Overview of Lesson

- Introduction
- Distribution Concepts
- Logging in to System Hosts
- Launching the Data Distribution Operator and Storage Management Control GUIs
- Monitoring/Controlling Distribution Requests
- Modifying Preambles
- Configuring Storage Management Polling and Deleting Files from Cache
- Monitoring Storage Management Server Operations
Overview of Lesson (Cont.)

- Launching the Order Manager GUI
- Monitoring/Controlling Order Manager Operations
- Using the Order Manager Command Line Utility
- Using the OMS Configuration Script (OMS Configuration CI)
- Tuning Data Server Subsystem Parameters
- Tuning Order Manager Subsystem and Data Pool Parameters
- Troubleshooting DDIST and Order Manager GUI Problems
- Practical Exercise
Objectives

• OVERALL:
  – Develop proficiency in the procedures that apply to data distribution operations

• SPECIFIC:
  – Describe the general functions and processes associated with data distribution
    - In the context of OMS and DDIST operations
  – Perform the steps involved in...
    - logging in to system hosts
    - launching the Data Distribution Operator and Storage Management Control GUIs
    - monitoring/controlling data distribution requests
    - modifying an e-mail preamble
    - configuring Storage Management polling functions
Objectives (Cont.)

• SPECIFIC (Cont.):
  – Perform the steps involved in...
    - deleting files from cache
    - viewing Storage Management Event Log information
    - monitoring Storage Management server operations
    - launching the Order Manager (OM) GUI
    - viewing open intervention information on the OM GUI
    - responding to an open intervention using the OM GUI
    - monitoring and controlling distribution requests on the OM GUI
    - 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
    - viewing open HEG intervention information on the OM GUI
• SPECIFIC (Cont.):
  – Perform the steps involved in...
    - responding to an open HEG intervention using the OM GUI
    - viewing pending HEG granules on the OM GUI
    - viewing operator alerts on the OM GUI
    - viewing a completed intervention using the OM GUI
    - viewing and responding to suspended ftp push distribution destinations using the OM GUI
    - checking and modifying OM queue status using the OM GUI
    - checking and modifying HEG order status using the OM GUI
    - checking staging status
    - checking and modifying OM configuration parameters
    - adding a destination to the frequently used destinations list
    - viewing the OM GUI log
Objectives (Cont.)

• SPECIFIC (Cont.):
  – Perform the steps involved in...
    - viewing PMD open intervention information on the OM GUI
    - responding to a PMD open intervention using the OM GUI
    - checking and modifying PMD device configuration
    - monitoring and controlling PMD media creation on the OM GUI
    - preparing an input file for use with the OMS Configuration CI
    - processing an input file 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
    - modifying system parameters in database tables
    - troubleshooting DDIST problems
    - troubleshooting Order Manager GUI problems
Objectives (Cont.)

• STANDARDS:
  – Lesson content (procedures in the lesson)
  – Mission Operation Procedures for the ECS Project (611-EMD-001)
Distribution Concepts

• System Context
  – Data distribution is accomplished at the Distributed Active Archive Centers (DAACs)
  – People involved in data distribution activities are Distribution Technicians
  – Order Manager Subsystem (OMS) manages all the orders for data arriving via…
    - V0 Gateway (GTWAY)
    - Machine-to-Machine Gateway
    - Data Pool Web Access GUI
    - Spatial Subscription Server (NBSRV)
    - Science Data Server (SDSRV) Command Line Interface (SCLI)
• System Context (Cont.)
  – 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")
System Context (Cont.)

- 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)
Distribution Concepts (Cont.)

• OMS
  – Order Manager Server (OMSRV) CSCI
    - Order Manager Server (EcOmOrderManager)
    - Sybase Adaptive Server Enterprise (ASE) Server
  – Order Manager GUI (OMGUI) CSCI
    - Order Manager GUI (EcOmGUI)
  – Production Module CSCI
    - EcOmPdMediaProduction
  – OMS Bulk Browse Utility

• Order Manager GUI Start-Up
  – Web-based GUI – uses a web browser (e.g., Netscape)
Order Manager Subsystem: Architecture and Interfaces

Order Manager Subsystem:

- OMS
- OMSRV
- Production Module
- EcOmOrderManager
- EcOmPdMediaProduction
- EcOmGui
- OMS Database
- ASE (Sybase)

Components:
- SSS
- DPL
- HEG
- CSS
- MSS
- DSS
- DMS
Distribution Concepts (Cont.)

- OMS (Cont.)
  - Examples of scripts that implement the Order Manager GUI (/usr/ecs/MODE/CUSTOM/WWW/OMS/cgi-bin directory on the Data Pool Server host) (not normally invoked directly by Distribution Technicians)
    - EcOmGuiAgingConfig.pl
    - EcOmGuiCompletedInterv.pl
    - EcOmGuiConfigureFtpPushDetail.pl
    - EcOmGuiDistributionRequestDetail.pl
    - EcOmGuiEcsOrder.pl
    - EcOmGuiFtpPushDestinationsDetail.pl
    - EcOmGuiHome.pl
    - EcOmGuiMediaConfig.pl
    - EcOmGuiOpenIntervDetail.pl
    - EcOmGuiServerStatistics.pl
• OMS (Cont.)
  – Distribution personnel start the OMS Configuration Command Line Interface (OMS Configuration CI) using the 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

  – 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

  – 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
Distribution Concepts (Cont.)

• DDIST
  – Data Distribution Operator GUI (EcDsDdistGui)
  – Distribution Server (EcDsDistributionServer)
  – Sybase Adaptive Server Enterprise (ASE) Server
  – External Product Dispatcher (EPD)
  – DDIST Command Line Interface (DCLI)
Data Server Subsystem: DDIST Architecture and Interfaces

Diagram showing the relationships between various components:
- **MSS**
- **CSS**
- **Ingest Local Disk**
- **INS**
- **Subsetter Location (e.g., DAAC)**
- **EXTERNAL SUBSETTER**
- **STMGT CI**
- **SDSRV CI**
- **ASE (Sybase)**
- **STMGT/DDIST Database**
- **EcDsDistributionServer**
- **EPD Server (epdserver)**
- **EcDsDdDCLI**
- **EcDsDdistGui**
- **DDIST CI**
- **DSS**

The diagram illustrates how these components interact, with arrows indicating the flow of data or commands.
Distribution Concepts (Cont.)

- DDIST (Cont.)
  - Start-up script used by Distribution Technicians (/usr/ecs/MODE/CUSTOM/utilities directory on the Operations Workstation)
    - EcDsDdistGuiStart
  - Start-up scripts called by other applications (not normally invoked directly by Distribution Technicians)
    - EcDsDataDistributionAppStart
    - EcDsDdStart
    - EcDsDistributionServerStart
  - Other scripts
    - DsDdSendMailPI.pl
    - EcDsDdPTEdit.pl [obsolete]
Distribution Concepts (Cont.)

• STMGT
  – Archive Server (EcDsStArchiveServer)
  – Staging Servers
    - Cache Manager Server (EcDsStCacheManagerServer)
    - Pull Monitor (EcDsStPullMonitorServer) [symbolic link to the Cache Manager Server]
    - Staging Disk Server (EcDsStStagingDiskServer)
  – Resource Managers
    - 8mm Server (EcDsSt8MMServer)
    - DTF-2 Server (EcDsStDTFServer)
    - FTP Server (EcDsStFtpServer)
    - Copy Server (EcDsStCopyServer)
  – Storage Management Request Manager (EcDsStRequestManagerServer)
  – Storage Management Control GUI (EcDsStmgmtGui)
Distribution Concepts (Cont.)

- STMGT (Cont.)
  - Sybase ASE Server
  - Archival Management and Storage System (AMASS)
Data Server Subsystem: STMGT Architecture and Interfaces

STMGT CI

SDSRV CI

DDIST CI

DSS

EcDsStArchiveServer
EcDsStCacheManagerServer
Staging Data List
EcDsStmg tgtGui
Device Info Request List
Resource List

AMASS

ASE (Sybase)

Disk Index File

EcDsStStagingDiskServer

EcDsStPullMonitorServer

EcDsStRequestManagerServer

EcDsStCopyServer

EcDsStFtpServer

EcDsSt8MMServer
EcDsStDTFServer

FTP Daemon

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Distribution Concepts (Cont.)

- STMGT (Cont.)
  - Start-up script used by Distribution Technicians (/usr/ecs/MODE/CUSTOM/utilities directory on the Operations Workstation)
  - EcDsStmgtGuiStart
• STMGT (Cont.)
  – Start-up scripts called by other applications (not normally invoked directly by Distribution personnel)
    - EcDsStFtpServerStart
    - EcDsStStagingDiskServerStart
    - EcDsStStart
    - EcDsStStorageMgmtAppStart
    - EcDsStArchiveServerStart
    - EcDsStCacheManagerServerStart
    - EcDsStRequestManagerServerStart
    - EcDsSt8MMServerStart
    - EcDsStDLTServerStart
    - EcDsStCDROMServerStart
Distribution Concepts (Cont.)

• STMGT (Cont.)
  – Other scripts
    - EcDsCheckArchive
    - EcDsStConfigVolGrps
    - EcDsStDbBuild
    - EcDsStDbDrop
    - EcDsStDbDump
    - EcDsStDbDumpTrans
    - EcDsStDbLoad
    - EcDsStDbLoadTrans
    - EcDsStDbPatch
    - EcDsStFilesPerTapeUtility
    - EcDsStVolGrpCreateMain.pl
• **SDSRV**
  
  – 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
Data Server Subsystem: SDSRV Architecture and Interfaces
Distribution Concepts (Cont.)

• SDSRV (Cont.)
  – Science Data Server (EcDsScienceDataServer)
  – Hierarchical Data Format (HDF) EOS Server (EcDsHdfEosServer)
  – Granule Deletion Administration Tool (EcDsGranuleDelete)
  – Science Data Server GUI (EcDsSdSrvGui)
  – Science Data Server (SDSRV) Command Line Interface (SCLI) (EcDsSCLI)
  – Autometric Spatial Query Server (SQS)
  – Sybase ASE Server
• SDSRV (Cont.)
  – Start-up script (/usr/ecs/MODE/CUSTOM/utilities directory on the Operations Workstation)
    - EcDsSdSrvGuiStart
• **SDSRV (Cont.)**
  – Other scripts
    - EcTsDsClientDriverStart
    - EcDsSrConvertEvt
    - EcDsSrDbBuild
    - EcDsSrDbDrop
    - EcDsSrDbDump
    - EcDsSrDbLoad
    - EcDsSrDbMigrate
    - EcDsSrDbPatch
    - EcDsSrDbValidids
Distribution Concepts (Cont.)

• Data Distribution is a process of retrieving archived data and providing the data to requesters in response to the orders they submit
  – external requesters
  – internal processes

• Data retrieved from the archives can be distributed to requesters using either of the following three general methods:
  – Electronic pull
  – Electronic push
  – Hard (physical) media distribution on disks or tape cartridges
• Method of data distribution is dictated by the nature of the data distribution request
  – Requester specifies the distribution method when ordering or subscribing to the data
• **Electronic Pull:**
  
  – Requester searches for a specific data product
  – Requester submits an order for a “pull” of the data using file transfer protocol (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
• **Electronic Pull (Cont.):**
  – 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:
  – Requester searches for a specific data product
  – Requester submits an order for ftp “push” of the data
  – OMS validates the request
  – 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
  – 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
Distribution Concepts (Cont.)

- Physical Media Distribution:
  - Requester searches for a specific data product
  - 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)
Distribution Concepts (Cont.)

• Physical Media Distribution (Cont.):
  – 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 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

- Procedure
  - Access the command shell
  - Set the DISPLAY environmental variable
  - Log in to the specified host using secure shell and the specified user ID
Launching Data Distribution and Storage Management GUIs

- Software applications associated with Data Distribution
  - Data Distribution Operator GUI (EcDsDdistGui)
  - Distribution Server (EcDsDistributionServer)
  - Sybase ASE Server

- Data Distribution depends on a number of related servers, especially...
  - Science Data Server servers
  - Storage Management servers
Launching Data Distribution and Storage Management GUIs (Cont.)

- Software applications associated with Storage Management
  - Storage Management Control GUI (EcDsStmgmtGui)
  - 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)
Launching Data Distribution and Storage Management GUIs (Cont.)

• Software applications associated with Storage Management (Cont.)
  – Sybase ASE Server
  – Archival Management and Storage System (AMASS)
Launching Data Distribution and Storage Management GUIs (Cont.)

- Use UNIX command line to gain access to GUIs
- Procedure (Launching the Data Distribution Operator and Storage Management Control GUIs)
  - Access a terminal window logged in to the Operations Workstation
  - Change directory to the utilities directory
  - Enter the command to start the Data Distribution Operator GUI
  - Enter the command to start the Storage Management Control GUI
Data Distribution Operator GUI: Distrib'n Requests Tab
Storage Management Control GUI: Storage Config. Tab
Monitoring/Controlling Data Distribution Requests

- Data Distribution activities are monitored and controlled using:
  - Data Distribution Operator GUI
  - Storage Management Control GUI

- DAAC Distribution Technician monitors and manages data distribution requests primarily via the Data Distribution - Track Activity window of 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 request
- Cancel, suspend, or resume processing of a request
- Filter on all or specific requests by...
  - Request ID
  - Requester
  - Media Type
  - State (current status)
Monitoring/Controlling Data Distribution Requests (Cont.)

• The Data Distribution - Track Activity window displays the following information (plus additional information) for each data distribution request:
  – Request ID
  – Requester
  – ESDT Type
  – Media type
  – Priority
  – State
  – Estimated # of Media
  – Total Size [of the request]
  – # of Files
Monitoring/Controlling Data Distribution Requests (Cont.)

• Procedure
  – Configure data distribution polling (subordinate procedure)
  – Observe data distribution request information displayed in the Data Distribution Requests list
  – Filter requests as necessary (subordinate procedure)
  – Change the priority of distribution requests (subordinate procedures)
  – Change the status of distribution requests (subordinate procedures)
    - Suspend requests
    - Resume processing of suspended requests
    - Cancel requests
    - View open interventions on the OM GUI
  – Troubleshoot distribution problems as necessary
• Refresh Options Dialogue from the GUI Options menu is used for...
  – switching the Data Distribution database polling function on or off
  – modifying DDist Polling Rate
    - specifies how often (in seconds) the system updates the information displayed in the Track Activity window
  – modifying Error Retry Rate
    - specifies the time (in seconds) that the system waits before trying to poll the Data Server after a failed try
  – modifying Select Confirmation Min
    - specifies the number of records that triggers a confirmation dialogue box for a selected action
  – modifying the Overdue Limit
    - specifies the time limit (in hours) for declaring requests “overdue”
• Procedure
  – Select Options → System Settings from the pull-down menu of the Data Distribution Operator GUI
  – Click on the DDist Polling On button to change the state of polling
  – Enter value for the polling rate (if applicable)
    - default value is 30 seconds
  – Enter value for the error retry rate (if applicable)
  – Enter value for Select Confirmation Min (if applicable)
  – Enter value for Overdue Limit (if applicable)
  – Click on the Ok button to apply the values and dismiss the dialogue box
Refresh Options Dialogue Box

- DDist Polling On
- DDist Polling Rate: 300 secs
- Error Retry Rate:
- Select Confirmation Min: 100 records
- Overdue Limit: 10 hours
Filtering Data Distribution Requests

- Filtering Data Distribution Requests
  - Data distribution requests can be filtered with respect to the following criteria:
    - request ID
    - requester
    - media type
    - state
  - Procedure
    - Select View → Filter
    - Select filter criteria
    - Click on the OK button to implement the selections and dismiss the dialogue box
Distribution Filter Requests
Dialogue Box

Distribution Filter Requests

- Request ID
- Requester
- All Requests

Media Type:
- SMM
- CDROM
- DLT
- DVD
- FtpPull
- FtpPush
- scp

State:
- Pending
- Active
- Staging
- Transferring
- Cancelled
- Suspended
- Suspended with Errors
- Waiting for Shipment
- Shipped
- Failed

OK  Apply  Cancel  Help
Changing the Priority of Data Distribution Requests

- Procedure
  - Highlight the distribution request to be assigned a different priority
  - Select the new priority using the Change Priority button
  - Click on the Apply button to implement the priority change
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

• Procedure
  – Click on the Suspend New Requests button to suspend all new distribution requests
  – Select the individual distribution request to be suspended and click on the Suspend button to suspend a single distribution request
  – Click on the Resume New Requests button to resume processing of all new distribution requests
  – Select the individual distribution request for which processing is to be resumed and click on the Resume button to resume processing of a single distribution request
Canceling Data Distribution Requests

- Sometimes it may be necessary to cancel the processing of a data distribution request
- Procedure
  - Select the distribution request to be canceled
  - Click on the Cancel button
Modifying Preambles

• Preamble Editor tab 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

• Preambles for different types of distribution are accessible in the /usr/ecs/MODE/CUSTOM/data/DSS directory on the Distribution Server host (Sun internal server host)
Modifying Preambles

• Types of media:
  – 8MM
  – CDROM
  – DLT
  – DVD
  – Ftp pull
  – Ftp push
  – Secure copy distribution (scp)
Data Distribution Operator GUI: Preamble Editor Tab
Data Distribution Operator GUI: FTP Push Successful E-Mail

Thank you for using the Earth Observing System Distribution System. For more information on your request contact the DAAC.

Please include the data below in any correspondence with the DAAC.

The data distributed for this request can be found on the FTPHOST below in the directory specified by FTPDIR below.

Thank You!

Operator Messages
07/08/2001 13:51:47 Verify Connection to server was successful
Modifying Preambles (Cont.)

• Procedure
  – 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
  – Save the edited preamble
Preamble Save Confirmation Dialogue Box

! Do you want to save this Preamble Text?

Yes  No
Configuring STMGT Polling & Deleting Files from Cache

- Configuring Storage Management Polling (Storage Management Control GUI Options menu)
  - Switch Operator Notification Timer polling on or off
  - Modify parameters
    - Database Polling Rate
    - Error Retry Rate
Storage Management Control GUI: Session Settings Dialogue

Session Settings

Operator Notification Timer

☑ Polling  ON

Database Polling Rate: 30 secs

Error Retry Rate: 300 secs

Ok  Apply  Cancel
• Configuring Storage Management Polling: Procedure
  – Select Options → System Settings from the pull-down menu on
    the Storage Management Control GUI
  – Set the Operator Notification Timer to the appropriate polling
    state (off or on) if applicable
  – Enter the database polling rate if applicable
  – Set the error retry rate if applicable
  – Apply the modifications
• **Cache Stats. tab** on the Storage Management Control GUI
  – Displays all of the files that are in the cache areas, including the Pull Monitor and other staging areas
  – Displays general statistics on the selected cache
  – Allows the operator to manually delete expired files in cache areas
  – A just-enough-cache cleanup strategy has been implemented
    - 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
Storage Management Control GUI: Cache Stats. Tab
Configuring STMGT Polling & Deleting Files from Cache (Cont.)

