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**EOSDIS Core System Project**

**Release 6B  
Operations Tools Manual  
for the ECS Project**

Final

May 2003

Raytheon Company  
Upper Marlboro, Maryland



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Operations Tools Manual  
for the ECS Project**

**Final**

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## Preface

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This document is a formal contract deliverable with an approval code 1. It requires Government review and approval prior to acceptance and use. This document is under ECS contractor configuration control. Once this document is approved, Contractor approved changes are handled in accordance with Class I and Class II change control requirements described in the ECS Project Configuration Management Plan, and changes to this document shall be made by document change notice (DCN) or by complete revision.

This document is under the control of the EDF/Science Development Configuration Control Board (CCB).

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## **Abstract**

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This document describes the human-machine interface (HMI) characteristics of the tools (computer software configuration items) used by the ECS operations staff and external users of ECS both registered and non-registered.

**Keywords:** Computer Software Configuration Items (CSCIs), GUI, Interface, Operations, Release 6B, Screens, Software and Tools

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# Change Information Page

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List of Effective Pages	
Page Number	Issue
Title	Final
iii through liv	Final
1-1 and 1-2	Final
2-1 through 2-8	Final
3-1 through 3-4	Final
4-1 and 4-2	Final
4.1-1 and 4.1-2	Final
4.1.1-1 through 4.1.1-6	Final
4.1.2-1 through 4.1.2-10	Final
4.1.3-1 through 4.1.3-6	Final
4.1.4-1 through 4.1.4-8	Final
4.1.5-1 through 4.1.5-26	Final
4.1.6-1 through 4.1.6-40	Final
4.1.7-1 through 4.1.7-18	Final
4.2-1 and 4.2-2	Final
4.2.1-1 through 4.2.1-10	Final
4.3-1 and 4.3-2	Final
4.3.1-1 through 4.3.1-12	Final
4.3.2-1 through 4.3.2-30	Final
4.3.3-1 through 4.3.3-128	Final
4.3.4-1 through 4.3.4-202	Final
4.3.5-1 through 4.3.5-12	Final
4.3.6-1 through 4.3.6-48	Final
4.4-1 and 4.4-2	Final
4.4.1-1 through 4.4.1-4	Final
4.4.2-1 through 4.4.2-4	Final
4.4.3-1 through 4.4.3-6	Final
4.4.4-1 through 4.4.4-4	Final
4.5-1 and 4.5-2	Final
4.5.1-1 through 4.5.1-84	Final

<b>Page Number</b>	<b>Issue</b>
4.6-1 and 4.6-2	Final
4.6.1-1 through 4.6.1-24	Final
4.6.2-1 and 4.6.2-2	Final
4.7-1 and 4.7-2	Final
4.7.1-1 through 4.7.1-18	Final
4.8-1 and 4.8-2	Final
4.8.1-1 through 4.8.1-28	Final
4.8.2-1 through 4.8.2-8	Final
4.8.3-1 through 4.8.3-8	Final
4.8.4-1 and 4.8.4-2	Final
4.9-1 and 4.9-2	Final
4.9.1-1 through 4.9.1-16	Final
4.9.2-1 through 4.9.2-12	Final
4.10-1 and 4.10-2	Final
4.10.1-1 through 4.10.1-12	Final
4.10.2-1 through 4.10.2-60	Final
4.10.3-1 through 4.10.3-18	Final
4.10.4-1 through 4.10.4-38	Final
4.10.5-1 through 4.10.5-10	Final
4.11-1 and 4.11-2	Final
4.11.1-1 through 4.11.1-18	Final
4.11.2-1 through 4.11.2-8	Final
4.11.3-1 through 4.11.3-18	Final
4.11.4-1 through 4.11.4-4	Final
4.11.5-1 through 4.11.5-4	Final
4.11.6-1 through 4.11.6-4	Final
4.11.7-1 through 4.11.7-6	Final
4.11.8-1 through 4.11.8-4	Final
4.11.9-1 through 4.11.9-4	Final
4.11.10-1 through 4.11.10-26	Final
4.11.11-1 through 4.11.11-8	Final
4.11.12-1 through 4.11.12-4	Final
4.11.13-1 through 4.11.13-6	Final
4.11.14-1 through 4.11.14-22	Final
4.11.15-1 through 4.11.15-38	Final
4.11.16-1 through 4.11.16-12	Final

<b>Page Number</b>	<b>Issue</b>
4.12-1 and 4.12-2	Final
4.12.1-1 through 4.12.1-4	Final
4.12.2-1 through 4.12.2-4	Final
4.12.3-1 through 4.12.3-6	Final
4.12.4-1 through 4.12.4-12	Final
4.12.5-1 through 4.12.5-54	Final
4.12.6-1 through 4.12.6-24	Final
4.12.7-1 through 4.12.7-16	Final
4.12.8-1 through 4.12.8-4	Final
4.12.9-1 through 4.12.9-10	Final
4.12.10-1 through 4.12.10-6	Final
4.12.11-1 through 4.12.11-8	Final
4.12.12-1 through 4.12.12-4	Final
A-1 through A-64	Final
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# **Contents**

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## **Preface**

## **Abstract**

### **1. Introduction**

1.1 Identification .....	1-1
1.2 Purpose.....	1-1
1.3 Scope.....	1-1
1.4 Status and Schedule .....	1-2
1.5 Organization.....	1-2

### **2. Related Documentation**

2.1 Parent Documents .....	2-1
2.2 Applicable Documents.....	2-1
2.3 Information Documents .....	2-3

### **3. Release 6B Overview**

3.1 Release 6B Objectives .....	3-1
3.1.1 Release 6B Capabilities .....	3-1

### **4. Description of the ECS Operational Tools**

4.1 Computer Systems Administration .....	4.1-1
4.1.1 Legato NetWorker .....	4.1.1-1
4.1.2 AMASS.....	4.1.2-1
4.1.3 ISQL.....	4.1.3-1

4.1.4 Sybase Replication Server .....	4.1.4-1
4.1.5 ECSAssist .....	4.1.5-1
4.1.6 ECS Registry GUI .....	4.1.6-1
4.1.7 Whazzup GUI .....	4.1.7-1
4.2 System Monitoring .....	4.2-1
4.2.1 WhatsUp Gold .....	4.2.1-1
4.3 Configuration Management .....	4.3-1
4.3.1 ClearCase .....	4.3.1-1
4.3.2 Clear Distributed Defect Tracking System (CDDTS) .....	4.3.2-1
4.3.3 XRP-II (Baseline Manager) .....	4.3.3-1
4.3.4 XRP-II (Inventory, Logistics and Maintenance {ILM} Manager).....	4.3.4-1
4.3.5 FLEXlm .....	4.3.5-1
4.3.6 Remedy's Action Request System.....	4.3.6-1
4.4 Security and Accountability.....	4.4-1
4.4.1 TCP Wrappers.....	4.4.1-1
4.4.2 Crack .....	4.4.2-1
4.4.3 Tripwire .....	4.4.3-1
4.4.4 Cryptographic Management Interface (CMI) .....	4.4.4-1
4.5 Science Software Integration and Test (SSI&T) .....	4.5-1
4.5.1 Science Software Integration and Test (SSI&T) Manager .....	4.5.1-1
4.6 Data Ingest .....	4.6-1
4.6.1 Data Ingest GUI .....	4.6.1-1
4.6.2 Regenerate Failed PDR Tool .....	4.6.2-1
4.7 Resource Planning .....	4.7-1
4.7.1 Resource Planning .....	4.7.1-1
4.8 Production Planning.....	4.8-1
4.8.1 Production Request Editor .....	4.8.1-1
4.8.2 Production Planning Workbench .....	4.8.2-1
4.8.3 Production Strategies User Interface .....	4.8.3-1
4.8.4 PIPRGenerator User Interface .....	4.8.4-1
4.9 Production Processing.....	4.9-1
4.9.1 AutoSys/AutoXpert .....	4.9.1-1
4.9.2 ECS Quality Assurance (QA) Monitor .....	4.9.2-1

4.10 Science Data Archive and Distribution .....	4.10-1
4.10.1 Science Data Server GUI.....	4.10.1-1
4.10.2 Storage Management Control GUI.....	4.10.2-1
4.10.3 Data Distribution Requests GUI .....	4.10.3-1
4.10.4 Granule Deletion Administration Tool .....	4.10.4-1
4.10.5 Product Distribution System (PDS) Stand Alone (PDSSA) User Interface	4.10.5-1
4.11 User Services Tools .....	4.11-1
4.11.1 User Account Management GUI .....	4.11.1-1
4.11.2 Order Tracking.....	4.11.2-1
4.11.3 Data Dictionary Maintenance Tool.....	4.11.3-1
4.11.4 PDPS Subscription Editor.....	4.11.4-1
4.11.5 Database Installation and Maintenance Scripts .....	4.11.5-1
4.11.6 Database Replication Scripts .....	4.11.6-1
4.11.7 Landsat 7 Error Handling Tool.....	4.11.7-1
4.11.8 Restricting Access to ESDTs and Granules Scripts.....	4.11.8-1
4.11.9 Science Data Server Command Line Interface (SCLI).....	4.11.9-1
4.11.10 Spatial Subscription Server GUI.....	4.11.10-1
4.11.11 Spatial Subscription Server Command Line Interface .....	4.11.11-1
4.11.12 Bulk Metadata Generation Tool .....	4.11.12-1
4.11.13 HEG Data Pool Order Status GUI .....	4.11.13-1
4.11.14 Data Pool Maintenance GUI.....	4.11.14-1
4.11.15 Order Manager GUI.....	4.11.15-1
4.11.16 Order Manager Command Line Utility.....	4.11.16-1
4.12 Common Services Tools .....	4.12-1
4.12.1 Common Desktop Environment (CDE) Tool .....	4.12.1-1
4.12.2 Microsoft Office Professional.....	4.12.2-1
4.12.3 Netscape Communicator .....	4.12.3-1
4.12.4 iPlanet Web Server .....	4.12.4-1
4.12.5 EOSView .....	4.12.5-1
4.12.6 ASTER On-demand Product Request Form (ODFRM) .....	4.12.6-1
4.12.7 Subscription Server.....	4.12.7-1
4.12.8 Batch Insert Utility.....	4.12.8-1
4.12.9 Data Pool Cleanup Utility.....	4.12.9-1
4.12.10 Update Granule .....	4.12.10-1
4.12.11 Data Pool Access Statistics Utility (DPASU) – Rollup Scripts .....	4.12.11-1
4.12.12 Data Pool Access Statistics Utility (DPASU) – Maintenance Scripts....	4.12.12-1

## Figures

Figure 4.1.1-1. NetWorker Administrator's Screen .....	4.1.1-3
Figure 4.1.1-2. NetWorker Backup Screen.....	4.1.1-4
Figure 4.1.1-3. NetWorker Recover Window.....	4.1.1-5
Figure 4.1.2-1. Control Path .....	4.1.2-2
Figure 4.1.2-2. AMASS Main Screen (AAWIN) .....	4.1.2-6
Figure 4.1.2-3. AMASS Main Screen Showing Selected Volumes in the Workroom.....	4.1.2-7
Figure 4.1.2-4. Amassreport Example Showing Volume Group 20.....	4.1.2-10
Figure 4.1.4-1. Sybase Central Topology GUI.....	4.1.4-5
Figure 4.1.5-1. ECSAssist Main Screen .....	4.1.5-3
Figure 4.1.5-2. Subsystem Manager Screen .....	4.1.5-5
Figure 4.1.5-3. File Selection Popup Window.....	4.1.5-8
Figure 4.1.5-4. Subsystem Manager "Database" Screen .....	4.1.5-9
Figure 4.1.5-5. Subsystem Manager "Database Script Parameters" Screen.....	4.1.5-10
Figure 4.1.5-6. Subsystem Manager Install Screen .....	4.1.5-11
Figure 4.1.5-7. Configuration File Selection Window .....	4.1.5-12
Figure 4.1.5-8. Subsystem Manager "Configuration" Screen .....	4.1.5-13
Figure 4.1.5-9. Subsystem Manager "Registry Patch" Screen .....	4.1.5-14
Figure 4.1.5-10. Subsystem Manager "stageinstall" Screen.....	4.1.5-15
Figure 4.1.5-11. ESDT Manager Main Window .....	4.1.5-16
Figure 4.1.5-12. E.A.S.I. Installation Source Window.....	4.1.5-18
Figure 4.1.5-13. E.A.S.I. Phase Selection Window.....	4.1.5-19
Figure 4.1.5-14. E.A.S.I. Installation Parameters Window .....	4.1.5-20
Figure 4.1.5-15. E.A.S.I. Database Operations Window .....	4.1.5-21
Figure 4.1.5-16. E.A.S.I Installation Confirmation Window .....	4.1.5-23
Figure 4.1.5-17. E.A.S.I. STATUS Window .....	4.1.5-24
Figure 4.1.6-1. Registry GUI Database Login Window .....	4.1.6-2
Figure 4.1.6-2. ECS Registry Main Window.....	4.1.6-3

Figure 4.1.6-3. Adding a New Node Window .....	4.1.6-5
Figure 4.1.6-4. Adding a New Node Dialog Window .....	4.1.6-6
Figure 4.1.6-5. Results of Adding a New Node.....	4.1.6-7
Figure 4.1.6-6. Mode Mapper Window .....	4.1.6-8
Figure 4.1.6-7. Results of Mode Mapping.....	4.1.6-9
Figure 4.1.6-8. Final Result of Mode Mapping Transaction .....	4.1.6-10
Figure 4.1.6-9. Creating a New Attribute Tree Using the Copy Button.....	4.1.6-11
Figure 4.1.6-10. Creating a New Attribute Tree Window .....	4.1.6-12
Figure 4.1.6-11. Attribute Tree Field Combo Box List.....	4.1.6-13
Figure 4.1.6-12. Display of the New Attribute Tree.....	4.1.6-14
Figure 4.1.6-13. Move Nodes Option .....	4.1.6-15
Figure 4.1.6-14. Cut Button is Pressed .....	4.1.6-16
Figure 4.1.6-15. Result of Pressing the Cut Icon in the Move Subtree Operation .....	4.1.6-17
Figure 4.1.6-16. Final Confirmation for the Move Operation .....	4.1.6-18
Figure 4.1.6-17. Selecting the Target of the Move.....	4.1.6-19
Figure 4.1.6-18. Result of the Paste in the Move Operation .....	4.1.6-20
Figure 4.1.6-19. Rename Operation.....	4.1.6-21
Figure 4.1.6-20. Rename Dialog Box .....	4.1.6-22
Figure 4.1.6-21. Result of the Rename Attribute Tree Operation .....	4.1.6-23
Figure 4.1.6-22. Rename Dialog Box for Changing the “CFG” Node .....	4.1.6-24
Figure 4.1.6-23. Results of Renaming the “CFG” Node to “Example_Node” .....	4.1.6-25
Figure 4.1.6-24. Delete Node Confirmation Dialog Box .....	4.1.6-26
Figure 4.1.6-25. Result of a Confirmed Delete on the Attribute Tree .....	4.1.6-27
Figure 4.1.6-26. Deleting an Attribute Operation.....	4.1.6-28
Figure 4.1.6-27. Attribute Information Window .....	4.1.6-29
Figure 4.1.6-28. Delete Attribute Confirmation Dialog Box.....	4.1.6-31
Figure 4.1.6-29. Final Result of the Delete “HWCI” Attribute Operation.....	4.1.6-32
Figure 4.1.6-30. Creating a New Attribute Tree.....	4.1.6-33

Figure 4.1.6-31. “Creating a new attribute tree” Dialog Box .....	4.1.6-34
Figure 4.1.6-32. Final Result of Adding a New Attribute Tree.....	4.1.6-35
Figure 4.1.6-33. Attribute Historical Data View 1 .....	4.1.6-36
Figure 4.1.6-34. Attribute Historical Data View 2 .....	4.1.6-37
Figure 4.1.6-35. Reason for Change Dialog .....	4.1.6-38
Figure 4.1.7-1. Whazzup Main Screen .....	4.1.7-2
Figure 4.1.7-2. ECS Host Performance Statistics Summary Screen.....	4.1.7-3
Figure 4.1.7-3. Host Performance Detail Report .....	4.1.7-5
Figure 4.1.7-4. Host Status Screen .....	4.1.7-6
Figure 4.1.7-5. Mode Status Screen.....	4.1.7-7
Figure 4.1.7-6. Verify Mode Screen .....	4.1.7-8
Figure 4.1.7-7. Memory Growth Screen.....	4.1.7-9
Figure 4.1.7-8. Management Screen .....	4.1.7-10
Figure 4.1.7-9. Manage Hosts Interface Screen.....	4.1.7-11
Figure 4.1.7-10. Manage Modes Interface Screen.....	4.1.7-13
Figure 4.1.7-11. Hosts Associated with Mode Screen.....	4.1.7-14
Figure 4.2.1-1. WhatsUp Gold Main Screen with Network Map.....	4.2.1-3
Figure 4.2.1-2. Device’s Icon Pulldown Menu.....	4.2.1-4
Figure 4.2.1-3. Selected Device’s Quick Status Window.....	4.2.1-5
Figure 4.2.1-4. Network Devices Status .....	4.2.1-6
Figure 4.2.1-5. Quick Status for Inoperable Device .....	4.2.1-7
Figure 4.2.1-6. WhatsUp Gold Event Report .....	4.2.1-8
Figure 4.3.1-1. ClearCase Transcript Screen.....	4.3.1-2
Figure 4.3.1-2. View Tag Browser Screen .....	4.3.1-3
Figure 4.3.1-3. ClearCase File Browser Screen (Main Screen).....	4.3.1-4
Figure 4.3.1-4. ClearCase File Browser Screen (Checkout Software) .....	4.3.1-5
Figure 4.3.1-5. ClearCase Prompt Screen (Checkout Comment).....	4.3.1-6
Figure 4.3.1-6. File Browser Screen (File Version Checked-Out) .....	4.3.1-7

Figure 4.3.1-7. ClearCase Version Tree Screen .....	4.3.1-8
Figure 4.3.1-8. ClearCase Prompt Screen (Checkin Comment).....	4.3.1-9
Figure 4.3.1-9. ClearCase File Browser Screen (File Checked-In).....	4.3.1-10
Figure 4.3.1-10. File Browser Screen (Build Menu) .....	4.3.1-11
Figure 4.3.2-1. CDDTS Main Screen .....	4.3.2-3
Figure 4.3.2-2. Initial Submit Record Screen .....	4.3.2-4
Figure 4.3.2-3. Submit Record Data Fields Screen .....	4.3.2-5
Figure 4.3.2-4. Proposed Change Enclosure Screen.....	4.3.2-7
Figure 4.3.2-5. Main Screen ( <u>Change_State</u> ) .....	4.3.2-8
Figure 4.3.2-6. <u>Change_State</u> Menu Screen .....	4.3.2-9
Figure 4.3.2-7. New State (Assign/Eval) Fields Screen .....	4.3.2-10
Figure 4.3.2-8. Impact Summary Enclosure Screen .....	4.3.2-12
Figure 4.3.2-9. Assign-Implement State Screen .....	4.3.2-13
Figure 4.3.2-10. Resolution Enclosure Screen .....	4.3.2-15
Figure 4.3.2-11. Assign-Verify State Screen.....	4.3.2-16
Figure 4.3.2-12. CDDTS Verify State Screen .....	4.3.2-17
Figure 4.3.2-13. CDDTS Close State Screen.....	4.3.2-18
Figure 4.3.2-14. CDDTS Main Screen (Modify).....	4.3.2-19
Figure 4.3.2-15. CDDTS Modify Menu Screen .....	4.3.2-20
Figure 4.3.2-16. CDDTS Fields To Be Modified Screen .....	4.3.2-21
Figure 4.3.2-17. CDDTS Main Screen (Print).....	4.3.2-22
Figure 4.3.2-18. CDDTS Printing Option Screen.....	4.3.2-23
Figure 4.3.2-19. CDDTS CCR Report.....	4.3.2-25
Figure 4.3.2-20. CDDTS CCR Report: Three Line Format .....	4.3.2-29
Figure 4.3.2-21. CDDTS CCR Report: Index Format.....	4.3.2-29
Figure 4.3.2-22. CDDTS CCR Report: One Line Format .....	4.3.2-30
Figure 4.3.3-1. ECS Baseline Management System Menu Structure .....	4.3.3-7
Figure 4.3.3-2. ECS Management System Main Menu.....	4.3.3-8

Figure 4.3.3-3. Baseline Management Menu.....	4.3.3-9
Figure 4.3.3-4. Control Item Master Menu.....	4.3.3-10
Figure 4.3.3-5. All Control Items CHUI.....	4.3.3-11
Figure 4.3.3-6. Hardware Items Only CHUI .....	4.3.3-15
Figure 4.3.3-7. Software Items Only CHUI.....	4.3.3-16
Figure 4.3.3-8. Host Control Items Only CHUI .....	4.3.3-18
Figure 4.3.3-9. Document Items Only CHUI .....	4.3.3-19
Figure 4.3.3-10. Partition Items Only CHUI .....	4.3.3-21
Figure 4.3.3-11. Bill of Material Menu .....	4.3.3-23
Figure 4.3.3-12. Engineering Change Entry CHUI .....	4.3.3-24
Figure 4.3.3-13. Engineering Change Entry's Items CHUI .....	4.3.3-27
Figure 4.3.3-14. Engineering Change Approval CHUI.....	4.3.3-27
Figure 4.3.3-15. Replace Component in Selected Bills CHUI (1 of 3) .....	4.3.3-30
Figure 4.3.3-16. Replace Component in Selected Bills CHUI (2 of 3) .....	4.3.3-31
Figure 4.3.3-17. Replace Component in Selected Bills CHUI (3 of 3) .....	4.3.3-31
Figure 4.3.3-18. Query Menu .....	4.3.3-33
Figure 4.3.3-19. Reports Menu .....	4.3.3-34
Figure 4.3.3-20. Configuration Items List - Level One CHUI .....	4.3.3-35
Figure 4.3.3-21. Configuration Items List - Level Two CHUI.....	4.3.3-36
Figure 4.3.3-22. Configured Articles Reports CHUI.....	4.3.3-37
Figure 4.3.3-23. Version Description Reports CHUI .....	4.3.3-38
Figure 4.3.3-24. Site Baseline Reports CHUI .....	4.3.3-39
Figure 4.3.3-25. Change History Reports CHUI .....	4.3.3-40
Figure 4.3.3-26. BOM Comparison Reports CHUI.....	4.3.3-41
Figure 4.3.3-27. Hardware/Software/Patch Map Reports CHUI.....	4.3.3-43
Figure 4.3.3-28. Software Baseline Reports CHUI .....	4.3.3-44
Figure 4.3.3-29. Site - Host Maps CHUI.....	4.3.3-46
Figure 4.3.3-30. Baseline Documents Reports CHUI .....	4.3.3-48

Figure 4.3.3-31. Utilities Menu CHUI.....	4.3.3-49
Figure 4.3.3-32. Vendor Master Manager CHUI.....	4.3.3-50
Figure 4.3.3-33. Vendor Address Maintenance CHUI .....	4.3.3-51
Figure 4.3.3-34. Control Item Interdependency Maintenance CHUI .....	4.3.3-53
Figure 4.3.3-35. Implementation Status CHUI.....	4.3.3-55
Figure 4.3.3-36. Low Level Code Manager CHUI.....	4.3.3-57
Figure 4.3.3-37. Responsible Organization CHUI .....	4.3.3-58
Figure 4.3.3-38. Item Class Manager CHUI.....	4.3.3-59
Figure 4.3.3-39. Function Manager CHUI .....	4.3.3-60
Figure 4.3.3-40. Clone Manager CHUI (1 of 3) .....	4.3.3-61
Figure 4.3.3-41. Clone Manager CHUI (2 of 3) .....	4.3.3-62
Figure 4.3.3-42. Clone Manager CHUI (3 of 3) .....	4.3.3-63
Figure 4.3.3-43. System Utilities Menu CHUI .....	4.3.3-65
Figure 4.3.3-44. System Parameters Manager CHUI .....	4.3.3-66
Figure 4.3.3-45. Transaction Log CHUI.....	4.3.3-68
Figure 4.3.3-46. Transaction Archive CHUI .....	4.3.3-70
Figure 4.3.3-47. Site Master Manager CHUI .....	4.3.3-71
Figure 4.3.3-48. Machine Network Maintenance CHUI .....	4.3.3-72
Figure 4.3.3-49. Commodity Code Maintenance CHUI.....	4.3.3-73
Figure 4.3.3-50. Import BLM Records CHUI .....	4.3.3-74
Figure 4.3.3-51. Export Release Records CHUI .....	4.3.3-75
Figure 4.3.3-52. Export Site-Unique Change Records CHUI .....	4.3.3-77
Figure 4.3.3-53. Export SMC Change Records CHUI .....	4.3.3-78
Figure 4.3.3-54. XRP-II System Tools CHUI .....	4.3.3-80
Figure 4.3.3-55. Screens Manager CHUI .....	4.3.3-82
Figure 4.3.3-56. User Manager CHUI .....	4.3.3-83
Figure 4.3.3-57. Groups Manager CHUI.....	4.3.3-85
Figure 4.3.3-58. Screen Permission Control CHUI .....	4.3.3-87

Figure 4.3.3-59. Menu Manager CHUI .....	4.3.3-89
Figure 4.3.3-60. Printer Manager CHUI.....	4.3.3-90
Figure 4.3.3-61. Data Dump Utility CHUI.....	4.3.3-91
Figure 4.3.3-62. Data Load Utility CHUI.....	4.3.3-92
Figure 4.3.3-63. Call Accell System CHUI.....	4.3.3-93
Figure 4.3.3-64. Bill of Materials Report .....	4.3.3-103
Figure 4.3.3-65. Indented Bill of Materials Report .....	4.3.3-104
Figure 4.3.3-66. Summarized Bill Report.....	4.3.3-105
Figure 4.3.3-67. Multi-level Where-Used Display .....	4.3.3-106
Figure 4.3.3-68. Multi-level Where-Used Report.....	4.3.3-107
Figure 4.3.3-69. ECS Configuration Items List - Level One.....	4.3.3-108
Figure 4.3.3-70. ECS Configuration Items List - Level Two .....	4.3.3-109
Figure 4.3.3-71. ECS Configured Articles List .....	4.3.3-110
Figure 4.3.3-72. Version Description Document.....	4.3.3-111
Figure 4.3.3-73. Site Baseline Report.....	4.3.3-112
Figure 4.3.3-74. Change History Report.....	4.3.3-113
Figure 4.3.3-75. Bill Of Material Comparison Report .....	4.3.3-114
Figure 4.3.3-76. Hardware-Software Map (SW bundles only).....	4.3.3-115
Figure 4.3.3-77. Hardware Map.....	4.3.3-116
Figure 4.3.3-78. Hardware-Patch Map .....	4.3.3-117
Figure 4.3.3-79. Hardware-Software Map Report (HW & SW bundles) .....	4.3.3-118
Figure 4.3.3-80. Hardware-Software Map Data List .....	4.3.3-119
Figure 4.3.3-81. COTS Software Version Baseline Report.....	4.3.3-120
Figure 4.3.3-82. Patch Baseline Report .....	4.3.3-121
Figure 4.3.3-83. Site-Host Map Report .....	4.3.3-122
Figure 4.3.3-84. Site-Host Map Report .....	4.3.3-123
Figure 4.3.3-85. Baseline Documents (Title Order) Report .....	4.3.3-124
Figure 4.3.3-86. Baseline Documents (Number Order) Report.....	4.3.3-125

