Concurrent HEG Process parameter as displayed on the **OM GUI**) is configured to be less than the configured value of HegServer.application.maxClientRequests in HEG server configuration file (/usr/ecs/*MODE*/CUSTOM/cfg/EcHgServerConfig.properties). [For detailed instructions refer to the procedure for **Checking Files in the HEG Tempfiles Directory** (subsequent section of this lesson) and the procedure for **Checking/Modifying Values Assigned to OMS Server or Database Parameters** (previous section of this lesson).] 2. If the value assigned to the configuration parameter is correct and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
-1 Cancelled	[No action necessary.]
0 HegConversionSuccessful	[No action necessary.]
200 InputXmlValidationErr	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
201 ErrCreateWorkingDirectory	1. Verify that cmshared has write permission ("drwxrwxr-x") to the working directory (/datapool/*MODE*/user/*FS#*/HEGWorking). 2. If the write permission is correct, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
202 InvalidInputInBandContainerErr	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
203 CreateSummaryFileErr	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
204 MoveOutputErr	1. Verify that there is enough space to move the TIF/HDF/MET files from the working directory (/datapool/*MODE*/user/*FS#*/HEGWorking) to the destination directory (/datapool/*MODE*/user/*FS#*/.orderdata/OUTPUTS*encrypted*/HEGOUT.001*encrypted*/HEG/requestID.granuleID). 2. Ensure that cmshared has write permission ("drwxrwxr-x") to the destination directory (/datapool/*MODE*/user/*FS#*/.orderdata/OUTPUTS*encrypted*/HEGOUT.001*encrypted*/HEG/requestID.granuleID). 3. If cmshared has write permission to the destination directory and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 12. Troubleshooting HEG Problems (2 of 16)

Error Code/String	Response
205 CreateTempFilesDirErr	1. Verify that cmshared has write permission ("drwxrwxr-x") to the temp files directory (/datapool/*MODE*/user/*FS#*/HEGTemp/datapool/*MODE*/user/*FS#*/.orderdata/OUTPUTS*encrypted*/HEGOUT.001*encrypted*/HEG/requestID.granuleID/tempfiles). 2. If cmshared has write permission to the tempfiles directory and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
206 RunConverterExceptionErr	1. Verify that the HEG converters and jar file (bandtool, swtif, gdtif, resample, hegtool, and HEG.jar) exist in the correct location (/usr/ecs/*MODE*/CUSTOM/bin/HEG). 2. If the HEG converters and jar file are in the correct location and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
207 OutputDirIsNotADirErr	1. Verify that the output directory (/datapool/*MODE*/user/*FS#*/.orderdata/OUTPUTS*encrypted*/HEGOUT.001*encrypted*/HEG/requestID.granuleID) is a directory. 2. If there is an appropriate output directory and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
208 OutputDirUnwritableErr	1. Verify that cmshared has write permission ("drwxrwxr-x") to the output directory (/datapool/*MODE*/user/*FS#*/.orderdata/OUTPUTS*encrypted*/HEGOUT.001*encrypted*/HEG/requestID.granuleID). 2. If cmshared has write permission to the output directory and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
209 OutputDirCreateErr	1. Verify that cmshared has permission ("drwxrwxr-x") to create the output directory (/datapool/*MODE*/user/*FS#*/.orderdata/OUTPUTS*encrypted*/HEGOUT.001*encrypted*/HEG/requestID.granuleID). 2. If cmshared has permission to create the output directory and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
210 WorkingDirIsNotADirErr	1. Verify that the working directory (/datapool/*MODE*/user/*FS#*/HEGWorking) is a directory. 2. If there is an appropriate working directory and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
211 WorkingDirUnwritableErr	1. Verify that cmshared has write permission ("drwxrwxr-x") in the working directory (/datapool/*MODE*/user/*FS#*/HEGWorking). 2. If cmshared has write permission in the working directory and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 12. Troubleshooting HEG Problems (3 of 16)

Error Code/String	Response
212 ConversionLogCreateErr	1. Verify that cmshared has permission ("drwxrwxr-x") to create/write the EcHgHEGConversion.log file in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking). 2. If cmshared has permission to create/write the EcHgHEGConversion.log file in the working directory and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
213 InputHDFEOSFileNotExistErr	1. Verify that the hdfeos file exists in the datapool. 2. If the hdfeos file exists in the datapool and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
214 ErrDeleteExistingWorkingDir	1. Verify that cmshared has permission ("drwxrwxr-x") to delete the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking). 2. Determine whether the debug flag in the HEG Server cfg file (/usr/ecs/*MODE*/CUSTOM/cfg/EcHgServerConfig.properties) is set to false for the server to remove the working directory. (If the debug flag isn't set to false, this error won't occur because the working directory will be preserved.) 3. If the debug flag is set to false, cmshared has delete permission, and an error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
500 CantRunHegtool	1. Verify that the hegtool executable exists in the correct location (/usr/ecs/*MODE*/CUSTOM/bin/HEG). 2. Check the /usr/ecs/*MODE*/CUSTOM/utilities/EcHgServerStart script to ensure that the environment variables MTDDATADIR, MRTDATADIR, PGSHOME are set correctly; i.e., MTDDATADIR=/usr/ecs/$MODE/CUSTOM/data/HEG MRTDATADIR=/usr/ecs/$MODE/CUSTOM/data/HEG PGSHOME=/usr/ecs/$MODE/CUSTOM/data/HEG/TOOLKIT_MTD 3. If the hegtool executable is present in the correct location, the environment variables are set correctly, and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
501 ErrReadingProperties	1. Verify that the HEG Server properties file exists in the correct location (/usr/ecs/*MODE*/CUSTOM/cfg/EcHgServerConfig.properties). 2. If the HEG Server properties file is present in the correct location and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
502 ErrReadingHdfeos	1. Verify that the hdfeos file exists in the datapool. 2. If the hdfeos file is present in the datapool and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 12. Troubleshooting HEG Problems (4 of 16)

Error Code/String	Response
503 InputFileNotHdfeos	1. Verify that the input file is an hdfeos file. 2. If the input file is an hdfeos file and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
504 ErrLoadingDataInArray	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
505 ErrWritingParameterFile	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
506 ConverterExecuteErr	1. Verify that the HEG converters and HEG jar file (bandtool, hegtool, swtif, gdtif, resample, HEG.jar) exist in the correct location (/usr/ecs/*MODE*/CUSTOM/bin/HEG). 2. If the HEG converters and HEG jar file are present in the correct location and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
508 NoParameterFile	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
509 ErrCopyCompressedFile	1. Verify that the compressed file exists in the datapool. 2. Verify that cmshared has write permission ("drwxrwxr-x") to the destination directory (/datapool/*MODE*/user/*FS#*/.orderdata/OUTPUTS*encrypted*/HEGOUT.001*encrypted*/HEG/requestID.granuleID). 3. If the compressed file is in the datapool, cmshared has write permission to the destination directory, and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
510 ErrDecompressingFile	1. Verify that the correct decompression utility is specified in the HEG Server cfg file (/usr/ecs/*MODE*/CUSTOM/cfg/EcHgServerConfig.properties) and that it exists in the operating system. 2. Verify that the compressed file exists in the datapool. 3. If the correct decompression utility is specified in the HEG Server cfg file, the compressed file is in the datapool, and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
511 DecompressCommandFormatErr	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
512 SubsetAreaNotInMISRFile	1. Verify that the geographic extent of the spatial subset area entered by the user intersects the granule. 2. If the geographic extent of the spatial subset area intersects the granule and an error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
600 NO ERROR - SUCCESSFUL	[No action necessary.]
601 GeneralProcessingErr	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 12. Troubleshooting HEG Problems (5 of 16)

Error Code/String	Response
602 AssertErr	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
603 EnvironmentVariableNotFound	1. Verify that the environment variables are set correctly (i.e., MTDDATADIR=/usr/ecs/$MODE/CUSTOM/data/HEG MRTDATADIR=/usr/ecs/$MODE/CUSTOM/data/HEG PGSHOME=/usr/ecs/$MODE/CUSTOM/data/HEG/TOOLKIT_MTD) in the EcHgServerStart script, which is located at /usr/ecs/*MODE*/CUSTOM/utilities. 2. If the environment variables are set correctly and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
604 MemoryAllocationErr	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
605 ErrWaitingForThreadTermination	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
606 SemaphoreErr	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
607 MutexErr	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
608 ErrSpaceInName	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
609 ErrCommandLineUsage	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
610 ErrOpenInputParameterFile	1. Verify that the parameter file (.prm) exists in the working directory (/datapool/*MODE*/user/*FS#*/HEGWorking). 2. If the parameter file exists in the working directory and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
611 ErrReadInputParameterFile	1. Verify that the input parameter file (.prm) in the working directory (/datapool/*MODE*/user/*FS#*/HEGWorking) is a valid file. 2. If the input parameter file is a valid file and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
612 ErrOpenOutputParameterFile	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
613 ErrWriteOutputParameterFile	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
614 ErrOpenInputImageFile	1. Verify that the input image file (hdfeos file) exists in the datapool. 2. If the input image file is in the datapool and the error still occurs, submit a trouble ticket.
615 ErrReadInputImageFile	1. Verify that the input image file (hdfeos file) read in is valid. 2. If the input image file read in is valid and the error still occurs, submit a trouble ticket.