- Deleting Files from Cache: Procedure
  - Select the Cache Stats. tab on the Storage Management Control GUI
  - Select the cache containing the files to be deleted
  - Select the file to be deleted from the cache
  - Click on the Mark Delete button
  - If any file has been inadvertently marked Delete, first click on the row corresponding to the file then click on the Unmark Delete button
• Viewing Storage Management Event Log Information:
  Storage Events tab on the Storage Management Control GUI
    – Search the Event Log
    – Obtain reports on events that have occurred in Storage Management
    – Review information concerning a particular Storage Management event
      - Number
      - Date
      - Level
      - Type
      - Message
• **Storage Events tab (Cont.)**
  - Search criteria (can be used individually or in combination to view entries in the Event Log)
    - Date Interval
    - Event Type
    - Event Level
    - Message
Storage Management Control GUI: Storage Events Tab
• **Viewing Storage Management Event Log Information:**
  - **Procedure**
    - Select the Storage Events tab of the Storage Management Control GUI
    - Enter the defining characteristic(s) (e.g., time period, event type, event level) of the event
    - Click on the Search button to search the event log for events that meet the specified criteria
    - Observe event information displayed in the Event Log table
Monitoring Storage Management Server Operations

- **The Request Status tab on the Storage Management Control GUI**
  - Makes it possible to monitor processing activity in all of the storage management servers for a given mode.

- **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.
  - Using the Request Status tab the Distribution Technician can detect stalled requests or servers that appear to be idle.
Monitoring Storage Management Server Operations (Cont.)

- Request Status Information table contents
  - Operation [type of operation]
  - Request ID
  - Progress [current stage of processing]
  - Status
  - Priority
  - When Submitted [time and date received by the server that is responsible for the request]
  - Last Updated [time and date status was last updated]
Monitoring Storage Management Server Operations (Cont.)

• Procedure
  – Click on the Storage Management Control GUI Request Status tab
  – Observe information displayed on the Request Status tab of the Storage Management Control GUI
  – If necessary, filter the list of Storage Management requests shown in the Request Status Information table by making the appropriate selection from the Filtering pull-down menu:
    - Server
    - Operation
    - Processing State
    - Submitter
  – Observe the Storage Management requests displayed in the Request Status Information table
  – To exit from the Storage Management Control GUI select File → Exit from the pull-down menu
Storage Management Control GUI: Request Status Tab
Launching the Order Manager GUI

- **Order Manager Subsystem (OMS)**
  - Manages orders arriving via either…
    - V0 Gateway (V0 GTWAY)
    - Spatial Subscription Server (NBSRV)
    - Machine-to-Machine Gateway (MTMGW)
    - Data Pool Web GUI (DPL Web GUI)
    - Science Data Server (SDSRV) Command Line Interface (SCLI)
  - Does not manage orders from some other sources (e.g., input data for Data Processing)
  - Performs validation (e.g., limit checking) of the orders it receives before submitting the applicable requests to the order-fulfilling services
Launching the Order Manager GUI (Cont.)

- Order Manager Subsystem (OMS)
  - If the media type or ESDTs of a request are configured as Synergy III processing mode or the request is pre-staged (i.e., ordered from the Data Pool Web GUI), the server dispatches each validated request to the appropriate order-fulfillment service; i.e., SDSRV
  - Otherwise, the server stages the order to Data Pool storage (and creates links from staged files to the FtpPull directory in Data Pool storage if the distribution type is FtpPull), dispatches the order to the appropriate service (i.e., OM Production Module or OMS Ftp Driver), then sends a Distribution Notice to the end user (when appropriate)
Launching the Order Manager GUI (Cont.)

- Order Manager Subsystem (OMS) (Cont.)
  - Two modes of operation:
    - S4 (Synergy IV/Synergy V)
    - S3 (Synergy III)
  - Two levels of permissions for operation:
    - Full-capability
    - Limited-capability
Order Manager Subsystem (OMS) (Cont.)

- Order Manager performs validation of the orders it receives before submitting the applicable requests to the order-fulfilling services.
- 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.
  - 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 (if possible) or terminates the request (if necessary).
  - In either case negative effects on downstream processing are less likely to occur.
Launching the Order Manager GUI (Cont.)

- Order Manager Subsystem (OMS) (Cont.)
  - Order Manager dispatches each validated request to the appropriate order fulfillment service (e.g., Production Module or OMS Ftp Driver) depending on whether the request is for physical media or electronic distribution
  - If errors are encountered during processing or shipping, the DAAC technician can resubmit the affected request using the Order Manager GUI
Order Manager Subsystem (OMS) (Cont.)

- Order Manager generates an alert and sends an email to a pre-configured email address when it detects internal or external resource failure
  - Order Manager halts the dispatching of requests that are utilizing failed resources
- Alerts indicate problems with resources (interventions indicate problems with requests)
• The OM GUI provides system operators with access to the Order Manager database
  – Based on web standards
  – Performs most of its functions by accessing the database directly, in contrast to most current system operator GUIs, which interface with servers
  – Allows operators to view and modify requests that the Order Manager Server has placed on hold because they require operator intervention
  – Allows operators to resubmit requests or portions of a request that failed
  – The OM GUI incorporates much of the Data Distribution Operator GUI functionality with the expectation that the OM GUI can provide an efficient, centralized interface
  – The Data Distribution Operator GUI is still functional, as is the ECS Data Order Tracking GUI, which also shares functions with the OM GUI
OM GUI Permission Levels

- 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
Launching the Order Manager GUI (Cont.)

• Some OM GUI services (all operators)
  – Monitor for operator interventions and physical media distribution (PMD) interventions
  – View completed operator actions and interventions
  – View list of all distribution requests, ftp push distribution requests, staging distribution requests, or historical distribution requests
  – View detailed distribution request information
  – View details of an ECS Order
  – View suspended ftp push destinations
  – Monitor for operator alerts
  – Monitor processing queue states
  – Monitor the current staging status by media type or ftp push destination
  – View OM Server, OM database, and HEG parameters
• Some OM GUI services (full-capability operators only)
  – Modify request parameters 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
Launching the Order Manager GUI (Cont.)

- Some OM GUI services (full-capability operators only) (Cont.)
  - 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 actions with respect to PMD requests (e.g., Activate, Fail, Annotate, Confirm mount media, Activate QC)
• 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 Order Manager GUI (Cont.)

- **Procedure**
  - Log in to an appropriate host using secure shell
  - Enter the command to start the Netscape 7 browser
  - Select the bookmark or enter the URL to access the OM GUI in the specified mode
  - Perform the security log-in
Netscape Web Browser
Security Login Prompt

Enter username and password for "OMS Realm" at p2dps01.pvc.ecs.nasa.gov:22421

User Name:

Password:

☐ Use Password Manager to remember these values.

[OK] [Cancel]
OM GUI: Order Manager Page
[“Home” Page]

The Order Manager GUI allows a DAAC operator to completely manage order distribution requests from a web browser and directly update the Order Manager Service (OMS) Database.

The OMS GUI has several features, some of which are new to the Synergy IV release. Here is a list of just some of the major functionalities of the OMS GUI:

- View Distribution Requests and associated granules
- Fix common problems with Requests
- Change Request attributes, change granules for a request
- Resubmit Requests
- View Operator Alerts
- Monitor FTP Push Distributions
- Monitor for suspended FTP Push destinations
- Configure the OMS database and performance-tune

If you are new to this GUI, feel free to visit the Help page, which contains complete details on operations scenarios and other useful topics.
• Order Manager Activities

• Distribution Technician activities involve 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 Distribution Requests
    - Suspended Destinations
 Distribution Technician activities involve the following OM GUI pages (Cont.):
  – Archive Data
    - Historical Distribution Requests
  – OM Status Pages
    - OM Queue Status
    - HEG Order Status
    - Staging Status:
      - Media Type
      - FTP Push Destination
    - Pending HEG Granules
Distribution Technician activities involve the following OM GUI pages (Cont.):

- OM Configuration
  - Aging Parameters
  - Server/Database
  - Media
  - Media Creation
  - FTP Push Policy
- Help
  - About HelpOnDemand
  - Help
• Distribution Technician activities involve the following OM GUI pages (Cont.):
  – Physical Media Distribution
    - Open Interventions
    - Device Configuration
    - Printer Configuration
    - PM Configuration
    - Reports
    - Media Creation Actions
  – Logs
    - OM GUI Log Viewer
• Order Manager Activities (Cont.)
  – 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
• Order Manager Activities (Cont.)
  – Full-capability operator tasks (Cont.):
    - 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
Monitoring/Controlling Order Manager Operations (Cont.)

• Order Manager Activities (Cont.)
  – Full-capability operator tasks (Cont.):
    - Viewing and Responding to Destinations 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
• Order Manager Activities (Cont.)
  – Full-capability operator tasks (Cont.):
    - 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
• Order Manager Activities (Cont.)
  – Full-capability operator tasks (Cont.):
    - 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
Monitoring/Controlling Order Manager Operations (Cont.)

• Viewing Open Intervention Information on the OM GUI
  – The Open Interventions page 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.
Monitoring/Controlling Order Manager Operations (Cont.)

- **Viewing Open Intervention Information on the OM GUI:**
  - **Procedure**
    - Select the Open Interventions link from the OM GUI
    - Observe information displayed in the Listing table of the Open Interventions page
    - Select the Open Intervention Detail page for the specified intervention
    - Observe information displayed on the Open Intervention Detail page
    - To work on the intervention being displayed on the Open Intervention Detail page, perform the procedure for Responding to an Open Intervention
### OM GUI: Open Interventions Page

#### Current Filters
- **Order ID:** None
- **Request ID:** None
- **Creation Time:** Start: Apr 8 2005 10:12AM
- **Worked By:** None
- **Status:** PENDING
- **Explanation:** ALL

#### Options
- Change Filter
- Bulk Select
- Bulk Unselect
- Select All
- Select None

#### Listing
- Go directly to: OK of 3984 rows
- Show: 50 rows at a time

<table>
<thead>
<tr>
<th>Set</th>
<th>Order ID</th>
<th>Request ID</th>
<th>MediaType</th>
<th>Request Size(MB)</th>
<th>Status</th>
<th>Worked By</th>
<th>Created</th>
<th>Acknowledged</th>
<th>Explanation(s)</th>
<th>InterType</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>040176657</td>
<td>0401765249</td>
<td>FlpPush</td>
<td>&lt; 5 MB</td>
<td>PENDING</td>
<td>Apr 8 2005 11:20AM</td>
<td></td>
<td></td>
<td>Granule failed staging Request suspended by Server</td>
<td>Operator Intervention</td>
</tr>
<tr>
<td>2</td>
<td>040176549</td>
<td>0401765279</td>
<td>FlpPush</td>
<td>&lt; 5 MB</td>
<td>PENDING</td>
<td>Apr 8 2005 11:19AM</td>
<td></td>
<td></td>
<td>Granule failed staging Request suspended by Server</td>
<td>Operator Intervention</td>
</tr>
<tr>
<td>3</td>
<td>040176631</td>
<td>0401765255</td>
<td>FlpPush</td>
<td>&lt; 5 MB</td>
<td>PENDING</td>
<td>Apr 8 2005 11:18AM</td>
<td></td>
<td></td>
<td>Granule failed staging Request suspended by Server</td>
<td>Operator Intervention</td>
</tr>
<tr>
<td>4</td>
<td>040176640</td>
<td>0401765264</td>
<td>FlpPush</td>
<td>&lt; 5 MB</td>
<td>PENDING</td>
<td>Apr 8 2005 11:17AM</td>
<td></td>
<td></td>
<td>Granule failed staging Request suspended by Server</td>
<td>Operator Intervention</td>
</tr>
<tr>
<td>5</td>
<td>040176633</td>
<td>0401765257</td>
<td>FlpPush</td>
<td>&lt; 5 MB</td>
<td>PENDING</td>
<td>Apr 8 2005 11:16AM</td>
<td></td>
<td></td>
<td>Granule failed staging Request suspended by Server</td>
<td>Operator Intervention</td>
</tr>
<tr>
<td>6</td>
<td>040176643</td>
<td>0401765246</td>
<td>FlpPush</td>
<td>&lt; 5 MB</td>
<td>PENDING</td>
<td>Apr 8 2005 11:15AM</td>
<td></td>
<td></td>
<td>Granule failed staging Request suspended by Server</td>
<td>Operator Intervention</td>
</tr>
<tr>
<td>7</td>
<td>040176639</td>
<td>0401765243</td>
<td>FlpPush</td>
<td>&lt; 5 MB</td>
<td>PENDING</td>
<td>Apr 8 2005 11:14AM</td>
<td></td>
<td></td>
<td>Granule failed staging Request suspended by Server</td>
<td>Operator Intervention</td>
</tr>
</tbody>
</table>
# OM GUI: ECS Order Page

**ECS ORDER 0402176657**

<table>
<thead>
<tr>
<th>Request ID:</th>
<th>0402176657</th>
</tr>
</thead>
<tbody>
<tr>
<td>Order Type:</td>
<td>Regular</td>
</tr>
<tr>
<td>Order Source:</td>
<td>SSS-846</td>
</tr>
<tr>
<td>Ext. RequestID:</td>
<td>Not available</td>
</tr>
<tr>
<td>Receive Date:</td>
<td>Apr 8 2005 11:18 AM</td>
</tr>
<tr>
<td>Last Update:</td>
<td>Apr 8 2005 11:28 AM</td>
</tr>
<tr>
<td>Description:</td>
<td>Not available</td>
</tr>
</tbody>
</table>

**Order Home DAAC**: PVC

---

Need help with the Order Manager? Click on a Question Mark to get context-sensitive Help!
OM GUI: Open Intervention Detail Page
• 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

• Procedure
  – Click on the appropriate AutoRefresh radio button at the bottom of the OM GUI page (if applicable)
    - on
    - off
  – To change the refresh rate (if AutoRefresh is ON), select the number of minutes from the Refresh screen every x minutes option button
Monitoring/Controlling Order Manager Operations (Cont.)

- Responding to an Open Intervention
  - The Open Intervention Detail page 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
• Responding to an Open Intervention (Cont.)
  – 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
  – Depending on the circumstances and DAAC policy it may be appropriate for User Services to assume responsibility for the eventual disposition of some interventions
Monitoring/Controlling Order Manager Operations (Cont.)

- Responding to an Open Intervention: Procedure
  - Assign self to work on the intervention
  - Select the appropriate attributes of the intervention
    - Change granule DBID
    - Fail granule
    - Disable limit checking
    - Change media type
    - Change priority
    - Indicate that ftp push parameters should be updated
    - Resubmit request
    - Fail Request
    - Partition request
    - Enter operator notes concerning the request
  - Click on the Apply button
  - Confirm the disposition of the intervention
Monitoring/Controlling Order Manager Operations (Cont.)

• Responding to an Open Intervention (Cont.)
  – Ensure that the person working on the intervention is specified
  – If the order is a bundled order (Order Type “Bundled Order” or “BO”), the Order page includes a link to the Spatial Subscription Server GUI
  – “Failing” a granule is a permanent action and cannot be canceled after having been confirmed
  – 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)
Monitoring/Controlling Order Manager Operations (Cont.)

- Responding to an Open Intervention (Cont.)
  - 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 ("saves" the intervention)
  - There are Apply and Reset buttons at the bottom of the Intervention 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
Monitoring/Controlling Order Manager Operations (Cont.)

• Responding to an Open Intervention (Cont.)
  – The Update FtpPush Parameters option appears on the confirmation page when the media type 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
  – If it was necessary to fail a request or granule(s) within a request, the 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
    - An Additional e-mail text text box for appending text (if desired) to the standard e-mail text is displayed on the confirmation page
    - A Don’t send e-mail button (to suppress the sending of an e-mail message) is displayed on the confirmation page
OM GUI: Close Confirmation for Intervention X Page (FTP Push)

CLOSE CONFIRMATION FOR INTERVENTION 9000257

You are about to close this intervention.
The following actions will be taken:

<table>
<thead>
<tr>
<th>Disposition</th>
<th>Limit Checking Disabled</th>
<th>New Media</th>
<th>New Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>submit</td>
<td>ns</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

IMPORTANT - Since you are updating the FTP Push parameters, please provide the new information pertaining to its destination:

- Host Address: [Field]
- FTP User: [Field]
- Password: [Field]
- Current Directory: [Field]
- Destination Directory: [Field]

Are you sure you want to take the action(s) listed above?
(Checking the Cancel button will bring you back to the Intervention Page for this intervention ID)

[OK] [Cancel]

Need help with the Order Manager? Click on a Question Mark to get context-sensitive Help!
OM GUI: Close Confirmation for Intervention X Page (PMD)
OM GUI: Close Confirmation Page with Additional E-Mail Text Box
OM GUI: Intervention Disposition Page
OM GUI: Continue Question Dialogue Box

[JavaScript Application]

WARNING: The disposition and actions you have taken for this intervention will be lost. Continue?

OK Cancel
• 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
    - Staging Distribution Requests page
    - FtpPush Distribution Requests page
Monitoring/Controlling Order Manager Operations (Cont.)

- Monitoring/Controlling Distribution Request Information on the OM GUI (Cont.)
  - The distribution requests 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
Monitoring/Controlling Order Manager Operations (Cont.)

• Monitoring/Controlling Distribution Request Information on the OM GUI (Cont.)
  – The limited-capability operator can use the distribution requests pages to view distribution request information but is not allowed to take action on distribution requests
• Monitoring/Controlling Distribution Request Information on the OM GUI: Procedure
  – Select the Distribution Requests link on the OM GUI
  – Observe information displayed in the Listing table of the Distribution Requests page
  – Filter data displayed on the Distribution Requests page (if necessary)
  – Select the Bulk Cancel button (as necessary)
  – Select the Bulk Resubmit button (as necessary)
  – Perform associated procedures as necessary:
    - Changing the Priority of a Distribution Request Using the OM GUI
    - Suspending, Resuming, Canceling, Resubmitting, or Stopping a Distribution Request Using the OM GUI
• Monitoring/Controlling Distribution Request Information on the OM GUI: Procedure (Cont.)
  – Perform associated procedures as necessary (Cont.):
    - Viewing Open Intervention Information on the OM GUI
    - Editing FtpPush Parameters
    - Annotating a Physical Media Distribution (PMD) Request from the Distribution Request Details Page
    - Viewing Operator Alerts on the OM GUI
    - Troubleshooting DDIST and Order Manager GUI Problems
  – Select the Staging Requests link (as necessary)
    - Observe information displayed in the Listing table of the Staging Distribution Requests page
  – Select the FtpPush Distribution Requests link (as necessary)
    - Observe information displayed in the Listing table of the FtpPush Distribution Requests page
OM GUI: Distribution Requests Page
OM GUI: Staging Distribution Requests Page

![OM GUI - OPS MODE - Netscape](image)

### Staging Distribution Requests – S4

<table>
<thead>
<tr>
<th>Current Filters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Order ID: None</td>
</tr>
<tr>
<td>Request ID: None</td>
</tr>
<tr>
<td>Creation Time: Start: Apr 8 2005 01:53PM</td>
</tr>
<tr>
<td>Media Type: ALL</td>
</tr>
<tr>
<td>Status: Archived, Banding, Expired, Not Found, Partitioned, Pending, Prep for Distribution, Queried, SG/SDV Staging, Shipped, Staging, Subset Staging, Subsetting, Terminated, Transferring, Waiting for Shipment</td>
</tr>
</tbody>
</table>

#### Options

- Change Filter

#### Listing

Go directly to row(s) of 0 rows

- Show 50 rows at a time.

**Ord Typ** | **OrderID** | **Request ID** | **Request Size(MB)** | **State** | **Status** | **Priority** | **Resource Class** | **EODT** | **UserID** | **Resub Count** | **Created** | **Last Update** | **Actions**
---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**AutoRefresh Control Panel**: OFF

- Refresh screen every 5 minutes

*Need help with the Order Manager? Click on a Question Mark to get context-sensitive Help!*

---

625-EMD-009, Rev. 02  Raytheon
OM GUI: FtpPush Distribution Requests
OM GUI: Distribution Request Detail Page (Physical Media) (Cont.)
### OM GUI: Distribution Request Detail Page (Non-Physical Media) (Cont.)