Figure 4.3.3-87. List by Old Numbers .....	4.3.3-126
Figure 4.3.3-88. List by Name .....	4.3.3-127
Figure 4.3.3-89. List by New Numbers .....	4.3.3-128
Figure 4.3.4-1. ECS ILM Management System Menu Structure .....	4.3.4-5
Figure 4.3.4-2. ECS Management System Main Menu .....	4.3.4-11
Figure 4.3.4-3. ILM Main Menu.....	4.3.4-12
Figure 4.3.4-4. EIN Menu.....	4.3.4-13
Figure 4.3.4-5. EIN Entry CHUI .....	4.3.4-14
Figure 4.3.4-6. EIN Manager (EDF) CHUI.....	4.3.4-18
Figure 4.3.4-7. EIN Structure Manager (EDF) CHUI .....	4.3.4-22
Figure 4.3.4-8. Items Page for EIN Structure Manager (EDF) CHUI.....	4.3.4-24
Figure 4.3.4-9. EIN Inventory Query EDF CHUI .....	4.3.4-25
Figure 4.3.4-10. EIN Transactions Menu .....	4.3.4-27
Figure 4.3.4-11. EIN Installation CHUI .....	4.3.4-29
Figure 4.3.4-12. EIN Installation Items Page CHUI.....	4.3.4-31
Figure 4.3.4-13. EIN Shipment CHUI .....	4.3.4-32
Figure 4.3.4-14. Carton Size Page for EIN Shipment .....	4.3.4-35
Figure 4.3.4-15. Items Page for EIN Shipment .....	4.3.4-36
Figure 4.3.4-16. Items Structure Page for EIN Shipment.....	4.3.4-37
Figure 4.3.4-17. EIN Transfer CHUI.....	4.3.4-38
Figure 4.3.4-18. EIN Archive CHUI .....	4.3.4-40
Figure 4.3.4-19. Items Page for EIN Archive CHUI .....	4.3.4-41
Figure 4.3.4-20. EIN Relocation CHUI.....	4.3.4-42
Figure 4.3.4-21. Items Page for EIN Relocation CHUI.....	4.3.4-44
Figure 4.3.4-22. Inventory Transaction Query Screen .....	4.3.4-45
Figure 4.3.4-23. Report Menu .....	4.3.4-48
Figure 4.3.4-24. ILM Inventory Reports (EDF) CHUI .....	4.3.4-49
Figure 4.3.4-25. EIN Structure Reports CHUI .....	4.3.4-50

Figure 4.3.4-26. Install/Receipt & Installtn Reports CHUI .....	4.3.4-51
Figure 4.3.4-27. EIN Shipment Reports CHUI.....	4.3.4-53
Figure 4.3.4-28. Transaction History Reports CHUI.....	4.3.4-54
Figure 4.3.4-29. PO Receipt Reports CHUI .....	4.3.4-55
Figure 4.3.4-30. Installation Summary Reports CHUI.....	4.3.4-56
Figure 4.3.4-31. Inventory Ordering Menu .....	4.3.4-57
Figure 4.3.4-32. Order Point Parameters Manager CHUI .....	4.3.4-58
Figure 4.3.4-33. Generate Order Point Recommendations CHUI .....	4.3.4-59
Figure 4.3.4-34. Recommended Orders Manager CHUI.....	4.3.4-60
Figure 4.3.4-35. Transfer Order Point Orders CHUI.....	4.3.4-61
Figure 4.3.4-36. Consumable Inventory Query CHUI .....	4.3.4-62
Figure 4.3.4-37. Spares Inventory Query CHUI.....	4.3.4-63
Figure 4.3.4-38. Transfer Consumable & Spare Mat'l CHUI .....	4.3.4-65
Figure 4.3.4-39. PO/Receiving Menu.....	4.3.4-67
Figure 4.3.4-40. Material Requisition Manager CHUI.....	4.3.4-68
Figure 4.3.4-41. Material Requisition Master CHUI.....	4.3.4-70
Figure 4.3.4-42. Purchase Order Entry CHUI .....	4.3.4-72
Figure 4.3.4-43. Items Page for Purchase Order Entry CHUI.....	4.3.4-74
Figure 4.3.4-44. Material Requisition Query Page for Purchase Order Entry CHUI.....	4.3.4-75
Figure 4.3.4-45. Purchase Order Modification CHUI .....	4.3.4-77
Figure 4.3.4-46. Items Page for Purchase Order Modification CHUI.....	4.3.4-79
Figure 4.3.4-47. Purchase Order Print CHUI .....	4.3.4-81
Figure 4.3.4-48. Purchase Order Status CHUI .....	4.3.4-83
Figure 4.3.4-49. Receipt Confirmation CHUI .....	4.3.4-85
Figure 4.3.4-50. Items Page for Receipt Confirmation CHUI.....	4.3.4-86
Figure 4.3.4-51. Print Receipt Reports CHUI .....	4.3.4-88
Figure 4.3.4-52. Purchase Order Processing CHUI.....	4.3.4-89
Figure 4.3.4-53. Vendor Master Manager CHUI.....	4.3.4-90

Figure 4.3.4-54. Address Page for Vendor Master Manager CHUI .....	4.3.4-91
Figure 4.3.4-55. Maintenance Menu.....	4.3.4-93
Figure 4.3.4-56. Work Order Entry CHUI.....	4.3.4-94
Figure 4.3.4-57. Work Order Modification (EDF) Screen .....	4.3.4-97
Figure 4.3.4-58. Chargeable Hours Page for Work Order Modification (EDF) CHUI.....	4.3.4-101
Figure 4.3.4-59. Items Page (Left) for Work Order Modification (EDF) CHUI (1 of 2).....	4.3.4-102
Figure 4.3.4-60. Items Page (Right) for Work Order Modification (EDF) CHUI (2 of 2).....	4.3.4-105
Figure 4.3.4-61. Preventative Maintenance Items CHUI .....	4.3.4-115
Figure 4.3.4-62. Generate PM Orders CHUI.....	4.3.4-116
Figure 4.3.4-63. Work Order Parts Replacement History CHUI.....	4.3.4-117
Figure 4.3.4-64. Maintenance Work Order Reports CHUI .....	4.3.4-118
Figure 4.3.4-65. Work Order Status Reports CHUI .....	4.3.4-119
Figure 4.3.4-66. Maintenance Codes CHUI .....	4.3.4-121
Figure 4.3.4-67. Maintenance Contracts CHUI .....	4.3.4-122
Figure 4.3.4-68. Authorized Employees CHUI .....	4.3.4-123
Figure 4.3.4-69. Work Order Line Item Query (Left page) CHUI .....	4.3.4-124
Figure 4.3.4-70. Work Order Line Item Query (Right Page) CHUI.....	4.3.4-125
Figure 4.3.4-71. License Menu.....	4.3.4-127
Figure 4.3.4-72. License Entitlement Manager (EDF) CHUI .....	4.3.4-128
Figure 4.3.4-73. Entitlement – Licenses Page for the License Entitlement Manager (EDF) CHUI.....	4.3.4-131
Figure 4.3.4-74. License Manager CHUI .....	4.3.4-133
Figure 4.3.4-75. License – Entitlements Page CHUI .....	4.3.4-136
Figure 4.3.4-76. License Allocations Page for the License Manager CHUI .....	4.3.4-139
Figure 4.3.4-77. License Allocation Additional Hosts Page for the License Manager CHUI .....	4.3.4-141
Figure 4.3.4-78. License Allocation Manager CHUI .....	4.3.4-142

Figure 4.3.4-79. Adjust License Quantities Page for the Entitlement Quantity Adjustment CHUI .....	4.3.4-143
Figure 4.3.4-80. ILM Master Menu.....	4.3.4-144
Figure 4.3.4-81. Employee Manager CHUI.....	4.3.4-145
Figure 4.3.4-82. Assembly Manager CHUI.....	4.3.4-147
Figure 4.3.4-83. System Parameters Manager CHUI .....	4.3.4-148
Figure 4.3.4-84. Inventory Location Manager CHUI.....	4.3.4-150
Figure 4.3.4-85. Buyer Manager CHUI.....	4.3.4-151
Figure 4.3.4-86. Hardware/Software Codes CHUI.....	4.3.4-152
Figure 4.3.4-87. Status Code Manager CHUI .....	4.3.4-153
Figure 4.3.4-88. Report Number CHUI.....	4.3.4-154
Figure 4.3.4-89. Export Inventory Data CHUI.....	4.3.4-155
Figure 4.3.4-90. DAAC Export Inventory Screen .....	4.3.4-157
Figure 4.3.4-91. OEM Part Numbers (EDF) CHUI.....	4.3.4-158
Figure 4.3.4-92. Shipment Number Manager CHUI .....	4.3.4-160
Figure 4.3.4-93. Carriers CHUI .....	4.3.4-161
Figure 4.3.4-94. ILM Import Records CHUI.....	4.3.4-162
Figure 4.3.4-95. Sales/Purchase Terms Maintenance CHUI .....	4.3.4-163
Figure 4.3.4-96. Reason Code Maintenance CHUI .....	4.3.4-164
Figure 4.3.4-97. Site Codes for Scanned Data CHUI.....	4.3.4-165
Figure 4.3.4-98. Scanned Data CHUI.....	4.3.4-166
Figure 4.3.4-99. Process Scanned Data CHUI.....	4.3.4-167
Figure 4.3.4-100. Open Purchase Orders by PO Report.....	4.3.4-173
Figure 4.3.4-101. Open Purchase Orders by Part Report .....	4.3.4-174
Figure 4.3.4-102. Open Purchase Orders by Date Due Report.....	4.3.4-175
Figure 4.3.4-103. Open Purchase Orders by Vendor and Due Date Report.....	4.3.4-176
Figure 4.3.4-104. Purchase Order .....	4.3.4-177
Figure 4.3.4-105. Receiving Report.....	4.3.4-178
Figure 4.3.4-106. Receipts by Part Report.....	4.3.4-179

Figure 4.3.4-107. Receipts by Vendor Report .....	4.3.4-180
Figure 4.3.4-108. Receipt List by Part Report.....	4.3.4-181
Figure 4.3.4-109. ILM Inventory Report – by Location.....	4.3.4-182
Figure 4.3.4-110. ILM Costed Inventory Report – by Location.....	4.3.4-183
Figure 4.3.4-111. EIN Structure Report .....	4.3.4-184
Figure 4.3.4-112. Equipment Installation/Receipt Report by EIN Number .....	4.3.4-185
Figure 4.3.4-113. Equipment Installation Report by EIN Number .....	4.3.4-186
Figure 4.3.4-114. Installation Summary Report .....	4.3.4-187
Figure 4.3.4-115. EOSDIS Equipment Relocation Report.....	4.3.4-188
Figure 4.3.4-116. ECS Shipping Report.....	4.3.4-189
Figure 4.3.4-117. EOSDIS Equipment Transfer/Receipt Report .....	4.3.4-190
Figure 4.3.4-118. Receipts by Receipt Number Report.....	4.3.4-191
Figure 4.3.4-119. Receipts by EIN / Part Report.....	4.3.4-192
Figure 4.3.4-120. Transaction History by EIN Report .....	4.3.4-193
Figure 4.3.4-121. Transaction History for Spares Report.....	4.3.4-194
Figure 4.3.4-122. Transaction History for Consumables Report.....	4.3.4-195
Figure 4.3.4-123. Maintenance Work Order Report.....	4.3.4-196
Figure 4.3.4-124. Work Order History Report .....	4.3.4-197
Figure 4.3.4-125. Work Order Status Report.....	4.3.4-198
Figure 4.3.4-126. License Entitlements Status Report .....	4.3.4-199
Figure 4.3.4-127. License Allocations by Product Report .....	4.3.4-200
Figure 4.3.4-128. License Allocations by Host Report .....	4.3.4-201
Figure 4.3.5-1. All Clients (lmstat -s) Report .....	4.3.5-7
Figure 4.3.5-2. License Information (lmstat -i) Report .....	4.3.5-8
Figure 4.3.5-3. All Licensing Activities (lmstat -a) Report.....	4.3.5-9
Figure 4.3.5-4. All Active Licenses (lmstat -A) Report .....	4.3.5-10
Figure 4.3.5-5. Users of All or Named Features (lmstat -f) Report.....	4.3.5-11
Figure 4.3.5-6. Users of All or Named Vendor's Features (lmstat-S) Report .....	4.3.5-11

Figure 4.3.6-1. RelB-Trouble Tickets Form GUI .....	4.3.6-6
Figure 4.3.6-2. User Form GUI .....	4.3.6-10
Figure 4.3.6-3. Contact Log Form GUI .....	4.3.6-12
Figure 4.3.6-4. Hardware Information Form GUI .....	4.3.6-14
Figure 4.3.6-5. RelB-Menu-Closing Codes Form GUI .....	4.3.6-18
Figure 4.3.6-6. Tool RelB-Menu-Hardware Resources Form GUI .....	4.3.6-19
Figure 4.3.6-7. RelB-Menu-Key Words Form GUI .....	4.3.6-20
Figure 4.3.6-8. RelB-Menu-Problem Type Form GUI .....	4.3.6-21
Figure 4.3.6-9. RelB-Menu-Software Resources Form GUI.....	4.3.6-22
Figure 4.3.6-10. RelB-TT-Sites Form GUI .....	4.3.6-24
Figure 4.3.6-11. RelB-TT-Times Form GUI .....	4.3.6-26
Figure 4.3.6-12. Admin Tool GUI.....	4.3.6-27
Figure 4.3.6-13. Notification Tool GUI.....	4.3.6-28
Figure 4.3.6-14. Import Tool GUI .....	4.3.6-30
Figure 4.3.6-15. ECS Trouble Ticketing: (iPlanet) Menu GUI .....	4.3.6-32
Figure 4.3.6-16. Trouble Ticket HTML Submit GUI.....	4.3.6-33
Figure 4.3.6-17. Trouble Ticket HTML Success GUI.....	4.3.6-35
Figure 4.3.6-18. Trouble Ticket HTML List GUI .....	4.3.6-36
Figure 4.3.6-19. Trouble Ticket HTML Detailed GUI.....	4.3.6-38
Figure 4.3.6-20. Trouble Ticket Status Report .....	4.3.6-43
Figure 4.3.6-21. Hardware Resource Report .....	4.3.6-44
Figure 4.3.6-22. Number of Tickets by Submitter Report.....	4.3.6-45
Figure 4.3.6-23. Average Time to Close Report.....	4.3.6-45
Figure 4.3.6-24. Number of Tickets by Assigned Status Report .....	4.3.6-46
Figure 4.3.6-25. Number of Tickets by Assigned Priority Report .....	4.3.6-46
Figure 4.3.6-26. Summary Report .....	4.3.6-47
Figure 4.4.1-1. Example of TCP Wrappers Log.....	4.4.1-4
Figure 4.4.2-1. Xterm Window of Crack Startup Message and Initialization .....	4.4.2-3

Figure 4.4.3-1. Xterm Window with Tripwire Showing Tripwire Startup Message .....	4.4.3-4
Figure 4.4.3-2. Tripwire Report.....	4.4.3-6
Figure 4.4.4-1. CMI Main Screen.....	4.4.4-2
Figure 4.5.1-1. SSI&T Manager Main Screen.....	4.5.1-7
Figure 4.5.1-2. SSI&T Manager Main Screen - Tools Menu .....	4.5.1-9
Figure 4.5.1-3. Xterm Unix Terminal Window .....	4.5.1-15
Figure 4.5.1-4. SSI&T Manager Main Screen with Code Analysis Tool Menu Displayed .....	4.5.1-16
Figure 4.5.1-5. SSI&T Manager Main Screen with Office Automation Tool Menu Displayed .....	4.5.1-17
Figure 4.5.1-6. GhostView Main Screen .....	4.5.1-19
Figure 4.5.1-7. Acrobat Main Screen .....	4.5.1-20
Figure 4.5.1-8. SSI&T Manager, Tools Menu, Standards Checker Submenu Choices...	4.5.1-21
Figure 4.5.1-9. FORCHECK Program Running in an Xterm Window .....	4.5.1-22
Figure 4.5.1-10. Prohibited Function Checker Pop-up.....	4.5.1-24
Figure 4.5.1-11. File Selector Pop-up.....	4.5.1-26
Figure 4.5.1-12. Source Code Pop-up.....	4.5.1-28
Figure 4.5.1-13. Report Pop-up .....	4.5.1-29
Figure 4.5.1-14. PCF Checker Pop-up.....	4.5.1-30
Figure 4.5.1-15. PCF Checker Results Pop-up .....	4.5.1-32
Figure 4.5.1-16. The PCF Checker Save Pop-up.....	4.5.1-33
Figure 4.5.1-17. The Pop-up Display for Filtering Files from the Save Pop-up .....	4.5.1-34
Figure 4.5.1-18. The Help on PCF Checker Results Pop-up .....	4.5.1-35
Figure 4.5.1-19. SSI&T Manager Main Screen with Product Examination Tools Displayed .....	4.5.1-37
Figure 4.5.1-20. Binary File Comparison Pop-up .....	4.5.1-39
Figure 4.5.1-21. HDF Pop-up .....	4.5.1-41
Figure 4.5.1-22. File Selection Dialogue Pop-up .....	4.5.1-42
Figure 4.5.1-23. Tolerance Editor Pop-up .....	4.5.1-43
Figure 4.5.1-24. HDF (hdif) Options.....	4.5.1-44

Figure 4.5.1-25. SSI&T Manager Main Screen with Text Editors Tool Menu Displayed .....	4.5.1-45
Figure 4.5.1-26. Emacs Pop-up.....	4.5.1-46
Figure 4.5.1-27. Xedit Pop-up .....	4.5.1-47
Figure 4.5.1-28. SSI&T Manager with PDPS Database Tool Menu Displayed.....	4.5.1-48
Figure 4.5.1-29. PDPS/SSI&T Database Operational Metadata Update Pop-up – Showing the SELECT Tab.....	4.5.1-52
Figure 4.5.1-30. PDPS/SSI&T Database Operational Metadata Update Pop-up - Showing the PROFILE Tab .....	4.5.1-54
Figure 4.5.1-31. PDPS/SSI&T Database Operational Metadata Update Pop-up Showing the Runtime Tab .....	4.5.1-57
Figure 4.5.1-32. PDPS/SSI&T Database Operational Metadata Update Pop-up - Showing the ESDT Tab .....	4.5.1-59
Figure 4.5.1-33. PDPS/SSI&T Database Operational Metadata Update Pop-up - Display Screen .....	4.5.1-60
Figure 4.5.1-34. SSI&T Manager, Tools Menu, Data Server Submenu Choices.....	4.5.1-61
Figure 4.5.1-35. SSAP Editor Main Pop-up .....	4.5.1-70
Figure 4.5.1-36. Input File Selection Pop-up.....	4.5.1-71
Figure 4.5.1-37. New SSAP Window .....	4.5.1-72
Figure 4.5.1-38. File List View Pop-up .....	4.5.1-74
Figure 4.5.1-39. Metadata View Pop-up.....	4.5.1-76
Figure 4.5.1-40. Associated Collections Pop-up .....	4.5.1-78
Figure 4.5.1-41. SSI&T Manager Help Index .....	4.5.1-80
Figure 4.6.1-1. Ingest Main Screen Shown in the Ingest Intro Tab.....	4.6.1-3
Figure 4.6.1-2. History Log Tab .....	4.6.1-5
Figure 4.6.1-3. Monitor/Control Tab (Text View) .....	4.6.1-7
Figure 4.6.1-4. Monitor/Control Tab (Graphical View).....	4.6.1-8
Figure 4.6.1-5. Operator Tools - External Data Provider/User Information Sub-tab .....	4.6.1-11
Figure 4.6.1-6. Update Notify Parameters Pop-up .....	4.6.1-13
Figure 4.6.1-7. Operator Tools - Modify System Parameters Sub-tab .....	4.6.1-15
Figure 4.6.1-8. Operator Tools - File Transfer Sub-tab.....	4.6.1-17

Figure 4.6.1-9. Media Ingest Tab .....	4.6.1-19
Figure 4.6.1-10. Sample Ingest Request History Report .....	4.6.1-22
Figure 4.6.1-11. Sample Ingest Request Performance Report.....	4.6.1-22
Figure 4.6.1-12. Sample Ingest Granule Performance Report.....	4.6.1-23
Figure 4.7.1-1. Resource Scheduler GUI.....	4.7.1-3
Figure 4.7.1-2. Resource Reservation Request Edit/Definition GUI .....	4.7.1-5
Figure 4.7.1-3. Resources Selection GUI .....	4.7.1-7
Figure 4.7.1-4. Intervals Selection GUI.....	4.7.1-8
Figure 4.7.1-5. Resource Reservation Planning Master Timeline GUI.....	4.7.1-9
Figure 4.7.1-6. Resource Editor GUI.....	4.7.1-11
Figure 4.7.1-7. Hardware Details GUI .....	4.7.1-12
Figure 4.7.1-8. Disk Details GUIs .....	4.7.1-13
Figure 4.7.1-9. Virtual Computer Details GUIs .....	4.7.1-14
Figure 4.7.1-10. String Details GUIs.....	4.7.1-15
Figure 4.7.1-11. Real Computer Details GUIs .....	4.7.1-16
Figure 4.7.1-12. AutoSys Details GUIs.....	4.7.1-17
Figure 4.8.1-1. Production Request Editor GUI Showing the Planning Tab.....	4.8.1-2
Figure 4.8.1-2. PR List Tab .....	4.8.1-4
Figure 4.8.1-3. PR Edit Tab .....	4.8.1-6
Figure 4.8.1-4. File Selection Pop-up .....	4.8.1-8
Figure 4.8.1-5. PGE Selection Pop-up.....	4.8.1-12
Figure 4.8.1-6. PGE Parameter Mappings Pop-up .....	4.8.1-14
Figure 4.8.1-7. MetaDataChecks Pop-up.....	4.8.1-16
Figure 4.8.1-8. AlternateInputValues Pop-up.....	4.8.1-18
Figure 4.8.1-9. DPR List Tab .....	4.8.1-20
Figure 4.8.1-10. DPR View Tab .....	4.8.1-22
Figure 4.8.1-11. File Mappings Pop-up .....	4.8.1-25
Figure 4.8.2-1. Production Planning Workbench GUI .....	4.8.2-3

Figure 4.8.2-2. Planning Master Timeline GUI .....	4.8.2-6
Figure 4.8.3-1. Production Strategies Main Screen .....	4.8.3-2
Figure 4.8.3-2. Open Production Strategies GUI Pop-up .....	4.8.3-5
Figure 4.8.3-3. Active Production Strategy GUI Screen .....	4.8.3-6
Figure 4.9.1-1. AutoSys GUI Control Panel.....	4.9.1-5
Figure 4.9.1-2. AutoSys autorep Job Report .....	4.9.1-14
Figure 4.9.1-3. AutoSys autorep Job Report - All .....	4.9.1-15
Figure 4.9.2-1. QA Monitor Tool Main Screen .....	4.9.2-3
Figure 4.9.2-2. Granule Parameters Dialog .....	4.9.2-6
Figure 4.9.2-3. Update Metadata Dialog .....	4.9.2-7
Figure 4.9.2-4. Visualize Data Tab Stack .....	4.9.2-9
Figure 4.9.2-5. Print Options Dialog .....	4.9.2-10
Figure 4.10.1-1. Science Data Server GUI Shown with Default Data Types Tab .....	4.10.1-2
Figure 4.10.1-2. Science Data Server - Server Polling Options .....	4.10.1-3
Figure 4.10.1-3. Science Data Server - Descriptor Information Dialog .....	4.10.1-5
Figure 4.10.1-4. Science Data Server - Add Data Type Dialog .....	4.10.1-6
Figure 4.10.1-5. Science Data Server - Update Data Type Dialog.....	4.10.1-7
Figure 4.10.1-6. System Management Requests Window .....	4.10.1-8
Figure 4.10.1-7. System Management Filter Requests Dialog .....	4.10.1-10
Figure 4.10.2-1. Storage Management Server Main Screen with the Default Storage Configuration Tab Displayed (Storage Config.).....	4.10.2-3
Figure 4.10.2-2. Service Thread Configuration Window .....	4.10.2-5
Figure 4.10.2-3. Request Manager Configuration Window .....	4.10.2-6
Figure 4.10.2-4. Staging Disk Server Configuration Window .....	4.10.2-8
Figure 4.10.2-5. Cache Manager Server Configuration Window .....	4.10.2-10
Figure 4.10.2-6. FTP Server Configuration Window .....	4.10.2-14
Figure 4.10.2-7. Media Server Configuration Window (Stacker-based).....	4.10.2-16
Figure 4.10.2-8. Stacker Configuration Window .....	4.10.2-20
Figure 4.10.2-9. Stacker Device Configuration Window .....	4.10.2-22