616 ErrOpenOutputImageFile	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 12. Troubleshooting HEG Problems (6 of 16)

Error Code/String	Response
617 ErrWriteOutputImageFile	1. Verify that cmshared has write permission ("drwxrwxr-x") in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking) 2. Verify that there is enough space to write the output image file to the working directory. 3. If cmshared has write permission, there is enough space to write the output image file to the working directory, and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
618 ErrOpenInputHeaderFile	1. Verify that the HegHdr.hdr file exists in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking). 2. If HegHdr.hdr file is in the working directory and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
619 ErrReadInputHeaderFile	1. Verify that the HegHdr.hdr file [in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking)] is a valid file. 2. If the HegHdr.hdr file is a valid file and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
620 ErrOpenOutputHeaderFile	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
621 ErrWriteOutputHeaderFile	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
622 NoCommandLineArgument	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
623 MissingOrBadParameterFile	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
624 UnknownCommandLineArgument	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
625 BadOrMissingInputFileNameExtension	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking) ensure that the value assigned to the INPUT_FILENAME contains an hdfeos file with a .hdf extension. 2. If the value assigned to INPUT_FILENAME contains a .hdf file and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

626 BadOrMissingOutputFileNameExtension	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking) ensure that the value assigned to the OUTPUT_FILENAME parameter contains a filename with either a .hdf or .tif extension. 2. If the value assigned to OUTPUT_FILENAME contains a .hdf file or a .tif file and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 12. Troubleshooting HEG Problems (7 of 16)

Error Code/String	Response
627 BadOrMissingResampleType	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking) ensure that the value assigned to the RESAMPLING_TYPE parameter is NN, BI, or CC. 2. If the value assigned to RESAMPLING_TYPE is NN, BI, or CC and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
628 BadOrMissingProjectionType	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking) ensure that the value assigned to the OUTPUT_PROJECTION_TYPE parameter is one that works for that particular hdfeos (granule) file. 2. If the value assigned to OUTPUT_PROJECTION_TYPE is one that works for that particular hdfeos (granule) file and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
629 BadOrMissingInputFileNameField	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking) ensure that the value assigned to the INPUT_FILENAME parameter specifies an hdfeos file from the datapool. 2. If the value assigned to INPUT_FILENAME specifies an hdfeos file from the datapool and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
630 BadOrMissingSpectralSubsetField	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
631 BadOrMissingSpatialSubsetField	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking) ensure that the values assigned to the SPATIAL_SUBSET_UL_CORNER and SPATIAL_SUBSET_LR_CORNER parameters are valid. 2. If the values assigned to the SPATIAL_SUBSET_UL_CORNER and SPATIAL_SUBSET_LR_CORNER parameters are valid and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

632 BadOrMissingOutputFileNameField	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking) ensure that the value assigned to the OUTPUT_FILENAME parameter has the correct file extension. 2. If the value assigned to OUTPUT_FILENAME has the correct file extension and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 12. Troubleshooting HEG Problems (8 of 16)

Error Code/String	Response
633 BadOrMissingResampleTypeField	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking) ensure that the value assigned to the RESAMPLING_TYPE parameter is NN, BI, or CC. 2. If the value assigned to RESAMPLING_TYPE is NN, BI, or CC and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
634 BadOrMissingOutputProjectionField	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking) ensure that the value assigned to the OUTPUT_PROJECTION_TYPE parameter is one that works for that particular hdfeos (granule) file. 2. If the value assigned to OUTPUT_PROJECTION_TYPE is one that works for that particular hdfeos (granule) file and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
635 BadOrMissingOutputProjectionParametersField	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking) ensure that the values assigned to the OUTPUT_PROJECTION_PARAMETERS parameter are valid. 2. If the values assigned to OUTPUT_PROJECTION_PARAMETERS are valid and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
636 BadOrMissingDataTypeField	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

637 BadOrMissingProjectionParameters Field	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking) ensure that each of the following parameters: INPUT_FILENAME, OBJECT_NAME, FIELD_NAME, BAND_NUMBER, OUTPUT_PIXEL_SIZE_X, OUTPUT_PIXEL_SIZE_Y, SPATIAL_SUBSET_UL_CORNER, SPATIAL_SUBSET_LR_CORNER, RESAMPLING_TYPE, OUTPUT_PROJECTION_TYPE, OUTPUT_PROJECTION_PARAMETERS, OUTPUT_FILENAME, and OUTPUT_TYPE is enclosed in a BEGIN and END block. 2. Ensure that the first line of the parameter file has a value assigned to the NUM_RUNS parameter that is equal to the number of BEGIN and END blocks in the file. 3. If the parameters are formatted properly, the NUM_RUNS parameter has a value that is equal to the number of BEGIN and END blocks in the file, and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 12. Troubleshooting HEG Problems (9 of 16)

Error Code/String	Response
638 BadOrMissingProjectionParameters Value	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking) ensure that values assigne to the following parameters: INPUT_FILENAME, OBJECT_NAME, FIELD_NAME, BAND_NUMBER, OUTPUT_PIXEL_SIZE_X, OUTPUT_PIXEL_SIZE_Y, SPATIAL_SUBSET_UL_CORNER, SPATIAL_SUBSET_LR_CORNER, RESAMPLING_TYPE, OUTPUT_PROJECTION_TYPE, OUTPUT_PROJECTION_PARAMETERS, OUTPUT_FILENAME, and OUTPUT_TYPE are valid. 2. If the parameters are valid and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
639 BadOrMissingSpatialExtentsCorner	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking) ensure that the values assigned to the SPATIAL_SUBSET_UL_CORNER and SPATIAL_SUBSET_LR_CORNER parameters are valid. 2. If the spatial subsetting values are valid and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
640 BadOrMissingNBANDSField	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking) ensure that there is a BAND_NUMBER parameter. 2. If there is a BAND_NUMBER parameter and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

641 BadOrMissingNBANDSValue	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking) ensure that the value assigned to the BAND_NUMBER parameter is valid. 2. If the value assigned to the BAND_NUMBER parameter is valid and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
642 BadOrMissingBANDNAMESField	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking) ensure that there is a BANDNAMES parameter. 2. If there is a BANDNAMES parameter and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
643 BadOrMissingBANDNAMESValue	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking) ensure that the value assigned to the BANDNAMES parameter is valid. 2. If the value assigned to the BANDNAMES parameter is valid and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
644 BadOrMissingDATATYPEField	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 12. Troubleshooting HEG Problems (10 of 16)

Error Code/String	Response
645 BadOrMissingDATATYPEValue	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
646 BadOrMissingNLINESField	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
647 BadOrMissingNLINESValue	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
648 BadOrMissingNSAMPLESField	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
649 BadOrMissingNSAMPLESValue	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
650 BadOrMissingPIXEL_SIZEField	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking) ensure that there are OUTPUT_PIXEL_SIZE_X and OUTPUT_PIXEL_SIZE_Y parameters. 2. If there are OUTPUT_PIXEL_SIZE_X and OUTPUT_PIXEL_SIZE_Y parameters and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

651 BadOrMissingPIXEL_SIZEValue	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS#*/HEGWorking) ensure that the values assigned to the OUTPUT_PIXEL_SIZE_X and OUTPUT_PIXEL_SIZE_Y parameters are valid. 2. Ensure that the correct units are specified for the parameters (either meters or degree decimal). [If Geographic projection is selected, the pixel sizes should be in degree decimal (DD) units. For all other projections, the pixel size should be in meters.] 3. If the parameter values are valid and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
652 BadOrMissingMINVALUEField	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
653 BadOrMissingMINVALUEValue	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
654 BadOrMissingMAXVALUEField	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
655 BadOrMissingMAXVALUEValue	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
656 BadOrMissingBACKGROUND_FILL Field	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
657 BadOrMissingBACKGROUND_FILL Value	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
658 TotalBandsFoundInconsistantWithN BANDS	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 12. Troubleshooting HEG Problems (11 of 16)

Error Code/String	Response
659 NoBandsSelectedForOutput	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
660 BadOrMissingUTMZoneField	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS#*/HEGWorking) ensure that there is a UTM_ZONE parameter. 2. If there is a UTM_ZONE parameter and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
661 BadOrMissingUTMZoneValue	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS#*/HEGWorking) ensure that the value assigned to the UTM_ZONE parameter is valid. 2. If the value assigned to the UTM_ZONE parameter is valid and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

662 BadOrMissingELLIPSOID_CODEField	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking) ensure that there is a ELLIPSOID_CODE parameter. 2. If there is a ELLIPSOID_CODE parameter and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
663 BadOrMissingELLIPSOID_CODEValue	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking) ensure that the value assigned to the ELLIPSOID_CODE parameter is valid. 2. If the value assigned to the ELLIPSOID_CODE parameter is valid and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
664 MissingBoundingRectangularCoordinates	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
665 ErrPixelSizeLessThanMinimum	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking) ensure that the values assigned to the pixel size parameters (e.g., OUTPUT_PIXEL_SIZE_X and OUTPUT_PIXEL_SIZE_Y) are not less than the minimum value. 2. Ensure that the correct units are specified for the parameters (either meters or degree decimal). [If Geographic projection is selected, the pixel sizes should be in degree decimal (DD) units. For all other projections, the pixel size should be in meters.] 3. If the parameter values are not less than the minimum value, are expressed in the appropriate units, and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 12. Troubleshooting HEG Problems (12 of 16)

Error Code/String	Response
666 ErrPixelSizeGreaterThanMaximum	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking) ensure that the values assigned to the pixel size parameters (e.g., OUTPUT_PIXEL_SIZE_X and OUTPUT_PIXEL_SIZE_Y) are not greater than the maximum value. 2. Ensure that the correct units are specified for the parameters (either meters or degree decimal). [If Geographic projection is selected, the pixel sizes should be in degree decimal (DD) units. For all other projections, the pixel size should be in meters.] 3. If the parameter values are not greater than the maximum value, are expressed in the appropriate units, and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
667 ErrCommandLineUsage	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
668 ErrOpenLogFile	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