![OM GUI Screen Shot](image)

#### Table: Distribution Request Details

<table>
<thead>
<tr>
<th>Mailing Address</th>
<th>Shipping Address</th>
<th>Billing Address</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title</strong></td>
<td><strong>Mr.</strong></td>
<td><strong>Mr.</strong></td>
</tr>
<tr>
<td><strong>First Name</strong></td>
<td><strong>Luke</strong></td>
<td><strong>Luke</strong></td>
</tr>
<tr>
<td><strong>Middle Initial</strong></td>
<td><strong>B</strong></td>
<td><strong>B</strong></td>
</tr>
<tr>
<td><strong>Last Name</strong></td>
<td><strong>Bateson</strong></td>
<td><strong>Bateson</strong></td>
</tr>
<tr>
<td><strong>Email</strong></td>
<td><a href="mailto:bateson@bgs.ac.uk">bateson@bgs.ac.uk</a></td>
<td><a href="mailto:bateson@bgs.ac.uk">bateson@bgs.ac.uk</a></td>
</tr>
<tr>
<td><strong>Organization</strong></td>
<td>British Geological Survey</td>
<td>British Geological Survey</td>
</tr>
<tr>
<td><strong>Address</strong></td>
<td>896 McCormick Dr.</td>
<td>Nicker Hill</td>
</tr>
<tr>
<td><strong>City</strong></td>
<td>Newark</td>
<td>Keyworth</td>
</tr>
<tr>
<td><strong>State/Province</strong></td>
<td>Nottingham</td>
<td>Nottingham</td>
</tr>
<tr>
<td><strong>Country</strong></td>
<td>USA</td>
<td>GREAT BRITAIN</td>
</tr>
<tr>
<td><strong>Zip/Postal Code</strong></td>
<td>9774</td>
<td>29345</td>
</tr>
<tr>
<td><strong>Telephone</strong></td>
<td>513-825-9963</td>
<td>NULL</td>
</tr>
<tr>
<td><strong>Fax</strong></td>
<td>NULL</td>
<td>NULL</td>
</tr>
</tbody>
</table>

#### Request Granules

- **DBID**: MOD03.001
- **ESDT Type**: SC
- **Size (MB)**: 0.013

### Note

Need help with the Order Manager? Click on a Question Mark to get context-sensitive Help.
OM GUI: Distribution Request Detail Page (HEG)

**DISTRIBUTION REQUEST 0000012912**

<table>
<thead>
<tr>
<th>Userid</th>
<th>EC5Guest</th>
<th>Orderid</th>
<th>0000064843</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-mail</td>
<td><a href="mailto:lucuser@eas.east.htc.com">lucuser@eas.east.htc.com</a></td>
<td>Order Type</td>
<td>HEO</td>
</tr>
<tr>
<td>Request Size (MB)</td>
<td>41</td>
<td>Ext. Requested</td>
<td>not available</td>
</tr>
<tr>
<td># Granules</td>
<td>8</td>
<td>Priority</td>
<td>LOW</td>
</tr>
<tr>
<td># Granules Staged</td>
<td>0</td>
<td>Request Status</td>
<td>Operator Intervention</td>
</tr>
<tr>
<td>Receive DateTime</td>
<td>Oct 6 2004 1:59PM</td>
<td>Resubmit Count</td>
<td>0</td>
</tr>
<tr>
<td>Start DateTime</td>
<td>Oct 6 2004 2:03PM</td>
<td>Media Type</td>
<td>DivD</td>
</tr>
<tr>
<td>Last Update</td>
<td>Oct 6 2004 2:03PM</td>
<td>Resource Class</td>
<td>C</td>
</tr>
<tr>
<td>End DateTime</td>
<td>Not available</td>
<td>Actions</td>
<td></td>
</tr>
<tr>
<td>Production Module</td>
<td>prodmod01</td>
<td>User String</td>
<td>Request</td>
</tr>
<tr>
<td>Allocated Device</td>
<td>TPE01</td>
<td>Annotate Request</td>
<td>Aug 15 1604 2:20 PM, Almost Done</td>
</tr>
</tbody>
</table>

**Volume List**

<table>
<thead>
<tr>
<th>Volume Name</th>
<th>Status</th>
<th>Explanation</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOLS_12345_601</td>
<td>Complete</td>
<td>Media Creation</td>
<td>Stop</td>
</tr>
<tr>
<td>VOLS_12345_602</td>
<td>Writing</td>
<td>Media Creation</td>
<td>Stop</td>
</tr>
</tbody>
</table>

**MAILING ADDRESS**

<table>
<thead>
<tr>
<th>Title</th>
<th>Mr.</th>
<th>Mr.</th>
<th>Mr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Name</td>
<td>Chevrysh</td>
<td>Chevrysh</td>
<td>Chevrysh</td>
</tr>
<tr>
<td>Middle Initial</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Last Name</td>
<td>Pradeep</td>
<td>Pradeep</td>
<td>Pradeep</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:lucuser@eas.east.htc.com">lucuser@eas.east.htc.com</a></td>
<td><a href="mailto:lucuser@eas.east.htc.com">lucuser@eas.east.htc.com</a></td>
<td><a href="mailto:lucuser@eas.east.htc.com">lucuser@eas.east.htc.com</a></td>
</tr>
<tr>
<td>Organization</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address</td>
<td>232 any lane</td>
<td>232 any lane</td>
<td>232 any lane</td>
</tr>
<tr>
<td>City</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State/Province</td>
<td>MD</td>
<td>MD</td>
<td>MD</td>
</tr>
<tr>
<td>Country</td>
<td>UNITED STATES</td>
<td>UNITED STATES</td>
<td>UNITED STATES</td>
</tr>
<tr>
<td>Zip/Postal Code</td>
<td>20745</td>
<td>20745</td>
<td>20745</td>
</tr>
<tr>
<td>Telephone</td>
<td>301/3764190</td>
<td>301/3764190</td>
<td>301/3764190</td>
</tr>
<tr>
<td>Fax</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
OM GUI: Distribution Request Detail Page (HEG) (Cont.)

<table>
<thead>
<tr>
<th>Mailing Address</th>
<th>Shipping Address</th>
<th>Billing Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Mr.</td>
<td>Mr.</td>
</tr>
<tr>
<td>First Name</td>
<td>Cheryn</td>
<td>Cheryn</td>
</tr>
<tr>
<td>Middle Initial</td>
<td>Prasad</td>
<td>Prasad</td>
</tr>
<tr>
<td>Last Name</td>
<td>Prasad</td>
<td>Prasad</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:labuser@eos.east.mit.edu">labuser@eos.east.mit.edu</a></td>
<td><a href="mailto:labuser@eos.east.mit.edu">labuser@eos.east.mit.edu</a></td>
</tr>
<tr>
<td>Organization</td>
<td>status on 227 any lane</td>
<td>status on 227 any lane</td>
</tr>
<tr>
<td>Address</td>
<td>status on 227 any lane</td>
<td>status on 227 any lane</td>
</tr>
<tr>
<td>City</td>
<td>laurel</td>
<td>laurel</td>
</tr>
<tr>
<td>State/Province</td>
<td>MD</td>
<td>MD</td>
</tr>
<tr>
<td>Country</td>
<td>UNITED STATES</td>
<td>UNITED STATES</td>
</tr>
<tr>
<td>Zip/Postal Code</td>
<td>31725</td>
<td>31725</td>
</tr>
<tr>
<td>Telephone</td>
<td>6025173411</td>
<td>6025173411</td>
</tr>
<tr>
<td>Fax</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Failed Granules

Need help with the Order Manager? Click on a Question Mark to get context-sensitive help.
Monitoring/Controlling Order Manager Operations (Cont.)

- Filtering Data Displayed on the Distribution Requests Screen
  - The Change Filter button in the Options area of the distribution requests pages provides the Distribution Technician (whether full-capability or limited capability operator) with a means of filtering data displayed on the screen
    - By default, distribution requests are filtered by “creation time” within the last 24 hours are displayed at a time
    - 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
Filtering Data Displayed on the Distribution Requests Screen (Cont.)

- The session ID provides a means of tracking which GUI pages are accessed and what filter options are used during a particular session
  - The session ID is especially important when several operators are using the OM GUI 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
Monitoring/Controlling Order Manager Operations (Cont.)

- Filtering Data Displayed on the Distribution Requests Screen: Procedure
  - Click on the Change Filter button in the Options area of the applicable distribution requests page
  - Select/specify filtering criteria for Individual Filters (as applicable)
    - Order ID
    - Request ID
    - E-Mail
    - First Name
    - Last Name
  - Click on the Apply Individual Filters button (if applicable)
Monitoring/Controlling Order Manager Operations (Cont.)

- Filtering Data Displayed on the Distribution Requests Screen: Procedure (Cont.)
  - Select/specify Creation Time (Start Month, Start Day, Start Year, etc.) (as applicable)
  - Select/specify filtering criteria for Other Filters (as applicable)
    - [Request] Status
    - Media Type
    - Order Type
    - User ID
  - Click on the Apply Combined Filters button (if applicable)
OM GUI: Distribution Requests Filters
Monitoring/Controlling Order Manager Operations (Cont.)

• 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
  – 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 pages or the destination details pages 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
OM GUI: Destination Details Page (Suspended Destination)
• Changing the Priority of a Distribution Request Using the OM GUI (Cont.)
  – The Priority line of the Distribution Request Details page 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
Monitoring/Controlling Order Manager Operations (Cont.)

- Changing the Priority of a Distribution Request Using the OM GUI: Procedure
  - Select the priority from the option button in the Priority column of the row associated with the request
  - Click on the associated Apply button
    - “Priority changed” is displayed in the Priority column for the row associated with the request
• 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 pages or the destination details pages 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 pushed
    - Resubmit a request in a terminal state (e.g., aborted, cancelled, terminated, or shipped)
Suspending, Resuming, Canceling, Resubmitting, or Stopping a Distribution Request Using the OM GUI (Cont.)

- The Distribution Request Details page 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, or resubmit distribution requests.
• Suspending, Resuming, Canceling, Resubmitting, or Stopping a Distribution Request Using the OM GUI: Procedure
  – Click on the appropriate button in the Action column of the row associated with the request (or the appropriate button in the Action row of the Distribution Request Detail page)
    - Buttons are available only for actions that are appropriate for the request
  – Respond to the applicable dialogue box
OM GUI: Suspend Request Dialogue Box

[JavaScript Application]

Suspend Request 0400081320
An intervention will be created

OK
OM GUI: Resume Request Confirmation Dialogue Box

Confirm Resume for Request ID 0400081320

Worker

Reason for Action

Apply "Resume" Action  Cancel "Resume" Action
OM GUI: Cancel Request Confirmation Dialogue Box

Confirm Cancel for Request ID 0400081320

Worker

Reason for Action

Apply "Cancel" Action  Cancel "Cancel" Action
OM GUI: Resubmit Request Confirmation Dialogue Box

[JavaScript Application]

Are you sure you want to create an intervention and submit this Request 0400064922?

[OK] [Cancel]
Monitoring/Controlling Order Manager Operations (Cont.)

• Editing Values Assigned to FtpPush Parameters
  – The procedure for Editing Values Assigned to FtpPush Parameters is performed as part of other procedures, for example…
    - Responding to an Open Intervention
    - 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 ftp push parameters for a particular distribution request
  – The limited-capability operator is not allowed to edit ftp push parameters for distribution requests using the OM GUI
Monitoring/Controlling Order Manager Operations (Cont.)

• Editing Values Assigned to FtpPush Parameters: Procedure
  – Click on the applicable Request ID in the Distribution Requests table (if necessary)
  – Click on the Edit FtpPush Parameters button on the Distribution Request Detail page (if necessary)
  – Type appropriate values in the following text boxes (as necessary):
    - 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]
  – Click on either the Change This Request button or the Change All Requests button (as applicable)
OM GUI: Edit FtpPush Parameters Page
Monitoring/Controlling Order Manager Operations (Cont.)

• 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, for example…
    - Monitoring/Controlling Distribution Request Information on the OM GUI
  – The Request Notes area on the Distribution Request Details page 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
• Annotating a Physical Media Distribution (PMD) Request from the Distribution Request Details Page: Procedure
  – Click on the applicable Request ID in the Distribution Requests table (if necessary)
  – Type appropriate text in the Request Notes text box
  – Click on the Apply button adjacent to the Request Notes text box
• Viewing Open HEG Intervention Information on the OM GUI
  – New for Synergy V, the OMS 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 with the number of line items and a link to view the Line Item details
  – The Open HEG Interventions page 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
Monitoring/Controlling Order Manager Operations (Cont.)

- Viewing Open HEG Intervention Information on the OM GUI: Procedure
  – Click on the HEG Interventions link in the navigation frame of the OM GUI
  – Click on a specific Request ID in the Listing table of the Open HEG Interventions page to bring up a detail page for the intervention for that particular request
  – To view the processing instructions for a particular granule ID click on the View… link associated with the specific GranuleID in the Input Granule List
  – To work on the intervention being displayed on the Open HEG Intervention Detail page, perform the procedure for Responding to an Open HEG Intervention
OM GUI: HEG Interventions Page
OM GUI: HEG Intervention Detail Page
OM GUI: HEG Processing Instructions