Figure 4.10.2-10. Media Server Configuration Window (Standalone-based) .....	4.10.2-24
Figure 4.10.2-11. Standalone Device Configuration Window .....	4.10.2-27
Figure 4.10.2-12. Archive Server Configuration Window .....	4.10.2-28
Figure 4.10.2-13. Volume Group Configuration (Vol Grp Config.) Tab .....	4.10.2-31
Figure 4.10.2-14. Add Volume Group Pop-up Window .....	4.10.2-33
Figure 4.10.2-15. Modify Volume Group Configuration Pop-up Window .....	4.10.2-35
Figure 4.10.2-16. Volume Group History Pop-up Window .....	4.10.2-38
Figure 4.10.2-17. Volume Group Compression Factor Statistics Pop-up Window .....	4.10.2-40
Figure 4.10.2-18. Resource Management (Resource Mngmnt) Tab .....	4.10.2-42
Figure 4.10.2-19. Manage Stackers Pop-up Window .....	4.10.2-44
Figure 4.10.2-20. Load Media Set Pop-up Window .....	4.10.2-46
Figure 4.10.2-21. Manage Media Sets Pop-up Window .....	4.10.2-47
Figure 4.10.2-22. Add/Modify Media Set Pop-up Window .....	4.10.2-48
Figure 4.10.2-23. Cache Monitoring Tab (Cache Stats.) .....	4.10.2-50
Figure 4.10.2-24. Storage Events Tab .....	4.10.2-52
Figure 4.10.2-25. Server Monitoring (Request Status) Tab .....	4.10.2-54
Figure 4.10.2-26. Restart Backup Pop-up Window .....	4.10.2-56
Figure 4.10.2-27. Change Priority Pop-up Window .....	4.10.2-57
Figure 4.10.2-28. Polling Rate Selection Pop-up Window .....	4.10.2-58
Figure 4.10.3-1. Data Distribution Main Screen showing Data Distribution Request Tab .....	4.10.3-2
Figure 4.10.3-2. Refresh Options Window .....	4.10.3-7
Figure 4.10.3-3. Data Distribution - Filter Requests Dialog .....	4.10.3-9
Figure 4.10.3-4. System Requests Tab .....	4.10.3-11
Figure 4.10.3-5. Tape IDs Tab .....	4.10.3-12
Figure 4.10.3-6. Preamble Editor Tab .....	4.10.3-14
Figure 4.10.3-7. Event Logging Tab .....	4.10.3-16
Figure 4.10.5-1. PDSOI Main Screen at Startup .....	4.10.5-2
Figure 4.10.5-2. Selection Criteria Screen .....	4.10.5-3

Figure 4.10.5-3. Querying Database Screen .....	4.10.5-4
Figure 4.10.5-4. PDSMI Maintenance Main Screen .....	4.10.5-6
Figure 4.10.5-5. PDS Job Monitor Main Screen .....	4.10.5-9
Figure 4.11.1-1. User Account Manager GUI Main Screen.....	4.11.1-3
Figure 4.11.1-2. Request Account Tab with Edited Areas Highlighted.....	4.11.1-4
Figure 4.11.1-3. Mailing Address Sub-tab .....	4.11.1-6
Figure 4.11.1-4. Account Information Sub-tab.....	4.11.1-8
Figure 4.11.1-5. Print Dialog Popup When Account Created .....	4.11.1-10
Figure 4.11.1-6. Profile Account Tab .....	4.11.1-11
Figure 4.11.1-7. Apply Edit Dialogue Popup .....	4.11.1-12
Figure 4.11.1-8. View Entire Profile Screen .....	4.11.1-13
Figure 4.11.1-9. Profile Account with Edited Areas Highlighted .....	4.11.1-14
Figure 4.11.1-10. DAR Information Sub-tab.....	4.11.1-16
Figure 4.11.2-1. ECS Data Order Tracking .....	4.11.2-3
Figure 4.11.2-2. Verify User Selection GUI.....	4.11.2-6
Figure 4.11.2-3. Shipping Information GUI .....	4.11.2-7
Figure 4.11.3-1. Data Dictionary Maintenance Tool Main Screen Showing the Modify Data Tab.....	4.11.3-2
Figure 4.11.3-2. Database List (Attributes) Screen .....	4.11.3-4
Figure 4.11.3-3. Modify Data Tab with Attribute List .....	4.11.3-5
Figure 4.11.3-4. Attribute Editor Screen .....	4.11.3-6
Figure 4.11.3-5. Import Valid File Tab .....	4.11.3-7
Figure 4.11.3-6. File Select Pop-up .....	4.11.3-10
Figure 4.11.3-7. Map Attributes/Keywords Tab .....	4.11.3-11
Figure 4.11.3-8. Export Valid File Tab .....	4.11.3-14
Figure 4.11.10-1. NBSRV Home Page.....	4.11.10-2
Figure 4.11.10-2. Spatial Subscription Server – List Events.....	4.11.10-3
Figure 4.11.10-3. Manage Subscriptions: List of All the Subscriptions in the NBSRV Database.....	4.11.10-4

Figure 4.11.10-4. View Contents of a Subscription in the NBSRV Database .....	4.11.10-5
Figure 4.11.10-5. View Contents of a Subscription with Associated Email Notification Action (Continuation).....	4.11.10-6
Figure 4.11.10-6. Delete Subscription Confirmation Request.....	4.11.10-7
Figure 4.11.10-7. Delete Subscription Confirmation Acknowledgement .....	4.11.10-8
Figure 4.11.10-8. Update a subscription in the NBSRV Database.....	4.11.10-9
Figure 4.11.10-9. Update a Subscription in the NBSRV Database (Continuation to Add or Modify String or Spatial Qualifiers Associated with an Existing Subscription).....	4.11.10-10
Figure 4.11.10-10. Update a Subscription in the NBSRV Database (Continuation to Add or Update Action Information for an Existing Subscription) .....	4.11.10-11
Figure 4.11.10-11. Update a Subscription in the NBSRV Database (Continuation to Update Email Action Information, Data Pool Information, or the Bundling Order Selection for an Existing Subscription. ....	4.11.10-12
Figure 4.11.10-12. Update Confirmation Screen (Confirms Successful or Unsuccessful Updating of the Subscription) .....	4.11.10-13
Figure 4.11.10-13. Data Pool Action Associated with a Theme (Alternative to Update Confirmation Screen Figure 4.11.10-10) .....	4.11.10-14
Figure 4.11.10-14. Add a New Subscription for a Valid ECS User .....	4.11.10-15
Figure 4.11.10-15. Event Selection (Continuation of Figure 4.11.10-14).....	4.11.10-16
Figure 4.11.10-16. Add Subscription Continuation Information.....	4.11.10-17
Figure 4.11.10-17. Add Subscription screen Continuation (Adding String and Spatial Qualifiers) .....	4.11.10-19
Figure 4.11.10-18. Add Subscription Screen Continuation (Bundling Order) .....	4.11.10-20
Figure 4.11.10-19. Add Subscription Screen Continuation (Information for the Email Notification or Data Pool Actions).....	4.11.10-22
Figure 4.11.10-20. Add Confirmation Screen (Confirms Successful or Unsuccessful Adding of the Subscription).....	4.11.10-24
Figure 4.11.10-21. Data Pool Action Associated with a Theme (Alternative to Add Confirmation Screen Figure 4.11.10-20) .....	4.11.10-25
Figure 4.11.13-1. HEG Front-end Queue Control .....	4.11.13-2
Figure 4.11.13-2. Order Status Screen.....	4.11.13-3
Figure 4.11.13-3. Order Item Status Screen .....	4.11.13-4

Figure 4.11.13-4. Order Item Details.....	4.11.13-5
Figure 4.11.14-1. Data Pool Maintenance Home Page.....	4.11.14-2
Figure 4.11.14-2. Batch Summary Screen.....	4.11.14-3
Figure 4.11.14-3. List Insert Queue Screen.....	4.11.14-4
Figure 4.11.14-4. List Insert Queue Screen - Absolute xml File Path.....	4.11.14-5
Figure 4.11.14-5. List Insert Queue Screen - xml File Content.....	4.11.14-6
Figure 4.11.14-6. Data Pool Configuration Parameters (View or Update) .....	4.11.14-7
Figure 4.11.14-7. List of Collection Groups Currently in the Data Pool .....	4.11.14-10
Figure 4.11.14-8. Add Collection Group Screen .....	4.11.14-11
Figure 4.11.14-9. Modify Collection Group Screen.....	4.11.14-12
Figure 4.11.14-10. Collections Associated with an ECS Collection Group.....	4.11.14-13
Figure 4.11.14-11. Collections Associated with a Non-ECS Collection Group.....	4.11.14-13
Figure 4.11.14-12. Description of a Collection .....	4.11.14-14
Figure 4.11.14-13. Add New Collections to a Collection Group .....	4.11.14-15
Figure 4.11.14-14. Add New Non-ECS Collections to a Non-ECS Collection Group.....	4.11.14-15
Figure 4.11.14-15. Modify Collection Screen - Update Science Granules and/or Metadata and Data Pool Insertion Columns .....	4.11.14-17
Figure 4.11.14-16. Modify Collections Screen - Update Non-ECS Collections.....	4.11.14-18
Figure 4.11.14-17. Manage Themes Screen – List of Themes .....	4.11.14-19
Figure 4.11.14-18. Add New Theme Screen .....	4.11.14-20
Figure 4.11.14-19. Modify Theme Screen.....	4.11.14-21
Figure 4.11.15-1. Order Manager GUI Home Page.....	4.11.15-2
Figure 4.11.15-2. OM Server Queue Status Page.....	4.11.15-4
Figure 4.11.15-3. Server Configuration: Configuration Parameters Page of the Order Manager GUI) .....	4.11.15-6
Figure 4.11.15-4. Media Configuration: Configuration Parameters Page of the Order Manager GUI.....	4.11.15-8
Figure 4.11.15-5. Order Manager Server Statistics Page .....	4.11.15-13
Figure 4.11.15-6. Request Management: View Open Interventions Page.....	4.11.15-15

Figure 4.11.15-7. Intervention for Request Page.....	4.11.15-17
Figure 4.11.15-8. Intervention for Request Page with Option to Update FtpPush Parameters.....	4.11.15-18
Figure 4.11.15-9. Confirmation for Intervention Page .....	4.11.15-21
Figure 4.11.15-10. Confirmation Page for Changing Media to FTP Push .....	4.11.15-22
Figure 4.11.15-11. Requests with Completed Interventions Page.....	4.11.15-24
Figure 4.11.15-12. Completed Intervention for Request Page .....	4.11.15-26
Figure 4.11.15-13. Distribution Requests List Page.....	4.11.15-28
Figure 4.11.15-14. Distribution Request Details Page .....	4.11.15-30
Figure 4.11.15-15. ECS Order Information Page .....	4.11.15-31
Figure 4.11.15-16. User Profile Page .....	4.11.15-32
Figure 4.11.15-17. Sample Help Page .....	4.11.15-34
Figure 4.11.15-18. Sample Help Pop-Up Window.....	4.11.15-35
Figure 4.11.15-19. Order Manager GUI Log Viewer Example.....	4.11.15-36
Figure 4.12.1-1. Example of CDE Window Manager Support Features .....	4.12.1-2
Figure 4.12.3-1. Netscape Communicator: Browser with Display Field.....	4.12.3-3
Figure 4.12.3-2. Netscape Communicator: EDHS Home Page .....	4.12.3-4
Figure 4.12.4-1. iPlanet Web Server Administration Server Screen .....	4.12.4-6
Figure 4.12.4-2. iPlanet Web Server: Server Manager Screen.....	4.12.4-7
Figure 4.12.4-3. iPlanet Web Server Class Manager Screen.....	4.12.4-8
Figure 4.12.4-4. iPlanet Web Virtual Server Manager Screen .....	4.12.4-10
Figure 4.12.5-1. EOSView Main Screen .....	4.12.5-3
Figure 4.12.5-2. File Selection Dialog.....	4.12.5-4
Figure 4.12.5-3. EOSView File Contents Pop-up .....	4.12.5-6
Figure 4.12.5-4. Multi-Dimension SDS Pop-up .....	4.12.5-7
Figure 4.12.5-5. Dimension Information Pop-up.....	4.12.5-8
Figure 4.12.5-6. EOSView “sol_azimuth” Table Pop-up.....	4.12.5-10
Figure 4.12.5-7. EOSView Contour Plot Pop-up .....	4.12.5-11
Figure 4.12.5-8. Contour/Surface Data Range Pop-up.....	4.12.5-12

Figure 4.12.5-9. Contour/Surface Data Value Pop-up.....	4.12.5-13
Figure 4.12.5-10. Contour/Surface Min/Max Range Pop-up .....	4.12.5-14
Figure 4.12.5-11. EOSView Stats Pop-up .....	4.12.5-15
Figure 4.12.5-12. Jump To Dialog.....	4.12.5-16
Figure 4.12.5-13. File Save Dialog.....	4.12.5-17
Figure 4.12.5-14. Min/Max Values Pop-up .....	4.12.5-18
Figure 4.12.5-15. “sol_azimuth” Image Display Pop-up.....	4.12.5-20
Figure 4.12.5-16. Lat/Lon Symbol Pop-up .....	4.12.5-22
Figure 4.12.5-17. X-Y Cursor Pop-up .....	4.12.5-23
Figure 4.12.5-18. Scanline Cursor Pop-up .....	4.12.5-24
Figure 4.12.5-19. File Contents Pop-up Containing Vdata .....	4.12.5-25
Figure 4.12.5-20. EOSView - Vdata Field Select Pop-up .....	4.12.5-25
Figure 4.12.5-21. Table Containing Vdata Field Pop-up .....	4.12.5-26
Figure 4.12.5-22. Plot Pop-up.....	4.12.5-27
Figure 4.12.5-23. File Contents Pop-up Containing Vgroups .....	4.12.5-28
Figure 4.12.5-24. File Contents Pop-up Containing Raster Images .....	4.12.5-29
Figure 4.12.5-25. Raster Image Pop-up .....	4.12.5-30
Figure 4.12.5-26. Grid File Contents Display Pop-up.....	4.12.5-31
Figure 4.12.5-27. Grid Select Pop-up .....	4.12.5-31
Figure 4.12.5-28. Grid Information Pop-up.....	4.12.5-32
Figure 4.12.5-29. Projection Information Pop-up.....	4.12.5-33
Figure 4.12.5-30. Grid Dimensions Pop-up.....	4.12.5-34
Figure 4.12.5-31. Grid Data Fields Pop-up .....	4.12.5-35
Figure 4.12.5-32. Start/Stride/Edge Pop-up.....	4.12.5-35
Figure 4.12.5-33. Warning Dialog.....	4.12.5-36
Figure 4.12.5-34. Attributes Text Display Pop-up .....	4.12.5-37
Figure 4.12.5-35. SwathFile Select Pop-up .....	4.12.5-37
Figure 4.12.5-36. Swath Select Pop-up .....	4.12.5-38

Figure 4.12.5-37. Geolocation Mappings Pop-up.....	4.12.5-39
Figure 4.12.5-38. Indexed Mappings Pop-up .....	4.12.5-39
Figure 4.12.5-39. Index Mapping Sizes Pop-up .....	4.12.5-40
Figure 4.12.5-40. Geolocation Fields Pop-up.....	4.12.5-41
Figure 4.12.5-41. PointFile Contents Pop-up .....	4.12.5-42
Figure 4.12.5-42. Point Select Pop-up .....	4.12.5-42
Figure 4.12.5-43. Level Info Pop-up .....	4.12.5-43
Figure 4.12.5-44. Vdata Table Pop-up .....	4.12.5-44
Figure 4.12.5-45. File Information Dialog .....	4.12.5-45
Figure 4.12.5-46. Animation Window Pop-up .....	4.12.5-46
Figure 4.12.5-47. EOSView Main Screen Showing Window Pulldown Menu.....	4.12.5-47
Figure 4.12.5-48. Text Display Pop-up .....	4.12.5-48
Figure 4.12.5-49. EOSView On Help Pop-up .....	4.12.5-49
Figure 4.12.5-50. Help On Contents Pop-up .....	4.12.5-51
Figure 4.12.5-51. Help On Index Pop-up .....	4.12.5-52
Figure 4.12.5-52. Help On Version Dialog .....	4.12.5-52
Figure 4.12.6-1. ODFRM Home Page .....	4.12.6-2
Figure 4.12.6-2. ASTER Product Request Selection Page .....	4.12.6-3
Figure 4.12.6-3. ASTER Product Request Selection Page Using Attached DPR .....	4.12.6-4
Figure 4.12.6-4. AST_L1B (non-standard) Product Request Page .....	4.12.6-5
Figure 4.12.6-5. AST_05 Product Request Page .....	4.12.6-7
Figure 4.12.6-6. AST_08 Product Request Page .....	4.12.6-9
Figure 4.12.6-7. AST_06V Product Request Page .....	4.12.6-10
Figure 4.12.6-8. AST_06S Product Request Page.....	4.12.6-11
Figure 4.12.6-9. AST_06T Product Request Page.....	4.12.6-12
Figure 4.12.6-10. AST_07 Product Request Page .....	4.12.6-13
Figure 4.12.6-11. AST_09 Product Request Page .....	4.12.6-14
Figure 4.12.6-12. AST_09T Product Request Page.....	4.12.6-15

Figure 4.12.6-13. AST14DEM Product Request Page .....	4.12.6-16
Figure 4.12.6-14. GCP for Absolute DEM (Coordinates Lat/Long- Deg, Min, Sec)....	4.12.6-18
Figure 4.12.6-15. GCP for Absolute DEM (Coordinates UTM Zone-Row, Northing-Easting) .....	4.12.6-19
Figure 4.12.6-16. Media Options.....	4.12.6-20
Figure 4.12.6-17. FtpPush Information .....	4.12.6-21
Figure 4.12.6-18. Shipping Information .....	4.12.6-22
Figure 4.12.6-19. Example: Product Request Confirmation Page.....	4.12.6-23
Figure 4.12.7-1. Subscription Server GUI – subscriptions Tab.....	4.12.7-3
Figure 4.12.7-2. Subscription Server GUI Main Screen – events Tab .....	4.12.7-5
Figure 4.12.7-3. Add/Edit Subscription Screen .....	4.12.7-6
Figure 4.12.7-4. Browse Event Screen .....	4.12.7-7
Figure 4.12.7-5. Actions Screen .....	4.12.7-9
Figure 4.12.7-6. Qualifiers Screen.....	4.12.7-11
Figure 4.12.7-7. Filter Subscription Screen.....	4.12.7-12
Figure 4.12.7-8. Delete Subscriptions Dialog.....	4.12.7-13

## Tables

Table 4.1.1-1. Common ECS Operator Functions Performed with NetWorker .....	4.1.1-1
Table 4.1.3-1. Common ECS Operator Functions Performed with ISQL .....	4.1.3-1
Table 4.1.2-1. Common ECS Operator Functions Performed with AMASS .....	4.1.2-2
Table 4.1.2-2. Amassreport Column Headings.....	4.1.2-9
Table 4.1.2-3. Amassreport Report Types .....	4.1.2-9
Table 4.1.3-1. Common ECS Operator Functions Performed with ISQL .....	4.1.3-1
Table 4.1.4-1. Replication Server Components .....	4.1.4-2
Table 4.1.5-1. Common Tasks Performed with ECSAssist.....	4.1.5-1
Table 4.1.5-2. ECSAssist Options and Field Descriptions .....	4.1.5-3
Table 4.1.5-3. ECSAssist Subsystem Manager Toolbar.....	4.1.5-6
Table 4.1.5-4. Database Parameter File Selection Option/Field Descriptions .....	4.1.5-8

Table 4.1.5-5. ECSAssist Subsystem Manager’s “Database” Field Descriptions.....	4.1.5-9
Table 4.1.5-6. ECSAssist Subsystem Manager’s “Database Script Parameters” Screen Field Descriptions .....	4.1.5-10
Table 4.1.5-7. ECSAssist Subsystem Manager Install Option or Field Descriptions .....	4.1.5-12
Table 4.1.5-8. Configuration File Selection Window Field Description.....	4.1.5-13
Table 4.1.5-9. ECSAssist Subsystem Manager “Configuration” Field Descriptions.....	4.1.5-13
Table 4.1.5-10. ECSAssist Subsystem Manager’s Monitor Field Descriptions.....	4.1.5-14
Table 4.1.5-11. ECSAssist Subsystem Manager stageinstall Field Descriptions.....	4.1.5-15
Table 4.1.5-12. ESDT Manager Window Field Descriptions.....	4.1.5-17
Table 4.1.5-13. ECSAssist E.A.S.I. Installation Source Field Descriptions .....	4.1.5-19
Table 4.1.5-14. ECSAssist E.A.S.I Phase Selection Window Field Descriptions.....	4.1.5-20
Table 4.1.5-15. ECSAssist E.A.S.I Installation Parameters Window Field Descriptions .....	4.1.5-21
Table 4.1.5-16. ECSAssist E.A.S.I Database Operations Window Field Descriptions....	4.1.5-22
Table 4.1.5-17. ECSAssist E.A.S.I. Installation Confirmation Window Field Descriptions .....	4.1.5-23
Table 4.1.5-18. ECSAssist E.A.S.I. STATUS Window Field Descriptions.....	4.1.5-25
Table 4.1.6-1. Common ECS Operator Functions Done Using the Registry GUI .....	4.1.6-1
Table 4.1.6-2. Registry GUI Database Login Fields .....	4.1.6-2
Table 4.1.6-3. Information, Control and Data Entry Fields on the ECS Registry GUI Main Window .....	4.1.6-4
Table 4.1.6-4. Adding a New Node Field Descriptions.....	4.1.6-6
Table 4.1.6-5. Map a Mode to an Attribute Tree .....	4.1.6-8
Table 4.1.6-6. Creating a New Attribute Tree by Copy .....	4.1.6-12
Table 4.1.6-7. Move Preparation Field Definitions .....	4.1.6-17
Table 4.1.6-8. Move Confirmation Window Fields.....	4.1.6-18
Table 4.1.6-9. Rename Attribute Tree .....	4.1.6-22
Table 4.1.6-10. Delete Node .....	4.1.6-26
Table 4.1.6-11. Fields in the Delete Attribute Dialog .....	4.1.6-28
Table 4.1.6-12. Attribute Information Window Fields .....	4.1.6-29

Table 4.1.6-13. Fields in the “Creating a new attribute tree” Dialog Box .....	4.1.6-34
Table 4.1.6-14. Attribute Historical Data Fields for Views 1 and 2.....	4.1.6-37
Table 4.1.6-15. Reason for Change .....	4.1.6-39
Table 4.2.1-1. Common ECS Operator Functions Performed with WhatsUp Gold.....	4.2.1-1
Table 4.3.1-1. Common Operator Functions Performed with ClearCase.....	4.3.1-1
Table 4.3.2-1. Common ECS Operator Functions Performed with CDDTS.....	4.3.2-1
Table 4.3.2-2. Submit Record Fields Descriptions.....	4.3.2-5
Table 4.3.2-3. Assign-Eval Fields Descriptions .....	4.3.2-11
Table 4.3.2-4. Assign-Implement Fields Descriptions .....	4.3.2-14
Table 4.3.2-5. Assign-Verify Fields Descriptions .....	4.3.2-16
Table 4.3.2-6. Verify State Fields Descriptions.....	4.3.2-17
Table 4.3.2-7. Close State Fields Descriptions.....	4.3.2-18
Table 4.3.3-1. Common ECS Operator Functions Performed with XRP-II .....	4.3.3-2
Table 4.3.3-2. All Control Items Field Description.....	4.3.3-12
Table 4.3.3-3. Hardware Items Only Field Description .....	4.3.3-15
Table 4.3.3-4. Software Items Only Field Description.....	4.3.3-17
Table 4.3.3-5. Host Items Only Field Description.....	4.3.3-18
Table 4.3.3-6. Document Items Only Field Descriptions .....	4.3.3-20
Table 4.3.3-7. Partition Items Only Field Descriptions.....	4.3.3-21
Table 4.3.3-8. Engineering Change Entry Field Descriptions.....	4.3.3-25
Table 4.3.3-9. Engineering Change Approval Field Descriptions.....	4.3.3-28
Table 4.3.3-10. Replace Component in Selected Bills .....	4.3.3-32
Table 4.3.3-11. Configuration Items List - Level One Field Descriptions .....	4.3.3-36
Table 4.3.3-12. Site Baseline Reports Field Descriptions .....	4.3.3-39
Table 4.3.3-13. Change History Reports Field Descriptions .....	4.3.3-41
Table 4.3.3-14. BOM Comparison Reports Field Descriptions .....	4.3.3-42
Table 4.3.3-15. Hardware/Software/Patch Map Reports Field Descriptions .....	4.3.3-43
Table 4.3.3-16. Software Baseline Reports Field Descriptions .....	4.3.3-45

Table 4.3.3-17. Site - Host Maps Field Descriptions.....	4.3.3-47
Table 4.3.3-18. Baseline Documents Reports Field Descriptions .....	4.3.3-48
Table 4.3.3-19. Vendor Master Manager Field Descriptions .....	4.3.3-51
Table 4.3.3-20. Vendor Address Maintenance Field Description .....	4.3.3-52
Table 4.3.3-21. Control Item Interdependency Maintenance Field Descriptions.....	4.3.3-53
Table 4.3.3-22. Implementation Status Field Descriptions .....	4.3.3-55
Table 4.3.3-23. Responsible Organization Field Descriptions .....	4.3.3-58
Table 4.3.3-24. Item Class Manager Field Descriptions .....	4.3.3-59
Table 4.3.3-25. Function Manager Field Descriptions .....	4.3.3-60
Table 4.3.3-26. Clone Manager .....	4.3.3-63
Table 4.3.3-27. System Parameters Manager Field Descriptions.....	4.3.3-67
Table 4.3.3-28. Transaction Log Field Descriptions .....	4.3.3-69
Table 4.3.3-29. Transaction Archive CHUI Field Descriptions.....	4.3.3-70
Table 4.3.3-30. Site Master Manager Field Descriptions .....	4.3.3-71
Table 4.3.3-31. Machine Network Maintenance Field Descriptions.....	4.3.3-72
Table 4.3.3-32. Commodity Code Maintenance Field Descriptions .....	4.3.3-73
Table 4.3.3-33. Export Release Records Field Descriptions .....	4.3.3-76
Table 4.3.3-34. Export Site-Unique Change Records Field Descriptions .....	4.3.3-78
Table 4.3.3-35. Export SMC Change Records Field Descriptions.....	4.3.3-79
Table 4.3.3-36. Index of System/Database Administration Functions .....	4.3.3-81
Table 4.3.3-37. Screen Manager Field Descriptions .....	4.3.3-82
Table 4.3.3-38. User Manager Field Descriptions.....	4.3.3-84
Table 4.3.3-39. Groups Manager Field Descriptions.....	4.3.3-86
Table 4.3.3-40. Screen Permission Control Field Descriptions.....	4.3.3-88
Table 4.3.3-41. Menu Manager Field Descriptions .....	4.3.3-89
Table 4.3.3-42. Data Dump Utility Field Descriptions.....	4.3.3-91
Table 4.3.3-43. Data Load Utility Field Descriptions .....	4.3.3-93
Table 4.3.3-44. Outputs .....	4.3.3-99