669 ErrOpenGeoTemp	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
670 ProjectionProcessingErr	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
671 OpenDatumFileErr	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
672 OpenSpheroidFileErr	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
673 ProjectionMathErr	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
674 PointLiesInBreakErr	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
675 OutputFileNameNotSpecifiedErr	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS#*/HEGWorking) ensure that a value is specified for the OUTPUT_FILENAME parameter. 2. If a value is specified for the OUTPUT_FILENAME parameter and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
676 ProjectionTransformationFailed	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
677 FailedToConvergeAfterManyIterations	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
678 TooManyIterationsForInverseRobinson	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
679 TooManyIterationsInInverse	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 12. Troubleshooting HEG Problems (13 of 16)

Error Code/String	Response
680 InputDataErr	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
681 IllegalDMSField	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
682 InconsistentUnitAndSystemCodesForInput	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
683 IllegalInputSystemCode	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
684 IllegalInputUnitCode	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
685 IllegalInputZoneCode	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

686 PointProjectsIntoInfinity	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
687 LatitudeFailedToConvergeAfterManyIterations	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
688 InconsistentUnitAndSystemCodesForOutput	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
689 IllegalOutputSystemCode	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
690 IllegalOutputUnitCode	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
691 IllegalOutputZoneCode	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
692 TransformationCantBeComputedAtThePoles	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
693 PointCantBeProjected	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
694 PointProjectsIntoACircleOfUnacceptableRadius	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
695 FiftyIterationsPerformedWithoutConversion	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
696 SpheroidCodeResetToDefault	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
697 EqualLatitudesForStdParallelsOnOppositeSidesOfEquator	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 12. Troubleshooting HEG Problems (14 of 16)

Error Code/String	Response
698 IllegalZoneNumber	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
699 ErrOpenStatePlaneParameterFile	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
700 IllegalSourceOrTargetUnitCode	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
701 MissingProjectionParameters	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
702 InvalidCornerCoordinatesForInputImage	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

703 OutputWindowFallsOutsideMapping Grid	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
704 NUM_RUNSFieldIncorrect	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
705 ErrorWithBEGIN_ENDFields	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
706 BadOrMissingOBJECT_NAMEField	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS#*/HEGWorking) ensure that a valid value is specified for the OBJECT_NAME parameter. 2. If a valid value is specified for the OBJECT_NAME parameter and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
707 BadOrMissingFIELD_NAMEField	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS#*/HEGWorking) ensure that a valid value is specified for the FIELD_NAME parameter. 2. If a valid value is specified for the FIELD_NAME parameter and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
708 BadOrMissingOUTPUT_TYPEField	1. In the parameter file (.prm) that is located in the working directory (/datapool/MODE/user/FS#/HEGWorking) ensure that there is an OUTPUT_TYPE parameter. 2. If there is an OUTPUT_TYPE parameter and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
709 BadOrMissingOUTPUT_TYPEValu e	1. In the parameter file (.prm) that is located in the working directory (/datapool/MODE/user/FS#/HEGWorking) ensure that the value assigned to the OUTPUT_TYPE parameter is valid. 2. If the value assigned to the OUTPUT_TYPE parameter is valid and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 12. Troubleshooting HEG Problems (15 of 16)

Error Code/String	Response
710 BadOrMissingBAND_NUMValue	1. In the parameter file (.prm) that is located in the working directory (/datapool/*MODE*/user/*FS#*/HEGWorking) ensure that a valid value is specified for the BAND_NUMBER parameter. 2. If a valid value is specified for the BAND_NUMBER parameter and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
711 SubsetAreaNotInFile	1. Verify that the geographic extent of the spatial subset area entered by the user intersects the granule. 2. If the geographic extent of the spatial subset area intersects the granule and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

712 BadOrMissingSTPZoneField	1. In the parameter file (.prm) that is located in the working directory (/datapool/MODE/user/FS#/HEGWorking) ensure that there is an STP_ZONE parameter. 2. If there is an STP_ZONE parameter and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
713 BadOrMissingSTPZoneValue	1. In the parameter file (.prm) that is located in the working directory (/datapool/MODE/user/FS#/HEGWorking) ensure that the value assigned to the STP_ZONE parameter is valid. 2. If the value assigned to the STP_ZONE parameter is valid and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
714 UnableToOpenSTPZoneFile	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
715 GranuleOutsideUSCantFindDefault StatePlaneZone	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
716 ErrorGettingAlaskanSTPZone	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
720 ErrorOpenInputHDFFile	1. Verify that the the input hdf (granule) file exists in the datapool. 2. Ensure that cmshared has read permission on the input hdf file. 3. In the HEG Server debug log file (/usr/ecs/*MODE*/CUSTOM/logs/ HegServer.debug.log) verify that the hegtool is called correctly. [The hegtool call should look like this: /usr/ecs/*MODE*/CUSTOM/utilities/EcHgHEGStart *MODE* hegtool -h <*location of the hdf file in the datapool*>.] [For detailed instructions refer to the procedure for **Checking HEG Server Log Files** (subsequent section of this lesson).] 4. If the input hdf file is in the datapool, cmshared has read permission on the input hdf file, the hegtool was called correctly, and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 12. Troubleshooting HEG Problems (16 of 16)

Error Code/String	Response
721 ErrorReadingInputHDFFile	1. Verify that the the input hdf (granule) file is in hdfeos format. 2. Ensure that cmshared has read permission on the input hdf file. 3. In the HEG Server debug log file (/usr/ecs/*MODE*/CUSTOM/logs/ HegServer.debug.log) verify that the hegtool is called correctly. [The hegtool call should look like this: /usr/ecs/*MODE*/CUSTOM/utilities/EcHgHEGStart *MODE* hegtool -h <*location of the hdf file in the datapool*>.] [For detailed instructions refer to the procedure for **Checking HEG Server Log Files** (subsequent section of this lesson).] 4. If the input hdf file is in hdfeos format, cmshared has read permission on the input hdf file, the hegtool was called correctly, and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

722 UnableToOpenHeaderFile	1. Verify that there is a HegHdr.hdr file in the working directory (/datapool/*MODE*/user/*FS*#/HEGWorking). 2. If there is a HegHdr.hdr file in the working directory and the error still occurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
723 UnableToFindShortName	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
724 UnableToOpenGEOFile	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Checking HEG Server Log Files

HEG server log files show the activities involved in processing each HEG request. The following types of HEG server log files can be generated:

- HEG Server operations log (HegServer.ops.log).
- HEG Server debug log (HegServer.debug.log).
- HEG Server performance log (HegServer.perf.log), if available (typically turned off in normal operations).

The amount of information provided in logs varies with the type of log being viewed and the level of logging configured for the type of log. In general most of the entries in the operations log are duplicated in the debug log. The HEG Server logs can be set to record data at any of the following levels of detail (listed from most-detailed to no logging):

- XVERBOSE.
- VERBOSE.
- INFORMATION.
- NONE.

In normal operation the HEG Server logs are typically set (in the EcHgServerConfig.properties file in the /usr/ecs/*MODE*/CUSTOM/cfg directory) to record data at the following levels of detail:

- HEG Server operations log (HegServer.ops.log) - INFORMATION.
- HEG Server debug log (HegServer.debug.log) – INFORMATION.
- HEG Server performance log (HegServer.perf.log) – NONE.

The HEG Server can manage several concurrent activities. This is accomplished through the use of threads. Information concerning HEG Server processing of requests (identified by thread) is recorded in the HEG Server logs (assuming some level of log recording is specified in the corresponding configuration file).

The procedure for checking HEG server log files starts with the assumption that the operator has logged in to the system and the appropriate host.

Checking HEG Server Log Files

1 If the level of logging should be adjusted to assist in troubleshooting, notify the Operations Controller/System Administrator to have the adjustment made.

- Detailed levels of logging may have negative effects on system performance.

2 Access a terminal window logged in to the appropriate host.

- HEG Server (e.g., e0hep12, g0hep12, l0hep12, or n0hep12) host has the following HEG server log files:
  - HegServer.ops.log.
  - HegServer.debug.log.
- For detailed instructions refer to the procedure for **Logging in to System Hosts** (preceding section of this lesson).

3 Type **cd /usr/ecs/*MODE*/CUSTOM/logs** then press **Return/Enter**.

- Change directory to the directory containing the HEG server log files (e.g., HegServer.ops.log, HegServer.debug.log).

4 Type **more *filename*** then press **Return/Enter**.

- ***filename*** refers to the HEG log file to be reviewed (e.g., HegServer.ops.log, HegServer.debug.log).
- The first page of the log file is displayed.
- Although this procedure has been written for the **more** command, other UNIX visualizing commands (e.g., **view**) can be used to review the log file.
- The following **more** commands (at the **--More--** prompt) are useful:
  - **Return/Enter** (go down one line).
  - ***n*Return/Enter** (go down ***n*** number of lines).
  - ***n*Space bar (go down ***n*** number of lines).
  - Space bar (go down one screenful).
  - **z** (go down one screenful).
  - ***n*z** (go down ***n*** number of screensful; ***n*** becomes the default for subsequent **z** commands).
  - ***n*b** (go back ***n*** number of screensful).