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<request xmlns="http://newsroom.gsfc.nasa.gov/sdptoolkit/toolkit.html">
  <requestInfo>
    <clientName>WebAccess</clientName>
    <metaFlag>true</metaFlag>
    <summaryFlag>true</summaryFlag>
  </requestInfo>
  <inputFiles>
    <file>
      <fileName>/datapool/TS2/user//FS1/MODA/MOD29.004/2004.01.06//MOD29.A2004006</fileName>
    </file>
  </inputFiles>
</request>
```
Responding to an Open HEG Intervention

- The Open HEG Intervention Detail page 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
• Responding to an Open HEG Intervention: Procedure
  – Assign oneself to work on the intervention
  – Click in the appropriate box(es) (i.e., Fail, Accept, or Select All) in the Action column of the Granule List
  – Click on the Submit Actions button
  – Type text in the OPERATOR NOTES text box (if applicable)
  – Click on the appropriate button to select the disposition for the request
    - Keep on hold
    - Submit
    - Resubmit and retry processing of failed granules
    - Fail Request
  – Click on the Apply button
OM GUI: Close Confirmation Page for a HEG Intervention

CLOSE CONFIRMATION FOR INTERVENTION 6500061

You are about to close this intervention.

The following actions will be taken:

<table>
<thead>
<tr>
<th>Disposition</th>
<th>Limit Checking Disabled</th>
<th>New Media</th>
<th>New Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request, retrying failed granules</td>
<td>no</td>
<td>no</td>
<td>no</td>
</tr>
</tbody>
</table>

PLEASE NOTE: Any granules marked "failed by operator" will attempt to be reaprocessed. If this is not what you wanted, go back and select the "Submit" disposition, which will permanently remove any "failed by operator" granules from the request.

Are you sure you want to take the action(s) listed above? (Clicking the Cancel button will bring you back to the Intervention Page for this intervention ID)

OK  Cancel

Need help with the Order Manager? Click on a Question Mark to get context-sensitive Help!
Monitoring/Controlling Order Manager Operations (Cont.)

• Viewing Pending HEG Granules
  – New for Synergy V, the OMS GUI displays pending HEG granules

• Viewing Pending HEG Granules: Procedure
  – Click on the Pending HEG Granules link in the navigation frame of the OM GUI
  – Click on a specific Request ID in the Listing table
  – To view the processing instructions for a particular granule click on the View… link in the Processing Instructions column
  – 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 or the individual check boxes in the Sel column associated with the specific pending HEG granules
  – Click on the Bulk Cancel button
OM GUI: Pending HEG Granules Page
• 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
    - For example: a suspended FTP Push destination
  – The Operator Alerts page provides the Distribution Technician (whether full-capability or limited capability operator) with a means of viewing operator alerts
  – Types of operator alerts:
    - 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 (SDSRV or OMS resource errors)
• Viewing Operator Alerts on the OM GUI: Procedure
  – Click on the Operator Alerts link
  – Observe information displayed in the Listing table of the Operator Alerts page
  – 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
OM GUI - Suspended Host Detail Page

FTP Push Operations that Caused the Suspension

<table>
<thead>
<tr>
<th>Request ID</th>
<th>ECS Granule Id</th>
<th>DPL Granule Id</th>
<th>Last Update</th>
<th>Size (MB)</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>08080012744</td>
<td>126972</td>
<td>98509</td>
<td>Feb 25 2005 8:12PM</td>
<td>13.7139</td>
<td>FIP Login Errors</td>
</tr>
<tr>
<td>08080012650</td>
<td>126891</td>
<td>36695</td>
<td>Mar 17 2005 10:35AM</td>
<td>13.7139</td>
<td>FIP Login Errors</td>
</tr>
<tr>
<td>08080012651</td>
<td>126894</td>
<td>36694</td>
<td>Mar 17 2005 11:23AM</td>
<td>13.7139</td>
<td>FIP Login Errors</td>
</tr>
</tbody>
</table>

FTP Push Requests That Are Not In A Terminal State

<table>
<thead>
<tr>
<th>Ord. Type</th>
<th>Pr Mod</th>
<th>Request ID</th>
<th>Order ID</th>
<th>Request Size(MB)</th>
<th>Priority</th>
<th>Gran Cnt</th>
<th>Time</th>
<th>Resource</th>
<th>Status</th>
<th>Resource Class</th>
<th>ESDT</th>
<th>User ID</th>
<th>Result Cnt</th>
<th>Created</th>
<th>Last Update</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular</td>
<td></td>
<td>000014-4305</td>
<td>8922781</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td>Operator</td>
<td>Intervention</td>
<td>C</td>
<td>M0100.001</td>
<td>cm012</td>
<td>Mar 17 2005 5:30PM</td>
<td>Mar 17 2005 5:30PM</td>
<td>Cancel</td>
<td></td>
</tr>
<tr>
<td>Regular</td>
<td></td>
<td>000014-4306</td>
<td>8922781</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td>Operator</td>
<td>Intervention</td>
<td>C</td>
<td>M0100.001</td>
<td>cm012</td>
<td>Mar 17 2005 5:30PM</td>
<td>Mar 17 2005 5:30PM</td>
<td>Cancel</td>
<td></td>
</tr>
<tr>
<td>Regular</td>
<td></td>
<td>000014-4307</td>
<td>8922781</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td>Operator</td>
<td>Intervention</td>
<td>C</td>
<td>M0100.001</td>
<td>cm012</td>
<td>Mar 17 2005 5:30PM</td>
<td>Mar 17 2005 5:30PM</td>
<td>Cancel</td>
<td></td>
</tr>
<tr>
<td>Regular</td>
<td></td>
<td>000014-4308</td>
<td>8922781</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td>Operator</td>
<td>Intervention</td>
<td>C</td>
<td>M0100.001</td>
<td>cm012</td>
<td>Mar 17 2005 5:30PM</td>
<td>Mar 17 2005 5:30PM</td>
<td>Cancel</td>
<td></td>
</tr>
<tr>
<td>Regular</td>
<td></td>
<td>000014-4309</td>
<td>8922781</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td>Operator</td>
<td>Intervention</td>
<td>C</td>
<td>M0100.001</td>
<td>cm012</td>
<td>Mar 17 2005 5:30PM</td>
<td>Mar 17 2005 5:30PM</td>
<td>Cancel</td>
<td></td>
</tr>
<tr>
<td>Regular</td>
<td></td>
<td>000014-4310</td>
<td>8922781</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td>Operator</td>
<td>Intervention</td>
<td>C</td>
<td>M0100.001</td>
<td>cm012</td>
<td>Mar 17 2005 5:30PM</td>
<td>Mar 17 2005 5:30PM</td>
<td>Cancel</td>
<td></td>
</tr>
<tr>
<td>Regular</td>
<td></td>
<td>000014-4311</td>
<td>8922781</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td>Operator</td>
<td>Intervention</td>
<td>C</td>
<td>M0100.001</td>
<td>cm012</td>
<td>Mar 17 2005 5:30PM</td>
<td>Mar 17 2005 5:30PM</td>
<td>Cancel</td>
<td></td>
</tr>
</tbody>
</table>
Monitoring/Controlling Order Manager Operations (Cont.)

• Viewing Completed Operator Actions and Interventions on the OM GUI
  – The Completed Operator Actions and Interventions page provides the Distribution Technician (whether full-capability or limited capability operator) with a means of viewing completed intervention information on the OM GUI
  – By default, data concerning up to 50 requests with completed actions/interventions (and “creation time” within the last 24 hours) are displayed at a time
Monitoring/Controlling Order Manager Operations (Cont.)

- Viewing Completed Operator Actions and Interventions on the OM GUI: Procedure
  - Click on the Request Management link
  - Click on the Completed Operator Actions & Interventions link
  - Observe information displayed in the Listing table of the Completed Operator Actions & Interventions page
  - Filter data displayed on the Completed Operator Actions & Interventions page (if necessary)
  - Observe information displayed on the Completed Operator Actions & Intervention Detail page
  - Click on a specific Request ID in the Completed Operator Actions & Interventions table to bring up a screen containing more detailed data concerning that particular request
OM GUI: Completed Operator Actions and Interventions Page

Web May 11 11:02:38 2005

Completed Operator Actions and Interventions

<table>
<thead>
<tr>
<th>Order Id</th>
<th>Request Id</th>
<th>User Id</th>
<th>Size (MB)</th>
<th>Media</th>
<th>Worked By</th>
<th>Intervention Type</th>
<th>Created</th>
<th>Completed</th>
<th>Disposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>03000018963</td>
<td>03000018380</td>
<td>labuser</td>
<td>1,523</td>
<td>DLT</td>
<td></td>
<td>Mount Media For Production</td>
<td>May 11 2005 10:31AM</td>
<td>May 11 2005 10:38AM</td>
<td>Media mount confirmed</td>
</tr>
<tr>
<td>03000018997</td>
<td>03000018383</td>
<td>labuser</td>
<td>1,523</td>
<td>DLT</td>
<td></td>
<td>Mount Media For Production</td>
<td>May 11 2005 10:31AM</td>
<td>May 11 2005 10:38AM</td>
<td>Media mount confirmed</td>
</tr>
<tr>
<td>03000018883</td>
<td>03000018383</td>
<td>labuser</td>
<td>1,523</td>
<td>DLT</td>
<td>labuser</td>
<td>Media Creation Error</td>
<td>May 10 2005 5:03PM</td>
<td>May 11 2005 9:59AM</td>
<td>Media mount confirmed</td>
</tr>
<tr>
<td>03000018882</td>
<td>03000018387</td>
<td>labuser</td>
<td>1,523</td>
<td>DLT</td>
<td></td>
<td>Assemble Package</td>
<td>May 10 2005 4:57PM</td>
<td>May 11 2005 9:55AM</td>
<td>Request stripped</td>
</tr>
<tr>
<td>03000018887</td>
<td>03000018373</td>
<td>labuser</td>
<td>1,523</td>
<td>DLT</td>
<td>labuser</td>
<td>Mount Media For Production</td>
<td>May 10 2005 4:52PM</td>
<td>May 11 2005 9:59AM</td>
<td></td>
</tr>
</tbody>
</table>

You are logged in as: dcopelan (readWrite)

Log Out

Need help with the Order Manager? Click on a Question Mark to get context-sensitive Help!
OM GUI: Completed Intervention/Action Detail Page

![Image showing OM GUI](image)

**COMPLETED OPERATOR ACTION FOR REQUEST 0300004674**

- **User id:** EOGuest
- **email:** oladidi_ogunsuyi@raytheon.com
- **Priority:** NORMAL

<table>
<thead>
<tr>
<th>Order Id</th>
<th>Size (MB)</th>
<th>Media</th>
<th>Worked By</th>
<th>Intervention Type</th>
<th>Created</th>
<th>Completed</th>
<th>Disposition</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>0300003891</td>
<td>49</td>
<td>CDROM</td>
<td></td>
<td>Activate Media for QC</td>
<td>Apr 15 2005</td>
<td>1:49PM</td>
<td>Request Activated</td>
<td>Waiting For device assignment</td>
</tr>
</tbody>
</table>

**Granule List**

- Go directly to row: 0-1 of 2 rows
- Show 20 rows at a time.

<table>
<thead>
<tr>
<th>DBID</th>
<th>EFO Type</th>
<th>Size (MB)</th>
<th>Status</th>
<th>Processing Instructions</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>21221</td>
<td>MCD13A3 004 SC</td>
<td>18.702</td>
<td>STAGED</td>
<td>View...</td>
<td></td>
</tr>
<tr>
<td>21219</td>
<td>MCD13A3 004 SC</td>
<td>30.359</td>
<td>STAGED</td>
<td>View...</td>
<td></td>
</tr>
</tbody>
</table>

**OPERATOR NOTES**

Need help with the Order Manager? Click on a Question Mark to get context-sensitive Help!
Monitoring/Controlling Order Manager Operations (Cont.)

- 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 Interventions page
  - The session ID provides a means of tracking which GUI pages are accessed and what filter options are used during a particular session
    - The session ID 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
• Filtering Data Displayed on the Completed Interventions Page (Cont.)
  – 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
  – Completed operator actions and interventions are not permanently available on the Completed Operator Actions and Interventions page
Monitoring/Controlling Order Manager Operations (Cont.)

• Filtering Data Displayed on the Completed Interventions Page (Cont.)
  – 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

• Procedure
  – Select the filtering criteria (as applicable)
    - Intervention type
    - Worked by
    - Completion time
  – Click on the Apply button
Monitoring/Controlling Order Manager Operations (Cont.)

• Historical Distribution Requests
  – The Historical Distribution Requests page provides the Distribution Technician with a means of viewing historical distribution request information on the OM GUI

• Historical Distribution Requests: Procedure
  – Click on the Historical Distribution Requests link in the navigation frame of the OM GUI
  – Click on a specific Order ID or Request ID to bring up a screen containing more detailed data concerning that particular order or request
  – Filter the data displayed on the page if necessary
OM GUI: Historical Distribution Requests

The OM GUI displays historical distribution requests, with filters for Order ID, Name, Creation Time, and Media Type. Each request has details such as Request Size, Request Status, and ESOT. Users can view and navigate through these requests.

Need help with the Order Manager? Click on a Question Mark to get context-sensitive help.
Monitoring/Controlling Order Manager Operations (Cont.)

• Viewing and Responding to Suspended FTP Push Distribution Destinations
  – The Suspended FTP Push Distribution Destinations page 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
• Viewing and Responding to Suspended FTP Push Distribution Destinations: Procedure
  – Click on the FtpPush Monitor link
  – Click on the Suspended Destinations link
  – Observe information displayed on the Suspended Destinations page
  – To resume a suspended destination click on the Resume button
  – To suspend an active destination or view destination details…
    - Either type the destination name in the Destination Name text box or type the host name in the FTP Node text box
    - To suspend an active destination click on the Suspend button
    - To view ftp push requests associated with a destination click on the View Requests button
OM GUI: Suspended Destinations Page

- Ftp Push Monitor - Suspended Destinations

- Active Destinations

Need help with the Order Manager? Click on a Question Mark to get context-sensitive Help.
• Viewing and Responding to Destination Details on the OM GUI
  – The Destination Details page 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 destination
    - Suspend a request associated with the destination
    - Resume a request associated with the destination
    - Cancel a request associated with the destination
    - Stop a request associated with the destination
• Viewing and Responding to Destination Details on the OM GUI: Procedure
  – Perform the procedure for Viewing and Responding to Suspended FTP Push Distribution Destinations to display the Destination Details page
  – Observe information displayed on the Suspended Destinations page
  – To suspend an active destination click on the Suspend Destination button
  – To resume a suspended destination click on the Resume Destination button
  – Perform the procedure for Suspending, Resuming, Canceling, Resubmitting, or Stopping a Distribution Request Using the OM GUI as necessary
### OM GUI: Destination Details Page (Suspended Destination)

#### FTP Push Operations that Caused the Suspension

<table>
<thead>
<tr>
<th>Request Id</th>
<th>ECS Granule Id</th>
<th>DPL Granule Id</th>
<th>Last Update</th>
<th>Size (MB)</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>0080012744</td>
<td>128972</td>
<td>38819</td>
<td>Feb 25 2005 5:12PM</td>
<td>13.7139</td>
<td>Ftp Login Errors</td>
</tr>
<tr>
<td>0080012050</td>
<td>128871</td>
<td>36685</td>
<td>Mar 17 2005 18:35AM</td>
<td>13.7139</td>
<td>Ftp Login Errors</td>
</tr>
<tr>
<td>0080012051</td>
<td>128872</td>
<td>36684</td>
<td>Mar 17 2005 11:23AM</td>
<td>13.7139</td>
<td>Ftp Login Errors</td>
</tr>
</tbody>
</table>

#### FTP Push Requests That Are Not In A Terminal State

<table>
<thead>
<tr>
<th>Ord Type</th>
<th>OrderId</th>
<th>Request Size(MB)</th>
<th>Priority</th>
<th>Request Status</th>
<th>Resource Class</th>
<th>ESDT</th>
<th>UserID</th>
<th>Resub Cnt</th>
<th>Created</th>
<th>Last Update</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular</td>
<td>0060014-935</td>
<td>14</td>
<td>1 0</td>
<td>Press</td>
<td>Operator Intervention C</td>
<td>MOP01.001</td>
<td>cmrtaq</td>
<td>0</td>
<td>Mar 17 2005 5:30PM</td>
<td>Mar 17 2005 3:29PM</td>
<td>Cancel</td>
</tr>
<tr>
<td>Regular</td>
<td>0060014-935</td>
<td>14</td>
<td>1 0</td>
<td>Press</td>
<td>Operator Intervention C</td>
<td>MOP01.001</td>
<td>cmrtaq</td>
<td>0</td>
<td>Mar 17 2005 5:29PM</td>
<td>Mar 17 2005 3:29PM</td>
<td>Cancel</td>
</tr>
<tr>
<td>Regular</td>
<td>0060014-934</td>
<td>14</td>
<td>1 0</td>
<td>Press</td>
<td>Operator Intervention C</td>
<td>MOP01.001</td>
<td>cmrtaq</td>
<td>0</td>
<td>Mar 17 2005 5:29PM</td>
<td>Mar 17 2005 3:29PM</td>
<td>Cancel</td>
</tr>
<tr>
<td>Regular</td>
<td>0060014-933</td>
<td>14</td>
<td>1 0</td>
<td>Press</td>
<td>Operator Intervention C</td>
<td>MOP01.001</td>
<td>cmrtaq</td>
<td>0</td>
<td>Mar 17 2005 5:29PM</td>
<td>Mar 17 2005 3:29PM</td>
<td>Cancel</td>
</tr>
<tr>
<td>Regular</td>
<td>0060014-932</td>
<td>14</td>
<td>1 0</td>
<td>Press</td>
<td>Operator Intervention C</td>
<td>MOP01.001</td>
<td>cmrtaq</td>
<td>0</td>
<td>Mar 17 2005 5:29PM</td>
<td>Mar 17 2005 3:29PM</td>
<td>Cancel</td>
</tr>
</tbody>
</table>
Monitoring/Controlling Order Manager Operations (Cont.)

• Checking/Modifying OM Queue Status
  – The OM Queue Status page 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
Monitoring/Controlling Order Manager Operations (Cont.)

• Checking/Modifying OM Queue Status: Procedure
  – Click on the OM Status Pages link
  – Click on the OM Queue Status link
  – If desired, click on the Text-only version link to bring up a text-only version of the page
  – Observe information displayed in the Current Request Processing States table
  – To change the state of a group of request queues or an individual request queue…
    - Click on the corresponding status indicator/button to initiate toggling of its state (from “activate” to “suspend” or vice versa)
    - Click on the OK button in the confirmation dialogue box
OM GUI: OM Queue Status Page

OM Queue Status

The OM Server is: NO STATE

Test-only version

Click on a status button to toggle its current state.

Legend
- [active]
- [suspended by operator]
- [suspended by server]

AutoRefresh Control Panel

Refresh screen every 5 minutes
AutoRefresh: On / Off

Need help with the Order Manager? Click on a Question Mark to get context-sensitive Help!
OM GUI: Queue Status Page (Text-Only Version)
• Checking/Modifying HEG Order 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)

• Checking/Modifying HEG Order Status: Procedure
  – Click on the HEG Order Status link in the navigation frame of the OM GUI
  – Observe information displayed in the table on the HEG Order Status page
  – To check or modify HEG queue status go to the procedure for Checking/Modifying OM Queue Status
OM GUI: HEG Order Status

OM GUI – OPS MODE – Netscape

HEG Order Status

<table>
<thead>
<tr>
<th>Total HEG Requests Queued</th>
<th>Total HEG Granules Queued</th>
<th>Total Input Data (MB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0.000</td>
</tr>
</tbody>
</table>

AutoRefresh Control Panel [OFF]

Refresh screen every 15 minutes
AutoRefresh can’t be off

Need help with the Order Manager? Click on a Question Mark to get context-sensitive Help!
Monitoring/Controlling Order Manager Operations (Cont.)

• 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 (in 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
Monitoring/Controlling Order Manager Operations (Cont.)

• Checking Staging Status (Cont.)
  – In addition to the granule information, the data low and high water marks are shown on the Staging Status pages
  – DHWM (Data High Water Mark)
    - 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 (Data Low Water Mark)
    - 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
• Checking Staging Status (Cont.)
  – 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 physical media 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
• Checking Staging Status (Cont.)
  – 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
Monitoring/Controlling Order Manager Operations (Cont.)

• Checking Staging Status: Procedure
  – Click on the OM Status Pages link
  – To display staging status by media type, Click on the Media Type link
  – Observe information displayed on the Staging Status page
  – To display staging status by ftp push destination, click on the FTP Push Destination link
  – Observe information displayed on the Staging Status page
  – To check or modify OM queue status go to the procedure for Checking/Modifying OM Queue Status
### OM GUI: Staging Status by FTP Push Destination Page

#### FTP Push destination

| OM GUI - OPS MODE - Netscape |

#### Staging Status by FTP Push Destination

<table>
<thead>
<tr>
<th>Granule Count and Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNWM</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>24 Hour EDC Subscription</td>
</tr>
<tr>
<td>24 Hour EDC Subscription2</td>
</tr>
<tr>
<td>24 Hour EDC Subscription3</td>
</tr>
<tr>
<td>24 Hour EDC Subscription4</td>
</tr>
<tr>
<td>ctrl 270</td>
</tr>
<tr>
<td>GSFC_Subscriptions</td>
</tr>
<tr>
<td>MTMPushes</td>
</tr>
<tr>
<td>OTHER</td>
</tr>
<tr>
<td>Test1 Destination</td>
</tr>
<tr>
<td>Test2/Destination</td>
</tr>
<tr>
<td>ctrl270</td>
</tr>
<tr>
<td>criteria_212_dest_A</td>
</tr>
<tr>
<td>criteria_212_dest_B</td>
</tr>
<tr>
<td>criteria_220_dest_A</td>
</tr>
<tr>
<td>criteria_220_dest_B</td>
</tr>
</tbody>
</table>

---

**625-EMD-009, Rev. 02**

Raytheon
• Checking/Modifying Values Assigned to OM Configuration Parameters
  – 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
Monitoring/Controlling Order Manager Operations (Cont.)

- Checking/Modifying Values Assigned to Aging Parameters
  - The Aging Parameters page 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
Monitoring/Controlling Order Manager Operations (Cont.)

- Checking/Modifying Values Assigned to Aging Parameters (Cont.)
  - Age Step is the aging rate by which the effective priority of a request increases for every hour it has been waiting
    - 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
• Checking/Modifying Values Assigned to Aging Parameters (Cont.)
  – 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
    - 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
• Checking/Modifying Values Assigned to Aging Parameters: Procedure
  – Click on the OM Configuration link
  – Click on the Aging Parameters link
  – Observe information displayed on the Aging Parameters page
  – To modify Aging Parameter value(s)…
    - Enter the new value(s) in the text entry box(es) for the relevant parameter(s)
    - Click on the Apply button
Monitoring/Controlling Order Manager Operations (Cont.)

- Checking/Modifying Values Assigned to OMS Server or Database Parameters
  - The OMS Server and Database Configuration page provides the full-capability operator with a means of checking and modifying values assigned to OMS server or database parameters
  - OMS server and database parameters affect how the OM server and database run
• **Checking/Modifying Values Assigned to OMS Server or Database Parameters (Cont.)**
  - OMS server and database 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
Monitoring/Controlling Order Manager Operations (Cont.)

- **Checking/Modifying Values Assigned to OMS Server or Database Parameters: Procedure**
  - Click on the OM Configuration link