Table 4.3.3-45. Reports.....	4.3.3-100
Table 4.3.4-1. Common ECS Operator Functions Performed with ILM.....	4.3.4-3
Table 4.3.4-2. XRP-II's Bottom Line Commands for ILM .....	4.3.4-6
Table 4.3.4-3. EIN Entry Field Descriptions .....	4.3.4-15
Table 4.3.4-4. EIN Manager (EDF) Field Description .....	4.3.4-19
Table 4.3.4-5. EIN Structure Manager (EDF) Field Descriptions.....	4.3.4-22
Table 4.3.4-6. Items Page for EIN Structure Manager (EDF) Field Descriptions .....	4.3.4-24
Table 4.3.4-7. EIN Inventory Query (EDF) Field Descriptions .....	4.3.4-26
Table 4.3.4-8. EIN Installation Field Descriptions.....	4.3.4-29
Table 4.3.4-9. EIN Installation Items Page Field Descriptions .....	4.3.4-31
Table 4.3.4-10. EIN Shipment Field Descriptions.....	4.3.4-33
Table 4.3.4-11. Carton Size Page for EIN Shipment Field.....	4.3.4-36
Table 4.3.4-12. Items Page for EIN Shipment Field Descriptions .....	4.3.4-36
Table 4.3.4-13. Items Structure Page for EIN Shipment Field Descriptions.....	4.3.4-37
Table 4.3.4-14. EIN Transfer Field Descriptions .....	4.3.4-39
Table 4.3.4-15. EIN Archive Field Descriptions .....	4.3.4-40
Table 4.3.4-16. Items Page for EIN Archive Field Descriptions.....	4.3.4-42
Table 4.3.4-17. EIN Relocation Field Descriptions.....	4.3.4-43
Table 4.3.4-18. Items Page for EIN Relocation Field Descriptions .....	4.3.4-45
Table 4.3.4-19. Inventory Transactions Query Field Descriptions .....	4.3.4-46
Table 4.3.4-20. ILM Inventory Reports (EDF) Field Descriptions .....	4.3.4-49
Table 4.3.4-21. EIN Structure Reports Field Descriptions.....	4.3.4-51
Table 4.3.4-22. Install/Receipt Report Field Descriptions .....	4.3.4-52
Table 4.3.4-23. EIN Shipment Reports Field Descriptions .....	4.3.4-53
Table 4.3.4-24. Transaction History Reports Field Descriptions .....	4.3.4-54
Table 4.3.4-25. PO Receipt Reports Field Descriptions.....	4.3.4-55
Table 4.3.4-26. Installation Summary Reports Field Descriptions.....	4.3.4-56
Table 4.3.4-27. Order Point Parameters Manager Field Descriptions.....	4.3.4-58

Table 4.3.4-28. Recommended Orders Manager Field Descriptions .....	4.3.4-60
Table 4.3.4-29. Consumable Inventory Query Field Descriptions .....	4.3.4-62
Table 4.3.4-30. Spares Inventory Query Field Description .....	4.3.4-64
Table 4.3.4-31. Transfer Consumable & Spare Material Field Descriptions .....	4.3.4-65
Table 4.3.4-32. Material Requisition Manager Field Descriptions .....	4.3.4-68
Table 4.3.4-33. Material Requisition Master Field Descriptions .....	4.3.4-70
Table 4.3.4-34. Purchase Order Entry Field Descriptions .....	4.3.4-72
Table 4.3.4-35. Items Page for Purchase Order Entry Field Descriptions.....	4.3.4-74
Table 4.3.4-36. Material Requisition Query Page Field Descriptions.....	4.3.4-76
Table 4.3.4-37. Purchase Order Modification Field Descriptions.....	4.3.4-78
Table 4.3.4-38. Items Page for Purchase Order Modification Field Descriptions.....	4.3.4-80
Table 4.3.4-39. Purchase Order Print Field Descriptions .....	4.3.4-82
Table 4.3.4-40. Purchase Order Status Field Descriptions .....	4.3.4-83
Table 4.3.4-41. Receipt Confirmation Field Descriptions .....	4.3.4-86
Table 4.3.4-42. Items Page for Receipt Confirmation Field Descriptions .....	4.3.4-87
Table 4.3.4-43. Print Receipt Reports Field Descriptions .....	4.3.4-88
Table 4.3.4-44. Vendor Master Manager Field Descriptions .....	4.3.4-90
Table 4.3.4-45. Address Page for Vendor Master Manager Field Descriptions.....	4.3.4-91
Table 4.3.4-46. Work Order Entry Field Descriptions .....	4.3.4-94
Table 4.3.4-47. Work Order Modification (EDF) Field Descriptions .....	4.3.4-97
Table 4.3.4-48. Chargeable Hours Page for Work Order Modification (EDF) Field Descriptions .....	4.3.4-101
Table 4.3.4-49. Items Page (Left) for Work Order Modification (EDF) Field Descriptions .....	4.3.4-102
Table 4.3.4-50. Items Page (Right) for Work Order Modification (EDF) Field Descriptions .....	4.3.4-105
Table 4.3.4-51. Effects on Property Records by MWO Line Item Processing.....	4.3.4-107
Table 4.3.4-52. Preventative Maintenance Items Field Descriptions .....	4.3.4-115
Table 4.3.4-53. Generate PM Orders Field Descriptions .....	4.3.4-117
Table 4.3.4-54. Work Order Parts Replacement History Field Descriptions .....	4.3.4-118

Table 4.3.4-55. Maintenance Work Order Reports Field Descriptions .....	4.3.4-119
Table 4.3.4-56. Work Order Status Reports Field Descriptions.....	4.3.4-120
Table 4.3.4-57. Maintenance Codes Field Descriptions.....	4.3.4-121
Table 4.3.4-58. Maintenance Contracts Field Descriptions .....	4.3.4-122
Table 4.3.4-59. Authorized Employees Field Descriptions.....	4.3.4-123
Table 4.3.4-60. License Entitlement Manager (EDF) Field Descriptions .....	4.3.4-129
Table 4.3.4-61. Entitlement – Licenses Page Field Descriptions .....	4.3.4-131
Table 4.3.4-62. License Manager Field Descriptions.....	4.3.4-134
Table 4.3.4-63. License – Entitlements Page Field Descriptions .....	4.3.4-137
Table 4.3.4-64. License Allocations Page Field Descriptions .....	4.3.4-139
Table 4.3.4-65. License Allocation Additional Hosts Field Descriptions .....	4.3.4-141
Table 4.3.4-66. Adjust License Quantities Page Field Descriptions .....	4.3.4-143
Table 4.3.4-67. Employee Manager Field Descriptions .....	4.3.4-146
Table 4.3.4-68. Assembly Manager Field Descriptions .....	4.3.4-147
Table 4.3.4-69. System Parameters Manager Field Descriptions.....	4.3.4-149
Table 4.3.4-70. Inventory Location Manager Field Descriptions .....	4.3.4-150
Table 4.3.4-71. Buyer Manager Field Descriptions.....	4.3.4-152
Table 4.3.4-72. Hardware/Software Codes Field Descriptions .....	4.3.4-153
Table 4.3.4-73. Status Code Manager Field Descriptions .....	4.3.4-153
Table 4.3.4-74. Report Number Field Descriptions.....	4.3.4-154
Table 4.3.4-75. Export Inventory Data Field Descriptions.....	4.3.4-156
Table 4.3.4-76. DAAC Export Inventory Data Field Descriptions .....	4.3.4-158
Table 4.3.4-77. OEM Part Numbers (EDF) Field Descriptions .....	4.3.4-159
Table 4.3.4-78. Shipment Number Manager Field Descriptions .....	4.3.4-160
Table 4.3.4-79. Carriers Field Descriptions.....	4.3.4-161
Table 4.3.4-80. Sales/Purchase Terms Maintenance Field Descriptions.....	4.3.4-163
Table 4.3.4-81. Reason Code Maintenance Field Descriptions.....	4.3.4-164
Table 4.3.4-82. Site Codes for Scanned Data Field Descriptions.....	4.3.4-165

Table 4.3.4-83. Scanned Data Field Descriptions .....	4.3.4-166
Table 4.3.4-84. Process Scanned Data Field Descriptions .....	4.3.4-167
Table 4.3.4-85. Outputs .....	4.3.4-169
Table 4.3.4-86. Reports.....	4.3.4-170
Table 4.3.5-1. Common ECS Operating Functions Performed with FLEXIm .....	4.3.5-1
Table 4.3.5-2. Command Line Interfaces .....	4.3.5-3
Table 4.3.5-3. Reports.....	4.3.5-6
Table 4.3.6-1. Common ECS Operating Functions Performed with Remedy's Action Request System .....	4.3.6-2
Table 4.3.6-2. RelB-Trouble Tickets Field Descriptions.....	4.3.6-7
Table 4.3.6-3. User Form Field Descriptions .....	4.3.6-11
Table 4.3.6-4. Contact Log Form Field Descriptions .....	4.3.6-13
Table 4.3.6-5. Hardware Information Form Field Descriptions .....	4.3.6-15
Table 4.3.6-6. RelB-Menu-Closing Codes Field Descriptions .....	4.3.6-18
Table 4.3.6-7. RelB-Menu-Hardware Resources Form Field Descriptions .....	4.3.6-19
Table 4.3.6-8. RelB-Menu-Key Words Form Field Descriptions .....	4.3.6-21
Table 4.3.6-9. RelB-Menu-Problem Type Form Field Descriptions .....	4.3.6-22
Table 4.3.6-10. RelB-Menu-Software Resources Form Field Descriptions.....	4.3.6-23
Table 4.3.6-11. RelB-TT-Sites Form Field Descriptions .....	4.3.6-24
Table 4.3.6-12. RelB-TT-Times Form Field Descriptions .....	4.3.6-27
Table 4.3.6-13. Admin Tool GUI, Workflow Object Descriptions .....	4.3.6-28
Table 4.3.6-14. Notification Field Descriptions .....	4.3.6-29
Table 4.3.6-15. Import Field Descriptions.....	4.3.6-30
Table 4.3.6-16. Trouble Ticket HTML Submit Screen Field Descriptions .....	4.3.6-34
Table 4.3.6-17. Trouble Ticket HTML List Field Descriptions .....	4.3.6-37
Table 4.3.6-18. Trouble Ticket HTML Detailed Field Descriptions.....	4.3.6-39
Table 4.3.6-19. External Interface Protocols .....	4.3.6-39
Table 4.3.6-20. Remedy Log File Messages Example .....	4.3.6-40
Table 4.3.6-21. Non-Failure Related Error Messages .....	4.3.6-41

Table 4.3.6-22. Reports.....	4.3.6-42
Table 4.4.1-1. Common ECS Operator Functions Performed with TCP Wrappers .....	4.4.1-2
Table 4.4.1-2. TCP Wrapper Outputs .....	4.4.1-3
Table 4.4.2-1. Common ECS Operator Functions Performed with Crack .....	4.4.2-1
Table 4.4.2-2. Outputs for Crack .....	4.4.2-4
Table 4.4.3-1. Common ECS Operator Functions Performed .....	4.4.3-2
Table 4.4.3-2. Tripwire Outputs .....	4.4.3-5
Table 4.4.4-1. Common ECS Operator Functions Performed with CMI .....	4.4.4-1
Table 4.4.4-2. CMI Field Descriptions.....	4.4.4-2
Table 4.6.1-1. Operator Ingest Functions .....	4.6.1-1
Table 4.6.1-2. History Log Field Descriptions .....	4.6.1-6
Table 4.6.1-3. Ingest Monitor/Control Tab Field Descriptions .....	4.6.1-9
Table 4.6.1-4. Operator Tools - External Data/User information Tab Field Descriptions .....	4.6.1-12
Table 4.6.1-5. Update Notify Parameters Field Descriptions.....	4.6.1-14
Table 4.6.1-6. Operator Tools Modify System Parameters Field Descriptions.....	4.6.1-16
Table 4.6.1-7. Operator Tools - File Transfer Field Descriptions .....	4.6.1-18
Table 4.6.1-8. Ingest Media Field Descriptions.....	4.6.1-20
Table 4.6.1-9. ECS Data Ingest Product Dependency .....	4.6.1-20
Table 4.6.1-10. Outputs .....	4.6.1-21
Table 4.6.1-11. Standard Ingest Production Reports .....	4.6.1-21
Table 4.7.1-1. Common ECS Operator Functions Performed with Resource Planning GUIs.....	4.7.1-1
Table 4.7.1-2. Resource Reservation Request Edit/Definition GUI Field Description .....	4.7.1-6
Table 4.7.1-3. Frequency Qualifiers for Resource Reservation Request Edit/Definition GUI .....	4.7.1-7
Table 4.7.1-4. Hardware Details GUI Field Description .....	4.7.1-12
Table 4.7.1-5. Disk Resource Details GUI Field Description .....	4.7.1-13
Table 4.7.1-6. Virtual Computer Details GUI Field Description .....	4.7.1-15
Table 4.7.1-7. String GUI Field Description .....	4.7.1-16

Table 4.8.1-1. Common ECS Operator Functions Performed with Production Request Editor .....	4.8.1-1
Table 4.8.1-2. PR Edit Field Description.....	4.8.1-9
Table 4.8.1-3. PR Edit-MetaDataChecks Field Description.....	4.8.1-17
Table 4.8.1-4. PR Edit-AlternateInputValues Field Description.....	4.8.1-19
Table 4.8.1-5. DPR View Field Description.....	4.8.1-23
Table 4.8.1-6. File Mappings Field Description.....	4.8.1-26
Table 4.8.1-7. Support Products for Production Request Editor .....	4.8.1-26
Table 4.8.2-1. Common ECS Operator Functions Performed with the Production Planning Workbench .....	4.8.2-1
Table 4.8.2-2. Production Planning Workbench Field Description.....	4.8.2-5
Table 4.8.2-3. Support Products for Production Planning Workbench .....	4.8.2-7
Table 4.8.3-1. Common ECS Operator Functions Performed with Production Planning GUIs .....	4.8.3-1
Table 4.8.3-2. Production Strategies Field Descriptions .....	4.8.3-4
Table 4.8.3-3. Support Products for Production Strategies User Interface .....	4.8.3-7
Table 4.8.4-1. Common ECS Operator Functions Performed with PIPRGenerator .....	4.8.4-1
Table 4.9.1-1. ECS Operator Functions Performed using AutoSys/AutoXpert .....	4.9.1-2
Table 4.9.1-2. Interfaces Between AutoSys and other ECS PDPS Components .....	4.9.1-12
Table 4.9.1-3. Outputs .....	4.9.1-13
Table 4.9.1-4. Reports.....	4.9.1-13
Table 4.9.2-1. Common ECS Operator Functions Performed with QA Monitor .....	4.9.2-1
Table 4.9.2-2. QA Monitor Field Descriptions.....	4.9.2-5
Table 4.9.2-3. Update Metadata Field Descriptions .....	4.9.2-7
Table 4.9.2-4. Visualize Data Field Descriptions.....	4.9.2-9
Table 4.9.2-5. QA Monitor Tool Field Descriptions .....	4.9.2-10
Table 4.10.1-1. Common ECS Operator Functions Performed with the Science Data Server GUI .....	4.10.1-1
Table 4.10.1-2. Science Data Server - Server Polling Field Description .....	4.10.1-4
Table 4.10.1-3. Science Data Server - Data Types Field Description .....	4.10.1-4

Table 4.10.1-4. Science Data Server - Add Data Type Field Description.....	4.10.1-6
Table 4.10.1-5. Science Data Server - Update Data Type Field Description.....	4.10.1-7
Table 4.10.1-6. System Management Requests Field Description .....	4.10.1-9
Table 4.10.1-7. System Management Filter Requests Field Description .....	4.10.1-10
Table 4.10.1-8. Interface Protocols.....	4.10.1-11
Table 4.10.2-1. Common ECS Operator Functions Performed with STMGT Control ....	4.10.2-1
Table 4.10.2-2. Storage Management Server Field Description.....	4.10.2-4
Table 4.10.2-3. Request Manager Configuration Window Field Descriptions .....	4.10.2-7
Table 4.10.2-4. Staging Disk Server Configuration Window Field Descriptions .....	4.10.2-8
Table 4.10.2-5. Cache Manager Server Configuration Window Field Descriptions.....	4.10.2-11
Table 4.10.2-6. FTP Server Configuration Window Field Descriptions .....	4.10.2-14
Table 4.10.2-7. Media Server Configuration Window Field Descriptions (Stacker-based) .....	4.10.2-17
Table 4.10.2-8. Stacker Configuration Window Field Descriptions .....	4.10.2-21
Table 4.10.2-9. Stacker Device Configuration Window Field Descriptions .....	4.10.2-22
Table 4.10.2-10. Media Server Configuration Window Field Descriptions (Standalone-based).....	4.10.2-25
Table 4.10.2-11. Standalone Device Configuration Window Field Descriptions .....	4.10.2-28
Table 4.10.2-12. Archive Server Configuration Window Field Descriptions .....	4.10.2-29
Table 4.10.2-13. Volume Group Configuration Window Field Descriptions .....	4.10.2-32
Table 4.10.2-14. Add Volume Group Window Field Descriptions.....	4.10.2-34
Table 4.10.2-15. Modify Volume Group Pop-up Window Field Descriptions .....	4.10.2-36
Table 4.10.2-16. Volume Group History Field Description .....	4.10.2-39
Table 4.10.2-17. Volume Group Compression Factor Statistics Pop-up Window Field Descriptions .....	4.10.2-41
Table 4.10.2-18. Resource Management Tab Field Description .....	4.10.2-43
Table 4.10.2-19. Manage Stackers Pop-up Window Field Descriptions.....	4.10.2-45
Table 4.10.2-20. Load Media Set Pop-up Window Field Descriptions.....	4.10.2-47
Table 4.10.2-21. Manage Media Sets Pop-up Window Field Descriptions .....	4.10.2-48
Table 4.10.2-22. Add/Modify Media Set Pop-up Window Field Descriptions .....	4.10.2-49

Table 4.10.2-23. Cache Monitoring Tab Field Descriptions .....	4.10.2-51
Table 4.10.2-24. Event Log Field Descriptions.....	4.10.2-53
Table 4.10.2-25. Server Monitoring Tab Column Description.....	4.10.2-55
Table 4.10.2-26. Restart Backup Pop-up Window Field Descriptions.....	4.10.2-56
Table 4.10.2-27. Change Priority Pop-up window Field Descriptions.....	4.10.2-57
Table 4.10.2-28. Polling Rate Selection Pop-up Window Field Descriptions .....	4.10.2-58
Table 4.10.2-29. Support Products for Storage Management Control .....	4.10.2-59
Table 4.10.3-1. Common ECS Operator Functions Performed with the Data Distribution GUI .....	4.10.3-1
Table 4.10.3-2. Data Distribution - Track Activity Panel Field Description .....	4.10.3-4
Table 4.10.3-3. Refresh Options Field Description .....	4.10.3-6
Table 4.10.3-4. Data Distribution - Filter Requests Field Description.....	4.10.3-10
Table 4.10.3-5. Distribution Hard Media Requests Items Field Description .....	4.10.3-13
Table 4.10.3-6. Media IDs Field Description .....	4.10.3-13
Table 4.10.3-7. External Interface Protocols .....	4.10.3-17
Table 4.10.4-1. Command Line Parameters of the Granule Deletion Administration Tool.....	4.10.4-1
Table 4.10.4-2. Interface Protocols.....	4.10.4-36
Table 4.11.1-1. ECS Operator Functions Performed with the User Account Management GUI .....	4.11.1-1
Table 4.11.1-2. Personal Information Sub-tab Field Description.....	4.11.1-5
Table 4.11.1-3. Mailing, Shipping, and Billing Address Tab Field Description.....	4.11.1-7
Table 4.11.1-4. Account Information Sub-tab Field Descriptions .....	4.11.1-9
Table 4.11.1-5. Account Information Field Description .....	4.11.1-17
Table 4.11.2-1. Common ECS Operator Functions Performed with the Order Tracking Tool .....	4.11.2-1
Table 4.11.2-2. Order Tracking Main Screen Field Descriptions .....	4.11.2-4
Table 4.11.2-3. Shipping Information GUI Field Description .....	4.11.2-8
Table 4.11.3-1. Common ECS Operator Functions Performed with DDMT .....	4.11.3-1
Table 4.11.3-2. The Import Valid File Field Description .....	4.11.3-9

Table 4.11.3-3. The File Selection Field Descriptions .....	4.11.3-11
Table 4.11.3-4. The Map Attributes/Keywords Field Description .....	4.11.3-13
Table 4.11.3-5. The Export Valid File Field Descriptions .....	4.11.3-16
Table 4.11.4-1. Common ECS Operator Functions Performed with PDPS Subscription Editor.....	4.11.4-2
Table 4.11.4-2. Support Products for PDPS Subscription Editor .....	4.11.4-3
Table 4.11.4-3. PDPS Subscription Editor Interfaces .....	4.11.4-3
Table 4.11.5-1. Common ECS Operator Functions Performed with Database Installation and Maintenance Scripts .....	4.11.5-1
Table 4.11.5-2. Support Products for Database Installation and Maintenance Scripts ....	4.11.5-3
Table 4.11.6-1. Common ECS Operator Functions Performed with Database Replication Scripts .....	4.11.6-1
Table 4.11.6-2. Support Products for Database Replication Scripts .....	4.11.6-2
Table 4.11.7-1. Command Line Parameters of the Landsat 7 Error Handling Tool.....	4.11.7-1
Table 4.11.7-2. Interface Protocols.....	4.11.7-5
Table 4.11.8-1. Environment Variables for Restricted Access to ESDTs and Granules Scripts Commands.....	4.11.8-1
Table 4.11.9-1. Command Line Parameters of the SCLI Tool .....	4.11.9-1
Table 4.11.9-2. Interface Protocols.....	4.11.9-3
Table 4.11.10-1. Spatial Subscription Server (NBSRV) GUI Operator Functions .....	4.11.10-2
Table 4.11.10-2. ECS Operator Functions Performed with the Spatial Subscription Server (NBSRV) GUI .....	4.11.10-5
Table 4.11.10-3. Add Subscriptions Screen Field Description.....	4.11.10-15
Table 4.11.10-4. Add Subscriptions Screen (Continued) Field Description .....	4.11.10-18
Table 4.11.10-5. Add Subscriptions (Continued) Field Description .....	4.11.10-19
Table 4.11.10-6. Add Subscriptions (Continued) Field Description .....	4.11.10-20
Table 4.11.10-7. Add Subscriptions (Continued) Field Description .....	4.11.10-23
Table 4.11.11-1. Text File Contents .....	4.11.11-2
Table 4.11.12-1. Bulk Metadata Generation Tool Command Line Parameters .....	4.11.12-2
Table 4.11.12-2. Bulk Metadata Generation Tool Interface Protocols.....	4.11.12-2

Table 4.11.12.-3. Bulk Metadata Generation Tool Configuration File Elements .....	4.11.12-3
Table 4.11.14-1. DPM Home Page Field Descriptions .....	4.11.14-2
Table 4.11.14-2. Manage Configuration Parameters Field Description .....	4.11.14-7
Table 4.11.14-3. Add Collection Group Field Description .....	4.11.14-11
Table 4.11.14-4. Modify Collection Group Field Description .....	4.11.14-12
Table 4.11.14-5. Add Collection Group Field Description .....	4.11.14-16
Table 4.11.14-6. Filter Theme Field Description .....	4.11.14-20
Table 4.11.14-7. Add Theme Field Descriptions.....	4.11.14-20
Table 4.11.14-8. Modify Theme Field Description .....	4.11.14-22
Table 4.11.15-1. OM GUI Queue Status Field Descriptions.....	4.11.15-5
Table 4.11.15-2. OM GUI Configuration Parameters Descriptions .....	4.11.15-10
Table 4.11.15-3. Order Manager Server Statistics Page Field Descriptions .....	4.11.15-14
Table 4.11.15-4. Request Management Page Field Descriptions .....	4.11.15-16
Table 4.11.15-5. Intervention for Request Page Field Descriptions.....	4.11.15-19
Table 4.11.15-6. Confirmation for Intervention Page Field Description.....	4.11.15-21
Table 4.11.15-7. Field Descriptions for Confirmation Page with Change of Media to FTP Push.....	4.11.15-23
Table 4.11.15-8. Requests with Completed Interventions Page Field Descriptions ...	4.11.15-25
Table 4.11.15-9. Completed Intervention for Request Page Field Description.....	4.11.15-27
Table 4.11.15-10. Distribution Requests List Page Field Descriptions.....	4.11.15-29
Table 4.11.16-1. Order Manager Command Line Parameters .....	4.11.16-1
Table 4.11.16-2. Order Manager Configuration File Parameters .....	4.11.16-2
Table 4.11.16-3. Order Manager Data Bases.....	4.11.16-10
Table 4.11.16-4. Order Manager COTS Products Dependencies.....	4.11.16-10
Table 4.12.1-1. Common ECS Operator Functions Performed with CDE .....	4.12.1-1
Table 4.12.2-1. Common ECS Operator Functions Performed with Microsoft Office... .	4.12.2-1
Table 4.12.3-1. Common ECS Operator Functions Performed with Netscape Communicator .....	4.12.3-1
Table 4.12.3-2. Netscape Communicator Outputs.....	4.12.3-6

Table 4.12.4-1. Common ECS Operator Functions Performed with the iPlanet Web Server .....	4.12.4-2
Table 4.12.5-1. Common ECS Operator Functions Performed with EOSView.....	4.12.5-1
Table 4.12.5-2. EOSView File Selection Field Description.....	4.12.5-5
Table 4.12.5-3. Multi Dimension SDS Field Description .....	4.12.5-8
Table 4.12.5-4. EOSView File Save Field Description.....	4.12.5-18
Table 4.12.5-5. Min/Max Values Window Field Description .....	4.12.5-19
Table 4.12.5-6. Lat/Lon Symbol Window Field Description .....	4.12.5-23
Table 4.12.5-7. X-Y Cursor Window Field Description .....	4.12.5-24
Table 4.12.5-8. Start/Stride/Edge Pop-up Field Description.....	4.12.5-36
Table 4.12.5-9. Operating Systems.....	4.12.5-53
Table 4.12.5-10. Environment Variables Used by EOSView .....	4.12.5-53
Table 4.12.6-1. Common ECS Operator Functions Performed with ODFRM.....	4.12.6-1
Table 4.12.7-1. ECS Subscription Server Functions .....	4.12.7-1
Table 4.12.7-2. Subscriptions Tab Field Descriptions.....	4.12.7-4
Table 4.12.7-3. Events Tab Field Descriptions .....	4.12.7-5
Table 4.12.7-4. Add/Edit Subscription Field Descriptions.....	4.12.7-7
Table 4.12.7-5. Browse Event Field Descriptions .....	4.12.7-8
Table 4.12.7-6. Actions Field Descriptions .....	4.12.7-10
Table 4.12.7-7. Qualifiers Field Descriptions.....	4.12.7-12
Table 4.12.7-8. Filter Subscription Field Descriptions.....	4.12.7-13
Table 4.12.7-9. Delete Subscriptions Field Descriptions .....	4.12.7-14
Table 4.12.7-10. Interfaces Protocols .....	4.12.7-15
Table 4.12.7-11. Subscription Server Database References.....	4.12.7-15
Table 4.12.08.1-1. Command Line Parameters of the Batch Insert Utility .....	4.12.8-1
Table 4.12.08.4-1. Interface Protocols.....	4.12.8-3
Table 4.12.09.1-1. Command Line Parameters .....	4.12.9-2
Table 4.12.09.1.1-1. Configuration Parameter Descriptions .....	4.12.9-4
Table 4.12.09.4-1. COTS Product Dependencies .....	4.12.9-8

Table 4.12.10-1. Command Line Parameters of the Update Granule Utility .....	4.12.10-2
Table 4.12.10-2. Configuration Parameters.....	4.12.10-4
Table 4.12.10-3. Interface Protocols.....	4.12.10-4
Table 4.12.11-1. Command Line Parameters of the DPASU .....	4.12.11-2
Table 4.12.11-2. Interface Protocols.....	4.12.11-6
Table 4.12.11-3. Data Pool Access Configuration Parameters for Rollup Scripts.....	4.12.11-7
Table 4.12.11-4. Data Pool Access Special Modules .....	4.12.11-8
Table 4.12.12-1. Command Line Parameters of the DPASU Access Maintenance Scripts .....	4.12.12-2
Table 4.12.12-2. Interface Protocols.....	4.12.12-3

## **Appendix A. User Interface Messages**

### **Glossary**

### **Abbreviations and Acronyms**

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# 1. Introduction

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## 1.1 Identification

The Release 6B Operations Tools Manual, Contract Data Requirements List (CDRL) item 116, whose requirements are specified in the revised Data Item Description (DID) 609/OP1, is a required deliverable under contract NAS5-60000.