- ***n*CTRL-B** (go back ***n*** number of screensful).
- ***n*d** (go down ***n*** number of lines; ***n*** becomes the default for subsequent **d** commands).
- ***n*CTRL-D** (go down ***n*** number of lines; ***n*** becomes the default for subsequent **d** commands).
- ***n*f** (skip ***n*** screens full and then display a screenful).
- ***n*s** (skip ***n*** lines and then display a screenful).
- **h** (help - display a description of all the **more** commands).
- **CTRL-L** (refresh the screen).
- ***n*/*pattern*** (search forward for the ***n***th occurrence of the ***pattern*** and display a screenful starting two lines before the line that contains the specified pattern match.
- ***n*n** (search for the ***n***th occurrence of the last pattern entered.
- **v** (drop into the **vi** editor at the current line of the current file).
- **=** (display the current line number).
- **:f** (display the name of the current file and the current line number).
- **q** (exit from **more**).
- **Q** (exit from **more**).
- **!*command*** (invoke a shell to execute ***command***).

5 At the **--More--** prompt type **/*requestID*** then press **Return/Enter**:

- ***requestID*** is the HEG Request ID from the **OM GUI** [refer to the procedure for **Viewing Pending HEG Granules** or the procedure for **Viewing Open HEG Intervention Information on the OM GUI** (previous sections of this lesson)].
  - The XML processing instructions for each HEG request are included in the HEG Server debug log if the log.debug.level is set to XVERBOSE.
- For example, type:

  /0403300996
  - The file is searched for the specified text.
- If the specified text is in the log file, the following type of response is displayed.

  ...skipping
  12.14.2005 14:22:19.667 : Thread ID [21161] : XVERBOSE : Monitor thread created.

12.14.2005 14:22:19.680 : Thread ID [21161] : VERBOSE : input xml validation succeeded for Request 10576
12.14.2005 14:22:19.680 : Thread ID [21161] : INFORMATION : Incoming request from client: OMS with uid: 0403300996.85000004172274.3312040939 is assigned serverRequestId: 10576
[…]
--More--(16%)

- If the specified text is not in the log file, the following type of response is displayed.

  Pattern not found

- The **Thread ID** (21161 in the preceding example) and **Server Request ID** (10576 in the preceding example) can be used to track entries concerning the specific request in the log file.

NOTE: Thread IDs are reused frequently. There may be multiple processes with the same thread ID in any particular log file. It is important to follow the correct instance of the thread (i.e., the one with the desired Server Request ID).

NOTE: It is likely that HEG would try again to process a failed request. Subsequent request processing may use the same thread ID or a different thread ID. However, it could be found through the Order Manager (OM GUI) Request ID.

6 If checking the operations log file, at the **--More--** prompt type **/: 0 for Request: *ServerRequestID*** then press **Return/Enter**:

- ***ServerRequestID*** is the Server Request ID discovered in Step 5.
- For example, type:

  /: 0 for Request: 10576

  – The file is searched for the specified text.

– The following type of response is displayed.

...skipping
12.14.2005 14:22:34.138 : Thread ID [21178] : XVERBOSE : poller thread terminated for request: 10582
12.14.2005 14:22:34.139 : Thread ID [21161] : VERBOSE : Move output successfully for Request 10576
12.14.2005 14:22:34.139 : Thread ID [21161] : java.lang.String : INFORMATION : HEGConvProcessor.convert() returned status code: 0 for Request: 10576
12.14.2005 14:22:34.139 : Thread ID [21179] : XVERBOSE : poller thread terminated for request: 10576
[…]
--More--(18%)

- If the specified text is not in the log file, the following type of response is displayed.

  Pattern not found

- If a status code of 0 (zero) or 600 for a particular Server Request ID is found in the log, HEG processing was successful. This statement should be in the both the operations log and debug log regardless of the level of detail specified in the configuration file (unless logging is turned off; i.e., log level is NONE for a particular type of log).

  – Of course, there could still be problems with the request; e.g., failure to move the ouput files to the output directory.

- If a status code of 0 (zero) or 600 for a particular Server Request ID is **not** found in the log, HEG processing was either unsuccessful or is incomplete.

7 If checking the debug log file, at the **--More--** prompt type **/: 0 for Request *ServerRequestID*** then press **Return/Enter**:

- ***ServerRequestID*** is the Server Request ID discovered in Step 5.
- For example, type:

  /: 0 for Request 10576

  – The file is searched for the specified text.

– The following type of response is displayed.

...skipping
12.14.2005 14:22:33.771 : Thread ID [21161] : XVERBOSE : Request 10576 converter execution time: 10 seconds.
12.14.2005 14:22:33.771 : Thread ID [21167] : XVERBOSE : Request 10582 converter execution time: 10 seconds.
12.14.2005 14:22:33.772 : Thread ID [21161] : INFORMATION : Conversion process returned status: 0 for Request 10576
12.14.2005 14:22:33.772 : Thread ID [21167] : INFORMATION : Conversion process returned status: 0 for Request 10582
[…]
--More--(32%)

- If the specified text is not in the log file, the following type of response is displayed.

  Pattern not found

- If a status code of 0 (zero) or 600 for a particular Server Request ID is found in the log, HEG processing was successful. This statement should be in the both the operations log and debug log regardless of the level of detail specified in the configuration file (unless logging is turned off; i.e., log level is NONE for a particular type of log).
  - Of course, there could still be problems with the request; e.g., failure to move the ouput files to the output directory.
- If a status code of 0 (zero) or 600 for a particular Server Request ID is **not** found in the log, HEG processing was either unsuccessful or is incomplete.

8 Examine the contents of the log file(s) to determine whether there were errors in processing the HEG request.

- If a status code other than 0 (zero) or 600 for the particular Server Request ID is found in the log(s), go to Step 9.
- A successful HEG request should result in the following types of entries being made in the operations log:

12.14.2005 14:22:19.667 : Thread ID [21161] : XVERBOSE : Monitor thread created.
12.14.2005 14:22:19.680 : Thread ID [21161] : VERBOSE : input xml validation succeeded for Request 10576
12.14.2005 14:22:19.680 : Thread ID [21161] : INFORMATION : Incoming request from client: OMS with uid: 0403300996.85000004172274.3312040939 is assigned serverRequestId: 10576
12.14.2005 14:22:19.685 : Thread ID [21161] : VERBOSE : working directory: /datapool/OPS/user/FS1/HEGWorking/10576 created successfully for Request 10576
12.14.2005 14:22:19.686 : Thread ID [21161] : VERBOSE : ConversionItem created successfully for Request 10576
12.14.2005 14:22:23.654 : Thread ID [21161] : XVERBOSE : Getting properties
12.14.2005 14:22:23.673 : Thread ID [21161] : VERBOSE : parameter file created successfully for Request 10576
12.14.2005 14:22:23.884 : Thread ID [21161] : INFORMATION : Sent pid: 5542 back to client for Request 10576
12.14.2005 14:22:23.884 : Thread ID [21161] : INFORMATION : Heg converter is running with pid: 5542 for Request 10576
12.14.2005 14:22:33.772 : Thread ID [21161] : INFORMATION : Conversion process returned status: 0 for Request 10576
12.14.2005 14:22:33.772 : Thread ID [21161] : INFORMATION : Run heg converter executable successfully for Request 10576
12.14.2005 14:22:33.824 : Thread ID [21161] : VERBOSE : summary file created successfully for Request 10576
12.14.2005 14:22:33.931 : Thread ID [21161] : XVERBOSE : Create temp

directory:
/datapool/OPS/user/FS1/HEGTemp//datapool/OPS/user/FS1//.orderdata/OUTPUTSDDWmmfGD/HEGOUT.001hMEzIIJI//HEG/0403300996.85000004172274//
tempfiles successfully for Request 10576
12.14.2005 14:22:34.139 : Thread ID [21161] : VERBOSE : Move output successfully for Request 10576
12.14.2005 14:22:34.139 : Thread ID [21161] : java.lang.String : INFORMATION : HEGConvProcessor.convert() returned status code: 0 for Request: 10576

- A successful HEG request should result in the following types of entries being made in the debug log:

12.14.2005 14:22:19.666 : Thread ID [21161] : XVERBOSE : Connection from /198.118.220.179
12.14.2005 14:22:19.666 : Thread ID [21161] : XVERBOSE : client processing mode is: 1
12.14.2005 14:22:19.666 : Thread ID [21161] : XVERBOSE : Start processing request: 10576
12.14.2005 14:22:19.667 : Thread ID [21161] : XVERBOSE : client input xml:
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<request xmlns="http://newsroom.gsfc.nasa.gov/sdptoolkit/toolkit.html">
<requestInfo>
<clientName>OMS</clientName>
<uId>0403300996.85000004172274.3312040939</uId>
<metaFlag>false</metaFlag>
<summaryFlag>true</summaryFlag>
</requestInfo>
<inputFiles>
<file>

<fileName>/datapool/OPS/user//FS1/MOGT/MOD02HKM.004/2002.01.01//labtest_2017250970</fileName>
</file>
</inputFiles>
<outputData>