  - Click on the appropriate link under the Server/Database header
  - Observe information displayed on the OMS Server and Database Configuration page
  - To modify server or database parameter value(s)…
    - Enter the new value(s) in the text entry box(es) for the relevant parameter(s)
    - Click on the Apply button
OM GUI: OMS Server and Database Configuration Page
OM GUI: HEG Configuration Parameters

OM GUI – OPS MODE – Netscape

OMS Server and Database Configuration: HEG parameters

Parameter | Description | Units | Value
---|---|---|---
Max Num Of Concurrent HEG Process | The maximum number of HEG Service requests that may be processed concurrently | number | 3
Max Num Of Concurrent HEG Proc Per Req | The maximum number of HEG Service requests that may be processed concurrently for a single request | number | 3
HEG Process Retry Interval | Retry interval for automatic retry in case the queue is suspended automatically | seconds | 3

Apply | Reset

Need help with the Order Manager? Click on a Question Mark to get context-sensitive Help!
Monitoring/Controlling Order Manager Operations (Cont.)

• Checking/Modifying Values Assigned to Media Parameters
  – The Media Configuration page provides the full-capability operator with a means of checking and modifying media parameter values
  – 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)
Monitoring/Controlling Order Manager Operations (Cont.)

• Checking/Modifying Values Assigned to Media Parameters (Cont.)
  – Media 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
Monitoring/Controlling Order Manager Operations (Cont.)

- Checking/Modifying Values Assigned to Media Parameters: Procedure
  - Click on the OM Configuration link
  - Click on the Media link
  - Observe information displayed on the Media Configuration page
  - To modify media value(s)...
    - Enter the new value(s) in the text entry box(es) for the relevant parameter(s)
    - Click on the Apply button
    - Click on the appropriate button in the “Remember Values” confirmation dialogue box
OM GUI: Media Configuration Page
OM GUI: “Remember Values” Confirmation Dialogue Box
Monitoring/Controlling Order Manager Operations (Cont.)

• Checking/Modifying Values Assigned to Media Creation Parameters
  – The Media Creation Configuration page 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, parameters displayed on the OM GUI are variable
Monitoring/Controlling Order Manager Operations (Cont.)

• Checking/Modifying Values Assigned to Media Creation Parameters
  – There are two configuration parameters on the Media Creation Configuration page for each type of physical distribution medium:
    - DispatchMode
    - MediaCreationType

• Checking/Modifying Media Creation Configuration: Procedure
  – Click on the OM Configuration Media Creation link
  – Observe information displayed on the Media Creation Configuration page
  – To modify media creation value(s)…
    - Select the appropriate choice from the option button in the row associated with the applicable distribution medium parameter
    - Click on the Apply button
### OM GUI: Media Creation Configuration Page

**OM GUI - OPS MODE - Netscape**

#### Media Creation Configuration

<table>
<thead>
<tr>
<th>Media Type</th>
<th>Dispatch Mode</th>
<th>Media Creation Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDROM</td>
<td>--</td>
<td>PDS</td>
</tr>
<tr>
<td>DL</td>
<td>--</td>
<td>PDS</td>
</tr>
<tr>
<td>DVD</td>
<td>--</td>
<td>PDS</td>
</tr>
<tr>
<td>BM</td>
<td>--</td>
<td>PDS</td>
</tr>
</tbody>
</table>

**Apply | Reset**

**Need help with the Order Manager? Click on a Question Mark to get context-sensitive Help!**

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**625-EMD-009, Rev. 02**
• Checking/Modifying FTP Push Policy Configuration
  – The FTP Push Policy Configuration page provides the full-capability operator with a means of defining and configuring the fine-tuning parameter values of ftp push 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
Monitoring/Controlling Order Manager Operations (Cont.)

• Checking/Modifying FTP Push Policy Configuration (Cont.)
  – All ftp push destinations belong to one of two groups:
    - Frequently Used group
    - Non-Configured (general) group
  – All ftp push destinations not specifically defined as Frequently Used Destinations are considered non-configured
    - They 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
Monitoring/Controlling Order Manager Operations (Cont.)

- Checking/Modifying FTP Push Policy Configuration (Cont.)
  - Global Settings for All Destinations are parameter values that apply to all destinations regardless of their individual settings
    - Global settings apply to both frequently used and non-configured destinations
Monitoring/Controlling Order Manager Operations (Cont.)

- Checking/Modifying FTP Push Policy Configuration: Procedure
  - Click on the OM Configuration link
  - Click on the FTP Push Policy link
  - Observe information displayed on the FTP Push Policy Configuration page
  - To modify value(s) in either the Global Settings for All Destinations area or Settings for Non-Configured Destinations area …
    - Enter the new value(s) in the text entry box(es) for the relevant parameter(s)
    - Click on the Apply button
  - To change the retry mode for a Frequently Used Destination select the mode from the option button
• Checking/Modifying FTP Push Policy Configuration: Procedure (Cont.)
  – To remove (delete) destination(s) from the Frequently Used Destinations area…
    - Either click in the corresponding box(es) in the Del column or click in the Select all box
    - Click on the Remove Selected Destinations link
    - Click on the OK button
  – To add a new Frequently Used Destination perform the procedure for Adding Destinations to the Frequently Used Destinations Area
  – To modify parameter value(s) for Frequently Used Destination(s), perform the procedure for Modifying Values Assigned to Parameters of Frequently Used Destinations
OM GUI: FTP Push Policy Configuration Page
OM GUI: FTP Push Destination Details Page
• Adding Destinations to the Frequently Used Destinations List
  – The Add New Destination page provides the full-capability operator with a means of adding destinations to the Frequently Used Destinations list on the FTP Push Policy Configuration page
  – A destination on the Frequently Used Destinations list is defined by the following three attributes:
    - Alias – a unique descriptive name or handle by which the destination can be easily identified
    - Target Directory - the directory on the remote host to which files will be pushed
    - Host Address - the remote host machine name or IP address
• Adding Destinations to the Frequently Used Destinations List (Cont.)
  – 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
Monitoring/Controlling Order Manager Operations (Cont.)

• Adding Destinations to the Frequently Used Destinations List: Procedure
  – Click on the OM Configuration link
  – Click on the FTP Push Policy Configuration link
  – Click on the Add a Destination button
  – Enter value(s) in the text entry box(es) for the relevant attribute(s)/parameter(s)
  – Select the retry mode from the option button
  – To enter a note concerning the destination, type the applicable text in the Notes text box
  – Click on the Apply button
  – Click on the appropriate button in the “Remember Values” confirmation dialogue box
  – Click on the Done button
  – Click on the OK button
OM GUI: Add New Destination Page

OM GUI – OPS MODE – Netscape

Add New Destination

Destination Details
- Name (Alias)
- Target Directory
- Host/IP Address
- Processing Mode

Settings for this Destination (Default values loaded)

Max. Operations: 25
Time Out: 3000

Notes:
0 of 255 Max. characters

Need help with the Order Manager? Click on a Question Mark to get context-sensitive Help!

625-EMD-009, Rev. 02
OM GUI: “Done” Confirmation Dialogue Box

This will not save any changes. Continue?

[OK] [Cancel]
Monitoring/Controlling Order Manager Operations (Cont.)

- Modifying Values Assigned to Parameters of Frequently Used Destinations
  - The FTP Push Destination Details page provides the full-capability operator with a means of modifying the values assigned to parameters of frequently used ftp push destinations (as listed in the Frequently Used Destinations area of the FTP Push Policy Configuration page)
• Modifying Values Assigned to Parameters of Frequently Used Destinations: Procedure
  – Click on the OM Configuration link
  – Click on the FTP Push Policy Configuration link
  – Click on the specific Destination Name
  – Observe information displayed on the FTP Push Destination Details page
  – Enter value(s) in the text entry box(es) for the relevant attribute(s)/parameter(s)
  – Select the retry mode from the option button
  – To enter a note concerning the destination, type the applicable text in the Notes text box
  – Click on the Apply button
  – Click on the Done button
  – Click on the OK button
• 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)
    - For help on a particular topic the Help link in the navigation frame of the OM GUI causes the Help page to be displayed
Example of HelpOnDemand

[JavaScript Application]

HelpOnDemand is a feature that lets you get context-sensitive help for every page. Anywhere you see a question mark, simply click on it and a description of the control or parameter (and its purpose) will pop up.

OK
OM GUI Help Page

Order Manager GUI Help

GUI Developers: James Pino, Donna Cepeland

How to access the OMS GUI? Below are some guidelines on how to use this interface. For complete documentation, see the DOD 699 document included with the installation package for this utility.

Search Tip: Having trouble finding a topic or keyword? Use your Browser’s search function! In Netscape, select Edit > Find in Page... from the menu or press Ctrl + F (or Alt + F in some UNIX GUIs) to search for text within this page.

Index:

- What is the Order Manager GUI?
- Request Management
  - Operator Intervention Page
- OMS Queue Status
- OMS Configuration
- OMS Server Statistics
- Editing Views

What is the Order Manager GUI?

The Order Manager GUI is a graphical interface that allows a DAAC operator to manage distribution requests made through various order sources. It allows the operator to create “Interventions” on requests which contain problems, causing the orders to be unfulfillable. Examples of such problems would be inaccessible granules, request size too large, granule too large for the particular media type, etc. The operator can then make a disposition on the entire request and can even edit or tell particular granules associated with that request.

In addition, the operator may view detailed information on created interventions, distribution requests, and ECS orders, among other things. POS, SODRV, and Staging queue states can also be monitored, and the operator can change the state of processing queues by media type or all media types simultaneously.

The operator may also configure the Order Manager Database and Server through this GUI. See that section for more details.

Do I need to use a particular browser?

Yes, but you have choices. Any Mozilla 5.0 based browser can be used with the OMS GUI. That is because the OMS GUI was built using the DOM standard currently supported in the Mozilla 5.0 specification. Mozilla 5.0-based browsers are:

- Netscape 7 or higher
- Firefox 0.9 or higher
- Internet "Mozilla" browsers for Linux or UNIX
Monitoring/Controlling Order Manager Operations (Cont.)

- Viewing the OM GUI Log
  - The OM GUI Log Viewer page 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 (EcOmGui.log) that is specifically generated by and for the OM GUI
• Viewing the OM GUI Log: Procedure
  – Click on the Logs link
  – Click on the OM GUI Log Viewer link
  – Observe information displayed in the Log Summary
  – In the “View the last ___ line(s) of the log file” text box type the appropriate number of lines to be displayed
    - Entering 0 (zero) or leaving the text box blank indicates that the entire log file should be displayed
  – Click on the OK button
  – Observe information displayed in the log file
OM GUI Log Viewer Page
OM GUI Log Viewer Page (Showing Log File Entries)
Viewing Physical Media Distribution (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 OMS GUI.
- The PMD Open Interventions page provides the full-capability operator with a means of viewing and responding to PMD open interventions.
Monitoring/Controlling Order Manager Operations (Cont.)

• Viewing Physical Media Distribution (PMD) Open Intervention Information on the OM GUI: Procedure
  – Select the Physical Media Distribution Open Interventions link from the OM GUI
  – Observe information displayed in the Listing table of the Open Physical Media Interventions page
  – Select the Open Intervention Detail page for the specified intervention
  – Observe information displayed on the Open Intervention Detail page
  – To work on the intervention being displayed on the Open Intervention Detail page, perform the procedure for Responding to PMD Open Interventions
Monitoring/Controlling Order Manager Operations (Cont.)

• Responding to a PMD Open Intervention
  – The PMD Open Intervention Detail page 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
  – 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
Monitoring/Controlling Order Manager Operations (Cont.)

- Responding to a PMD Open Intervention: Procedure
  - Assign self to work on the intervention
  - Select the appropriate attributes of the intervention
    - Change granule DBID
    - Fail granule
    - 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]
    - Enter operator notes concerning the request
  - Click on the Apply button
  - Confirm the disposition of the intervention
**OM GUI: Volume List for Media Creation Error**

<table>
<thead>
<tr>
<th>Volume Name</th>
<th>Status</th>
<th>Change to...</th>
<th>Explanation</th>
<th>Production Module</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOL001</td>
<td>CREATED</td>
<td>FAILED</td>
<td>MODISOUT</td>
<td></td>
</tr>
<tr>
<td>VOL002</td>
<td>CREATED</td>
<td>FAILED</td>
<td>MODISOUT</td>
<td></td>
</tr>
<tr>
<td>VOL003</td>
<td>CREATED</td>
<td>FAILED</td>
<td>MODISOUT</td>
<td></td>
</tr>
<tr>
<td>VOL004</td>
<td>CREATED</td>
<td>FAILED</td>
<td>MODISOUT</td>
<td></td>
</tr>
<tr>
<td>VOL005</td>
<td>CREATED</td>
<td>FAILED</td>
<td>MODISOUT</td>
<td></td>
</tr>
<tr>
<td>VOL006</td>
<td>CREATED</td>
<td>FAILED</td>
<td>Landsat 7 Level 0</td>
<td></td>
</tr>
<tr>
<td>VOL007</td>
<td>FAILED</td>
<td>CREATED</td>
<td>GENERICOUT</td>
<td></td>
</tr>
<tr>
<td>VOL008</td>
<td>CREATED</td>
<td>FAILED</td>
<td>MODISOUT</td>
<td></td>
</tr>
</tbody>
</table>
OM GUI: Volume List for Media Verification Error

<table>
<thead>
<tr>
<th>Volume Name</th>
<th>Status</th>
<th>Change to…</th>
<th>Explanation</th>
<th>Production Module</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOL001</td>
<td>VERIFIED</td>
<td></td>
<td></td>
<td>MODISOUT</td>
</tr>
<tr>
<td>VOL002</td>
<td>VERIFIED</td>
<td></td>
<td></td>
<td>MODISOUT</td>
</tr>
</tbody>
</table>
OM GUI: Another PMD Open Intervention Details Page
OM GUI: PMD Open Intervention Free-Up Device Dialogue Box
### Granule List

**Granule List for Volume VOL001 of Request 0800013197**

<table>
<thead>
<tr>
<th>GranuleId</th>
<th>DPL ID</th>
<th>MOD43B1.004</th>
<th>Type</th>
<th>In Size (MB)</th>
<th>Out Size (MB)</th>
<th>Status</th>
<th>Explanation</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>121107</td>
<td>41734</td>
<td>MOD43B1.004</td>
<td>SC</td>
<td>107.242</td>
<td></td>
<td>FAILED</td>
<td>Granule files missing</td>
<td>Manual fail required</td>
</tr>
<tr>
<td>121110</td>
<td>41782</td>
<td>MOD43B1.004</td>
<td>SC</td>
<td>107.242</td>
<td></td>
<td>FAILED</td>
<td>Granule files missing</td>
<td>Manual fail required</td>
</tr>
<tr>
<td>121105</td>
<td>41743</td>
<td>MOD43B1.004</td>
<td>SC</td>
<td>107.242</td>
<td></td>
<td>FAILED</td>
<td>Granule files missing</td>
<td>Manual fail required</td>
</tr>
<tr>
<td>121098</td>
<td>41744</td>
<td>MOD43B1.004</td>
<td>SC</td>
<td>107.242</td>
<td></td>
<td>FAILED</td>
<td>Granule files missing</td>
<td>Manual fail required</td>
</tr>
<tr>
<td>121109</td>
<td>41757</td>
<td>MOD43B1.004</td>
<td>SC</td>
<td>107.242</td>
<td></td>
<td>STAGED</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Monitoring/Controlling Order Manager Operations (Cont.)

• Checking/Modifying PMD Device Configuration
  – For Synergy V, the OMS GUI displays the configuration of devices used in physical media creation
    - Additional devices can be “added”
Monitoring/Controlling Order Manager Operations (Cont.)

• Checking/Modifying PMD Device Configuration
  – The PMD Device Configuration page 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
Monitoring/Controlling Order Manager Operations (Cont.)

• Checking/Modifying PMD Device Configuration
  – The PMD Device Configuration page displays the following types of information on all the currently configured devices (Cont.):
    - The PMD Device Configuration page 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
Monitoring/Controlling Order Manager Operations (Cont.)

- Checking/Modifying PMD Device Configuration: Procedure
  - Click on the Device Configuration link in the navigation frame of the OM GUI
  - Filter data displayed on the PMD Device Configuration Page (if necessary)
  - To change the on-line or off-line status of a device, first click on the corresponding “light” in the Online Status column
  - Enter (in the text box) an explanation for taking the device off line
  - Click on the Apply button
  - To add a new device to the configuration first click on the Add New Device button
  - Select the Device Purpose (i.e., Production, QC, or Production and QC)
  - Enter/select values for device configuration parameters
  - Click on the OK button
### OM GUI: PMD Device Configuration Page

#### Production devices

- **cdimage1**: CDROM
- **DVDSimulator**: DVD, TS2
- **dvdimage1**: DVD

#### GC devices

- **UnixCDGC**: CDROM drive attach
- **NTPGC**: GC on PC
- **DVDCGC**: This device exists

#### Production GC devices

- **drive1**: LTO, EMLBYTE
- **drive2**: LTO, EMLBYTE
- **dlt1**: LTO, EMLBYTE

#### Unclassified devices

- **no devices**

#### RIMAGE Device Loads

- **cdimage1**
  - Allocated Work Load: -42.2 of 133 max MB (31.2%)
  - Actual Work Load: 0 of 40 max MB (0.0%)

---

**OM GUI - OPS MODE - Netscape**

*(The OMG Server is running in S4 mode.)*

**Physical Media Distribution: Device Configuration**

- **Filter:**选择媒体类型、状态、设备状态
- **Add New Device:**

**Device Label** | **Current Request** | **Reserved For Mode** | **Used By Mode** | **Device Status** | **Online Status** | **Offline Reason**
--- | --- | --- | --- | --- | --- | ---
**Production devices**
- **cdimage1**: CDROM
- **DVDSimulator**: DVD, TS2
- **dvdimage1**: DVD

**GC devices**
- **UnixCDGC**: CDROM drive attach
- **NTPGC**: GC on PC
- **DVDCGC**: This device exists

**Production GC devices**
- **drive1**: LTO, EMLBYTE
- **drive2**: LTO, EMLBYTE
- **dlt1**: LTO, EMLBYTE

**Unclassified devices**
- **no devices**

**RIMAGE Device Loads**
- **cdimage1**
  - Allocated Work Load: -42.2 of 133 max MB (31.2%)
  - Actual Work Load: 0 of 40 max MB (0.0%)
OM GUI: Taking a Device Off-Line (Pop-Up)

Please type in an explanation for taking this device off-line:

Warning: If this device is busy, the current Request will be completed before the device is taken off-line.

Apply  Cancel
OM GUI: Add New Device Page
OM GUI: Add New Device Page with Device Type Radio Buttons
OM GUI: Add New Device Page – Production and QC
OM GUI: Add New Device Page – Production (Rimage)

Physical Media Distribution: Add New Device

Device Purpose:
- Production
- Rimage
- Tape

Production Device Details (Rimage):
- Media Type:
  - CDROM only
  - DVD only
  - CDROM and DVD
- Allocated Workload Limit
- Actual Workload Limit
- Device Label
- Device Path
- Reserve for Mode (optional)
- Device Description

OK  Cancel

Need help with the Order Manager? Click on a Question Mark to get context-sensitive Help!
OM GUI: Add New Device Page – Production (Tape)
• Filtering Data Displayed on the PMD Device Configuration Page
  – Features at the top of the PMD Device Configuration page provide a means of filtering data displayed on the PMD Device Configuration page

• Filtering Data Displayed on the PMD Device Configuration Page: Procedure
  – Select media type on which to filter (if applicable)
  – Select online status on which to filter (if applicable)
  – Select device status on which to filter (if applicable)
  – Click on the Apply button
Monitoring/Controlling Order Manager Operations (Cont.)

- Checking/Modifying PMD Printer Configuration
  - For Synergy V, the OMS GUI handles the configuration of printers used in physical media creation
    - The printer configurations can be “edited”
  - The PMD Printer Configuration page 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
• Checking/Modifying PMD Printer Configuration: Procedure
  – Click on the Printer Configuration link in the navigation frame of the OM GUI
  – 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
  – Type the appropriate text in the corresponding text box (if applicable):
    - Name
    - Network Info
  – Select the appropriate “Option” (if applicable):
    - Always (print)
    - Never (print)
  – Click on the Apply button
Monitoring/Controlling Order Manager Operations (Cont.)

- **Checking/Modifying PMD Production Module Configuration**
  - For Synergy V, the OMS 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 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
Monitoring/Controlling Order Manager Operations (Cont.)

- Checking/Modifying PMD Production Module Configuration: Procedure
  - Click on the PM Configuration link in the navigation frame of the OM GUI
  - Change values for the following three parameters for production modules (as applicable):
    - Image File Path (type the value in the corresponding text box)
    - Text File Path (type the value in the corresponding text box)
    - Default Module (click on the “yes” or “no” radio button)
  - To implement changed values click on the Apply Changes button
  - To add a new production module first click on the Add New Production Module button
Monitoring/Controlling Order Manager Operations (Cont.)

- Checking/Modifying PMD Production Module Configuration: Procedure (Cont.)
  - Enter the appropriate information in the text boxes of the Add New Production Module table
    - Name
    - Image File Path
    - Text File Path
  - Click on the appropriate radio button (i.e., yes or no) in the Default Module area
  - To implement the new production module click on the Add This Production Module button
OM GUI: PMD Production Module Configuration Page

<table>
<thead>
<tr>
<th>Module</th>
<th>ID</th>
<th>Created</th>
<th>Last Updated</th>
<th>Image File Path</th>
<th>Text File Path</th>