## 1.2 Purpose

This document describes the human-machine interface (HMI) characteristics of the tools (configuration items) used by the ECS operations staff when performing the following:

- Computer systems administration
- System monitoring
- Configuration management
- Security and accountability
- Science software integration and testing
- Resource planning
- Production planning and processing
- Science data ingest, archive and distribution
- User services
- Common services

This document provides background information that is the basis for the *Release 6B Operations Procedures for the ECS Project* (DID 611/OP3). The 609 document is intended to (1) familiarize the ECS operators with their tools, (2) be used as a reference for all ECS operational tasks, and (3) be used as an aid during training of ECS operations staff.

## 1.3 Scope

This document applies to *Release 6B*, and not to any subsequent releases of the ECS. This document is limited to (1) a detailed description of customized operator tools, (2) a brief description of Commercial Off-the-Shelf (COTS) software used by operations and references to the applicable vendor manuals, and (3) a detailed description of customized COTS software. This document points to DID 611 for all operational procedures or to individual COTS manuals for detailed COTS instructions. Operators, maintainers, and external users of the ECS system intend it for use during the period in which *Release 6B* is operational.

## **1.4 Status and Schedule**

This submittal of DID 609/OP1 meets the milestone specified in the Contract Data Requirements List (CDRL) of NASA contract NAS5-60000.

This document reflects the February 14, 1996 Technical Baseline (210-TP-001-006) submitted via contract correspondence No. ECS 194-00343.

## **1.5 Organization**

This document is organized to describe the tools used by ECS operations staff and external users during *Release 6B*.

Section 1.0 provides information regarding the identification, scope, purpose, status, and organization of this document.

Section 2.0 provides a listing of related documents, which were used as source information for this document. The section also identifies the documentation provided for each *Release 6B* software component.

Section 3.0 provides a brief overview of the *Release 6B ECS*.

Section 4.0 provides a detailed description of *Release 6B* operations tools. It is organized by operation function and provides the following types of information: tools overview, required operating environment, CSCI function, operator commands, system messages, reports, and outputs.

Appendix A provides a description of *Release 6B* system status and error messages, including probable causes, impacts, and proposed actions.

The Abbreviations and Acronyms section contains an alphabetical list of the abbreviations and acronyms used in *Release 6B*.

The Glossary section contains terms used in this document.

## 2. Related Documentation

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### 2.1 Parent Documents

The parent document is the document from which the scope and content of this Release 6B Operations Tools Manual has been derived.

423-41-02	Goddard Space Flight Center, Functional and Performance Requirements Specification for the Earth Observing System Data and Information System (EOSDIS) Core System (ECS)
423-41-03	EOSDIS Core System Contract Data Requirements Document

### 2.2 Applicable Documents

The following documents, referenced within this Release 6B Operations Tools Manual, are directly applicable or contain policies or other directive matters binding upon the content of this volume.

102-CD-002	Maintenance and Operations Configuration Management Plan for the ECS Project
205-CD-002	Science User's Guide and Operations Procedure Handbook, Volume 4: Software Developer's Guide to Preparation, Delivery, Integration and Test with ECS
205-CD-004	Science User's Guide and Operations Procedures Handbook (Release B.0) for the ECS Project
194-207-SE1	System Design Specification for the ECS Project
304-CD-003	Communications and System Management Segment (CSMS) Requirements Specification for the ECS Project
305/DV2	Segment/Design Specification for the ECS Project
307-CD-002	Science Data Processing Segment Release and Development Plan for the ECS Project
311-CD-600	Release 6B Data Management Database Design and Schema Specifications for the ECS Project
311-CD-601	Release 6B INGEST Subsystem Database Design and Schema Specifications for the ECS Project
311-CD-602	Release 6B Interoperability Subsystem (IOS) Database Design and Schema Specifications for the ECS Project

311-CD-603	Release 6B Planning and Data Processing Subsystem Database Design and Database Schema Specifications for the ECS Project
311-CD-604	Release 6B Science Data Server Database Design and Schema Specifications for the ECS Project
311-CD-605	Release 6B Storage Management Database Design and Schema Specifications for the ECS Project
311-CD-606	Release 6B Subscription Server Database Design and Schema Specifications for the ECS Project
601-CD-001	Maintenance and Operations Management Plan for the ECS Project
604-CD-002	ECS Operations Concept for the ECS Project: Part 2B - ECS Release B
605-CD-002	Release-B SDPS/CSMS Operations Scenarios for the ECS Project
609-CD-001	Interim Release One (Ir1) Maintenance and Operator's Procedures for the ECS Project
611-CD-600	Release 6B Mission Operation Procedures for the ECS Project
613-CD-003	Release B COTS Maintenance Plan for the ECS Project
625-CD-601	ECS Project Training Material Volume 1: Course Outline
625-CD-602	ECS Project Training Material Volume 2: Introduction and System Overview
625-CD-603	ECS Project Training Material Volume 3: Problem Management
625-CD-604	ECS Project Training Material Volume 4: System Administration
625-CD-605	ECS Training Material Volume 5: Network Administration
625-CD-606	ECS Project Training Material Volume 6: Production Planning and Processing
625-CD-607	ECS Project Training Material Volume 7: Resource Planning
625-CD-608	ECS Project Training Material Volume 8: Ingest
625-CD-009	ECS Project Training Material Volume 9: Data Distribution
625-CD-010	ECS Project Training Material Volume 10: Archive Processing
625-CD-011	ECS Project Training Material Volume 11: Database Administration
625-CD-612	ECS Project Training Material Volume 12: Configuration Management
625-CD-613	ECS Project Training Material Volume 13: User Services

625-CD-616	ECS Project Training Material Volume 16: Science Software Integration and Test
625-CD-617	ECS Training Material Volume 17: System Troubleshooting
420-TP-007	Planning Workbench Detailed Design for the ECS Project
910-TDA-022	Custom Code Configuration Parameters - Rev06, May 2002
IMSV0-OP-GD-001	GSFC, EOS Data Gateway; User Manual for EOS Data Gateway
IMSV0-PD-SD-002	EOSDIS Information Management System EOS Data Gateway Messages and Development Data Dictionary for V0 and ASTER/ECS Message Passing Protocol Specification

## 2.3 Information Documents

The following documents are referenced herein, and amplify or clarify the information presented in this document. These documents are not binding on the content of the Release 6B Operations Tools Manual.

*Action Request System 2.0, Troubleshooting and Error Messages Guide (1995)*, Remedy Corporation, Mountain View, CA

*Action Request System 2.0, User's Guide for OSF/Motif (1995)*, Remedy Corporation, Mountain View, CA

Accell Publication Package, Unify Corporation, Sacramento, CA

Accell Release Notes, Unify Corporation, Sacramento, CA

*AIX Version 4.1 iFOR/LS System Management Guide* First Edition (1994), Gradient Technology Inc, 11400 Burnet Rd., Austin TX 78758-3493

*AIX Version 4.1 iFOR/LS Tips and Techniques* First Edition (1994), Gradient Technology Inc, 11400 Burnet Rd., Austin TX 78758-3493

*AMASS Overview* Version 4.9(1997), EMASS Inc., 10949 East Peakview Ave., Englewood, CO 80111

*AutoSys User Manual*, Version 3.5, August 1995, AutoSystems Development Lab, PLATINUM Technology, Inc., Boulder, CO

*AutoXpert User Guide*, Unix BETA Version 1.0, July 1995, AutoSystems Development Lab, PLATINUM Technology, Inc., Boulder, CO

*C Language Reference Manual* (1995), Silicon Graphics, Inc., Mountain View, CA

*ClearCase Administrator's Manual, Unix Edition Release 2.0 and later* (1995), 4000-013-B, Atria Software Inc., Natick, MA

*ClearCase Quick Reference Manual, Unix Edition Release 2.0 and later* (1995), 4000-013-B, Atria Software Inc., Natick, MA

*ClearCase User's Manual, Unix Edition Release 2.0.2 and later* (1995), 4000-011-B, Atria Software Inc., Natick, MA

*Data Production Software and Science Computing Facility (SCF) Standards and Guidelines, Rev A, October 1996, 423-16-01, GSFC, Greenbelt, MD*

*DCE Cell Manager 1.6.2 Overview and User's Guide* (1997), Chisholm Technologies Inc, 6805 Capital of Texas Hwy, Austin TX 78731

*Displaying Information and Generating Reports (iFOR/LS)* (1994), Gradient Technology Inc, 11400 Burnet Rd., Austin TX 78758-3493

*Errors and Corrective Action (AMASS)* Version 4.9 (1997), EMASS Inc, 10949 East Peakview Ave., Englewood, CO 80111

*Enterprise SQL Server Manager User's Guide*, Release 10.0.2 (1995), Sybase, Inc. Emeryville, CA

*Expert Analyzer Output File Format* (1995), Network General Corporation, Menlo Park, CA

*Expert Sniffer Network Analyzer Operations* (1995), Network General Corporation, Menlo Park, CA

*FDDI Overview and Guide to Troubleshooting* (1995), Network General Corporation, Menlo Park, CA

*Fortran 77, Language Reference Manual* (1991), Silicon Graphics, Inc., Mountain View, CA

*IDL Reference Guide, Interactive Data Language* (1991), Volumes 1 and 2, Version 4.0, Research Systems, Inc., Boulder CO

*IDL User's Guide, Interactive Data Language* (1995), Version 4.0, Research Systems, Inc., Boulder CO

*iFOR/LS Administrator's Guide* (1994), Gradient Technology Inc, 11400 Burnet Rd., Austin TX 78758-3493

*iFOR/LS Installation Notes* (1994), Gradient Technology Inc, 11400 Burnet Rd., Austin TX 78758-3493

*iFOR/LS Quick Start Guide* (1994), Gradient Technology Inc, 11400 Burnet Rd., Austin TX 78758-3493

*iFOR/LS Quick Start Guide, Hewlett-Packard Version* (1994), Gradient Technology Inc, 11400 Burnet Rd., Austin TX 78758-3493

*Illustra Installation and System Administration Guide* (1995), Illustra Server Rel. 3.2, Illustra Information Technologies, Inc., Oakland, CA

*Illustra User's Guide* (1995), Illustra Server Rel. 3.2, Illustra Information Technologies, Inc., Oakland, CA

*Intelligent Query and IQ Access User's Guide for Windows and Motif, Version 5* (1996), IQ Software Corporation, Norcross, Georgia

*Introduction to SPARCworks, SunPro* (1992), Sun Microsystems, Inc. Mountain View, CA

*Installing and Configuring Amass, Version 4.9* (1997), EMASS Inc, 10949 East Peakview Ave., Englewood, CO 80111

*IQ Installation Guide for Unix Motif* (1995), IQ Software Corporation, Norcross, Georgia

*IQ System Manager's Guide, Versions 3, 4, & 5* (1995), IQ Software Corporation, Norcross, Georgia

*IRIX Networker Administrator's Guide, Silicon Graphics Computer Systems* (1995), 007-1458-030, Mountain View, CA

*IRIX Networker User's Guide, Silicon Graphics Computer Systems* (1995), 007-1458-030, Mountain View, CA

*Managing the AMASS File System Version 4.9* (1997), EMASS Inc, 10949 East Peakview Ave., Englewood, CO 80111

*Microsoft Excel User's Guide, Version 5* (1993-94), Microsoft Corporation

*Microsoft PowerPoint User's Guide, Version 4.0* (1994), Microsoft Corporation

*Microsoft Word, Version 6.0* (1993-94), Microsoft Corporation

*MIPSpro Fortran 77 Language Reference Manual* (1994), Silicon Graphics, Inc. Mountain View, CA

*Netscape Navigator Handbook* (Version 3.0), S. Kronick, Netscape Communications Corporation, Mountain View, CA

*NetWorker Administrator's Guide* (1996), Legatto Systems, Inc., 3145 Porter Dr., Palo Alto CA 94304

*NetWorker User's Guide* (1996), Legatto Systems, Inc., 3145 Porter Dr., Palo Alto CA 94304

*Network/Communications Management, Volume 1, MT923 Physical Network Management* (1995), Accugraph Corporation, El Paso, TX

NASA/ESDIS Standards

Netscape Enterprise Server – Administrator's Guide for UNIX, AOL/ Netscape, Mountain View, CA

Netscape Enterprise Server – Programmer's Guide for UNIX, AOL/ Netscape, Mountain View, CA

Netscape Livewire – Developer's Guide for UNIX, AOL/ Netscape, Mountain View, CA

*Open Client DB-Library/C Reference Manual* (1993), Sybase Inc., 6475 Christie Avenue, Emeryville, CA 94608

*Open Client and Open Server Common Libraries Reference Manual* (1993), Sybase Inc., 6475 Christie Avenue, Emeryville, CA 94608

*ProDev Workshop Environment Guide* (1994), Silicon Graphics, Inc., Mountain View, CA

*ProDev Workshop User's Guide Volume I: The Debugger, Build Manager, and Static Analyzer* (1994), Silicon Graphics, Inc., Mountain View, CA

ProDev Workshop WorkShop User's Guide Volume II: The Performance Analyzer and Tester (1994), Silicon Graphics, Inc., Mountain View, CA

*PureDDTS Administrator's Manual*, version 3.2, Pure Software Inc., Sunnyvale, CA

*PureDDTS Manual Pages Reference Guide*, version 3.2, Pure Software Inc., Sunnyvale, CA

*PureDDTS User's Manual*, version 3.2, Pure Software Inc., Sunnyvale, CA

*Replication Server Administration Guide* 32511-01-1250-01(1995), Sybase, Inc., Emeryville, CA

*Replication Server Commands Reference* (1995), Sybase, Inc., Emeryville, CA

*Replication Server Configuration Guide for Unix Platforms* 35817-01-1250-01, Sybase, Inc., Emeryville, CA

*Replication Server Installation Guide* (1995), Sybase, Inc., Emeryville, CA

*Replication Server Reference Manual* 32410-01-1250-02, Sybase, Inc., Emeryville, CA

*Replication Server Trouble Shooting Guide* 35920-01-1250-01 (1995), Sybase, Inc., Emeryville, CA

*Sniffer Network Analyzer: Ethernet Monitor Operations* (1995), Network General Corporation, Menlo Park, CA

*Sniffer Network Analyzer: FDDI Monitor Operations* (1995), Network General Corporation, Menlo Park, CA

*SQL Server Error Message*, (1995), Sybase, Inc., Emeryville, CA

*SQL Server Troubleshooting Guide*, (1994), Sybase, Inc., Emeryville, CA

*SQL Server Utility Programs for UNIX*, (1994), Sybase, Inc., Emeryville, CA

*SQR3 Workbench, SQR User's Guide* (1995), version 3, MITI, Long Beach CA

*The SQL Server Installation Guide*, (1994), Sybase, Inc., Emeryville, CA

*StdRef Chapter 12: Object Description Language (ODL) Specification and Usage*,  
<http://pds.jpl.nasa.gov/stdref/chap12.htm>

*SYBASE SQL Server Error Messages*, Releases 4.2-10.0.2, (1995), Sybase, Inc., Emeryville, CA

*SYBASE SQL Server System Administration Guide* (1994), Sybase, Inc, Emeryville, CA

*SYBASE SQL Server Troubleshooting Guide* (1994), Sybase, Inc, Emeryville, CA

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*System Administration Guide for SQL Server* (1994), Sybase, Inc, Emeryville, CA

*System Administration Guide Supplement (operating-system specific system administration tasks)* (1994), Sybase, Inc, Emeryville, CA

Tivoli Courier Users Manual, Tivoli Systems Inc., Austin, TX

*Tivoli Enterprise Console Event Adapter Guide*, (1995), Tivoli Systems Inc., Austin, TX

*Tivoli Enterprise Console User's Guide*, (1995), Tivoli Systems Inc., Austin, TX

*Tivoli Host Management Guide*, (1995), Tivoli Systems Inc., Austin, TX

*Tivoli Management Platform User's Guide (Release 2.5)*, (1995), Tivoli Systems Inc., Austin, TX

*Tivoli/Sentry Monitoring Collection Reference Manuals*, (1995), Tivoli Systems Inc., Austin, TX

*Tivoli/Sentry User's Guide*, (1995), Tivoli Systems Inc., Austin, TX

*Tivoli User and Group Management Guide*, (1995), Tivoli Systems Inc., Austin, TX

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*UNIFY Developer's Reference* (1989), UNIFY Corporation, Sacramento, CA

*UNIFY Direct HLI Programmer's Manual* (1989), UNIFY Corporation, Sacramento, CA

*UNIX in a Nutshell, A Desktop Quick Reference, System V Edition* (1994). Gilly, D. and staff of O'Reilly & Associates, Inc., O'Reilly & Associates, Inc., Sebastopol, CA

*Using the AMASS GUI Version 4.9* (1997), EMASS Inc, 10949 East Peakview Ave., Englewood, CO 80111

*XRP-II Datalook/Datarite Reference Manual* (1995), HTG, Ft. Worth TX

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*XRP-II System Reference Manual* (1995), HTG, Ft. Worth TX

*XRP-II Tools, Techniques, and Conventions Manual* (1995), HTG, Ft. Worth TX

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*Z-Mail for Motif Installation Guide, Version 3.2* (1994), Z-Code Software/NCD Software Corporation, Novato, CA

*Z-Mail for Motif Reference Manual, Version 3.2* (1994), Z-Code Software/NCD Software Corporation, Novato, CA

*Z-Mail for Motif User's Guide, Version 3.2* (1994), Z-Code Software/NCD Software Corporation, Novato, CA

*Z-Mail Network License Server Installation and Maintenance Guide* (1994), Version 1.8, Z-Code Software/NCE Corporation, Novato, CA

### **3. Release 6B Overview**

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#### **3.1 Release 6B Objectives**

##### **3.1.1 Release 6B Capabilities**

The Earth Observing System (EOS) Data and Information System (EOSDIS) Core System (ECS) capabilities are developed in terms of formal releases. Release 6B, which is controlled by Configuration Management, provides capabilities to support the ingest and archive of raw data obtained from the EOS AM 1 mission spacecraft, morning equator crossing spacecraft series (Terra (AM-1)), EOS PM 1 mission spacecraft, afternoon equator crossing spacecraft series (Aqua (PM-1)) and the Land Remote-Sensing Satellite (Landsat 7). Other capabilities provided by Release 6B include processing the data obtained, distributing raw or processed data as requested, quality assurance of processed data, supporting communication networks, and systems monitoring via interfaces with the ECS operations staff.

Release 6B unique capabilities include:

- Data Pool Maintenance – A GUI providing an operator interface to monitor the current status of data pool inserts and to maintain specific data pool parameters; manages ECS and non-ECS data collections.
- Batch Insertion – A utility used by operators to insert granules residing in or outside of the ECS archive into the data pool.
- Data Pool Cleanup – A utility used by operators to remove expired granules and their associated metadata and browse files from data pool disks and corresponding data pool database inventory.
- Production Request Editor Generator – A command line interface that allows the user to create and activate a number of Routine Production Requests using information contained in an input file.
- Order Manager – A command line utility use by the operations staff to submit order requests into the Order Manager System (OMS) database directly without knowing whether the Order Manager Server is up or down.
- Spatial Subscription Server – A GUI used by operators to place a standing order (subscription) on an ECS event.
- Bulk Metadata Generation Tool – A utility used by operators to make available the ftp URLs in the data pool to the ECS Clearing House (ECHO).
- DTF Ingest – Provides the capability to ingest data from a DTF tape.

- Ingest ICESAT – Provides the capability to ingest ICESAT data via the INGEST SIPS interface.
- SBSRV FtpPull Acquires – Allows subscriptions to be submitted that specify an FTP Pull Acquire as an action.
- V0GW Access to Non-Science Collections – Enables searches to be conducted against non-science collections and against granules without spatial and/or temporal metadata.
- DDIST Data/Staging Logging – Provides Data Access and Staging Activity logs that record the activities associated with archive processing.
- Attached DPRs/JDT ODForms – Provides the capability to construct a standing Product Processing Order associated with a Data Acquisition Request.
- 4000 DPR – Incorporates performance enhancement to facilitate the processing of 4000 DPRs/day.
- Reprocessing – Capability incorporated to reprocess data products from any original or updated single data input or combination of inputs.
- Science Data Server Performance Improvements include:
  - Batch Insert/Update – Optimizes SQL calls from the SDSRV to Sybase by grouping multiple statements into a single batch and sending them to Sybase together.
  - Malloc Reduction – Reduces the number of malloc operations on search, insert validation, and event notification to SBSRV.
  - Dirty Reads – Allows dirty reads when receiving a large number of insert and search requests at the same time.
  - Autoinspect – Stores metadata information in the SDSRV client so that some request from the client to the SDSRV can be eliminated.
- Request Manager – Allows the STMGT client code to checkpoint requests directly to a database and permits servers to handle requests within a fixed number of threads.
- V0 Gateway Enhancements – Capability to use EDG Client to perform searches on specified attributes..

Release 6B unique capabilities and modifications include:

- Removal of DCE Cell Manager, replacing DCE library calls with socket-based library calls from custom developed code called CCS middleware. The CCS middleware does not require a GUI.
- Removal of the Stacker ID and Stacker Slot ID fields on the Media Ingest tab of the Data Ingest GUI.
- Adding Landsat 7 IGS Browse.

- Adding Digital Linear Tape Distribution (DLT) as a Media Type within the Data Distribution Operator GUI.

A more detailed overview of the Release 6B ECS can be found in the Release 6B Segment/Design Specifications for the ECS Project, 305-CD-610-003.

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## **4. Description of the ECS Operational Tools**

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The human-machine interface (HMI) characteristics description of the software tools that the ECS operator uses to perform routine ECS operations is listed by the following major functional areas:

- 4.1 Computer Systems Administration
- 4.2 System Monitoring (Problem, Fault, and Performance Management)
- 4.3 Configuration Management
- 4.4 Security and Accountability
- 4.5 Science Software Integration and Test
- 4.6 ECS Data Ingest
- 4.7 Resource Planning
- 4.8 Production Planning
- 4.9 Production Processing
- 4.10 Science Data Archive and Distribution
- 4.11 User Services Tools
- 4.12 Common Services Tools

When using this document, the reader should note the following:

- The screens/GUIs presented in this section are samples and often do not reflect the actual window contents seen by the DAAC operator because they depend on hardware configuration, actual server names, directories, etc.
- Basic Unix, Network and application configuration and utilities are not explicitly addressed in this document
- Launching tools from the command line is avoided as much as possible to give operations management the ability to control (a) access to the Unix command line and shell; and (b) reduce the use of the xterm except for programs other than Motif programs
- Release 6B directory structure is discussed in DID 612, which is the Programmer's Manual for each of the Release 6B DAACs and the SMC
- This document references the ECS Baseline Information System web page, URL <http://cmdm.east.hitc.com/>, in several places for information on the Required Operating Environment. This web page is currently being constructed for the desired information in the ECS Baseline. Until it is put in place, the reader is referred to the DAAC library for hard copies of the desired COTS documents.

**Note:**

The sample GUI screen images provided in the tool description in this document are best viewed on a computer terminal. The terminal provides the color and resolution needed to convey the screen design and usage. The terminal allows the user to view and enlarge the screen image to see the various fields on the screen images if they are unreadable. A hard copy printout of a screen image can lose all of its color and a great deal of its resolution in going from a computer terminal to a printer to a Xerox machine. The transition from terminal to printer to Xerox machine can cause the quality to degenerate to the point the images are totally unreadable.

## **4.1 Computer Systems Administration**

This section describes the computer system administration tools used by DAAC operators:

1. Legato's Networker
2. AMASS
3. ISQL
4. Sybase Replication Server
5. ECSAssist
6. ECS Registry GUI
7. Whazzup GUI

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#### **4.1.1 Legato NetWorker**

The Legato Networker COTS Version 6.02 installed in ECS Release Solaris 8 has been verified to be “Y2K” compliant.