<outputPath>/datapool/OPS/user/FS1//.orderdata/OUTPUTSDDWmmfGD/HEGOUT.001hMEzIIJI//HEG/0403300996.85000004172274/</outputPath>
<format>GEO</format>
<projection>
<projectionType>GEOGRAPHIC</projectionType>
</projection>
<spatialSubsetBoundingBox>
<upperLeftCornerPoint>
<latitude>10</latitude>

```
            <longitude>-50</longitude>
          </upperLeftCornerPoint>
          <lowerRightCornerPoint>
            <latitude>-10</latitude>
            <longitude>50</longitude>
          </lowerRightCornerPoint>
        </spatialSubsetBoundingBox>
        <bandContainer>
          <object>
            <objectName>MODIS_SWATH_Type_L1B</objectName>
            <field>
              <fieldName>EV_500_RefSB</fieldName>
              <dim3>
                <dim3Name>Band_500M</dim3Name>
                <dim3Number>1</dim3Number>
              </dim3>
            </field>
          </object>
        </bandContainer>
    </outputData>
</request>


12.14.2005 14:22:19.667 : Thread ID [21161] : XVERBOSE : Monitor thread
created.
12.14.2005 14:22:19.680 : Thread ID [21161] : VERBOSE : input xml validation
succeeded for Request 10576
12.14.2005 14:22:19.680 : Thread ID [21161] : INFORMATION : Incoming
request from client: OMS with uid: 0403300996.85000004172274.3312040939 is
assigned serverRequestId: 10576
12.14.2005 14:22:19.680 : Thread ID [21161] : XVERBOSE : InputXml content:
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<request xmlns="http://newsroom.gsfc.nasa.gov/sdptoolkit/toolkit.html">
    <requestInfo>
        <clientName>OMS</clientName>
     <uId>0403300996.85000004172274.3312040939</uId>
   <metaFlag>false</metaFlag>
        <summaryFlag>true</summaryFlag>
    </requestInfo>
    <inputFiles>
        <file>

<fileName>/datapool/OPS/user//FS1/MOGT/MOD02HKM.004/2002.01.01//labte
st_2017250970</fileName>
        </file>
```

```
   </inputFiles>
   <outputData>

<outputPath>/datapool/OPS/user/FS1//.orderdata/OUTPUTSDDWmmfGD/HE
GOUT.001hMEzIIJI//HEG/0403300996.85000004172274/</outputPath>
      <format>GEO</format>
      <projection>
         <projectionType>GEOGRAPHIC</projectionType>
      </projection>
      <spatialSubsetBoundingBox>
         <upperLeftCornerPoint>
            <latitude>10</latitude>
            <longitude>-50</longitude>
         </upperLeftCornerPoint>
         <lowerRightCornerPoint>
            <latitude>-10</latitude>
            <longitude>50</longitude>
         </lowerRightCornerPoint>
      </spatialSubsetBoundingBox>
      <bandContainer>
         <object>
            <objectName>MODIS_SWATH_Type_L1B</objectName>
            <field>
               <fieldName>EV_500_RefSB</fieldName>
               <dim3>
                  <dim3Name>Band_500M</dim3Name>
                  <dim3Number>1</dim3Number>
               </dim3>
            </field>
         </object>
      </bandContainer>
   </outputData>
</request>


12.14.2005 14:22:19.680 : Thread ID [21161] : XVERBOSE :
currentClientRequestCount = 0, MaxClientRequestCount = 20
12.14.2005 14:22:19.680 : Thread ID [21161] : XVERBOSE : continue
processing the request.
12.14.2005 14:22:19.685 : Thread ID [21161] : VERBOSE : working directory:
/datapool/OPS/user/FS1/HEGWorking/10576 created successfully for Request
10576
12.14.2005 14:22:19.685 : Thread ID [21161] : XVERBOSE : metaFlag = false,
summaryFlag = true for Request 10576
12.14.2005 14:22:19.685 : Thread ID [21161] : XVERBOSE : Request 10576
```

decompression command is: null
12.14.2005 14:22:19.686 : Thread ID [21161] : VERBOSE : ConversionItem created successfully for Request 10576
12.14.2005 14:22:19.686 : Thread ID [21161] : XVERBOSE : Startup hegtool: /usr/ecs/OPS/CUSTOM/utilities/EcHgHEGStart OPS hegtool -h /datapool/OPS/user//FS1/MOGT/MOD02HKM.004/2002.01.01//labtest_2017250970
12.14.2005 14:22:19.686 : Thread ID [21161] : XVERBOSE : cwd is: /datapool/OPS/user/FS1/HEGWorking/10576
12.14.2005 14:22:23.654 : Thread ID [21161] : VERBOSE : hegtool ran OK
12.14.2005 14:22:23.657 : Thread ID [21161] : XVERBOSE : We have 1 swaths
12.14.2005 14:22:23.657 : Thread ID [21161] : XVERBOSE : Loading swath MODIS_SWATH_Type_L1B into output info list
12.14.2005 14:22:23.663 : Thread ID [21161] : XVERBOSE : ParameterFileMaker: createAnOutFileName(): usefulInFileName = labtest_2017250970
12.14.2005 14:22:23.663 : Thread ID [21161] : XVERBOSE : ParameterFileMaker: createAnOutFileName(): usefulInFileName = labtest_2017250970
12.14.2005 14:22:23.664 : Thread ID [21161] : XVERBOSE : ParameterFileMaker: createAnOutFileName(): usefulInFileName = labtest_2017250970
12.14.2005 14:22:23.669 : Thread ID [21161] : XVERBOSE : Preparing to write parameters to /datapool/OPS/user/FS1/HEGWorking/10576/labtest_2017250970_37282773432866145_swath.prm
12.14.2005 14:22:23.670 : Thread ID [21161] : XVERBOSE : Band #1: objectName = MODIS_SWATH_Type_L1B, fieldName = EV_500_RefSB, dim3Name = Band_500M, dim3Num = 1, dim4Name = null, dim4Num = -9, bandOutputFileName = null
12.14.2005 14:22:23.670 : Thread ID [21161] : XVERBOSE : within method loadARangeOfConversions().
12.14.2005 14:22:23.673 : Thread ID [21161] : VERBOSE : parameter file created successfully for Request 10576
12.14.2005 14:22:23.673 : Thread ID [21161] : VERBOSE : Request 10576 constructed conversion command: /usr/ecs/OPS/CUSTOM/utilities/EcHgHEGStart OPS swtif -p /datapool/OPS/user/FS1/HEGWorking/10576/labtest_2017250970_37282773432866145_swath.prm -d -noMetadata
12.14.2005 14:22:23.684 : Thread ID [21161] : XVERBOSE : About to start heg converter execution for Request 10576
12.14.2005 14:22:23.884 : Thread ID [21161] : INFORMATION : Sent pid: 5542 back to client for Request 10576
12.14.2005 14:22:23.884 : Thread ID [21161] : INFORMATION : Heg converter is running with pid: 5542 for Request 10576

12.14.2005 14:22:33.771 : Thread ID [21161] : XVERBOSE : heg converter execution finished for Request 10576
12.14.2005 14:22:33.771 : Thread ID [21161] : XVERBOSE : Request 10576 converter execution time: 10 seconds.
12.14.2005 14:22:33.772 : Thread ID [21161] : INFORMATION : Conversion process returned status: 0 for Request 10576
12.14.2005 14:22:33.772 : Thread ID [21161] : INFORMATION : Run heg converter executable successfully for Request 10576
12.14.2005 14:22:33.825 : Thread ID [21161] : VERBOSE : summary file created successfully for Request 10576
12.14.2005 14:22:33.931 : Thread ID [21161] : XVERBOSE : Create temp directory:
/datapool/OPS/user/FS1/HEGTemp//datapool/OPS/user/FS1//.orderdata/OUTPUTSDDWmmfGD/HEGOUT.001hMEzIIJI//HEG/0403300996.85000004172274//tempfiles successfully for Request 10576
12.14.2005 14:22:34.139 : Thread ID [21161] : VERBOSE : Move output successfully for Request 10576
12.14.2005 14:22:34.139 : Thread ID [21161] : java.lang.String : INFORMATION : HEGConvProcessor.convert() returned /datapool/OPS/user//FS1/MOGT/MOD02HKM.004/2002.01.01//labtest_2017250970|0|HegConversionSuccessful|/datapool/OPS/user/FS1//.orderdata/OUTPUTSDDWmmfGD/HEGOUT.001hMEzIIJI//HEG/0403300996.85000004172274//labtest_2017250970_0403300996_ConverterSynopsis.txt /datapool/OPS/user/FS1//.orderdata/OUTPUTSDDWmmfGD/HEGOUT.001hMEzIIJI//HEG/0403300996.85000004172274//labtest_2017250970_EV_500_RefSB__1_0403300996.tif for Request: 10576
12.14.2005 14:22:34.139 : Thread ID [21161] : XVERBOSE : About to send conversion result back to client.
12.14.2005 14:22:34.139 : Thread ID [21161] : INFORMATION : Finished sending conversion result back to client.
12.14.2005 14:22:34.139 : Thread ID [21161] : INFORMATION : Finish processing request: 10576

9 If a status code other than 0 (zero) or 600 for a particular Server Request ID is found in the log(s), take the appropriate action as indicated in Table 12, Troubleshooting HEG Problems.

10 If HEG request processing of a particular request is suspected of being incomplete (rather than failed), at the shell prompt type **xterm -n 'HEG Server Log' -sl 5000 -sb &** then press **Return/Enter**.

- A new xterm window is opened.

11 If HEG request processing of a particular request is suspected of being incomplete (rather than failed), at the shell prompt in the new xterm window type **tail -f *filename* | grep '*ServerRequestID*'** then press **Return/Enter**.

- ***filename*** refers to the HEG log file to be reviewed (e.g., HegServer.ops.log, HegServer.debug.log).
- ***ServerRequestID*** is the Server Request ID discovered in Step 5.
- For example:

  tail -f HegServer.ops.log | grep '10576'

- If new entries with the particular Server Request ID are being posted to the log, the operation has not finished yet.
  - If the same entries continue to be repeated over and over, there could be a problem with the server/converter.
  - Notify the Operations Controller/System Administrator of suspected server problems.
- If it is necessary to exit from a tailed log, type **^c** [Ctrl c] then press **Return/Enter**.