<th>Executable</th>
<th>Default Module</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ASTEROUT</strong> (ID: 5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ASTEROUD</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MODISOUT</strong> (ID: 6)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MODISOUT</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>GENERICOUT</strong> (ID: 7)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>GENEIC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Monitoring/Controlling Order Manager Operations (Cont.)

• Checking PMD Reports
  – The PMD Report Summary page 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 out with the formatting intact
  – The following types of reports are available:
    - Tape Device Report - 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
Monitoring/Controlling Order Manager Operations (Cont.)

• Checking PMD Reports: Procedure
  – Click on the Reports link in the navigation frame of the OM GUI
  – To print the PMD reports first select File → Print from the browser pull-down menu
  – To print the PMD reports click on the OK button
Monitoring/Controlling PMD Media Creation Using the OM GUI

- Monitoring/Controlling PMD Media Creation Using the OM GUI
- The Media Creation Actions page provides the full-capability operator with a means of performing various types of media creation actions
- 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
Monitoring/Controlling PMD Media Creation Using the OM GUI (Cont.)

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
Monitoring/Controlling Order Manager Operations (Cont.)

- Monitoring/Controlling PMD Media Creation Using the OM GUI (Cont.)
- 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
Monitoring/Controlling Order Manager Operations (Cont.)

- Monitoring/Controlling PMD Media Creation Using the OM GUI (Cont.)
- The following activities occur during disk and 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 and a “tar –tvf” of a tape
Monitoring/Controlling Order Manager Operations (Cont.)

- Monitoring/Controlling PMD Media Creation Using the OM GUI (Cont.)
- 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
Monitoring/Controlling Order Manager Operations (Cont.)

- Monitoring/Controlling PMD Media Creation Using the OM GUI (Cont.)
- 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
Monitoring/Controlling PMD Media Creation Using the OM GUI: Procedure

- Click on the Media Creation Actions link in the navigation frame of the OM GUI
- Change the priority of distribution requests (if necessary)
- Observe information displayed in the Listing table of the Media Creation Actions page
- Perform subordinate procedures as necessary
- Repeat preceding steps as necessary to monitor/control jobs
Monitoring/Controlling Order Manager Operations (Cont.)

- Monitoring/Controlling PMD Media Creation Using the OM GUI: Subordinate Procedures
  - Activate Request
    - Activating PMD Requests [to start the media creation process for PMD requests]
    - 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]
    - Annotating a PMD Action [to add notes to any PMD action]
  - Mount Media for Production
    - Confirming Mount Media for PMD [to confirm media mounting for the next volume of the request]
    - 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]
    - Annotating a PMD Action [to add notes to any PMD action]
Monitoring/Controlling Order Manager Operations (Cont.)

• Monitoring/Controlling PMD Media Creation Using the OM GUI: Subordinate Procedures
  – Collect Media for QC
    - 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)]
    - Failing PMD Media Collection [to indicate that the media collection or dismount failed]
    - Annotating a PMD Action [to add notes to any PMD action]
  – Activate Media for QC
    - Activating QC for PMD Requests [to start the media QC process for PMD requests]
    - 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]
    - Annotating a PMD Action [to add notes to any PMD action]
Monitoring/Controlling PMD Media Creation Using the OM GUI: Subordinate Procedures

- Mount Media for QC
  - Confirming Mount Media for PMD [to confirm media mounting for the next volume of the request]
  - 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]
  - Annotating a PMD Action [to add notes to any PMD action]
Monitoring/Controlling Order Manager Operations (Cont.)

- Monitoring/Controlling PMD Media Creation Using the OM GUI: Subordinate Procedures
  - Assemble Package
    - Marking PMD Request Shipped [to confirm media dismount for a particular request that has passed QC and mark it “shipped”]
    - Confirming PMD Media Dismounted [to confirm media dismount]
    - Confirming PMD Package Assembled [to confirm that the package was assembled for shipment]
    - Marking PMD Package Not Assembled [to indicate that the package was not assembled for shipment]
    - 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]
    - 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]
    - Annotating a PMD Action [to add notes to any PMD action]
OM GUI: Media Creation Actions Page

OM GUI - TS2 MODE - Netscape

Media Creation Actions

Filter
Action Type
Activate Media for QC
Activate Request
Assemble Package

You must select at least one Action Type
Select:
All
None
Apply

Listing
Go directly to row:
ok
of 2 rows
Show 50 rows at a time

OrderID RequestID Media Type Device Name Request Status Due Date Media Action Note Action Type Options
000001458 0000013385 DVD DVD Simulator
Transferring Apr 1 2005 9:22 PM Collect Media For QC Media Collection
000001464 0000013236 8MM drive2 Pending Media Prod Apr 9 2005 10:15PM Mount Media For Production

AutoRefresh Control Panel
Refresh screen every 5 minutes
AutoRefresh Can’t be off

Need help with the Order Manager? Click on a Question Mark to get context-sensitive Help!
Monitoring/Controlling Order Manager Operations (Cont.)

• 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
    - Fail Request
    - Annotate Action
• 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
  – The Activate Request pages 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 medium
• Activating PMD Requests: Procedure
  – Click on the Media Creation Actions link in the navigation frame of the OM GUI
  – Select Activate Request from the option button in the Options column for the row associated with the request
  – Select a different device from the option button if necessary
  – Click in the Select … Device to Allocate check box
  – If the device is a Rimage (disk) unit, ensure that the input bins of the Rimage unit contain blank disks
  – 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
  – If the data are to be recorded on a tape, wait for the drive to come on line
  – Click in the check box labeled Confirm Mount of … Volume … on Device …
Monitoring/Controlling Order Manager Operations (Cont.)

- Activating PMD Requests: Procedure (Cont.)
  - Enter notes if applicable
  - Click on the Activate Request button
OM GUI: Activate Request Page (Tape Media)

Activate Request for RequestID 0800010921

- Select **8MM Device to Allocate** *(required)*
  - Recommended device is selected
- Confirm Mount of volume **VOLUME01**
- on device **TAPE01** *(required)*

Operator Notes for Action

0 of 255 max characters

[Activate Request]  [Cancel]
OM GUI: Activate Request Page (Disk Media)

Activate Request for RequestID 0300015116

- Select CDROM Device to Allocate (required)
  - Recommended device is selected

<table>
<thead>
<tr>
<th>Device Name</th>
<th>Workload (MB)</th>
<th>Workload Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>RIMAGE01</td>
<td>2,215</td>
<td>7,000</td>
</tr>
<tr>
<td>RIMAGE02</td>
<td>891</td>
<td>7,000</td>
</tr>
</tbody>
</table>

Operator Notes for Action:

0 of 255 max characters

Activate Request, Cancel
Monitoring/Controlling Order Manager Operations (Cont.)

- **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: Procedure**
  - Click on the Media Creation Actions link in the navigation frame of the OM GUI
  - Select Fail Request from the option button in the Options column for the row associated with the relevant request
  - Enter additional text for the DN (if applicable)
  - If no DN is to be sent, click in the check box labeled Don’t send DN
  - Enter notes if applicable
  - Click on the Fail Request button
OM GUI: Fail Request Page

Fail Request for RequestID 0400003016

- Don't send DN
- Additional text for DN: 0 of 255 max characters
- Operator Notes for Action: 0 of 255 max characters

[Fail Request] [Cancel]
Monitoring/Controlling Order Manager Operations (Cont.)

- **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, Collect Media for QC, Mount Media for QC, Mount Media for QC, or Assemble Package) displayed in the Action Type column of the Media Creation Actions page
Monitoring/Controlling Order Manager Operations (Cont.)

- Annotating a PMD Action: Procedure
  - Click on the Media Creation Actions link in the navigation frame of the OM GUI
  - Select Annotate Action from the option button in the Options column for the row associated with the relevant request
  - Type the appropriate text in the Operator Notes for Action text box of the Annotate Action dialogue box
  - Click on the Annotate Action button
OM GUI: Annotate Action Page

Annotate Action for RequestID 0400002961

Operator Notes for Action
0 of 255 max characters

Annotate Action  Cancel
Monitoring/Controlling Order Manager Operations (Cont.)

• 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
    - Fail mount media
    - Annotate action
Monitoring/Controlling Order Manager Operations (Cont.)

• Confirming Mount Media for PMD Production
  – 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
Monitoring/Controlling Order Manager Operations (Cont.)

- Confirming Mount Media for PMD Production: Procedure
  - Click on the Media Creation Actions link in the navigation frame of the OM GUI
  - Select Confirm Mount Media from the option button in the Options column for the row associated with the request
  - 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
  - If media mounting is for QC purposes (rather than production) put the tape or disk of the appropriate volume of the request into the drive to be used for QC
  - Wait for the drive to come on line
  - Enter notes if applicable
  - Click on the Confirm Mount Media button
OM GUI: Confirm Mount Media Page

Confirm Mount Media for Request ID 0400000855

Mount DLT volume VOL002 on device dlt2

Operator Notes for Action

Confirm Mount Media  Cancel

0 of 255 max characters
Monitoring/Controlling Order Manager Operations (Cont.)

- Failing Mount Media for PMD Production
  - 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 Production: Procedure

- Click on the Media Creation Actions link in the navigation frame of the OM GUI
- Select Fail Mount Media from the option button in the Options column for the row associated with the relevant request
- Click in the Set currently assigned … device … off-line check box if the currently assigned device is to be taken off line
- Enter an explanation for setting the device off line if the currently assigned device is to be taken off line
- Enter notes if applicable
- Click on the Fail Mount Media button
OM GUI: Fail Mount Media Page

Fail Mount Media for RequestID 040002998

- Set currently assigned FtpPull device off-line.

Explanation for Set Device Off-line

0 of 255 max characters

Operator Notes for Action

0 of 255 max characters

Fail Mount Media  Cancel
• 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
    - Fail media collection
    - Annotate action
Monitoring/Controlling Order Manager Operations (Cont.)

• 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
Monitoring/Controlling Order Manager Operations (Cont.)

• Confirming Media Collection Complete for PMD: Procedure
  – Click on the Media Creation Actions link in the navigation frame of the OM GUI
  – Select Media Collection Complete from the option button in the Options column for the row associated with the request
  – Dismount the volume(s) identified as “waiting for dismount” in the Volumes Created table of the Media Collection Complete dialogue box
  – Click in the Confirm dismount of ... volume ... from device ... check box
  – Enter notes if applicable
  – Click on the Media Collection Complete button
OM GUI: Media Collection Complete Page

Media Collection Complete for RequestID 0300015113

- Confirm Dismount of volume VOLUME02 on device TAPE02 (required)

Volumes Created

<table>
<thead>
<tr>
<th>Volume Name</th>
<th>Volume Status</th>
<th>Production Module</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOLUME01</td>
<td>Complete</td>
<td>_test_pMod_ALPHA</td>
</tr>
<tr>
<td>VOLUME02</td>
<td>Waiting for Dismount</td>
<td>_test_pMod_ALPHA</td>
</tr>
</tbody>
</table>

Operator Notes for Action

0 of 255 max characters

[Media Collection Complete] [Cancel]
OM GUI: Another Media Collection Complete Page

![Media Collection Complete for RequestID 0400000869]

- **Volumes Created**
  - Vol001: CREATED
  - Vol002: CREATED

- **Operator Notes for Action**
  - 0 of 255 max characters
• 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
Monitoring/Controlling Order Manager Operations (Cont.)

- **Failing PMD Media Collection: Procedure**
  - Click on the Media Creation Actions link in the navigation frame of the OM GUI
  - Select Fail Media Collection from the option button in the Options column for the row associated with the request
  - Click in the Set currently assigned ... device off-line check box (if applicable)
  - Type the appropriate text in the Explanation for Set Device Off-line text box of the Fail Media Collection dialogue box (if applicable)
  - Enter notes if applicable
  - Click on the Fail Media Collection button
OM GUI: Fail Media Collection Page

Fail Media Collection for RequestID 3400002849

- Set currently assigned DVD device off-line.

Explanation for Set Device Off-line
0 of 255 max characters

Operator Notes for Action
0 of 255 max characters

Fail Media Collection | Cancel
Monitoring/Controlling Order Manager Operations (Cont.)

- 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
    - Fail request
    - Annotate action
Monitoring/Controlling Order Manager Operations (Cont.)

• Activating QC for PMD Request
  – 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
  – 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
Monitoring/Controlling Order Manager Operations (Cont.)

• Activating QC for PMD Request: Procedure
  – Click on the Media Creation Actions link in the navigation frame of the OM GUI
  – Select Activate QC from the option button in the Options column for the row associated with the request
  – Select a different device from the option button if necessary
  – Click in the Select … Device to Allocate check box
  – Put the tape or disk of the first volume of the request into the drive to be used for QC
  – Wait for the drive to come on line
  – Click in the check box labeled Confirm Mount of … Volume … on Device …
  – Enter notes if applicable
  – Click on the Activate QC button
OM GUI: Activate QC Page

Activate QC for RequestID 0300018310

- Select **CDROM** Device to Allocate (required)
- Recommended device is selected
- Confirm Mount of first **CDROM** volume **VOL001** on device **NEW_QC** (required)

Operator Notes for Action

0 of 255 max characters

[Activate QC] [Cancel]
Monitoring/Controlling Order Manager Operations (Cont.)

- 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
    - Fail mount media
    - Annotate action
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
  - Confirm media dismounted
  - Confirm package assembled
  - Package not assembled
  - Fail request
  - Print outputs
  - Annotate action
Monitoring/Controlling Order Manager Operations (Cont.)

• 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
Monitoring/Controlling Order Manager Operations (Cont.)

• Marking PMD Request Shipped: Procedure
  – Click on the Media Creation Actions link in the navigation frame of the OM GUI
  – Select Mark Request Shipped from the option button in the Options column for the row associated with the request
  – Dismount the volume(s) identified as “waiting for dismount” in the Volumes Created table of the Mark Request Shipped dialogue box
  – Click in the Confirm dismount of ... volume ... from device ... check box
  – Click in the Confirm Package Assembled check box
  – If no DN is to be sent, click in the check box labeled Don’t send DN
  – Enter notes if applicable
  – Click on the Mark Request Shipped button
OM GUI: Mark Request Shipped Page

Mark Request Shipped for RequestID 04000000848

- Confirm Dismount of last DLT volume VOL001 from device (required)
- Confirm Package Assembled (required)

Volumes Created

<table>
<thead>
<tr>
<th>Volume Name</th>
<th>Volume Status</th>
<th>Production Module</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOL001</td>
<td>VERIFIED</td>
<td>MODISOUT</td>
</tr>
</tbody>
</table>

Printed Outputs

<table>
<thead>
<tr>
<th>Output Name</th>
<th>Printer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packing List (DN)</td>
<td>marlin</td>
</tr>
<tr>
<td>QC Reports</td>
<td>marlin</td>
</tr>
<tr>
<td>Shipping Labels</td>
<td>Q2dpi08</td>
</tr>
<tr>
<td>Tape Labels</td>
<td>Q2dpi07</td>
</tr>
</tbody>
</table>

- Don't send DN

Operator Notes for Action

0 of 255 max characters

Mark Request Shipped  Cancel
• 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: Procedure
  – Click on the Media Creation Actions link in the navigation frame of the OM GUI
  – Select Confirm Media Dismounted from the option button in the Options column for the row associated with the request
  – Dismount the volume(s) for the request
  – Click in the Confirm Package Assembled check box
  – Enter notes if applicable
  – Click on the Confirm Media Dismounted button
OM GUI: Confirm Media Dismounted Page

Confirm Media Dismounted for RequestID 0400001003

Mount 8MM volume VOL001 on device q03

Confirm Package Assembled (optional)

Volumes Created

<table>
<thead>
<tr>
<th>Volume Name</th>
<th>Volume Status</th>
<th>Production Module</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOL001</td>
<td>VERIFIED</td>
<td>MODISOUT</td>
</tr>
</tbody>
</table>

Printed Outputs

<table>
<thead>
<tr>
<th>Output Name</th>
<th>Printer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packing List (ON)</td>
<td>marin</td>
</tr>
<tr>
<td>QC Reports</td>
<td>marin</td>
</tr>
<tr>
<td>Shipping Labels</td>
<td>Drop08</td>
</tr>
<tr>
<td>Tape Labels</td>
<td>Drop07</td>
</tr>
</tbody>
</table>

Operator Notes for Action

0 of 255 max characters

[Confirm Media Dismounted] [Cancel]
• 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: Procedure
  – Click on the Media Creation Actions link in the navigation frame of the OM GUI
  – Select Confirm Package Assembled from the option button in the Options column for the row associated with the request
  – Dismount the volume(s) identified as “waiting for dismount” in the Volumes Created table of the Confirm Package Assembled dialogue box
  – Click in the Confirm dismount of last ... volume ... from device ... check box
  – Enter notes if applicable
  – Click on the Confirm Package Assembled button
OM GUI: Confirm Package Assembled Page

Confirm Package Assembled for RequestID 0400000848

- Confirm Dismount of last DLT volume VOL001 from device (required)

Volumes Created

<table>
<thead>
<tr>
<th>Volume Name</th>
<th>Volume Status</th>
<th>Production Module</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOL001</td>
<td>VERIFIED</td>
<td>MOD/ISOUT</td>
</tr>
</tbody>
</table>

Printed Outputs

<table>
<thead>
<tr>
<th>Output Name</th>
<th>Printer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packing List</td>
<td>marlin</td>
</tr>
<tr>
<td>QC Reports</td>
<td>marlin</td>
</tr>
<tr>
<td>Shipping Labels</td>
<td>f2cip08</td>
</tr>
<tr>
<td>Tape Labels</td>
<td>f2cip07</td>
</tr>
</tbody>
</table>

Operator Notes for Action

0 of 255 max characters

[Confirm Package Assembled] [Cancel]
Monitoring/Controlling Order Manager Operations (Cont.)

- 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
Monitoring/Controlling Order Manager Operations (Cont.)

- Marking PMD Package Not Assembled: Procedure
  - Click on the Media Creation Actions link in the navigation frame of the OM GUI
  - Select Package Not Assembled from the option button in the Options column for the row associated with the request
  - Click in the Confirm dismount of last ... volume ... from device ... check box (if applicable)
  - Click in the Set currently assigned ... device off-line check box (if applicable)
  - Type the appropriate text in the Explanation for Set Device Off-line text box of the Fail Mount Media dialogue box (if applicable)
  - Enter notes if applicable
  - Click on the Package Not Assembled button
OM GUI: Package Not Assembled Page

Package Not Assembled for RequestID 0400001003

- Confirm Dismount of last 8MM volume VOL001 from device qc3 (required to set device off-line)
- Set currently assigned 8MM device qc3 off-line.

Explanation for Set Device Off-line
0 of 255 max characters

Operator Notes for Action
0 of 255 max characters

Package Not Assembled  Cancel
Monitoring/Controlling Order Manager Operations (Cont.)

• 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
Monitoring/Controlling Order Manager Operations (Cont.)

• Printing PMD Outputs: Procedure
  – Click on the Media Creation Actions link in the navigation frame of the OM GUI
  – Select Print Outputs from the option button in the Options column for the row associated with the request
  – To have a jewel case insert printed, click in the check box labeled Print Jewel Case Inserts in the Print Outputs dialogue box
  – To have a shipping label printed, click in the check box labeled Print Shipping Label in the Print Outputs dialogue box
  – To have a Packing List (DN) printed, click in the check box labeled Packing List(DN) in the Print Outputs dialogue box
  – To have a QC report printed, click in the check box labeled Print QC Report in the Print Outputs dialogue box
  – Click on the Print Outputs button
OM GUI: Print Outputs Page

Print Outputs for RequestID 0400001000

Media Type CDROM

- Print Jewel Case Inserts
- Print Shipping Label
- Print Packing List(DN)
- Print QC Report

Print Outputs Cancel
Using the Order Manager Command Line Utility

- **Order Manager 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
Using the Order Manager Command Line Utility (Cont.)

- 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 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
Preparing Input Files for Use with the OM Command Line Utility (Cont.)

- 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
- 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
Using the Order Manager Command Line Utility (Cont.)

• Preparing Input Files for Use with the OM Command Line Utility: Procedure