Legato’s NetWorker is a set of three components -Administration, Backup, and Recovery - used by system administrators to back up the entire system, with the exception of DBMS files (see Section 4.1.5, “ISQL”, for details on backup of DBMS files). The basic configuration is to have a NetWorker Server with a backup device (i.e., Jukeboxes or 8mm tapes) networked to a number of clients that represent the subsystem hosts.

NetWorker performs site-wide system backup. It provides a suite of integrated tools for backup and recovery, archive and retrieval, and hierarchical storage management. The product supports multi-platform networks, contains a motif-based GUI with on-line help, and supports concurrent device support for parallel backup and recovery using up to 16 storage devices. Authorized users can perform both scheduled and ad-hoc backups, recoveries and other data management services. NetWorker software consists of two components: a client portion, which runs on the systems to be backed up, and a server portion, which is the system to which the backup devices are connected. The client portion sends the data to be backed up to the server portion, which then writes the data out to disk.

NetWorker is used to perform the operator functions listed in Table 4.1.1-1.

**Table 4.1.1-1. Common ECS Operator Functions Performed with NetWorker**

Operating Function	GUI	Description	When and Why to Use
Manage, configure, and monitor NetWorker	<ul style="list-style-type: none"><li>• NetWorker Administrator GUI</li></ul>	Allows monitoring of server status, devices, sessions, messages, and pending displays	To start NetWorker (NW) tasks and monitor server activity
Monitor and schedule backup	<ul style="list-style-type: none"><li>• NW Backup GUI</li></ul>	<ul style="list-style-type: none"><li>• Group backup</li><li>• Scheduled backup</li><li>• Incremental backup</li></ul>	To back up client files
Recovering backed up files	<ul style="list-style-type: none"><li>• NW Recover GUI</li></ul>	Retrieves files that have been backed up	To recover backed up client files

##### **4.1.1.1 Quick Start Using NetWorker**

This section presents an orientation of NetWorker. For more information, see the *NetWorker User’s Guide*, and the *NetWorker Administrator’s Guide*, Using NetWorker Windows and Menus.

The documentation used is for version 5.5 of NetWorker.

#### **4.1.1.1 Invoking NetWorker From the Command Line Interface**

The NetWorker Administrator tool is used to manage and configure the NetWorker environment. To execute NetWorker Administrator from the command line prompt use:

```
nwadmin <-s server_name> &
```

The NetWorker Backup tool is used to backup files on client machines. To execute NetWorker Backup from the command line prompt use:

```
nwbackup <-s server_name> &
```

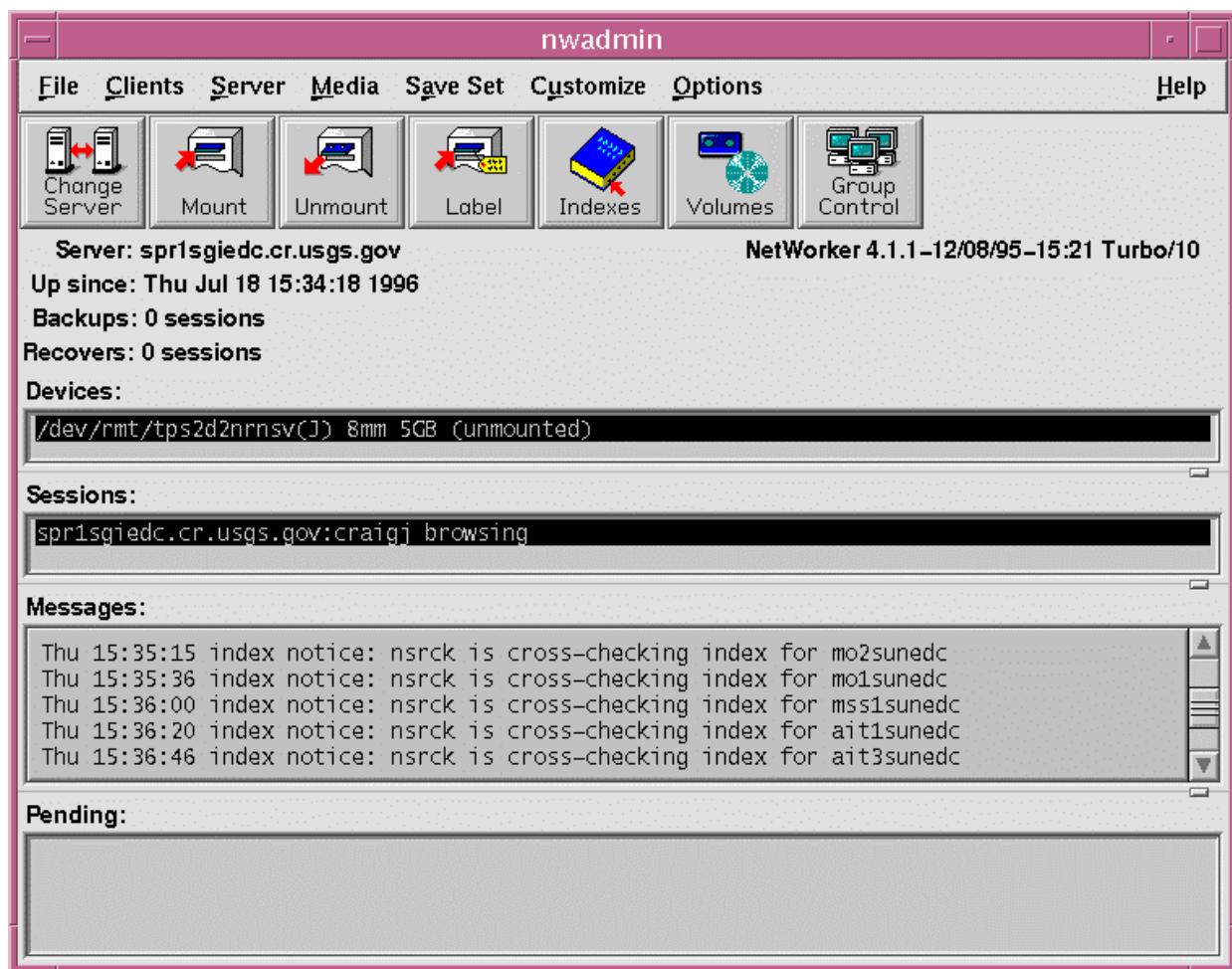
The NetWorker Recover tool is used to recover files on client machines. To execute NetWorker Recover from the command line prompt use:

```
nwrecover <-s server_name> &
```

Note: The optional <-s server\_name> is used only in NetWorker environments that have multiple NetWorker servers.

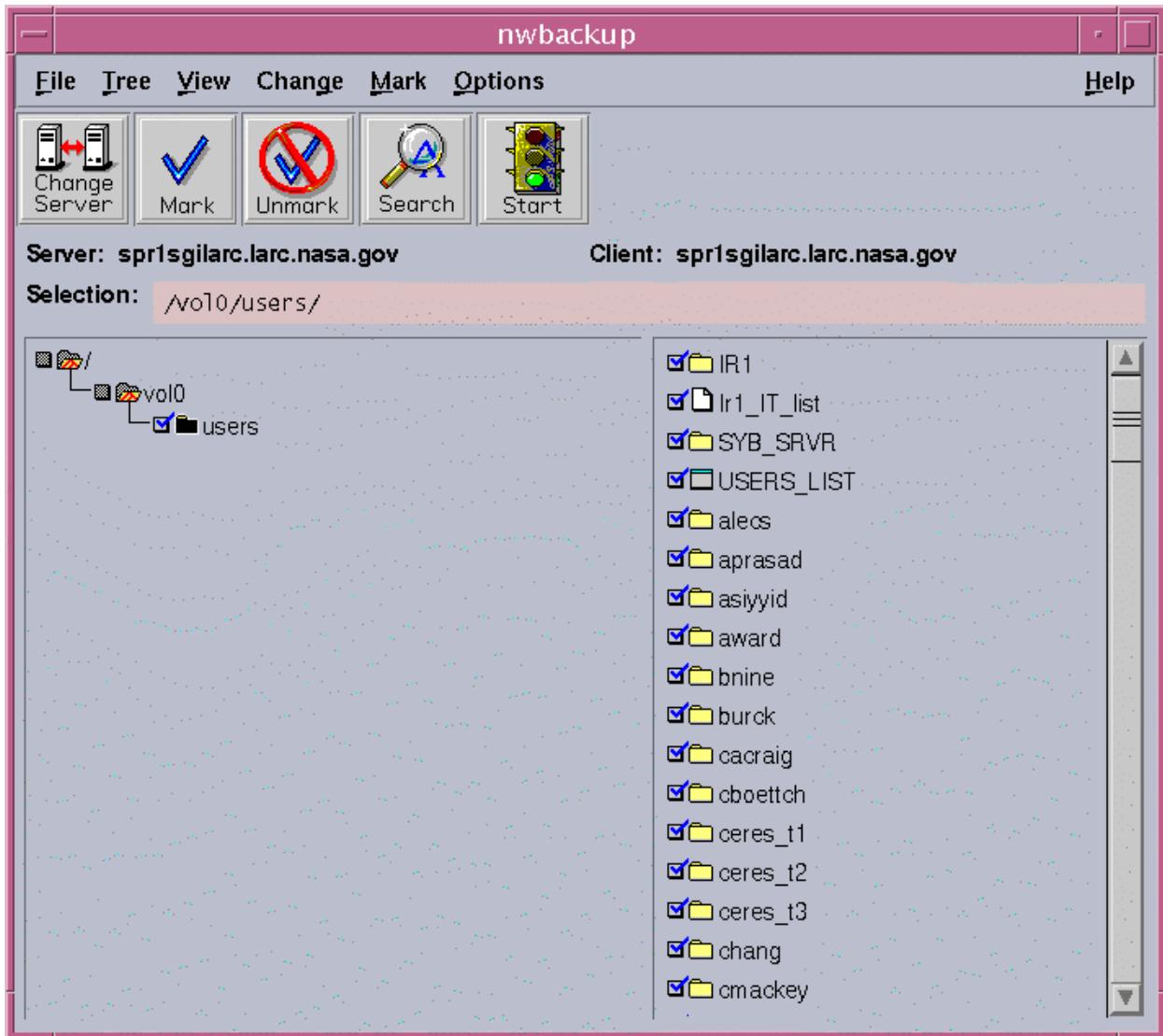
#### **4.1.1.2 NetWorker Main Screen**

Figure 4.1.1-1 shows the nwadmin screen. For more information on the NetWorker Administrator, see the *NetWorker Administrator's Guide*.



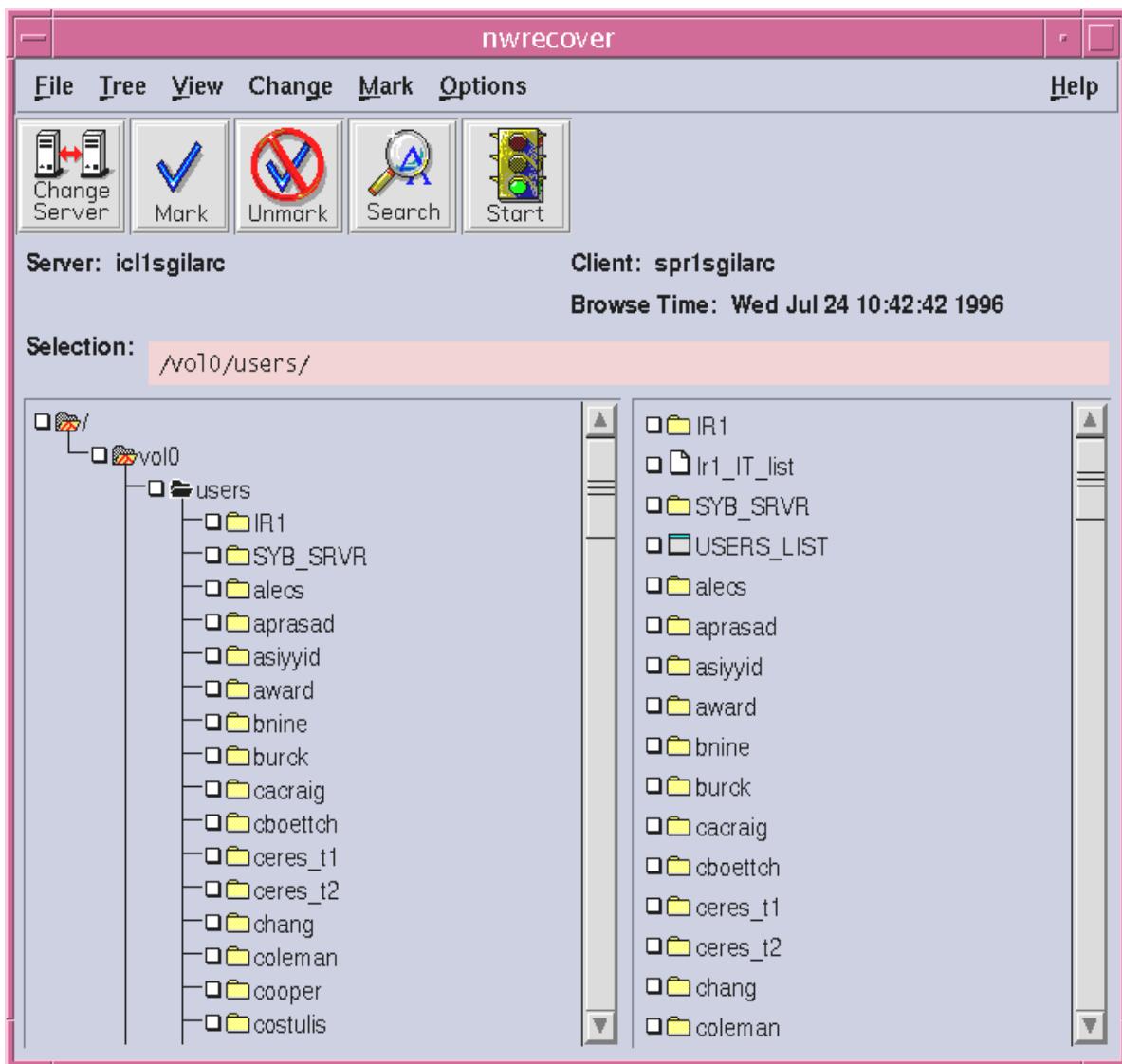
**Figure 4.1.1-1. NetWorker Administrator's Screen**

Figure 4.1.1-2 shows the nwbackup screen. For more information on NetWorker Backup, see the *NetWorker User's Guide*.



**Figure 4.1.1-2. NetWorker Backup Screen**

Figure 4.1.1-3 shows the nwrecover screen. For more information on NetWorker Recover, see the *NetWorker User's Guide*.



**Figure 4.1.1-3. NetWorker Recover Window**

#### 4.1.1.3 Required Operating Environment

For all COTS packages, appropriate information on operating environments, tunable parameters, environment variables, and a list of vendor documentation can be found in a CM controlled document for each product. To find the documentation for Legato Networker, refer to the ECS Baseline Information System web page, URL <http://cmdm.east.hitc.com/>.

#### 4.1.1.4 Databases

The \$Installed\_dir/nsr/index directory maintains a database of files that have been backed up and the availability of the backup such as tape number and whether it is online or on a volume of

tapes that has been migrated. This information is in a proprietary format that can only be read using the nwrecover tool.

#### **4.1.1.5 Special Constraints**

None.

#### **4.1.1.6 Outputs**

NetWorker provides the capability to print and save contents of a window as a way to maintain records of NetWorker activities and configurations. For more information, see Chapter 3, Using NetWorker Windows and Menus, *NetWorker Administrator's Guide*.

#### **4.1.1.7 Event and Error Messages**

See Appendix A: Error Messages, *NetWorker's User's Guide*, and Appendix A: Troubleshooting, *NetWorker Administrator's Guide*.

#### **4.1.1.8 Reports**

None.

#### **4.1.2 AMASS**

AMASS is a file storage management system (FSMS) for the UNIX operating system. The purpose of AMASS in the EOSDIS Core System (ECS) is to provide an easy-to-use interface to large media archives. Media is defined as magnetic tape. In terms of hardware, the FSMS host in the ECS architecture is a Silicon Graphics Inc. (SGI) Origin 300 and Origin 2000 servers. There are two main types of library used in ECStorageTek (STK) 9310 Powderhorn using STK 9840A, STK T9940A and STK T9940B tape drives.

An STK 9360 Wolfcreek with STK tape drives is used in the VATC but is not deployed to operational sites. The operation of this silo is virtually the same as an STK Powderhorn.

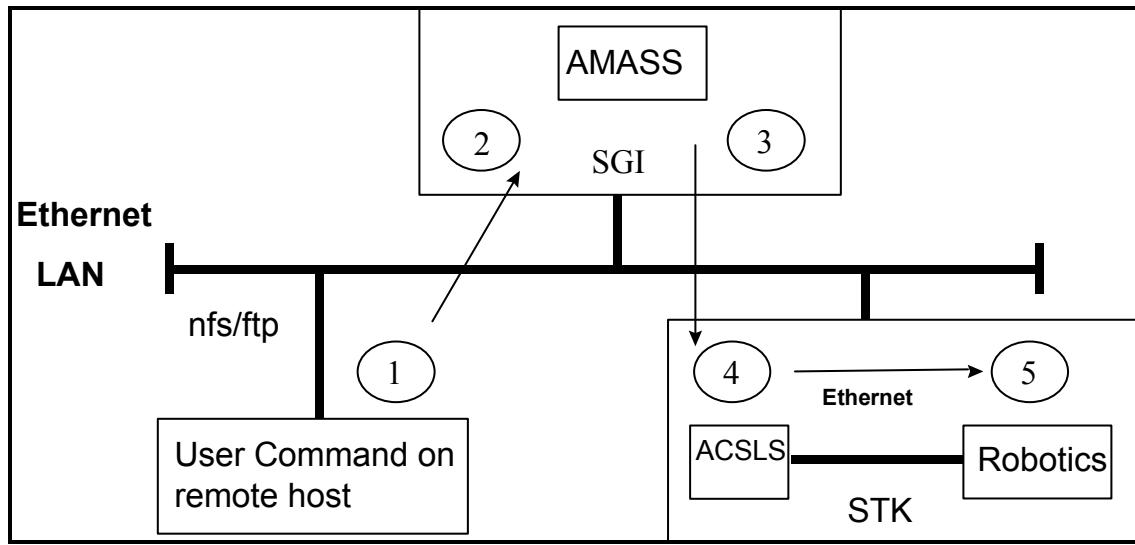
STK Powderhorns are used at GSFC, LaRC, NSIDC, EDC, and the PVC. Powderhorns consist of 6 major hardware parts:

- The Automated Console System for Library Services (ACSLS) which is a Sun Ultra 10 front end controller
- The Automated Cartridge System (ACS)
- The Cartridge Access Port (CAP) where tape media are inserted and ejected
- The Library Management Unit (LMU) interface unit
- The Library Control Unit (LCU) to control the robot Drive Racks, which hold up to 18 9840, T9940A or T9940B drives per rack
- The Library Storage Module (LSM), which includes the robot arms and the tape silo itself. The LSM includes a camera to display operation to the operator and the tape drives. Note that ACSLS is connected to the network via Ethernet

The software components are more complicated. AMASS itself is the part that the user-of-the-system actually uses. AMASS appears to the user as just another UNIX mount point and to and from which one copies, moves or deletes files using standard POSIX dd, mv or rm commands. An operator can view the contents of the archive, monitor the system, or setup new tapes for use through standard commands found in the *Managing the AMASS File System* (Version 5.3.1).AMASS is installed on an SGI platform. Control information is communicated from the SGI to ACSLS using TCP/IP protocols via Ethernet. Figure 4.1.2-1 shows the basic route that *control* information takes in sending a file to AMASS to a Powderhorn:

1. User/application initiates file transfer to an AMASS mount point.
2. AMASS receives the file over the network via ftp, dd or cp or locally via dd or cp to AMASS cache.
3. AMASS sends information over the network to ACSLS about what tape to load and which drive in which to load it.
4. ACSLS moves the arm to the media; the hand grips and retrieves the tape from the home slot and inserts it into the tape drive to complete the mount.

5. The data is finally written to tape.



**Figure 4.1.2-1. Control Path**

The data path is much simpler. A SCSI controller on the SGI is directly connected to the SCSI port on the tape drive. Ideally, each drive gets its own controller. After the above process takes place, AMASS writes the file to the tape in a very simple block by block method. Note that the format of the tape is proprietary and NOT compatible with CPIO or TAR.

AMASS uses both a command line and a GUI program called aawin to perform the system administration/operator functions listed in Table 4.1.2-1.

**Table 4.1.2-1. Common ECS Operator Functions Performed with AMASS (1 of 3)**

Operating Function	Command or GUI	Description	When and Why to Use
Boot AMASS	amass_boot	Reboot AMASS	Reboot AMASS
Start AMASS	amass_start	Starts AMASS	Initial startup.
Activate or deactivate the AMASS file system	amassstat aawin GUI	Displays or toggles the status of AMASS (ACTIVE/INACTIVE).	Used to inactivate the file-system for maintenance and/or to reactivate it.
Add a volume	volnew aawin GUI	Introduces a new volume to AMASS and assigns a volume number.	To add storage space for data.
Add space to a volume group	volnew volgroup aawin GUI	Adds additional volumes to an existing volume group.	When more space is required in an existing volume group.

**Table 4.1.2-1. Common ECS Operator Functions Performed with AMASS (2 of 3)**

Operating Function	Command or GUI	Description	When and Why to Use
Create a space pool	volnew aawin GUI	One or more volumes assigned to a special volume group of the Space Pool (SP).	To allow AMASS to automatically add space (volumes) to a volume group that has run out of space.
Create a volume group	volgroup setvolgrp aawin GUI	Partitions the volumes in AMASS.	To assign volumes for specific purposes within AMASS.
Delete a volume	volstat voldelete aawin GUI	Removes a volume and its files from the archive.	To delete a volume and any files it contains.
Generate a report	amassreport	Generates standard or user defined report and/or raw output.	To extract information about files and directories from the AMASS index.
Back up the AMASS index	amassbackup	Performs full or partial back up of the AMASS index.	Any time that the system needs to be backed up other than what AMASS' automatic backup provides.
Put a drive into service	drivelist drivestat aawin GUI	Displays the current status of the drives and to change the status.	When an INACTIVE drive is ready to return to service.
Recover dead space	volspace volcomp volformat aawin GUI	Compresses a selected volume.	To recover dead space on volumes.
Reinitialize the AMASS index	Refer to the vendor documentation for the command and procedure	Clears out the existing index and reinitializes it to an empty index.	Only when AMASS is not running.
Reintroduce an offline volume	vollist volslot bulkinlet volloc	Reintroduces an offline volume to a jukebox.	If data from an offline volume needs to be referenced for read access.
Remove a volume or volume group	vollist, voloutlet, volloc aawin GUI	Removes a volume or an entire volume group from the jukebox.	To make room for new volumes or because data not being used needs to be retained.
Remove space from a volume group	vgroot #VG setvolgrp /path #VG volgroup	Removes space from one volume group to add it to another.	When space is needed in another volume group.

**Table 4.1.2-1. Common ECS Operator Functions Performed with AMASS (3 of 3)**

Operating Function	Command or GUI	Description	When and Why to Use
Replace a full backup volume	voloutlet 1, bulkinlet 0, vollabel {to rename} tapelength 1 2 volformat -b 256k 1 amassbackup -fv	Initializes a new backup volume and performs a full backup.	When the backup volume is 95% full.
Restore the AMASS database	amassrestore	Restores the index either completely or to the point of the last full or partial backup.	When the index is corrupt on the magnetic disk. Do not use the amassrestore command when AMASS is running.
Retrieve system usage by user	amassreport	Displays the number of files and directories owned by a user and the amount of space they take up.	To get statistical information on the amount of space used by an individual(s).
Retrieve system usage by volume	adf	Displays volume group, jukebox reference number, position of volume, amount of used space, number of directories and files on volume, amount of free and dead space.	To get statistical information about the usage of a particular volume.
Reuse a volume	(volcomp, volstat, volclean, volformat aawin GUI	Compresses and moves existing data to another volume, then reformats the volume.	When a volume contains data no longer needed or contains mostly dead space.
Take a drive out of service	drivelist, drivestat aawin GUI	Displays and changes the status of the drive.	When a drive has excessive failures or for maintenance.
Kill AMASS	killdaemons	Kills AMASS execution.	When system downtime planned.

#### 4.1.2.1 Quick Start Using AMASS

For more information about AMASS, refer to the *Managing the AMASS File System* and *Using The AMASS GUI* guides.

The documentation of AMASS used as a basis and referenced in this section is for AMASS 4.9.1.1

##### 4.1.2.1.1 Invoking AMASS From the Command Line Interface

AMASS is normally started at boot and shutdown when the system is shutdown using scripts in the /etc/rc2.d and /etc/rc0.d directories that are linked to the actual scripts in /etc/init.d. AMASS can also be started and stopped from the command line.

To execute AMASS from the command line prompt use:

**/usr/amass/tools/amass\_start**

To stop AMASS, type:

**t1drg01 100> /usr/amass/tools/killdaemons**

AMASS startup at boot can be enabled or disabled using the amass\_atboot command. For more information on accessing AMASS via the command line, refer to Chapter 3, Command Reference, *Managing the AMASS File System*.