12 If the operation has not finished yet, monitor the tailed log for a while.

- If a status code other than 0 (zero) or 600 for the particular Server Request ID is found in the log(s), go to Step 9.
- If the operation does not seem to finish (i.e., if entries continue to be made to the tailed log) after a reasonable period of time (e.g., 30 minutes), notify the Operations Controller/System Administrator of the problem.
- If it is necessary to exit from a tailed log, type **^c** [Ctrl c] then press **Return/Enter**.

13 If errors/problems with HEG request processing of a particular request were detected in the HEG Server log(s), check for a corresponding open HEG intervention (by HEG Request ID) on the **OM GUI**.

- Go to the procedure for **Viewing Open HEG Intervention Information on the OM GUI**. (previous section of this lesson).

Checking Files in the HEG Tempfiles Directory

The HEG Server and the HEG converters create temporary files in the HEG Server working directory while processing each HEG request. If the HEG Server debug flag is on (HegServer.application.debugFlag = true in the HEG Server cfg file), the temporary files are saved in a temporary file directory when the request completes.

The tempfiles directory contains the following types of files:

- Converter logs.
  - resample.log.
  - swtif.log.
  - gdtif.log
- Parameter file (.prm).
- EcHgHEGConversion.log.

The procedure for checking files in the HEG tempfiles directory starts with the assumption that the operator has logged in to the appropriate host.

Checking Files in the HEG Tempfiles Directory

---

1 Access a terminal window logged in to the appropriate host (e.g., e0hep12, g0hep12, l0hep12, or n0hep12).

- For detailed instructions refer to the procedure for **Logging in to System Hosts** (preceding section of this lesson).

2 Type **cd /usr/ecs/*MODE*/CUSTOM/cfg** then press **Return/Enter**.

- Change directory to the directory containing the HEG configuration files (e.g., EcHgServerConfig.properties).

3 Type **more *filename*** then press **Return/Enter**.

- ***filename*** refers to the HEG configuration file to be reviewed (e.g., EcHgServerConfig.properties).
- The first page of the configuration file is displayed.
- Although this procedure has been written for the **more** command, other UNIX visualizing commands (e.g., **view**) can be used to review the log file.
- The following **more** commands (at the **--More--** prompt) are useful:
  - **Return/Enter** (go down one line).
  - ***n*Return/Enter** (go down ***n*** number of lines).

- ***n*Space bar (go down *n* number of lines).
- Space bar (go down one screenful).
- **z** (go down one screenful).
- ***n*z** (go down *n* number of screensful; *n* becomes the default for subsequent **z** commands).
- ***n*b** (go back *n* number of screensful).
- ***n*CTRL-B** (go back *n* number of screensful).
- ***n*d** (go down *n* number of lines; *n* becomes the default for subsequent **d** commands).
- ***n*CTRL-D** (go down *n* number of lines; *n* becomes the default for subsequent **d** commands).
- ***n*f** (skip *n* screens full and then display a screenful).
- ***n*s** (skip *n* lines and then display a screenful).
- **h** (help - display a description of all the **more** commands).
- **CTRL-L** (refresh the screen).
- ***n*/*pattern*** (search forward for the *n*th occurrence of the ***pattern*** and display a screenful starting two lines before the line that contains the specified pattern match.
- ***n*n** (search for the *n*th occurrence of the last pattern entered.
- **v** (drop into the **vi** editor at the current line of the current file).
- **=** (display the current line number).
- **:f** (display the name of the current file and the current line number).
- **q** (exit from **more**).
- **Q** (exit from **more**).
- **!*command*** (invoke a shell to execute ***command***).

4 Record (e.g., write down) the values corresponding to the following parameters in the configuration file:

HegServer.application.workDirRoot

HegServer.application.workDirTop

HegServer.application.tempDirRoot

HegServer.application.tempDirTop

- For example:

  HegServer.application.workDirRoot = /datapool

  HegServer.application.workDirTop = user/FS1/HEGWorking

  HegServer.application.tempDirRoot = /datapool

  HegServer.application.tempDirTop = user/FS1/HEGTemp

5 Type **cd /*path*** then press **Return/Enter**.

- Change directory to the HEG tempfiles directory for the HEG request.
- ***path*** refers to the path to the HEG tempfiles directory for the HEG request. The tempfiles directory is created at the following configurable location:

  ***tempDirRoot*/*MODE*/*tempDirTop*/*outputdirectory*/tempfiles**.

  - ***tempDirRoot*** and ***tempDirTop*** arespecified in the EcHgServerConfig.properties file in the /usr/ecs/*MODE*/CUSTOM/cfg directory.
  - ***outputdirectory*** is specified in the HEG request XML file.
    - The HEG request XML file (processing instructions) can be viewed using the **OM GUI** [e.g., refer to the procedure for **Viewing Pending HEG Granules** or the procedure for **Viewing Open HEG Intervention Information on the OM GUI** (previous sections of this lesson)].
    - If the HEG Server debug log level is set at XVERBOSE, the HEG request information (processing instructions) can be viewed in the log file.
  - In the following example:

    /datapool/OPS/user/FS1/HEGTemp/datapool/OPS/user/FS1/.orderdata/OUTPUTSDDWmmfGD/HEGOUT.001hMEzIIJI/HEG/0403300996.85000004172274/tempfiles

    - **/datapool** is the ***tempDirRoot***.
    - **OPS/user/FS1/HEGTemp** is the ***tempDirTop***.
    - **datapool/OPS/user/FS1/.orderdata/OUTPUTSDDWmmfGD/HEGOUT.001hMEzIIJI/HEG/0403300996.85000004172274** is the ***outputdirectory***.

6 In the terminal window type **ls** then press **Return/Enter**.

- A listing of the directory is displayed, for example:

  EcHgHEGConversion.log
  HegHdr.hdr
  labtest_2017250970_37282773432866145_swath.prm

FileNameLog_0403300996.log
hegtool.log

- OR -

EcHgHEGConversion.log
HegHdr.hdr
resample.log
FileNameLog_0403398929.log
hegtool.log
filetable.temp_3698
labtest_2017201550_2167927653420515_grid.prm

7 Review the contents of the HEG request's tempfile directory to determine whether the expected types of files are listed.

- The examples in the preceding step have the expected types of files.

8 Type **more** ***filename*** then press **Return/Enter**.

- ***filename*** refers to a file (in the HEG tempfile directory) to be reviewed (e.g., FileNameLog_0403300996.log).
- The first page of the specified file is displayed.
- Although this procedure has been written for the **more** command, other UNIX visualizing commands (e.g., **view**) can be used to review the log file.
- The FileNameLog… contains the names of the output file and the input file; for example:

  OUTPUT FILE: labtest_2017250970_EV_500_RefSB__1_0403300996.tif
  INPUT FILE: labtest_2017250970

- The parameter file (e.g., labtest_2017250970_37282773432866145_swath.prm) contains the names of the output file and the input file (including the directory paths); for example:

  INPUT_FILENAME =
  /datapool/OPS/user//FS1/MOGT/MOD02HKM.004/2002.01.01//labtest_2017250970
  […]
  OUTPUT_FILENAME =
  /datapool/OPS/user/FS1/HEGWorking/10576/labtest_2017250970_EV_500_RefSB__1_0403300996.tif

9 Examine the contents of the file to determine whether there were errors in processing the HEG request.

10 Repeat Steps 9 and 10 as necessary.

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Practical Exercise

Introduction

This exercise is designed to give the students practice in data distribution activities.

Equipment and Materials

One workstation per student.

One Rimage PC.

Statement of the requirements for the exercise.

Release 7.11Operations Tools Manual for the EMD Project, 609-EMD-001, one copy per student.

Release 7.11Mission Operation Procedures for the EMD Project, 611-EMD-001, one copy per student.

Logging in to System Hosts

The exercise involves logging in to system hosts. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/ requirements for logging in to a system host. The student logs in to a system host as specified in the requirements.

Perform the following steps:

1. Access the command shell.
2. Set the DISPLAY environmental variable.
3. Log in to the specified host using secure shell and the specified user ID.

Launching the Data Distribution Operator and Storage Management Control GUIs

The exercise involves launching the Data Distribution Operator and Storage Management Control GUIs. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/ requirements for launching the Data Distribution Operator and Storage Management Control GUIs. The student launches the data distribution and storage management control GUIs as specified in the requirements.

Perform the following steps:

1. Log in to the Operations Workstation using secure shell.
2. Set the environmental variables.
3. Enter the path to the "utilities" directory.
4. Enter the command to start the **Data Distribution Operator GUI** in the specified mode.
5. Enter the command to start the **Storage Management Control** GUI in the specified mode.

Monitoring/Controlling Data Distribution Requests

The exercise involves monitoring and controlling data distribution requests via ftp push or ftp pull. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for monitoring/controlling data distribution requests. The requirements may include instructions to configure data distribution polling, filter data distribution requests, change the priority of a distribution request, or change the status of a distribution request (e.g., cancel, suspend, or resume). The student monitors/controls data distribution requests as specified in the requirements.

Perform the following steps:

1. Monitor/control data distribution requests as specified in the written or stated requirements.
2. Configure data distribution polling as specified in the written or stated requirements.
3. Filter requests as necessary.
4. Change the status of distribution requests as specified in the written or stated requirements.
5. Respond to questions concerning the current status of distribution requests.

Modifying Preambles

The exercise involves modifying an e-mail preamble applicable to data distribution. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for modifying an e-mail preamble. The student modifies the e-mail preamble in accordance with the requirements.