  – Access a terminal window logged in to the Sun Consolidation Internal Server host
  – Enter cd /usr/ecs/MODE/CUSTOM/data/OMS/template
  – Save a copy of the relevant template under a new file name (cp filename1 ../filename2)
  – Change the file permissions to 777 (if necessary)
  – Enter vi filename
  – Using vi editor commands create a file that specifies the relevant request information to be sent to the OMS
  – Press the Esc key
  – Enter ZZ
Using the Order Manager Command Line Utility (Cont.)

• 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
  – 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

• Running the OM Command Line Utility: Procedure
  – Access a terminal window logged in to the Sun Consolidation Internal Server host
  – Enter `cd /usr/ecs/MODE/CUSTO\M/utilities`
  – Enter `EcOmSrCliDriverStart MODE rootname #requests [ sub-interval ] [ dBretries ] [ retry-interval ]`
• **OMS Configuration Script (OMS Configuration CI) Activities**
  - The OMS Configuration Script or OMS 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 to be used the full-capability operator starts the OMS Configuration CI referencing the input file in the command-line arguments
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 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)
• Preparing Input Files for Use with the OMS Configuration CI (Cont.)
  – The Synergy III mode exception 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 S3 mode
    - Delete the data in the file from the current types of data being processed in S3 mode
  – Consequently, files may be created for the following six conditions:
    - Add ESDT collection(s) to processing in S3 mode
    - Delete ESDT collection(s) from processing in S3 mode
    - Add media type(s) to processing in S3 mode
    - Delete media type(s) from processing in S3 mode
    - Add ftp push destination(s) to processing in S3 mode
    - Delete ftp push destination(s) from S3 processing
• Preparing Input Files for Use with the OMS Configuration CI (Cont.)
  – 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 ESDTIs
  – 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
• Preparing Input Files for Use with the OMS Configuration CI (Cont.)
  – 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
• Preparing Input Files for Use with the OMS Configuration CI (Cont.)
  – 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
• Preparing Input Files for Use with the OMS Configuration CI: Procedure
  – Access a terminal window logged in to the Sun Consolidation Internal Server host
  – Enter cd /usr/ecs/MODE/CUSTOM/utilities
  – Enter vi filename
  – Using vi editor commands create a file that specifies the relevant values to be sent to the OMS
  – Press the Esc key
  – Enter ZZ
• 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)
    - Ftp push destination(s)
Starting the OMS Configuration CI

- 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.

Starting the OMS Configuration CI: Procedure

- Access a terminal window logged in to the Sun Consolidation Internal Server host.
- Enter cd /usr/ecs/MODE/CUSTOM/utilities.
- Enter EcOmConfig.pl MODE [ -s3col filename ] [ -s3media filename ] [ -s3dest filename ] [ -ot filename ] [ -help ]
OMS Configuration CI v1.0

MENU:
-----------------------
1) Synergy III Mode Exceptions
2) Configure MSS/OMS Order Tracking
3) Switch Server Mode
4) Help

Type "x" to exit

=>
Using the OMS Configuration Script (OMS Configuration CI) (Cont.)

- 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.
• Processing Input Files Specified for Synergy III Exceptions (Cont.)
  – 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
Using the OMS Configuration Script (OMS Configuration CI) (Cont.)

• Processing Input Files Specified for Synergy III Exceptions (Cont.)
  – 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
Using the OMS Configuration Script (OMS Configuration CI) (Cont.)

• Processing Input Files Specified for Synergy III Exceptions (Cont.)
  – 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
Using the OMS Configuration Script (OMS Configuration CI) (Cont.)

- Processing Input Files Specified for Synergy III Exceptions: Procedure
  - At the OMS Configuration CI Main Menu prompt enter 1
  - At the Synergy III Mode Exceptions Menu prompt enter 1
  - At the Use this file? [y/n] prompt enter y
  - At the Synergy III Mode Actions Menu prompt, enter the appropriate number
    - 1 - to add the data in the file to the types of data to be processed in Synergy III mode
    - 2 - to remove add the data in the file from the types of data to be processed in Synergy III mode
    - 3 - to abort the process of processing the file
  - At the “Submission successful. Press <ENTER> to continue...“ message, press Return/Enter
  - Repeat steps as necessary
Synergy III Mode Exceptions:
----------------------------------
1) Process input files...
2) Back to Main Menu

=>
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

=>
• 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
• Configuring How Long Order-Tracking Information is Kept in the OMS Database (Cont.)
  – 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
Using the OMS Configuration Script (OMS Configuration CI) (Cont.)

- Configuring How Long Order-Tracking Information is Kept in the OMS Database: Procedure
  - At the OMS Configuration CI Main Menu prompt enter 2
  - At the Configure Order Tracking Data Menu prompt enter the appropriate number
    - 1 - to import the current order-tracking retention time configuration (from the OMS database) into a file
    - 2 - to export an edited order-tracking retention time file to the OMS database
    - 3 - to view the current configuration
    - 4 - to return to the OMS Configuration CI Main Menu
  - If the current order-tracking retention time was imported into a file, exit from the OMS Configuration CI
  - If applicable, edit the import file as described in Preparing Input Files for Use with the OMS Configuration CI
Using the OMS Configuration Script (OMS Configuration CI) (Cont.)

- Configuring How Long Order-Tracking Information is Kept in the OMS Database: Procedure (Cont.)
  - After editing the order-tracking retention time file, start the OMS Configuration CI using the -ot option and the file name as an argument
  - After starting the OMS Configuration CI with reference to the edited file, at the Configure Order Tracking Data Menu prompt enter 2
  - 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 enter y
  - To continue exporting an edited order-tracking retention time file to the OMS database, at the Continue? [y/n] prompt enter y
  - At the “Export OK. Press <ENTER> to continue...“ message, press Return/Enter
Configure Order Tracking Data
---------------------------------------

1) Import current configuration to file...
2) Export new configuration to database...
3) View current configuration
4) Back to main menu
=>
Using the OMS Configuration Script (OMS Configuration CI) (Cont.)

- 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:
    - 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
Using the OMS Configuration Script
(OMS Configuration CI) (Cont.)

- Switching Between Synergy IV and Synergy III Operations (Cont.)
  - The OMS Server must be shut down before switching the OMS Server mode

- Switching Between Synergy IV and Synergy III Operations: Procedure
  - At the OMS Configuration CI Main Menu prompt enter 3
  - At the Switch Processing Mode Menu prompt enter 1
OMS Configuration CI: Switch Processing Mode Menu

1) Switch Processing mode to S3  
2) Back to main menu  
3) Exit  
=>
Using the OMS Configuration Script (OMS Configuration CI) (Cont.)

- **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

- **Getting OMS Configuration CI Help: Procedure**
  - At the OMS Configuration CI Main Menu prompt enter 4
  - To view additional help information press Return/Enter
  - To exit from Help enter q
OMS Configuration CI: Help

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--
Tuning Data Server Subsystem Parameters

• 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)

• Two databases where parameters can be set:
  – Configuration Registry database
  – Storage Management and Data Distribution database

• For Storage Management servers the Registry has 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
• Configuration Registry
  – 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.
  – Database Administrator has access to a Configuration Registry GUI for viewing and editing configuration data in the database.
  – It is necessary to coordinate with the Database Administrator when changes to configuration parameters are needed.
  – Changes to configuration-controlled parameters are subject to approval through the site CM process.
Tuning Data Server Subsystem Parameters (Cont.)

- 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
    - Document is available at http://cmdm.ido(raytheon.com/baseline/ under “Technical Documents”
• 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
• Tuning parameters (Cont.)
  – 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
• Tuning parameters (Cont.)
  – 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 distribution request via ftp push
    - The FtpPushThreshold should always be greater than the size of the largest input granule used by the Planning and Data Processing Subsystems (PDPS)
    - When a distribution request exceeds the threshold the request is suspended in DDIST
• Tuning parameters (Cont.)
  – FtpPullThreshold [EcDsDistributionServer parameter]
    - Maximum number of bytes (e.g., 20000000000) per distribution request via ftp pull
    - When a distribution request exceeds the threshold the request is suspended in DDIST
  – 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
• Tuning parameters (Cont.)
  – 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
Tuning Data Server Subsystem Parameters (Cont.)

• Tuning parameters (Cont.)
  – 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.

Example

- Debug level for the Distribution Server log has been changed from “2” to “3” in the Configuration Registry.
- 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
  – 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
• Checksum Status (Cont.)
  – 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
Modifying System Parameters in the STMGT/DDIST 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.
  - The `TotalCacheSpace` column in the `DsStCache` table contains the overall size (in blocks) of a cache.
Modifying System Parameters in the STMGT/DDIST Database

• Staging Area Size and Read-Only Cache Size (Cont.)
  – The TotalStagingSpace column should reflect the available disk space in the file partition that is configured
  – The TotalCacheSpace column 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
Modifying System Parameters in the STMGT/DDIST Database

• Staging Area Size and Read-Only Cache Size (Cont.)
  – In Storage Management configurations...
    - Capacity ("space") is consistently specified in blocks
    - File size is specified in bytes
  – Each cache has its own path
• Staging Area Size and Read-Only Cache Size (Cont.)
  – 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]
  – Cache and staging disk space parameters are modified using the Storage Management Control GUI
Modifying System Parameters in the STMGT/DDIST Database

• Setting Expiration Thresholds for Cache Managers
  – A just-enough-cache cleanup strategy is used in Storage Management
    - Caches (including the Pull Area) generally remain full because each cache 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 configured as the Pull Monitor specifies the number of hours it takes for files to expire in the Pull Area
• Setting Expiration Thresholds for Cache Managers (Cont.)
  – Factors considered when setting the ExpirationThreshold for each cache manager:
    - 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
Setting Expiration Thresholds for Cache Managers (Cont.)

- The ConfirmDelete column in the DsStCache table is a flag that indicates whether to automatically delete upon reaching the ExpirationThreshold
  - ConfirmDelete is 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
• **Storage Management Service Thread Allocation**
  
  – Service threads process requests submitted to the applicable server, for example…
    
    - EcDsStRequestManagerServer
    - EcDsStArchiveServer
    - EcDsStCacheManagerServer
    - EcDsStStagingDiskServer
    - EcDsStFtpServer
  
  – The number of service threads assigned to a server should be set on the basis of the resources available and the server throughput
Modifying System Parameters in the STMGT/DDIST Database (Cont.)

- **Storage Management Service Thread Allocation (Cont.)**
  - The DsStServiceThreadConfig database table contains the number, types, and priorities of service threads for Storage Management servers
  - The following columns indicate the number of service threads assigned to each priority:
    - XpressThreads
    - VhighThreads
    - HighThreads
    - NormalThreads
    - LowThreads
• **Storage Management Service Thread Allocation (Cont.)**
  – The PoolType column (DsStServiceThreadConfig database table) identifies the type of threads within a certain pool applicable to the server
    - Service Threads
    - Read Threads
    - Write Threads
  – 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
  – Storage Management service thread-related values are modified using the Storage Management Control GUI
Modifying System Parameters in the STMGT/DDIST Database (Cont.)

Representative Default Values Listed in the DsStServiceThreadConfig Database Table

<table>
<thead>
<tr>
<th>ServerId</th>
<th>PoolType</th>
<th>NumThreads</th>
<th>XpressThreads</th>
<th>VhighThreads</th>
<th>HighThreads</th>
<th>NormalThreads</th>
<th>LowThreads</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ReadThreadPool</td>
<td>30</td>
<td>0</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>1</td>
<td>ThreadPool</td>
<td>30</td>
<td>0</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>1</td>
<td>WriteThreadPool</td>
<td>30</td>
<td>0</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>ReadThreadPool</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>ThreadPool</td>
<td>50</td>
<td>0</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>2</td>
<td>WriteThreadPool</td>
<td>100</td>
<td>0</td>
<td>20</td>
<td>70</td>
<td>0</td>
<td>10</td>
</tr>
</tbody>
</table>

- ServerId 1 refers to EcDsStArchiveServerACM4
- ServerId 2 refers to EcDsStArchiveServerDRP3
Modifying System Parameters in the STMGT/DDIST Database (Cont.)

• 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
### Example of DsDdThreadPool Table Contents

<table>
<thead>
<tr>
<th>ThreadPoolId</th>
<th>ThreadPoolName</th>
<th>ThreadLimit</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>SUB_LARCINGMGR</td>
<td>15</td>
</tr>
<tr>
<td>14</td>
<td>DEFAULT</td>
<td>10</td>
</tr>
<tr>
<td>15</td>
<td>PRODUCTION</td>
<td>20</td>
</tr>
<tr>
<td>16</td>
<td>SUB_ASTERGDS</td>
<td>10</td>
</tr>
<tr>
<td>17</td>
<td>SUB_NOAASOAP</td>
<td>20</td>
</tr>
<tr>
<td>18</td>
<td>SUB_JSMITH</td>
<td>20</td>
</tr>
<tr>
<td>19</td>
<td>PDS</td>
<td>30</td>
</tr>
<tr>
<td>20</td>
<td>USER_FTPPUSH</td>
<td>35</td>
</tr>
<tr>
<td>21</td>
<td>USER_FTPPULL</td>
<td>10</td>
</tr>
<tr>
<td>22</td>
<td>S4POPS</td>
<td>20</td>
</tr>
<tr>
<td>23</td>
<td>SUB_PRIVUSER</td>
<td>80</td>
</tr>
<tr>
<td>24</td>
<td>SUB_REGUSER</td>
<td>60</td>
</tr>
</tbody>
</table>
• There is always a DEFAULT pool in the DsDdThreadThreadPool table
  – 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

• Rules for assigning requests to thread pools are specified in the DsDdAssignmentRule table
  – Rules are DAAC-configurable and are based on request attributes
  – Attributes involved in thread pool assignments:
    - ECSUserId
    - Priority
    - EsdtType
    - MediaType

• Each row in the table defines an assignment rule
Example of DsDdAssignmentRule Table Contents

<table>
<thead>
<tr>
<th>SeqNum</th>
<th>Thread PoolId</th>
<th>ECSUserId</th>
<th>Priority</th>
<th>EsdtType</th>
<th>MediaType</th>
<th>EmailAddress</th>
<th>NumberOfGranules</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>14</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
<td>scp</td>
<td>ANY</td>
<td>ANY</td>
</tr>
<tr>
<td>100</td>
<td>15</td>
<td>$EcDpPrEM</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
</tr>
<tr>
<td>200</td>
<td>16</td>
<td>Aster_gds</td>
<td>NORMAL</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
</tr>
<tr>
<td>300</td>
<td>13</td>
<td>LarcIngMgr</td>
<td>NORMAL</td>
<td>ANY</td>
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</tr>
<tr>
<td>400</td>
<td>17</td>
<td>NOAA/SOAP</td>
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<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
</tr>
<tr>
<td>500</td>
<td>18</td>
<td>jsmith</td>
<td>NORMAL</td>
<td>ANY</td>
<td>ANY</td>
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<td>ANY</td>
</tr>
<tr>
<td>600</td>
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<td>ANY</td>
</tr>
<tr>
<td>900</td>
<td>22</td>
<td>s4opsaaf</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
</tr>
<tr>
<td>1000</td>
<td>22</td>
<td>s4opsaar</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
</tr>
<tr>
<td>1100</td>
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<td>s4opsamf</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
</tr>
<tr>
<td>1200</td>
<td>22</td>
<td>s4opsamr</td>
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</tr>
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<td>1300</td>
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<td>ANY</td>
</tr>
<tr>
<td>1400</td>
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<td>s4opstmf</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
</tr>
<tr>
<td>1500</td>
<td>22</td>
<td>s4opstmr</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
</tr>
<tr>
<td>1600</td>
<td>23</td>
<td>PrivUser</td>
<td>ANY</td>
<td>ANY</td>
<td>FtpPush</td>
<td><a href="mailto:userops@x0ins02.daac.ecs.nasa.gov">userops@x0ins02.daac.ecs.nasa.gov</a></td>
<td>2</td>
</tr>
<tr>
<td>1700</td>
<td>24</td>
<td>RegUser</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
</tr>
<tr>
<td>1800</td>
<td>17</td>
<td>NoneUser</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
</tr>
<tr>
<td>1900</td>
<td>20</td>
<td>ANY</td>
<td>ANY</td>
<td>FtpPush</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
</tr>
<tr>
<td>2000</td>
<td>21</td>
<td>ANY</td>
<td>ANY</td>
<td>FtpPull</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
</tr>
</tbody>
</table>
For each new request, the rules (in the DsDdAssignmentRule table) are evaluated in order by SeqNum

- When a rule is found where all conditions evaluate to true, 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
  - A value of "ANY" automatically evaluates to true for that attribute
  - Any requests that fail to match any of the rules are assigned to the DEFAULT thread pool
Dynamic FTP server assignment

- In addition to enforcing rules for assigning requests to thread pools (as specified in the DsDdAssignmentRule table) Data Distribution uses dynamic FTP server assignment as a means of preventing certain types of requests from monopolizing distribution resources.
- Dynamic FTP server assignment 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.
• Dynamic FTP server assignment (Cont.)
  – 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
Example of DsDdAssignmentRuleHWCI Table Contents

<table>
<thead>
<tr>
<th>SeqNum</th>
<th>HWCI</th>
<th>ECSUserId</th>
<th>Senior Client</th>
<th>MediaType</th>
<th>EsdtType</th>
<th>PushDest</th>
<th>EmailAddress</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>DRP1</td>
<td>$PDS</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
</tr>
<tr>
<td>200</td>
<td>DRP1</td>
<td>ANY</td>
<td>PD</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
</tr>
<tr>
<td>300</td>
<td>DRP1</td>
<td>ANY</td>
<td>IN</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
</tr>
<tr>
<td>400</td>
<td>DRP1</td>
<td>$PDS3</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
</tr>
<tr>
<td>500</td>
<td>DRP2</td>
<td>PrivUser</td>
<td>ANY</td>
<td>FtpPush</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
</tr>
<tr>
<td>600</td>
<td>DRP1</td>
<td>RegUser</td>
<td>ANY</td>
<td>FtpPush</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
</tr>
<tr>
<td>700</td>
<td>DRP1</td>
<td>s4opsaaf</td>
<td>ANY</td>
<td>FtpPush</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
</tr>
<tr>
<td>800</td>
<td>DRP1</td>
<td>s4opsaar</td>
<td>ANY</td>
<td>FtpPush</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
</tr>
<tr>
<td>900</td>
<td>DRP1</td>
<td>s4opsamf</td>
<td>ANY</td>
<td>FtpPush</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
</tr>
<tr>
<td>1000</td>
<td>DRP1</td>
<td>s4opsamr</td>
<td>ANY</td>
<td>FtpPush</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
</tr>
<tr>
<td>1100</td>
<td>DRP2</td>
<td>s4opsdpf</td>
<td>ANY</td>
<td>FtpPush</td>
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<td>ANY</td>
</tr>
<tr>
<td>1200</td>
<td>DRP1</td>
<td>s4opstmf</td>
<td>ANY</td>
<td>FtpPush</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
</tr>
<tr>
<td>1400</td>
<td>DRP1</td>
<td>s4opstmr</td>
<td>ANY</td>
<td>FtpPush</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
</tr>
<tr>
<td>1500</td>
<td>DRP1_auto</td>
<td>ANY</td>
<td>ANY</td>
<td>scp</td>
<td>ANY</td>
<td>ANY</td>
<td>ANY</td>
</tr>
</tbody>
</table>
• 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
  – 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
DAACs may adjust configurations by updating the following tables:
- DsDdThreadPool
- DsDdAssignmentRule
- DsDdAssignmentRuleHWCI

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
  – 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
Guidelines 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
• Guidelines for tuning DDIST priority thread allocation (Cont.):
  − 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 in 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
Modifying System Parameters in the STMGT/DDIST Database (Cont.)

• Guidelines for tuning DDIST priority thread allocation (Cont.):
  – 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
• Modifying System Parameters in the Database Using the Storage Management Control GUI
  – As previously mentioned the effects on system functioning and performance must be considered before modifying system parameters
  – 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
• Modifying System Parameters in the Database Using the Storage Management Control GUI: Procedure
  – Click on the appropriate server type in the Server Type Information window on the Storage Config. tab
  – Click on the appropriate server in the server information window
  – Click on the Modify Server/View Stackers button
  – Enter modified data in relevant field(s) as necessary