The AMASSADMIN GUI can be started from the command line by typing

**/usr/amass/bin/aawin**

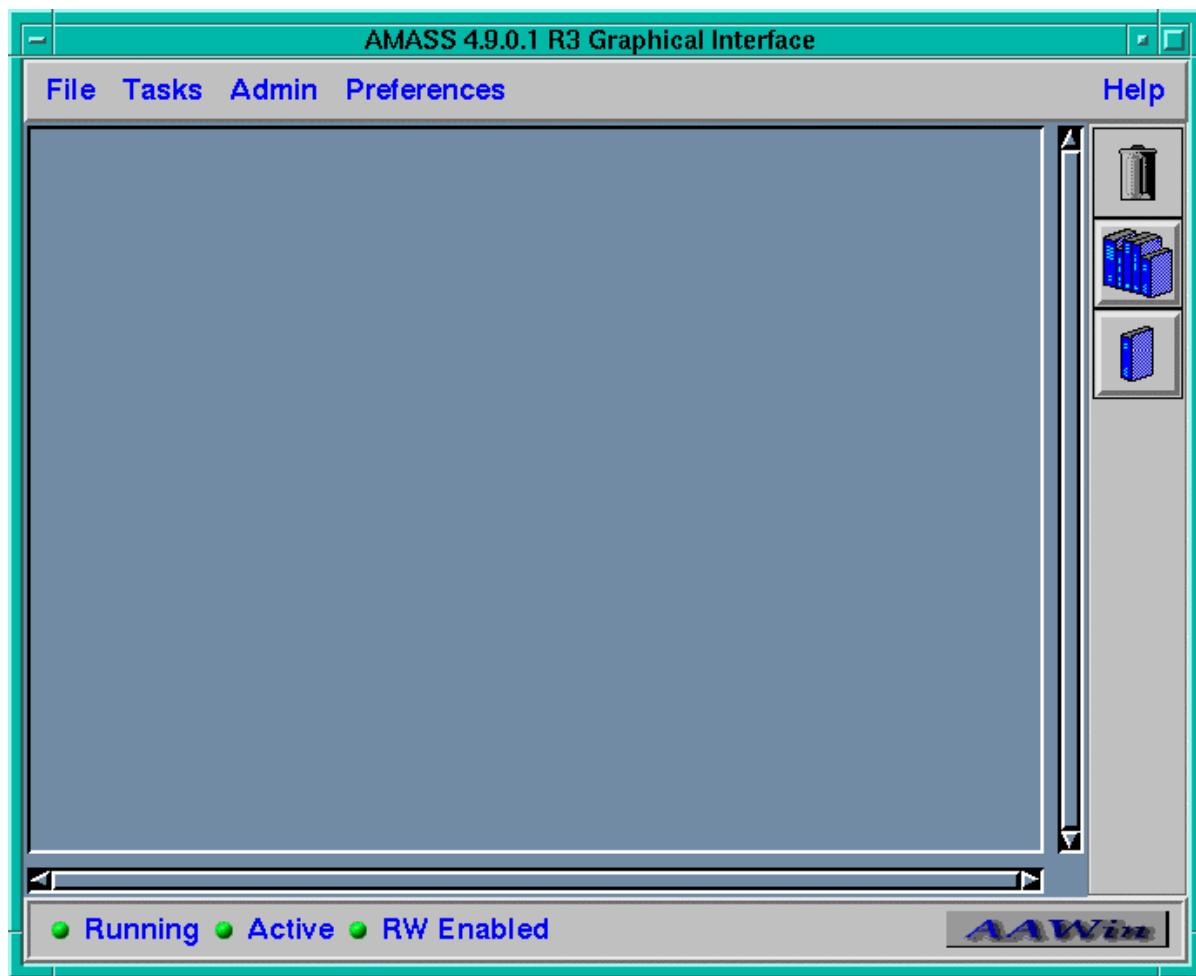
For more information on running the AMASS, refer to *Using The AMASS GUI* guide.

For a description of AMASS commands and the functions they perform, see Chapter 2, Operational Tasks, and Chapter 3 , Commands of the *Managing the AMASS File System*.

#### **4.1.2.2 AMASS Main Screen**

AMASS allows the operator to perform a subset of the command line functions, as well as query online index and output results to a file for further processing. For more information on the AMASS, refer to *Using the AMASS GUI* guide.

The window area of the AMASS Main Screen shown in Figure 4.1.2-2 is referred to as ‘The Workroom.’



**Figure 4.1.2-2. AMASS Main Screen (AAWIN)**

AAWIN Pulldown Menu options:

**File**

**Exit:** Exits AMASS.

**Clear Workroom:** Clears the Workroom of all icons.

**Tasks**

**Modify a Volume Group:** Change configuration of Volume Group.

**Modify a Volume:** Change parameters associated with a Volume.

**Admin**

**Scheduler:** Opens the Scheduler Status window.

**Sysperf:** Opens the sysperf window displaying the status of the AMASS activity.

**Preferences**

**Show/Hide Detail Windows:** These windows give a brief description of the items the mouse pointer is touching.

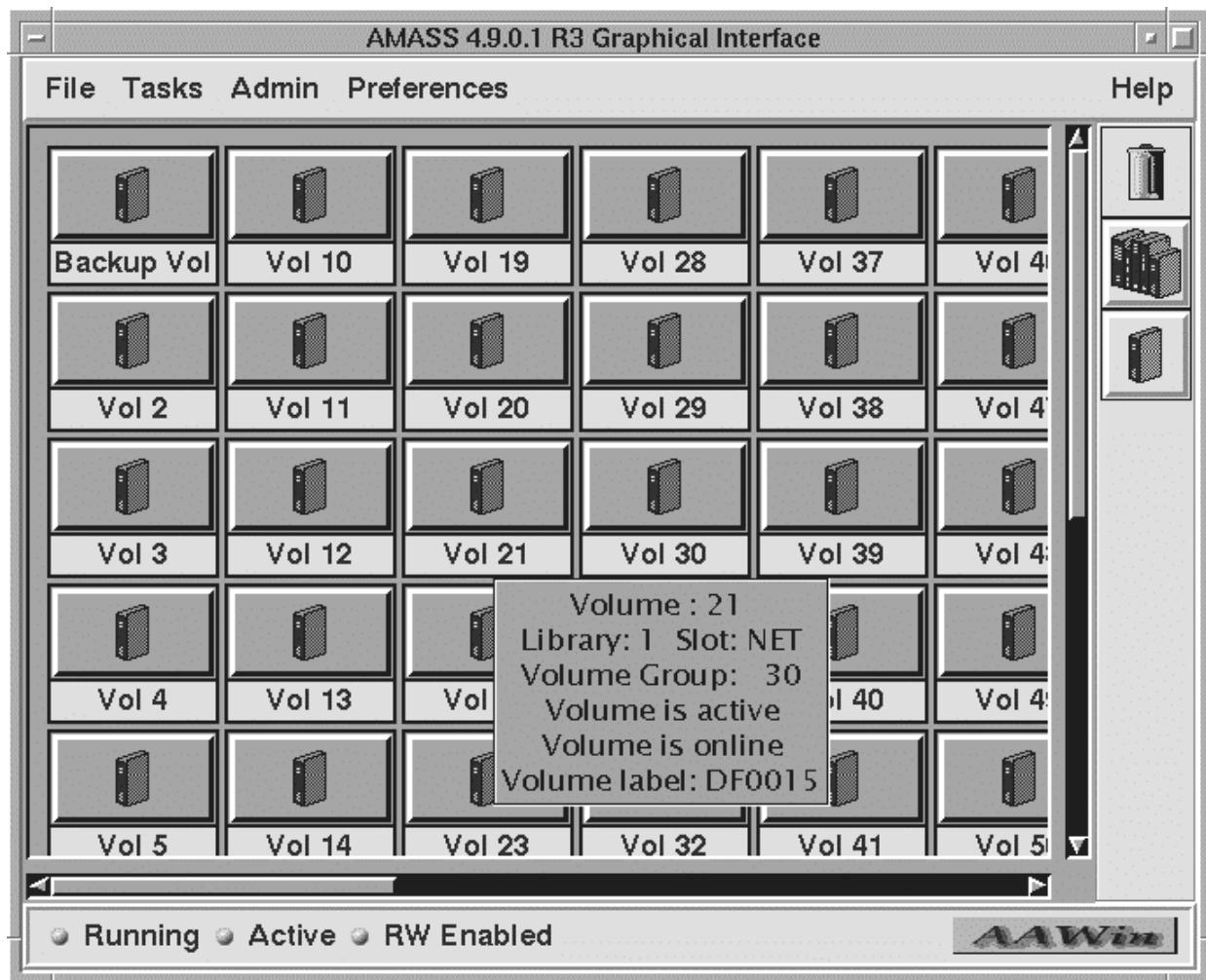
**Help:** Opens the Help Window.

AMASS Utility Bar options (the Utility Bar is a vertical toolbar on the right side of the Main Screen)

#### Trash Can icon

**Volume Group icon** displays the volume group icons in the Workroom as shown in Figure 4.1.2-3.

**Volume icon** displays volume icons in the Workroom.



**Figure 4.1.2-3. AMASS Main Screen Showing Selected Volumes in the Workroom**

#### 4.1.2.3 Required Operating Environment

AMASS requires a UNIX environment. AAWIN requires an X-window server.

For all COTS packages, appropriate information on operating environments, tunable parameters, environment variables, and a list of vendor documentation can be found in a CM controlled document for each product. To find the installation and release notes for AMASS and ACLS, refer to the ECS Baseline Information System web page, URL, <http://cmdm.east.hitc.com/>.

#### **4.1.2.3.1 Interfaces and Data Types**

The commands and the AMASS GUI that operations staff use to interface with AMASS are described in the *Managing the AMASS File System* and *Using The AMASS GUI*.

#### **4.1.2.4 Databases**

The File Storage Management System provided by EMASS Company includes the RAIMA database product. AMASS utilization of the database is transparent to the operator.

#### **4.1.2.5 Special Constraints**

None.

#### **4.1.2.6 Outputs**

Output from the AMASS consists of the data displayed on the GUI described in Section 4.1.2.2, database updates or additions to the database referenced in Section 4.1.2.4, error and event messages described in Section 4.1.2.7, and reports described in Section 4.1.2.8 which can produce file outputs in response to user actions or are printed.

#### **4.1.2.7 Event and Error Messages**

AMASS generates the following types of messages:

- **Informational (AMASS\_I):** Informational messages inform you about a process or situation. The status of AMASS is not changed when you receive an informational message.
- **Warning (AMASS\_W):** Warning messages inform you of situations that require attention but do not inhibit the functioning of AMASS.
- **Error (AMASS\_E):** Error messages require the immediate attention of the System Administrator to insure the proper functioning of AMASS.
- **System (AMASS\_S):** System messages indicate internal errors and should be reported to the EMASS Technical Assistance Center (ETAC).

AMASS uses the standard syslogd function of the operating system for all of its warning, error and system messages. This facility allows the system administrator to control the output destination(s) of these messages.

With the /etc/syslog.conf file, the operator can control the destination of each of the message types. The syslog.conf file is typically set up to log all levels of AMASS messages to var/adm/messages. The console is typically set up to see all AMASS levels generated by the kernel facility and the system and error level generated by the daemon facility.

For a description of AMASS event and error messages, refer to *Errors and Corrective Action* (AMASS) manual.

#### 4.1.2.8 Reports

AMASS reports provide information of the AMASS holdings using the **amassreport** report generator. Specific reports can be tailored for specific information on the basis of selections by date, file, directory, errors, length, size, or IDs. All reports have the column heading listed in Table 4.1.2-2.

**Table 4.1.2-2. Amassreport Column Headings**

Heading	Description
Name	Name of file.
Parent	Record ID of Parent.
Last Accessed	Last Accessed date on timestamp.
Mode	Permission IDs.
Size	File size in megabytes.
File ID	File Number.
UID	User ID
GID	Group ID
Last Modified	Date and time showing date the file was last modified.
Vol	File is located on this volume number.

Table 4.1.2-3 below lists two types of AMASS reports using the **amassreport** command.

**Table 4.1.2-3. Amassreport Report Types**

Output	Description and Format
Formatted report	Prints a column header at the top of each page.
Raw output	Prints data without a column header. Can be used with other utilities to generate custom reports.

The content of both types of tables is the same. The raw output type is meant to be used to provide input for further processing to a more complete reporting system.

For information on using **amassreport** see Chapter 3, Command Reference, *Managing the AMASS File System*.

#### 4.1.2.8.1 Sample Report

Figure 4.1.2-4 is an example of a formatted amassreport showing volume group 20.

NAME SIZE	FILEID	PARENT	UID	GID	LAST MODIFIED	LAST ACCESSED	MODE	VOL
file_create 0	23	2	3137	20	Oct 21 10:06	Nov 06 18:17	drwxrwxr-x	20
testfiles1 0	171147	23	435	20	Oct 22 08:57	Nov 04 06:32	drwxr-xr-x	20
random_files 0	333451	23	435	20	Sep 11 1996	Nov 04 08:04	drwxr-xr-x	20
portioned_random_files 0	1751199	23	3137	20	Sep 25 1996	Nov 04 08:04	drwxr-xr-x	20
logs_tape 0	2975809	2	435	20	Oct 22 1996	Nov 03 23:01	drwxrwxr-x	20

**Figure 4.1.2-4. Amassreport Example Showing Volume Group 20**

### 4.1.3 ISQL

Interactive Structured Query Language (ISQL) is a stand-alone SQL command parser utility provided with the Sybase SQL Server and is available on all platforms that Sybase is available. ISQL is executed directly from the operating system level, and is used to interact with a SQL server and the databases on a SQL server. It allows for the interactive issuance and execution of Sybase Transact-SQL statements and sends the Transact-SQL commands to the SQL Server, formatting the results and printing them on the standard output. ISQL is used to perform the operator functions listed in Table 4.1.3-1.

**Table 4.1.3-1. Common ECS Operator Functions Performed with ISQL (1 of 3)**

Operating Function	Command/Script	Description	When and Why to Use
Monitor database and user activity	See Chapter 1 - Overview of System Administration in the <i>System Administration Guide for ASE Server</i>	There are various database management activities performed in Sybase ASE Server to keep the databases running for day-to-day operations	Database and user activity is monitored to manage and control various day-to-day operations of the DAAC and to prevent or resolve any unforeseen problems
Provide and control users' database access	<ul style="list-style-type: none"> <li>• See Chapter 10 - Managing Adaptive Server Logins and Database Users in the <i>System Administration Guide for ASE Server</i></li> <li>• See Chapter 11 - Managing User Permissions in the <i>System Administration Guide for ASE Server</i></li> </ul>	<ul style="list-style-type: none"> <li>• Create user accounts, set account default databases and other account configurable items</li> <li>• Grant proper permissions to user accounts</li> </ul>	<ul style="list-style-type: none"> <li>• It may be necessary to provide access to individual users or groups of users on a temporary, permanent, or on-demand basis</li> <li>• Access to data at the DAAC should be controlled so it is not accidentally deleted, modified, or obtained without permission</li> </ul>

**Table 4.1.3-1. Common ECS Operator Functions Performed with ISQL (2 of 3)**

Operating Function	Command/Script	Description	When and Why to Use
Grant roles and assign various privileges on database objects	See Chapter 11 - Managing User Permissions - Granting and Revoking roles in the <i>System Administration Guide for ASE Server</i>	Roles and user accounts are necessary to provide access and security to databases under Sybase ASE Server	<ul style="list-style-type: none"> <li>Proper database management roles such as SSO (System Security Officer), SA (System Administrator), OPER (Operator) are essential to the proper management of the databases at DAACs</li> <li>Providing the proper level of privileges to each user of the databases prevents any accidental or unforeseen mishaps with the data (data integrity is also maintained)</li> </ul>
Monitor, control, and manage the use of disk space, memory and connections	<ul style="list-style-type: none"> <li>See Chapter 3 – System Administration for Beginners (Allocating Physical Resources) in the <i>System Administration Guide for ASE Server</i></li> <li>Chapter 25 - Checking Database Consistency in the <i>System Administration Guide for ASE Server</i></li> </ul>	<ul style="list-style-type: none"> <li>All databases running under Sybase ASE Server are physically stored on various devices and require various amounts of memory based on the usage of data</li> <li>These resources have to be properly monitored</li> </ul>	<ul style="list-style-type: none"> <li>Resources for storage and manipulation of data are always at a premium</li> <li>Proper management of these resources is essential in reducing errors, database crashes and unwanted downtime</li> </ul>
Backup and restore databases	<ul style="list-style-type: none"> <li>See Chapter 26 - Developing a Backup and Recovery Plan in the <i>System Administration Guide for ASE Server</i></li> <li>Chapter 27 - Backing up and Restoring user databases, in the <i>System Administration Guide for ASE Server</i></li> <li>Chapter 28 - Backing up and Restoring the system databases in the <i>System Administration Guide for ASE Server</i></li> </ul>	Backup of databases provides for quick recovery and maintenance of data integrity	<ul style="list-style-type: none"> <li>Most Database Administrators perform a daily backup of all their databases and perform recovery operations when a database crashes and is unrecoverable by other recovery methods</li> <li>Proper backup and recovery plans allow for full, quick recovery and zero loss of data</li> <li>Regular backup of data, is essential in reducing downtime in case of a database crash</li> </ul>

**Table 4.1.3-1. Common ECS Operator Functions Performed with ISQL (3 of 3)**

Operating Function	Command/Script	Description	When and Why to Use
Diagnose system problems	<ul style="list-style-type: none"> <li>• See Chapter 4 - Diagnosing System Problems in the <i>System Administration Guide for ASE Server</i></li> <li>• Also see the <i>SYBASE ASE Server Troubleshooting and Error Messages Guide</i></li> </ul>	<ul style="list-style-type: none"> <li>• Diagnosing problems with the operation of ASE Server is a regular part of database administration tasks</li> <li>• ISQL is used as a command line tool for interfacing with the ASE Server</li> </ul>	<ul style="list-style-type: none"> <li>• Anytime the ASE server is not performing according to expectation or any database on SQL Server has crashed, the problem(s) must be diagnosed by checking current SQL Server status information</li> <li>• All problems must be properly resolved for successful operation of SQL Server</li> </ul>
Performance and Tuning Guide	<i>Performance and Tuning Guide Guide for ASE Server</i>	A continuous operations and administration activity can involve any of the above listed operating functions to make sure the ASE Server makes best use of its resources and to gain maximum performance from the ASE Server	The ASE Server is fine-tuned whenever storage or data requirements have changed, number of users have changed, new databases are added or existing databases are deleted, any SQL Server settings are modified, or any external environment changes have occurred which can impact the ASE Server

In addition, the DAAC user community can use ISQL to:

- request data from various databases by issuing Transact-SQL statements
- insert, update, or delete data from various databases by issuing Transact-SQL statements
- change their passwords

#### 4.1.3.1 Quick Start Using ISQL

This section presents an orientation of ISQL. For more information on ISQL, refer to the *SQL Server Utility Programs for UNIX*.

Other manuals that the operator can find useful are:

- *System Administration Guide for ASE Server* ( ASE Server administration issues)
- *Configuration Guide ASE for Unix* (operating-system specific system administration tasks)
- *Open Client DB-Library/C Reference Manual* (man pages and code samples for the SQL Server interface library, Open Client DB-Library)
- *Installation Guide Adaptive Server Enterprise for Sun or Origin (there is a guide for each OS platform) Guide* (installation procedures for SQL Server)

- *ASE Server Reference Manual Vol. 1 and Vol. 2* ( commands and system procedures)
- *Troubleshooting and Error Messages Guide for ASE*

Further documentation support for Sybase's ISQL can be found at the Sybase home page at:  
<http://www.sybase.com/>

#### **4.1.3.1.1 Invoking ISQL From the Command Line Interface**

To execute ISQL from the command line prompt use:

**isql**

For detailed instructions on how to invoke ISQL see Chapter 2 - Using ISQL in the *A Utility* guide for ASE Server.

#### **4.1.3.2 ISQL Main Screen**

There is no ISQL GUI. The ISQL uses a command line interface for operator communications.

#### **4.1.3.3 Required Operating Environment**

The utility program ISQL is invoked directly from the UNIX operating system via the command line.

For all COTS packages, appropriate information on operating environments, tunable parameters, environment variables, and a list of vendor documentation can be found in a CM controlled document for each product. To find the documentation for ISQL, refer to the ECS Baseline Information System web page, URL <http://cmdm.east.hitc.com/>.

#### **4.1.3.3.1 Interfaces and Data Types**

ASE Server requires an interfaces file to map logical server names to physical network information about those servers. The interfaces file includes server name, network address, and the port number on which the server listens on for queries. For detailed information on the interfaces files, refer to the *Open Client/Server Supplement* for your operating system.

#### **4.1.3.4 Databases**

For more information on Sybase ASE Server databases, refer to the *SYBASE System Administration Guide for ASE*.

#### **4.1.3.5 Special Constraints**

None.

#### **4.1.3.6 Outputs**

Output from the ISQL consists of database updates or additions to the databases referenced in Section 4.1.3.4, and error and event messages referenced in Section 4.1.3.7.

ISQL does not provide formatting options for the output, but the **-n** option eliminates ISQL prompts, while **-e** includes each command issued to ISQL in the output. Other tools can then be

used to reformat the output. For further information on formatting ISQL output, refer to the *Utility Guide for ASE*.

#### **4.1.3.7 Event and Error Messages**

Sybase SQL Server issues both status and error messages from the SQL Server and ISQL formats them to the designated output. For details on setting output options for ISQL the *Utility Guide for ASE*.

For more information on error messages, their cause and corrective actions, refer to the Troubleshooting and Error Messages Guide.

#### **4.1.3.8 Reports**

None.

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#### **4.1.4 Sybase Replication Server**

The concept of a domain is useful when describing a replication system. Briefly, a domain is a set of replication servers and their associated components that communicate with each other. A domain can be one replication server that replicates data from a local primary database to another local replicate database (as in a warm standby application) or a domain can contain many replication servers distributed over a wide area network (WAN) as is the case for the MSS.

Each domain requires one, and only one, ID server. An ID server is a replication server specified as such when it is installed. An ID Server assigns unique identifiers to domain components. The ID server must be the first replication server installed in a domain and must be accessible when any component is added to the domain.

When a replication server is installed (including the ID Server), the following components are created:

- A database called the replication server system database (RSSD) (the data server housing the RSSD must already exist)
- A stable device (queue)
- An interface (connection) to the RSSD data server
- A RepAgent for the RSSD

The RSSD contains system tables used by the replication server. In a multi-server domain that implements consolidated distributed primary fragments, the RSSDs must also be replicated. The RSSD contains information about each domain component, component login ids and passwords, application specific objects such as replication definitions, replicate transaction identifiers, routes and connections, and replicate transaction errors.

The RSSD data model is documented in the manual *Replication Server Reference Manual*.

As additional replication servers are added to a domain, the replication system administrator creates replication server interfaces (RSI), or routes, between the replication servers. Routes allow replicate transactions to “flow” from a primary replication server to a replicate replication server.

Finally, application databases are added to a domain. For each database added to the domain the following components are created:

- For primary databases, a log transfer manager (LTM), which transfers database transactions from the primary database to the replication server
- For a replicate database, an interface from the replicate replication server to the replicate database

The following components listed in Table 4.1.4-1 are used in a primary copy model that uses two replication servers. This is for illustration purposes only.

**Table 4.1.4-1. Replication Server Components**

DAAC Component	Description
Primary Data Server	The primary data server is the Sybase ASE server that maintains the primary copy of data being replicated.
Primary Database	Contains the copy of data that can be updated by application programs.
LTM	The log transfer manager (LTM) is a Sybase Open Server application that transfers replicate database transactions to a primary replication server and moves the secondary truncation point in the primary database transaction log. The LTM connects to the primary data server as the primary database DBO and to the primary replication server as specified when the primary database is added to the domain.
Primary Replication Server	The primary replication server (PRS) is responsible for forwarding replicate database transactions to the replicate database. The PRS maintains connections to the replicate replication servers (route) and maintains a connection to its database, the RSSD.
Primary RSSD Data Server	The primary RSSD data server maintains the primary RSSD.
RSSD RepAgent	The RSSD RepAgent is a thread in the primary RSSD data server that transfers replicate RSSD database transactions to the PRS. The RSSD RepAgent connects to the PRS as specified when the PRS is added to the domain.
Primary RSSD Database	This database houses the information required by the replication servers to operate.
PRS Stable Device	The PRS stable Device contains a First In, First Out (FIFO) queue for each primary and replicate database. Transactions are transferred from a primary database queue to a replicate database queue after the LTM sends the transaction's commit. Once a transaction is moved to the replicate database queue, the primary replication server sends the transaction to the replicate replication server.
Replicate Replication Server	The replicate replication server (RRS) is a replication server that receives replicate transactions from a primary replication server and applies the transaction to a replicate database. The RRS maintains a maintenance user connection for each replicate database.
Replicate RSSD Data Server	This server houses the RSSD for the RRS.
Replicate RSSD	This database contains information required for the RRS to apply replicate database transactions to a replicate database.
RRS Stable Device	The RRS stable device is a file system containing a FIFO queue for each replicate database. Replicate database transactions are pushed into the queue before being applied to the replicate database.
Replicate Data Server	This server houses the replicate database and is updated by the RRS.
Replicate Database	The database that contains the replicate data.

#### **4.1.4.1 Quick Start using the Sybase Replication Server**

To start the Sybase replication servers from the command line, enter the following commands:

```
Source Sybase environment variables  
./Run_<replicationservername>_srvr &  
./Run_<replicationrsmname>_srvr &
```

#### **4.1.4.2 Sybase Replication Server Main Screen**

The database administrator can view what is happening with the Sybase Replication Servers by viewing the screen found in Figure 4.1.4-1. An administrator can click on any icon on the screen to find out the status of any replication server in the network. The status information shows up in the window below the screen.

### **Replication Server Administration**

Administering the replication system is primarily the role of the Replication System Administrator (RSA). The Database Administrator (DBA) plays a subsidiary role by supporting some Replication Server administration tasks. At the DAACs, role distinctions may not be clear-cut and some responsibilities can overlap. The following sections describe the Replication Server Administrator role and the tasks associated with Replication Server Administration. DBA tasks are not covered in this document.

### **Replication System Administrator**

The Replication System Administrator installs, configures, and administers the replication system. Given the distributed nature of the MSS implementation, this role can be performed by different people at different locations. If this is the case, various tasks for administering Replication Server can require coordination between Replication System Administrators.