Perform the following steps:

1. Select the **Preamble Editor** tab of the **Data Distribution Operator GUI**.
2. Select the appropriate media type.
3. Select the appropriate preamble type.
4. Edit the preamble text.
5. Save the edited preamble.

Configuring Storage Management Polling

The exercise involves configuring Storage Management polling functions. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements to configure Storage Management polling functions. The student configures Storage Management polling functions as specified in the requirements.

Perform the following steps:

1. Select **Options → System Settings** from the pull-down menu on the **Storage Management Control** GUI.
2. Set the **Operator Notification Timer** and/or **Cache Statistics Timer** to the appropriate polling states (off or on) if applicable.
3. Enter the database polling rate for the **Operator Notification Timer** and/or **Cache Statistics Timer** if applicable.
4. Set the error retry rate for the **Operator Notification Timer** if applicable.
5. Apply the modifications.

Deleting Files from Cache

The exercise involves deleting files from cache. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements to delete files from cache. The student deletes files from cache as specified in the requirements.

Perform the following steps:

1. Select the **Cache Stats.** tab on the **Storage Management Control** GUI.
2. Select the cache containing the files to be deleted.
3. Select the file to be deleted from the cache.
4. Click on the **Mark Delete** button.

Viewing Storage Management Event Log Information

The exercise involves viewing storage management event log information. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for viewing storage management event log information. The student views storage management event log information as specified in the requirements.

Perform the following steps:

1. Select the **Storage Events** tab of the **Storage Management Control** GUI.
2. Enter the defining characteristic(s) (e.g., time period, event type, event level) of the event.
3. Click on the **Search** button to search the event log for events that meet the specified criteria.

4. Respond to questions concerning the event information that is displayed in the **Event Log** table.

Monitoring Storage Management Server Operations

The exercise involves monitoring storage management server operations. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for monitoring storage management server operations. The requirements may include instructions to filter storage management requests. The student monitors storage management server operations as specified in the requirements.

Perform the following steps:

1. Monitor storage management server operations as specified in the written or stated requirements.
2. Filter requests as necessary.
3. Respond to questions concerning the current status of requests.

Launching the OM GUI

The exercise involves launching the OM GUI. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for launching the OM GUI. The student launches the OM GUI as specified in the requirements.

Perform the following steps:

1. Log in to an appropriate host using secure shell.
2. Enter the command to start the Netscape browser.
3. Enter the URL to access the **OM GUI** in the specified mode.
4. Enter the appropriate user name in the security dialogue box.
5. Enter the appropriate password in the security dialogue box.

Viewing Open Intervention Information on the OM GUI

The exercise involves viewing open intervention information on the OM GUI. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for viewing open intervention information on the OM GUI. The requirements include which intervention to check. The student observes the information associated with the specified intervention on the OM GUI and responds to questions concerning the specified intervention.

Perform the following steps:

1. Select the **Open Interventions** link from the **OM GUI**.
2. Respond to questions concerning the specified intervention as displayed on the **Open Interventions** page.
3. Select the **Open Intervention Detail** page for the specified intervention.
4. Respond to questions concerning the specified intervention as displayed on the **Open Intervention Detail** page.

Responding to an Open Intervention

The exercise involves responding to an open intervention using the OM GUI. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for responding to an open intervention using the OM GUI. The requirements include which open intervention to access and the attributes to be applied during the intervention. The student responds to the open intervention using the OM GUI as specified in the requirements.

Perform the following steps:

1. Select the **Open Interventions** link from the **OM GUI**.
2. Select the specified intervention.
3. Assign self to work on the intervention.
4. Select the appropriate attributes of the intervention as specified in the requirements.
5. Apply the attributes.
6. Confirm the disposition of the intervention.

Monitoring/Controlling Distribution Request Information on the OM GUI

The exercise involves monitoring and controlling distribution request information on the OM GUI. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for monitoring and controlling distribution request information on the OM GUI. The requirements include which distribution requests to check. The student observes the status of distribution requests using the OM GUI and responds to questions concerning the status of specified distribution requests and what action (if any) to take with respect to the requests.

Perform the following steps:

1. Select the **Distribution Requests** link from the **OM GUI**.
2. Respond to questions concerning distribution requests as displayed on the **Distribution Requests** page.

3. Change the priority of a distribution request (if applicable).
4. Suspend, resume, cancel, resubmit, or stop a distribution request (if applicable).
5. View open intervention information (if applicable).
6. Edit ftp push parameters (if applicable).
7. View operator alerts (if applicable).
8. View to staging requests (if applicable).
9. View ftp push distribution requests (if applicable).

Changing the Priority of a Distribution Request Using the OM GUI

The exercise involves changing the priority of a distribution request using the OM GUI. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for changing the priority of a distribution request using the OM GUI. The requirements include which distribution request to modify. The student changes the priority of a specified distribution request using the OM GUI.

Perform the following steps:

1. Select the priority from the option button in the **Priority** column of the row associated with the specified request.
2. Apply the selected priority.

Suspending, Resuming, Canceling, or Resubmitting a Distribution Request Using the OM GUI

The exercise involves suspending, resuming, canceling, or resubmitting distribution requests using the OM GUI. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for suspending, resuming, canceling, or resubmitting distribution requests using the OM GUI. The requirements include which distribution requests to modify. The student suspends, resumes, cancels, or resubmits specified distribution requests using the OM GUI.

Perform the following steps:

1. Select the appropriate button in the **Action** column of the row associated with the request.
2. Respond to the applicable dialogue box(es).
3. If resubmitting a request, initiate an intervention to resubmit the specified request.
4. If resubmitting a request, specify the appropriate attributes of the intervention as specified in the requirements.
5. If resubmitting a request, confirm the disposition of the intervention.

6. Repeat the preceding steps as necessary to suspend, resume, cancel, resubmit, or stop (as applicable) the remaining distribution requests.

Editing FtpPush Parameters

The exercise involves editing ftp push parameters. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for editing ftp push parameters. The requirements include which distribution requests needs to have the ftp push parameters edited. The student edits the ftp push parameters for the specified distribution request.

Perform the following steps:

1. Select the applicable Request ID in the **Distribution Requests** table (if necessary).
2. Select the **Edit FtpPush Parameters** button on the **Distribution Request Detail** page (if necessary).
3. Enter appropriate values in the text boxes (as necessary).
4. Select the applicable change button.

Viewing Open HEG Intervention Information on the OM GUI

The exercise involves viewing open HEG intervention information on the OM GUI. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for viewing open HEG intervention information on the OM GUI. The requirements include which intervention to check. The student observes the information associated with the specified intervention on the OM GUI and responds to questions concerning the specified intervention.

Perform the following steps:

1. Select the **HEG Interventions** link from the **OM GUI**.
2. Respond to questions concerning the specified intervention as displayed on the **Open HEG Interventions** page.
3. Select the **HEG Intervention Detail** page for the specified intervention.
4. Respond to questions concerning the specified intervention as displayed on the **HEG Intervention Detail** page.

Responding to an Open HEG Intervention

The exercise involves responding to an open HEG intervention using the OM GUI. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for responding to an open HEG intervention using the OM GUI. The requirements include which open HEG intervention to access and the disposition to be applied during the intervention. The student responds to the open HEG intervention using the OM GUI as specified in the requirements.

Perform the following steps:

1. Select the **HEG Interventions** link from the **OM GUI**.
2. Select the specified intervention.
3. Assign self to work on the intervention.
4. Select the appropriate disposition of the intervention as specified in the requirements.
5. Confirm the disposition of the intervention.

Viewing Pending HEG Granules on the OM GUI

The exercise involves viewing pending HEG granules on the OM GUI. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for viewing pending HEG granules on the OM GUI. The student views pending HEG granules on the OM GUI and responds to questions concerning the nature of the granules.

Perform the following steps:

1. Select the **Pending HEG Granules** link.
2. Respond to questions concerning specific granules as displayed on the **Pending HEG Granules** page.

Viewing Operator Alerts on the OM GUI

The exercise involves viewing operator alerts on the OM GUI. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for viewing operator alerts on the OM GUI. The student views operator alerts on the OM GUI and responds to questions concerning the nature of the alerts and what actions (if any) to take with respect to the alerts.

Perform the following steps:

1. Select the **Operator Alerts** link.
2. Respond to questions concerning specific alerts as displayed on the **Operator Alerts** page.
3. Select the corresponding details link in the **Alert Info** column.
4. Respond to questions concerning alert details as displayed on the detail page.

Viewing a Completed Intervention

The exercise involves viewing a completed intervention using the OM GUI. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for viewing a completed intervention using the OM GUI. The requirements include which open intervention to access. The student views the completed

intervention using the OM GUI and responds to questions concerning a specified completed intervention.

Perform the following steps:

1. Select the **Request Management** link.
2. Select the **Completed Interventions** link.
3. Respond to questions concerning a specified completed intervention as displayed on the **Completed Interventions** page.

Viewing and Responding to Suspended Ftp Push Distribution Destinations

The exercise involves viewing and responding to suspended ftp push distribution destinations. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for viewing and responding to suspended ftp push distribution destinations. The student views and responds to suspended ftp push distribution destinations and responds to questions concerning a specified suspended ftp push distribution destination.

Perform the following steps:

1. Select the **FtpPush Monitor** link.
2. Select the **Suspended Destinations** link.
3. Respond to questions concerning the information displayed on the **Suspended Destinations** page.
4. Select the **Resume** button to resume a suspended destination.
5. Either enter the destination name (for a destination to be suspended) in the **Destination Name** text box or type the host name in the **FTP Node** text box.
6. Select the **Suspend** button to suspend an active destination.
7. Select the **Completed Interventions** link.