  – If service threads are to be allocated by priority, type the desired values in the appropriate fields in the Service Threads: Allocate by Priority window
  – When new values have been entered in all fields to be modified, click on the OK button
Service Threads: Allocate Threads by Priority Window

Allocate Threads by Priority

- XPRESS: 0
- V-High: 0
- High: 0
- Normal: 0
- Low: 40
- Total: 40

OK  Cancel
Modifying System Parameters in the STMGT/DDIST Database (Cont.)

- Modifying System Parameters in the Storage Management and Data Distribution Database Using ISQL
  - Effects on system functioning and performance must be considered before modifying system parameters
  - 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 database parameters
Modifying System Parameters in the Storage Management and Data Distribution Database Using ISQL (Cont.)

- The procedures vary somewhat depending on what database table is to be modified

- 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
  - 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
• Modifying System Parameters in the Storage Management and Data Distribution Database Using ISQL (Cont.)
  – 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
Modifying System Parameters in the STMGT/DDIST Database (Cont.)

- Modifying System Parameters in the Database Using ISQL:
  Procedure
  - Access a terminal window logged in to the Access/Process Coordinators (APC) Server
  - Log in to isql
  - Specify the proper database name
  - Check the current contents of the relevant table
  - Update/delete/add the appropriate row(s) in the relevant table
  - Verify modifications to the database by checking the current contents of the relevant columns in the appropriate table
  - Quit isql
• Modifying Parameters in the DsDdThreadPool Table Using ISQL: Procedure
  – If applicable, update the rules in the DsDdAssignmentRule table
  – If applicable, wait until all requests in the thread pool have been completed before continuing
  – Make a request to the Operations Controller/System Administrator to stop the Distribution Server
  – If applicable, use isql to set the ThreadLimit in the DsDdThreadPool table to zero
  – If applicable, modify the DsDdThreadPool table using isql
  – Make a request for a warm start of the Distribution Server
  – If applicable, use isql to delete the relevant row from DsDdThreadPool table
• 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.
Tuning Order Manager Subsystem and Data Pool Parameters (Cont.)

- 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.

- 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.

- 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
• Staging policy 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
Tuning Order Manager Subsystem and Data Pool Parameters (Cont.)

• Staging policy goals (Cont.):
  – 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
• Staging policy goals (Cont.):
  – 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
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
- 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
• 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
• Adjusting the Pace of Staging (Cont.)
  – To prevent the preceding 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
• 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
• Throttling Archive Staging for Output Devices and FTP Connections (Cont.)
  – 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
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.
• Ensuring the Staging of Low-Priority Requests at a Reasonable Pace (Cont.)
  – 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)
• Ensuring That High-Priority Requests Are Expedited
  – The mechanisms described in 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
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_x0xxgnn` parameters on the List of Configuration Parameters page of the DPM GUI
- (e.g., `MAX_READ_DRIVES_e0acg11`, `MAX_READ_DRIVES_e0drg11`, and `MAX_READ_DRIVES_e0drg12`)
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
• 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.
• 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
• **OMS Database Cleanup Guidelines (Cont.)**
  - 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
• **OMS Database Cleanup Guidelines (Cont.)**
  – 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)
• **OMS Database Cleanup Guidelines (Cont.)**
  – 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
Tuning Order Manager Subsystem and Data Pool Parameters (Cont.)

- **OMS Database Cleanup Guidelines (Cont.)**
  - 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
Troubleshooting DDIST and Order Manager GUI Problems

• Troubleshooting:

process of identifying the source of problems on the basis of observed trouble symptoms
Troubleshooting DDIST and Order Manager GUI Problems (Cont.)

- Problems with data distribution can usually be traced to…
  - some part of the Data Server Subsystem
    - Data Server Subsystem (DSS)
    - Science Data Server
    - Storage Management
  - problems in other subsystems, including (but not necessarily limited to):
    - Communications Subsystem (CSS)
    - System Management Subsystem (MSS)
    - Order Manager Subsystem (OMS)
Troubleshooting DDIST and Order Manager GUI Problems (Cont.)

- Fault Recovery
  - Each request that crosses a client/server boundary is assigned a system-unique identifier referred to as an RPC ID
  - 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
• Fault Recovery (Cont.)
  – 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 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
    - As the request is serviced, check-pointing state information may be updated in the persistent store, up to and including the request’s completion status
    - This allows the servers to resume servicing from the last check-pointed state, particularly upon resubmission from a client
• Fault Recovery (Cont.)
  – DSS and OMS components check-point 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
• Fault Recovery (Cont.)
  – DSS and OMS components check-point the following types of information (Cont.):
    - EcDsStRequestManagerServer - None
    - EcOmOrderManager - Requests (which have been submitted)
Troubleshooting DDIST and Order Manager GUI Problems (Cont.)

• Fault Recovery: Fault Handling
  – Failure events are classified according to the following three severity levels:
    - Fatal error
    - Retry error
    - Warning
Troubleshooting DDIST and Order Manager GUI Problems (Cont.)

• Fault Recovery: Fault Handling (Cont.)
  – Fatal error is 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
  – Retry error is a 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
    - For example, the Distribution Technician would use the DDIST GUI to manually request resumption of a request that had been “suspended with errors”
  – Warning is provided when operations can proceed but an unexpected circumstance was detected
    - For example, if a client requests removal of a file but the file does not exist
• Fault Recovery: Fault Handling (Cont.)
  – 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
• Fault Recovery: Fault Handling (Cont.)
  – 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 DSS and OMS client processes are shown in the table that follows
### DSS and OMS Fault Handling Policies

<table>
<thead>
<tr>
<th>Client Process</th>
<th>Fault Handling Policy</th>
</tr>
</thead>
</table>
| **EcDsScienceDataServer**                 | **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. |
| **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**            | **Retry errors:** Errors are passed back to the calling client process.  
**Fatal errors:** Errors are passed back to the calling client process. |
| **EcDsStDTFServer**                       | **Retry errors:** Errors are passed back to the calling client process.  
**Fatal errors:** Errors are passed back to the calling client process. |
**DSS and OMS Fault Handling Policies (Cont.)**

<table>
<thead>
<tr>
<th>Client Process</th>
<th>Fault Handling Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>EcOmOrderManager</td>
<td><strong>Retry errors:</strong> Errors are retried a configurable number of times and then the request status is changed to “Operator Intervention” in the MSS database.</td>
</tr>
</tbody>
</table>
Troubleshooting DDIST and Order Manager GUI Problems (Cont.)

• Fault Recovery: 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
Troubleshooting DDIST and Order Manager GUI Problems (Cont.)

• Fault Recovery: Client Crash and Restart (Cont.)
  – 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
Troubleshooting DDIST and Order Manager GUI Problems (Cont.)

- Fault Recovery: Client Crash and Restart (Cont.)
  - 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
• Fault Recovery: Client Crash and Restart (Cont.)
  – Default server behavior in response to “warm” startup notification from a client:
    - 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
• Fault Recovery: Client Crash and Restart (Cont.)
  – Default server behavior in response to “cold” startup notification from a client:
    - 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
Troubleshooting DDIST and Order Manager GUI Problems (Cont.)

• Fault Recovery: Client Crash and Restart (Cont.)
  – 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
Troubleshooting DDIST and Order Manager GUI Problems (Cont.)

- Fault Recovery: 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
Troubleshooting DDIST and Order Manager GUI Problems (Cont.)

- Fault Recovery: Server Crash and Restart (Cont.)
  - 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
Troubleshooting DDIST and Order Manager GUI Problems (Cont.)

- Fault Recovery: Server Crash and Restart (Cont.)
  - 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
• Fault Recovery: Server Crash and Restart (Cont.)
  – 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
Troubleshooting DDIST and Order Manager GUI Problems (Cont.)

- Fault Recovery: Server Crash and Restart (Cont.)
  - **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
Troubleshooting DDIST and Order Manager GUI Problems (Cont.)

• Fault Recovery: Server Crash and Restart (Cont.)
  – 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
Fault Recovery: 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
Troubleshooting DDIST and Order Manager GUI Problems (Cont.)

• Fault Recovery: Request Resubmission (Cont.)
  – 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
Troubleshooting DDIST and Order Manager GUI Problems (Cont.)

• Fault Recovery: Request Resubmission (Cont.)
  – EcDsDistributionServer-specific activities upon 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 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
Troubleshooting DDIST and Order Manager GUI Problems (Cont.)

• Fault Recovery: Request Resubmission (Cont.)
  – EcDsStCacheManagerServer- and EcDsStFtpServer-specific activities upon 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 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
  – EcDsStPullIMonitorServer- and EcDsStDTFServer-specific activities upon upon resubmission of a request:
    - The resubmitted request is processed as if it were a new request
• Fault Recovery: Request Resubmission (Cont.)
  – EcOmOrderManager-specific activities upon resubmission of a request:
    - EcOmOrderManager uses a different RPC ID for request resubmission
Troubleshooting DDIST and Order Manager GUI Problems (Cont.)

• Trouble Symptoms
  – 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)
  – 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
Troubleshooting DDIST and Order Manager GUI Problems (Cont.)

• Troubleshooting table
  – describes actions to be taken in response to some common Data Distribution and Order Manager GUI problems
  – 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
### Troubleshooting DDIST and Order Manager GUI Problems (Cont.)

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unable to log in to any host (e.g., Operations Workstation, g0acs02).</td>
<td>Check with the Operations Controller/System Administrator to ensure that the host is “up.”</td>
</tr>
<tr>
<td>GUI or web browser (as applicable) not displayed when the start-up script/command has been properly invoked.</td>
<td>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).]</td>
</tr>
<tr>
<td>Error message associated with the Data Distribution Operator GUI.</td>
<td>Refer to Table 7, Data Distribution Operator GUI User Messages (adapted from the corresponding table in 609-EMD-001, Release 7.10 Operations 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).</td>
</tr>
<tr>
<td>Error message associated with the Storage Management Control GUI.</td>
<td>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).</td>
</tr>
<tr>
<td>Error message associated with the Order Manager GUI.</td>
<td>Refer to Table 9, Order Manager GUI User Messages (adapted from the corresponding table in 609-EMD-001, Release 7.10 Operations Tools Manual for the EMD Project).</td>
</tr>
</tbody>
</table>
### Troubleshooting DDIST and Order Manager GUI Problems (Cont.)

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Response</th>
</tr>
</thead>
</table>
| 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 EcCslldPingServers) 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). |
### Symptom Response

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other problems.</td>
<td>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 <strong>Checking Log Files</strong> (subsequent section of this lesson).]</td>
</tr>
</tbody>
</table>
## Hosts, Servers, Clients etc. Relevant to DDIST and OM

<table>
<thead>
<tr>
<th>HOST</th>
<th>SERVER/CLIENT/OTHER SOFTWARE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sun internal server (e.g., x0acs06)</td>
<td>Distribution Server (EcDsDistribution Server)</td>
</tr>
<tr>
<td></td>
<td>8mm Server (EcDsSt8MMServer)</td>
</tr>
<tr>
<td></td>
<td>Storage Management Request Manager (EcDsStRequestManagerServer)</td>
</tr>
<tr>
<td></td>
<td>Staging Disk Server (EcDsStStagingDiskServer)</td>
</tr>
<tr>
<td></td>
<td>Granule Deletion Process (EcDsGranuleDelete)</td>
</tr>
<tr>
<td></td>
<td>Science Data Server (EcDsScienceDataServer)</td>
</tr>
<tr>
<td></td>
<td>Science Data Server Client (EcDsScienceDataServerClient)</td>
</tr>
<tr>
<td></td>
<td>Subscription Server (EcSbSubServer)</td>
</tr>
<tr>
<td>Operations Workstation (e.g., x0acs02)</td>
<td>Data Distribution Operator GUI (EcDsDdistGui)</td>
</tr>
<tr>
<td></td>
<td>Storage Management Control GUI (EcDsStmgtGui)</td>
</tr>
<tr>
<td></td>
<td>Science Data Server GUI (EcDsSdSrvGui)</td>
</tr>
<tr>
<td>Access/Process Coordinators (APC)</td>
<td>Archive Server (EcDsStArchiveServer)</td>
</tr>
<tr>
<td>Server (e.g., x0acg01)</td>
<td>Cache Manager Servers (EcDsStCacheManagerServer)</td>
</tr>
<tr>
<td></td>
<td>(including Pull Area Manager)</td>
</tr>
<tr>
<td></td>
<td>FTP Server (EcDsStFtpServer)</td>
</tr>
<tr>
<td></td>
<td>Staging Disk Server (EcDsStStagingDiskServer)</td>
</tr>
<tr>
<td>FSMS Server (e.g., x0drg01)</td>
<td>HDF EOS Server (EcDsHdfEosServer)</td>
</tr>
<tr>
<td></td>
<td>Archive Server (EcDsStArchiveServer)</td>
</tr>
<tr>
<td></td>
<td>Cache Manager Server (EcDsStCacheManagerServer)</td>
</tr>
<tr>
<td></td>
<td>FTP Server (EcDsStFtpServer)</td>
</tr>
<tr>
<td></td>
<td>Staging Disk Server (EcDsStStagingDiskServer)</td>
</tr>
</tbody>
</table>
### Hosts, Servers, Clients, etc.

Relevant to DDIST and OM (Cont.)

<table>
<thead>
<tr>
<th>HOST</th>
<th>SERVER/CLIENT/OTHER SOFTWARE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingest Server (e.g., x0icg01)</td>
<td>Name Server (EcCsidNameServer)</td>
</tr>
<tr>
<td></td>
<td>Registry Server (EcCsRegistry)</td>
</tr>
<tr>
<td>Data Pool Server (e.g., x0dps01)</td>
<td>Order Manager GUI (EcOmGuiHomePage.pl)</td>
</tr>
</tbody>
</table>
Troubleshooting DDIST and Order Manager GUI Problems (Cont.)

- DDIST Troubleshooting Procedures
  - 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
Troubleshooting DDIST and Order Manager GUI Problems (Cont.)

- Procedure (Checking Connections to Hosts/Servers):
  - Access a terminal window logged in to the Distribution Server host (Sun internal server host)
  - Change directory to the utilities directory (/usr/ecs/MODE/CUSTOM/utilities)
  - At the command line prompt enter EcCslDPingServers  \textit{MODE}
  - Observe the results displayed on the screen to determine whether connections can be made with the necessary hosts and servers
  - Ping the servers again (EcCslDPingServers  \textit{MODE})
  - 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
Recovering from a Data Distribution Failure

• Recovering from a data distribution failure
  – Operator intervention may be required when there is a data distribution fault or error (e.g., failure of storage management to acquire granules from the archive)
  – Distribution Technician may use several sources for troubleshooting information
    - Data Distribution Operator GUI Distrib’n Requests tab
    - log files on various host machines
Recovering from a Data Distribution Failure (Cont.)

• Procedure
  – Review the trouble symptoms
  – Check for requests that exceed the distribution request threshold
  – Check the connection to the remote host (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
Responding to Requests that Exceed the Dist. 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
Responding to Requests that Exceed the Dist. Request Threshold

• Procedure
  – 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
  – Cancel the request
  – Contact User Services to determine whether or not the user’s request should be processed
  – If the request should be completed, determine whether User Services or Distribution will partition and resubmit the request
  – If the request should be completed and Distribution should partition the request, partition and resubmit the request
A distribution request for FtpPush of data to a remote host (e.g., ftp.averstar.com) shows a status of “Suspended with Errors”
- It is suspected that it may not be possible to connect to the remote ftp host
Checking the Connection to the Remote FTP Host (Cont.)

- **Procedure**
  - Access a terminal window logged in to the appropriate host
  - Use the appropriate script to ping the remote ftp host
  - Make an anonymous ftp connection to the remote ftp host
  - Notify the remote system’s point of contact of any problem (if applicable)
  - Wait until the communication problem has been resolved (if applicable)
  - Return to Step 1 (if applicable)
  - Resume the affected distribution request(s) (after successful ftp test)
Handling an Acquire Failure

- Procedure
  - Check the Request Manager Server Debug Log
  - Check the Science Data Server ALOG File
  - Check the Archive Server ALOG File
  - Check the Staging Disk
  - Check the Staging Disk ALOG File
  - Check the Space Available in the Staging Area
Checking Log Files

• Log files can provide indications of the following types of problems:
  – DDIST- or STMGT-related problems
  – Communication problems
  – Database problems
  – Lack of disk space
Checking Log Files (Cont.)

• Procedure
  – Access a terminal window logged in to the appropriate host
  – Change directory to the directory containing the data distribution log files
    - /usr/ecs/MODE/CUSTOM/logs
  – Review log file to identify problems
  – Respond to problems
Checking Database Connections

- **Storage management/data distribution shared database**
  - Repository of data concerning data distribution requests
  - If applications are unable to connect to the database, the data distribution request data cannot be retrieved or displayed on the GUI
  - Checking the database connections is a logical step in trying to isolate the following types of problems:
    - GUI does not display data
    - Display does not refresh
Checking Database Connections

- **Procedure**
  - Submit a request to the Database Administrator to identify the values for the following parameters associated with the EcDsDistributionServer:
    - DBName
    - DBServer
    - DBMaxConnections
  - Use the interactive structured query language (isql) `sp_who` command to obtain a list of connections
  - Use the `isql sp_configure` command to obtain a list of the number of connections for which the database has been configured
  - 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"`)
  - Notify the Database Administrator of problems
Recovering from an Order Manager Failure

- Responding to a Request That Is Hanging in Queued Status
  - There are many reasons that could cause a request to stay in “Queued” status
    - Global Staging Status Parameter
    - Archive Server status
    - Media type specific staging parameters
    - Number of requests in the request resource category hits the limit
    - RHWP/DHWP exceeds RHWM/DHWM in the staging pool of the media type
    - All archive tape drivers are busy
    - DPL file system is down/not available
    - Queue status
Recovering from an Order Manager Failure (Cont.)

- Responding to a Request That Is Hanging in Staging
  - There are many reasons that could cause a request to stay in “Staging” status
    - Granules of the request are stuck in “Staging”
    - Global Staging Status Parameter
    - Archive Sever status
• **Responding to a Request That Goes to Operator Intervention from Staging**
  – Usually this happens when there is a bad granule in the request
    - On the Open Interventions page click on the request ID
    - Fail the bad granule or replace it with a good one
    - Then resubmit the request

• **Responding to a Request That Is Hanging in Transferring**
  – 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
Recovering from an Order Manager Failure (Cont.)

• Responding to a Request That Goes to Operator Intervention from Transferring
  – A request usually goes to “Operator Intervention” from “Transferring” when a granule of the request failed ftp push for a reason other than those previously listed
    - On the Open Interventions page click on the request ID
    - Fail the bad request or replace it with a good one
    - Then resubmit the request

• Responding to an Ftp Pull Request That Goes Wrong
  – If an ftp pull request is retried by Order Manager Server until it exceeds the maximum number of retries, it goes into “Operator Intervention”
  – One of the following conditions is the likely cause:
    - Quick Server on the acg box is down
    - Permission for creating a sub-directory is denied the on acg box
• Notes About 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
Recovering from HEG Failures

• Troubleshooting a HEG Failure (Procedure)
  – View information concerning the pertinent open HEG intervention on the OM GUI
  – Retry processing of the request
  – Check the log files for error codes
  – Check the files in the HEG tempfiles directory