Checking/Modifying OM Queue Status

The exercise involves checking and modifying OM queue status using the OM GUI. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for checking/modifying OM queue status using the OM GUI. The student brings up the **OM Queue Status** page using the OM GUI and responds to questions concerning OM queue status and modifies OM queue status as directed.

Perform the following steps:

1. Select the **OM Status Pages** link.
2. Select the **OM Queue Status** link.

3. Respond to questions concerning OM queue status.
4. Select the appropriate state from the correct **Change State** option button as directed.
5. Apply the state change(s).

Checking/Modifying HEG Order Status

The exercise involves checking and modifying HEG order status using the OM GUI. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for checking/modifying HEG order status using the OM GUI. The student brings up the **HEG Order Status** page using the OM GUI and responds to questions concerning HEG order status.

Perform the following steps:

1. Select the **HEG Order Status** link.
2. Respond to questions concerning HEG order status.

Checking Staging Status

The exercise involves checking staging status. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for checking staging status. The student brings up the appropriate staging status pages using the OM GUI and responds to questions concerning staging status.

Perform the following steps:

1. Select the **OM Status Pages** link.
2. Select the **Media Type** link or **FTP Push Destination** link as directed.
3. Respond to questions concerning staging status as displayed on the staging status pages.
4. Repeat Steps 2 and 3 as directed.

Checking/Modifying OM Configuration Parameters

The exercise involves checking and modifying configuration parameters. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for checking and modifying configuration parameters. The student responds to questions concerning configuration parameters modifies configuration parameters as directed.

Perform the following steps:

1. Select the **OM Configuration** link.
2. Select the **Aging Parameters**, **Server/Database**, **Media** or **FTP Push Policy** link as directed.

3. Respond to questions concerning configuration parameters as displayed on the configuration parameters pages.
4. Enter the new value(s) in the text entry box(es) for the relevant parameter(s).
5. Apply the new value(s).
6. Repeat Steps 2 through 5 as directed.

Adding a Destination to the Frequently Used Destinations List

The exercise involves adding a destination to the frequently used destinations list. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for adding a destination to the frequently used destinations list. The student adds a destination to the frequently used destinations list as directed.

Perform the following steps:

1. Select the **OM Configuration** link.
2. Select the **FTP Push Policy** link.
3. Select the **Add a Destination** button.
4. Enter value(s) in the text entry box(es) for the relevant attribute(s)/parameter(s) as directed.
5. Select the retry mode from the option button as directed.
6. Enter the applicable text in the **Notes** text box as directed.
7. Apply the values entered for the new destination.
8. Confirm the new destination.

Viewing the OM GUI Log

The exercise involves viewing the OM GUI log. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for viewing the OM GUI log. The student views the OM GUI log and responds to questions concerning entries in the log.

Perform the following steps:

1. Select the **Logs** link.
2. Select the **OM GUI Log Viewer** link.
3. Enter the appropriate number of lines to be displayed (as directed).
4. Initiate viewing of the log.
5. Respond to questions concerning entries in the OM GUI log.

Viewing PMD Open Intervention Information on the OM GUI

The exercise involves viewing PMD open intervention information on the OM GUI. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for viewing PMD open intervention information on the OM GUI. The requirements include which intervention to check. The student observes the information associated with the specified intervention on the OM GUI and responds to questions concerning the specified intervention.

Perform the following steps:

1. Select the **Physical Media Distribution Open Interventions** link from the **OM GUI**.
2. Respond to questions concerning the specified intervention as displayed on the **Open Physical Media Interventions** page.
3. Select the **PMD Open Intervention Detail** page for the specified intervention.
4. Respond to questions concerning the specified intervention as displayed on the **PMD Open Intervention Detail** page.

Responding to a PMD Open Intervention

The exercise involves responding to a PMD open intervention using the OM GUI. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for responding to a PMD open intervention using the OM GUI. The requirements include which open intervention to access and the disposition to be applied during the intervention. The student responds to the open intervention using the OM GUI as specified in the requirements.

Perform the following steps:

1. Select the **Physical Media Distribution Open Interventions** link from the **OM GUI**.
2. Select the specified intervention.
3. Assign self to work on the intervention.
4. Select the appropriate disposition of the intervention as specified in the requirements.
5. Confirm the disposition of the intervention.

Checking and Modifying PMD Device Configuration

The exercise involves checking and modifying PMD device configuration. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for checking and modifying PMD device configuration. The student responds to questions concerning PMD device configuration and changes the on-line or off-line status of a device as directed.

Perform the following steps:

1. Select the **Physical Media Distribution Device Configuration** link.
2. Respond to questions concerning PMD device configuration as displayed on the **Physical Media Distribution Device Configuration** page.
3. Change the on-line or off-line status of a device as directed.
4. Repeat Step 3 as directed.

Monitoring/Controlling PMD Media Creation on the OM GUI

The exercise involves monitoring and controlling PMD media creation on the OM GUI. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for monitoring and controlling PMD media creation on the OM GUI. The requirements include which request(s) to monitor/control. The student observes the status of requests using the OM GUI, responds to questions concerning the status of specified requests and takes appropriate action with respect to specified request(s).

Perform the following steps:

1. Select the **Media Creation Actions** link from the **OM GUI**.
2. Respond to questions concerning requests displayed on the **Media Creation Actions** page.
3. Respond to a system prompt to activate a specified request.
4. Respond to a system prompt to mount media for production for a specified request.
5. Respond to a system prompt to collect media for QC for a specified request.
6. Respond to a system prompt to activate media for QC for a specified request.
7. Respond to a system prompt to mount media for QC for a specified request.
8. Respond to a system prompt to assemble the package for a specified request.

Preparing an Input File for Use with the OMS Configuration CI

The exercise involves preparing an input file for use with the OMS Configuration CI. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for preparing an input file for use with the OMS Configuration CI. The student prepares an input file (as directed) for use with the OMS Configuration CI.

Perform the following steps:

1. Access a terminal window logged in to the Sun Consolidation Internal host.
2. Enter the path to the “utilities” directory.
3. Use text editor commands to create a file that specifies the relevant values (as directed) to be sent to the OMS.

Processing an Input File Specified for Synergy III Exceptions

The exercise involves processing an input file for Synergy III exceptions. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for processing an input file for Synergy III exceptions. The student processes an input file for Synergy III exceptions as directed.

Perform the following steps:

1. Access a terminal window logged in to the Sun Consolidation Internal Server host.
2. Enter the path to the "utilities" directory.
3. Enter the command to start the OMS Configuration CI in the specified mode with the appropriate options for the specified exceptions.
4. Respond appropriately to menu prompts.

Configuring How Long Order-Tracking Information is Kept in the OMS Database

The exercise involves configuring how long order-tracking information is kept in the OMS database. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for configuring how long order-tracking information is kept in the OMS database. The student configures (as directed) how long order-tracking information is kept in the OMS database.

Perform the following steps:

1. Access a terminal window logged in to the Sun Consolidation Internal Server host.
2. Enter the path to the "utilities" directory.
3. Enter the command to start the OMS Configuration CI in the specified mode with the appropriate options for order-tracking information retention.
4. Respond appropriately to menu prompts.

Switching between Synergy IV and Synergy III Operations

The exercise involves switching between Synergy IV and Synergy III operations. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/requirements for switching between Synergy IV and Synergy III operations. The student demonstrates how to get access to the menu for switching between Synergy IV and Synergy III operations and describes how to complete the switching operation.

Perform the following steps:

1. Access a terminal window logged in to the Sun Consolidation Internal Server host.
2. Enter the path to the "utilities" directory.

3. Enter the command to start the OMS Configuration CI in the specified mode with the appropriate options for switching between Synergy IV and Synergy III operations.
4. Respond appropriately to menu prompts (but do not actually switch between Synergy IV and Synergy III).
5. Describe how to complete the switch between Synergy IV and Synergy III operations.

Modifying System Parameters

The exercise involves modifying system parameters in database tables. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary information/ requirements for modifying system parameters in database tables. The student modifies a system parameter in a database table as specified in the requirements.

Perform the following steps:

1. Log in to the appropriate host using secure shell.
2. Use the appropriate GUI, script, or isql commands to modify the value assigned to the parameter.

Troubleshooting DDIST Problems

The exercise involves troubleshooting data distribution (DDIST) problems. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary trouble symptom information and requirements for troubleshooting the problem(s). The student reviews the specified trouble symptoms, takes action to correct the problem(s), and responds to questions concerning the possible cause(s).

Perform the following steps:

1. Review the trouble symptoms.
2. Respond to requests that exceed the distribution request threshold if applicable.
3. Check for an acquire failure.
4. Check appropriate log files as necessary.
5. Take action to correct the problem(s).
6. Verify that distribution request processing has resumed.
7. Respond to questions concerning the possible cause(s) without error.

Troubleshooting OM GUI Problems

The exercise involves troubleshooting OM GUI problems. The exercise begins with a student acting in the role of Distribution Technician receiving the necessary trouble symptom information and requirements for troubleshooting the problem(s). The student reviews the

specified trouble symptoms, takes action to correct the problem(s), and responds to questions concerning the possible cause(s).

Perform the following steps:

1. Review the trouble symptoms.
2. Respond to Order Manager GUI user messages as necessary.
3. Check the OM GUI log as necessary.
4. Take action to correct the problem(s).
5. Verify that the problem(s) has (have) been corrected.
6. Respond to questions concerning the possible cause(s) without error.

Slide Presentation

Slide Presentation Description

The following slide presentation represents the slides used by the instructor during the conduct of this lesson.

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