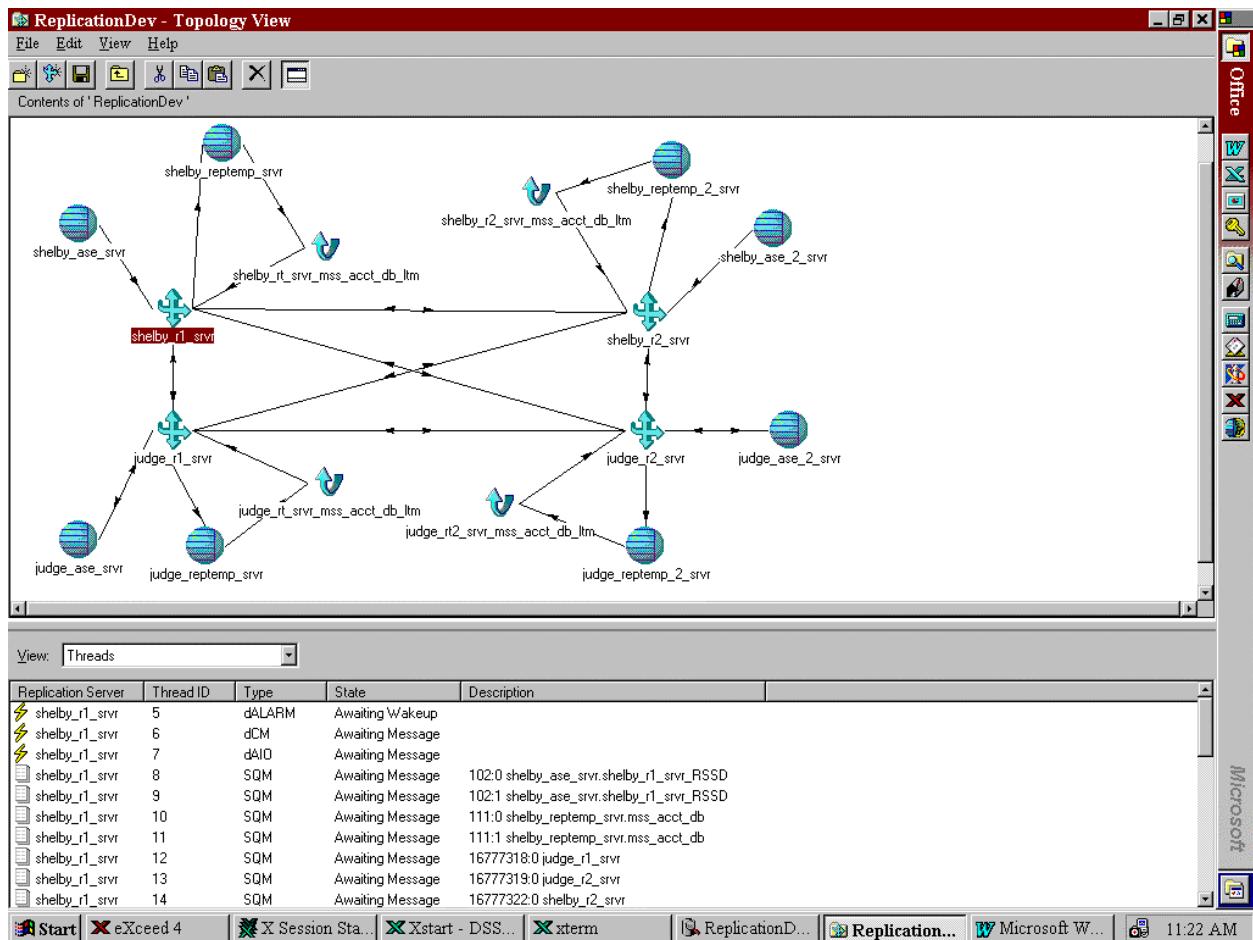
The Replication System Administrator has user permissions, which provides that person with the capability to execute nearly all commands in the replication system. In managing the system, the Replication System Administrator may need to coordinate with DBAs for both local and remote databases.

Replication System Administrators should be experienced Sybase DBAs and should have taken the Sybase training classes [Replication System Administration](#) and [Replication Disaster Recovery Workshop](#). They should have also read and understood the manuals: *Replication Server Administration Guide*, *Replication Server Configuration Guide for UNIX Platforms*, *Replication Server Reference Manual*, and *Replication Trouble Shooting Guide*.

## Replication Server Administrative Tasks

The following tasks are required to maintain a replication system:

Task	Roles
Installing Replication Server	Replication System Administrator (RSA), Database Administrator (DBA)
Adding or removing a Replication Server	RSA
Starting up and shutting down Replication Server	RSA
Configuring Replication Server	RSA
Maintaining Routes (Creating and modifying)	RSA
Managing the RSSD	RSA, DBA
Adding a primary and replicate database	RSA, DBA
Adding login names, database users, and administering appropriate permissions	RSA, DBA
Adding replicated tables or changing table schemas Creating and modifying replicated tables Creating and modifying replication definitions Creating and materializing subscriptions at replicate sites	RSA, DBA
Defining data server function-string classes and function strings	RSA, DBA
Applying database recovery procedures	RSA, DBA
Maintaining and monitoring database connections	RSA
Monitoring Replication Server	RSA
Processing rejected transactions	RSA, DBA
Quiescing Replication Server	RSA, DBA
Reconciling database inconsistencies	RSA, DBA



**Figure 4.1.4-1. Sybase Central Topology GUI**

## Replication Administration Software

COTS and/or custom software (scripts) support some of the Replication Server administration tasks. The COTS consists of the Sybase products Replication Server Manager (RSM) and Sybase Central, a GUI based administration tool.

RSM provides status information to and accepts administrative commands from Sybase Central and executes custom scripts in response to events in the replication domain. The GUI provides a graphical topology of the replication system domain with near real-time status on each component. Although the GUI can be used to perform many administration tasks, its use is procedurally limited to the replication server administrative tasks identified below.

## **Installation**

Scripts were developed for the following administration tasks in support of installing and configuring Replication Server and for installing replication server objects that are specific to the MSS application.

- Creating Routes
- Managing the RSSD
- Adding login names, database users, and permissions
- Creation of replication definitions, subscriptions, function strings and error classes
- Subscription materialization

## **Monitoring**

The Sybase Central/RSM products are used for the following tasks:

- Configuring Replication Server
- Modifying Routes
- Maintaining and monitoring database connections
- Monitoring Replication Server

## **Recovery**

Scripts were developed to restore the RSSD or to bring application databases to a consistent state.

RSSD Recovery:

- Dumpdb
- Dumptran
- Logsegment threshold
- Data segment threshold

MSS Database Recover:

- Last chance logsegment threshold modification to disable secondary truncation point
- Rs\_subcmp scripts for each subscription in the domain

Sybase Central/RSM is used for the following recovery tasks:

- Processing Rejected Transactions
- Quiescing Replication Server

## **Network and Security Requirements**

The Sybase interface files used by the Replication Servers at each DAAC are modified to locate all Sybase Replication and Data Server in the replication domain. Additionally, subscription materialization requires the same user id and password for the replicate replication server and the primary and replicate data servers. Replication server userid and password maintenance must be coordinated across sites. Replication server supports password encryption, and this feature is used.

#### **4.1.4.3 Required Operating Environment**

The Sybase Replication Server can run on Sun hosts (Solaris 2.x OS) and Origin (Origin IRIX 6.x) hosts. The ECS configuration only uses Solaris 2.x OS.

For all COTS packages, appropriate information on operating environments, tunable parameters, environment variables, and a list of vendor documentation can be found in a CM controlled environment. Additional Information can be obtained by visiting the sybooks.sybase.com web site.

#### **4.1.4.4 Databases**

Replication creates its own database created on a specified ASE Server.

#### **4.1.4.5 Special Constraints**

None

#### **4.1.4.6 Outputs**

Output from Tivoli is displayed on the screen in the form of its GUIs or a log entry (discussed in Section 4.1.4.7).

#### **4.1.4.7 Event and Error Messages**

Scripts executed by the RSM have been developed to notify the RSA of the following events:

<b>Component</b>	<b>Event</b>
Servers	Active, Quiesed, Suspect, Hung, Shutdown, Dead, Unknown, and Invalid
Routes	Change in status
Connection	Change in status
Partition	State change, size threshold exceeded
Queues	Latency threshold exceeded, size threshold exceeded
Database	Latency threshold exceeded

#### **4.1.4.8 Reports**

None

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#### **4.1.5 ECS Assistant**

The ECS Assistant (ECSAssist) is a custom program that simplifies the process of installation, testing and management of ECS. This utility is basically an installation tool having practical application in the operations environment. The tool is for use in installing software and maintaining the information related to that software. Only the Subsystem Manager function of ECSAssist should be used in the ECS operational environment.

Table 4.1.5-1 summarizes the functions that ECSAssist provides.

***Table 4.1.5-1. Common Tasks Performed with ECSAssist***

<b>Task</b>	<b>Description</b>	<b>When and Why to Use</b>
Subsystem Manager actions	Selections on the Subsystem Manager's screen, see section 4.1.5.2.1.	Installing software and performing maintenance on software parameters.
Database	Used to install, drop, patch, and update subsystem specific databases.	When database updates or upgrades are implemented. See Section 4.1.5.2.1.1. See Section 4.1.5.2.1.2 to provide parameters to start database scripts.
Install	Used to install ECS custom software into the selected mode.	As necessary to install software. See Section 4.1.5.2.1.3.
Shutdown Servers	Shutdown server(s) for a selected component, application or executable.	When restart of a server is necessary or a server use has completed.
Configuration	Creates Configuration File (CFG) and Parameter Configuration (PCFG) files for selected components.	When installing or updating software components. See Section 4.1.5.2.1.4 for configuration parameters entered by the user. See Section 4.1.5.2.1.5 to create CFG and PCFG files for selected components.
Registry Data Patch	Used to update the registry database	As desired for registry database updates. See Section 4.1.5.2.1.6.
Stage Area Installation	Used to capture the location of the delivered software staging area.	As desired to identify a staging area. See Section 4.1.5.2.1.7.
Start Servers	Used to start servers within the selected component, application or executable.	Each DAAC has unique start scripts that start one or all required servers. This task is generally used during test periods.
ESDT Manager	Supports configuring of ESDTs at the DAAC into a mode.	As needed to configure new ESDTs at DAAC. See Section 4.1.5.2.2

#### **4.1.5.1 Quick Start Using ECSAssist**

To execute ECSAssist from the command line prompt use the following procedure:

**>./EcCoAssist source\_file location [ssh]**

where **source\_file location** can be:

/tools/common/ea – or –

/ecs/formal/COMMON/scripts – or –

any directory where ECSAssist resides.

Type **ssh**, as an argument, if you want EASI to use Secure Shell to connect to hosts.

The default is to use Remote Shell.

**>setenv DISPLAY <current\_host>**

**>setenv ECS\_HOME /usr/ecs**

**>setenv DEBUG 1** (Set only to capture any errors generated by ECSAssist)

The **/tools** mount point must be mounted.

File **/tools/common/ea** must exist in the path. (This can be set in the **.cshrc** or **.kshrc** file)

**>EA**

...or, if this alias is not available, use the following:

**>/tools/common/ea/EcCoAssist /tools/common/ea [ssh] &**

A screen labeled "Thanks for choosing ECS Assistant" appears for 5 seconds.

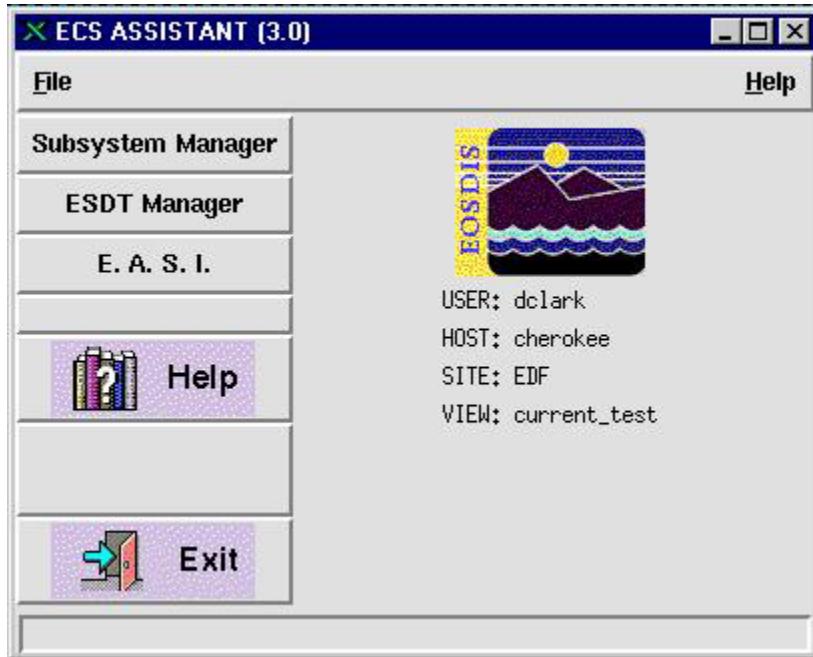
The following text is displayed:

"debug is [ enabled | disabled ]" *depending if DEBUG is set.*

EASI uses [ Secure Shell | Remote Shell ] to connect to hosts...

#### **4.1.5.2 ECSAssist Main Screen**

The ECSAssist main screen shown in Figure 4.1.5-1 identifies the user, host machine, ECS site and ClearCase view in effect. From the main screen, the user may invoke ECSAssist functions as described in Table 4.1.5-2.



**Figure 4.1.5-1. ECSAssist Main Screen**

Table 4.1.5-2 summarizes the information and capabilities presented on the ECSAssist Main Screen.

**Table 4.1.5-2. ECSAssist Options and Field Descriptions (1 of 2)**

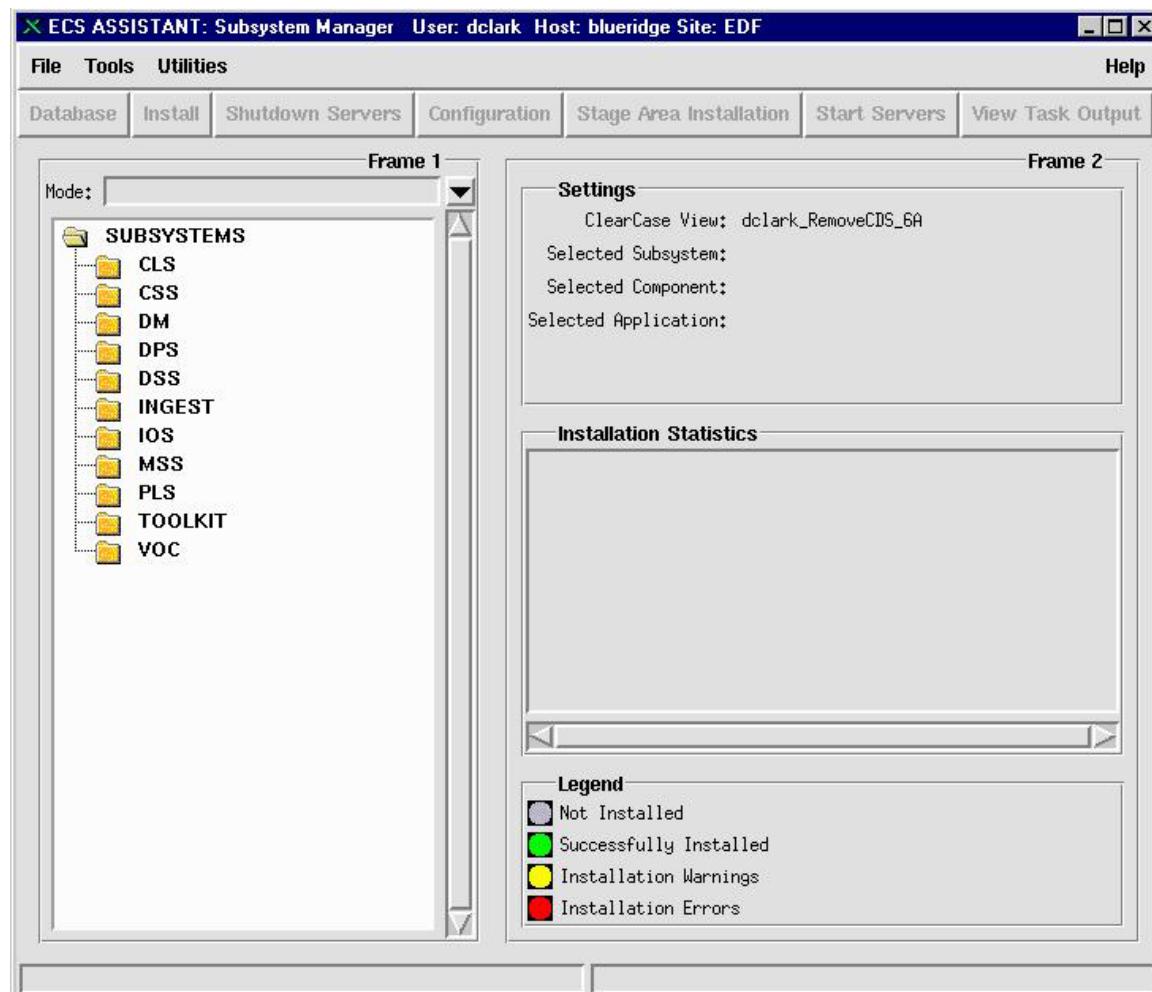
Option/Field	Action	Description
User:	Display only	User's logon ID.
Host:	Display only	Host on which executing.
Site:	Display only	ECS site ID.
View	Display only	Clearcase view in effect.
<b>Toolbar menus</b>		
File	Click on File on the toolbar of the ECS Assistant screen.	Pull down menu showing the following options.
Clear Debug File	In the File menu, click Clear Debug File.	Clear contents of debug log file.
Preferences	In the File menu, click Preferences.	Allows user to select preferences.
Exit	Click Exit	Terminates ECSAssist execution.
Help	Click on Help on the ECS Assistant screen Toolbar.	Pulls down menu showing "Contents", "Read Me" and "About" selections.

**Table 4.1.5-2. ECSAssist Options and Field Descriptions (2 of 2)**

Option/Field	Action	Description
<b>Function buttons:</b>		
<b>Subsystem Manager</b>	Perform software installation and maintenance functions.	See Section 4.1.5.2.1.
<b>ESDT Manager</b>	Clicking this button invokes the Earth Science Data Type (ESDT) Manager	
<b>E.A.S.I.</b>	Clicking this button invokes the ECSAssist Simple Installation (EASI) option.	Allows one user to facilitate a complete (FULL) or custom installation of ECS software.
<b>Help</b>	Click on Help	Brings up Help on use of ECSAssist.
<b>Exit</b>	Click on Exit	Terminates ECSAssist execution.

#### **4.1.5.2.1 The ECSAssist Subsystem Manager**

Click on the **Subsystem Manager** button in the ECSAssist Main Screen. Figure 4.1.5-2 below presents the ECSAssist Subsystem Manager screen. **Note: The Interoperability Subsystem (IOS) has been removed from the baseline system for this version of Release 6B.**



**Figure 4.1.5-2. Subsystem Manager Screen**

The Subsystem Manager toolbar and **Common Tasks** options are described in Table 4.1.5-3.

**Table 4.1.5-3. ECSAssist Subsystem Manager Toolbar (1 of 2)**

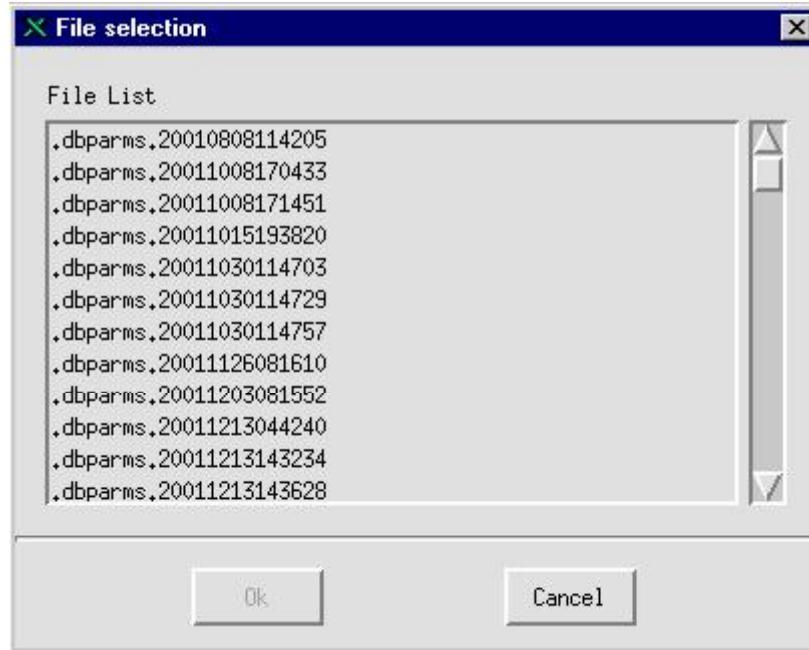
Option/Field	Action	Description
<b>Toolbar options:</b>		
<b>File</b>	Click on File on the Subsystem Manager screen Toolbar.	Pull down menu showing Save As and Close selections.
ESDT Manager	In the File menu, click ESDT Manager.	Used to configure (copy) descriptor files and associated shared objects to the proper location.
Clear Debug File	In the File menu, click Clear Debug File.	Allows user to clear current contents from debug file /[HOME_DIR]/EA_DebugLog.
ClearTask Output File	In the File menu, click Clear Task output File.	Allows users to clear the file containing installation specific results.
Preferences	In the file menu, click Preferences.	Allows users to select preferences.
Exit	In the file menu, click Exit.	Exits Subsystem Manager.
<b>Tools</b>		
Clean Logs	In the Tools menu, click Clean logs.	Allows users to remove outdated log files.
System Messages	In the Tools menu, click on "System Messages."	Displays system messages from /var/adm.
Re-Read .sitemap file	In the Tools menu, click on "Re-read .sitemap file."	If there is a change to the .sitemap file, this function re-reads to obtain the latest information.
Override .sitemap file (EDF Only)	In the Tools menu. click "Override .sitemap file."	Only available to EDF sites. Used for custom sitemap files.
Registry Data Patch	In the Tools menu, click "Registry Data Patch."	Allows user to update registry database.
<b>Utilities</b>		
DB Viewer	In the Utilities menu, click "DB Viewer."	Requires Database login to view inserted granules.
Extensions	In the Utilities menu, click "Extensions."	Pulls down menu showing a list of subsystem specific executables used for supporting tasks.
<b>Help</b>	Click on Help on the Subsystem Manager Screen Toolbar.	Displays latest information about ECSAssist.

**Table 4.1.5-3. ECSAssist Subsystem Manager Toolbar (2 of 2)**

Option/Field	Action	Description
<b>Common Tasks</b>	-	Area of the screen below toolbar containing the following specialized task buttons.
database	Click on Database button	Used to install, drop, patch, and update subsystem specific databases.
install	Click on Install button	Used to install ECS custom software into the selected mode.
Shutdown Servers	Click on Shutdown Servers button	When restart of server is necessary or server use has completed.
Configuration	Click on Configuration button	Creates CFG and PCFG files for selected components.
Stage Area Installation	Click on Stage Area Installation button	Used to capture the location of the staging area.
Start Servers	Click on Start Servers button	Each DAAC has unique start scripts that start one or all required servers. This task is generally used during test periods.
View Task Output	Used to view task log files.	As desired to view log files. See section 4.1.5.2.1.8.
<b>Frame 1</b>	Display Only	--
Mode	Listbox Click	Click to display a list of available modes.
Subsystems Hierarchical Listing	Double Click	Double click to display associated components, applications and executables.
<b>Frame 2</b>	Display Only	--
Settings	Display Only	Lists user's current selections.
Installation Statistics	Display Only	List installation specific statistics.
Legend	Display Only	When an install task has completed, a color of Yellow, Red or Green highlights the selected subsystem to denote the severity of the install as follows: Green - Completed installation successfully Yellow - Install warnings Red - Install errors

#### 4.1.5.2.1.1 ECSAssist Subsystem Manager’s “*database*” Screen

The Database Configuration Screen is used to install, drop, patch, and update subsystem specific databases. From the ECSAssist Subsystem Manager screen, click the *database* button to initiate the database process. If there is more than one database parameter file (.dbparms) detected when the *database* button is pressed, ECSAssist asks which one to use with the File Selection popup window shown in Figure 4.1.5-3. The file selection popup window, above the “Ok” and “Cancel” buttons, contains the name of the database parameter files detected.



**Figure 4.1.5-3. File Selection Popup Window**

Select one of the .dbparms files to use and then click on the **Ok** button. The fields or options for this screen are described in Table 4.1.5-4.

**Table 4.1.5-4. Database Parameter File Selection Option/Field Descriptions**

Option/Field	Action	Description
File list	Click on desired the parameter file.	Contains list of .dbparms type files discovered. Click on the one to use and then click the <b>Ok</b> button.
<b>Ok (button)</b>	Click this after selecting a .dbparms type file in the file list.	Launches database script screen associated with the selected parameter file in the file list.
<b>Cancel (button)</b>	Click this after selecting a .dparms type file if you do not want to see a screen associated with the selected parameter file.	Closes the file list and the screen goes away.

On selection of a .dbparms file, ECSAssist brings up the Database Configuration Screen shown in Figure 4.1.5-4.



**Figure 4.1.5-4. Subsystem Manager “Database” Screen**

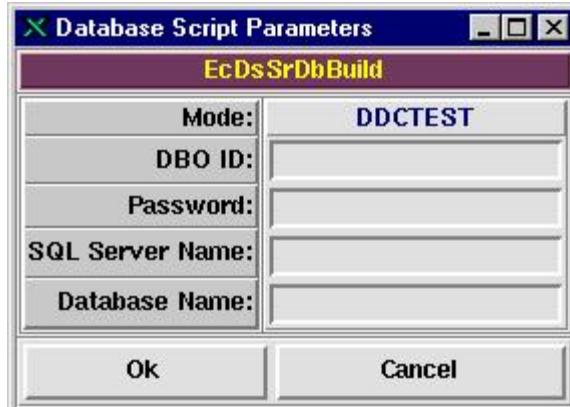
Table 4.1.5-5 describes the fields displayed on the "database" screen.

**Table 4.1.5-5. ECSAssist Subsystem Manager’s “Database” Field Descriptions**

Option/Field	Action	Description
<b>Database Config Screen</b>	Display Only	Window title.
<b>EcDsSrDbBuild</b>	Display Only	Component passed from the Subsystem Manager screen.
<b>SQSSERVER</b>	Entry	Configurable item for the displayed Component.
<b>GROUPNAME</b>	Entry	Configurable item for the displayed Component.
<b>ENVIRONMENT</b>	Entry	Configurable item for the displayed Component.
<b>OK</b>	Click	Displays the database script screen.
<b>Cancel</b>	Click	Aborts process.

#### **4.1.5.2.1.2 ECSAssist Subsystem Manager’s “database script parameters” Screen**

This screen is triggered from the ECSAssist Subsystem Manager’s “database” screen, Section 4.1.5.2.1.1 above. The screen is used to input the parameters to set up the database. In the ECSAssist Subsystem Manager’s “Database Script Parameters” screen, shown in Figure 4.1.5-5, the user must enter all parameters to initiate the respective database script.



**Figure 4.1.5-5. Subsystem Manager “Database Script Parameters” Screen**

Table 4.1.5-6 describes the control and information fields on the "database script parameters" screen.

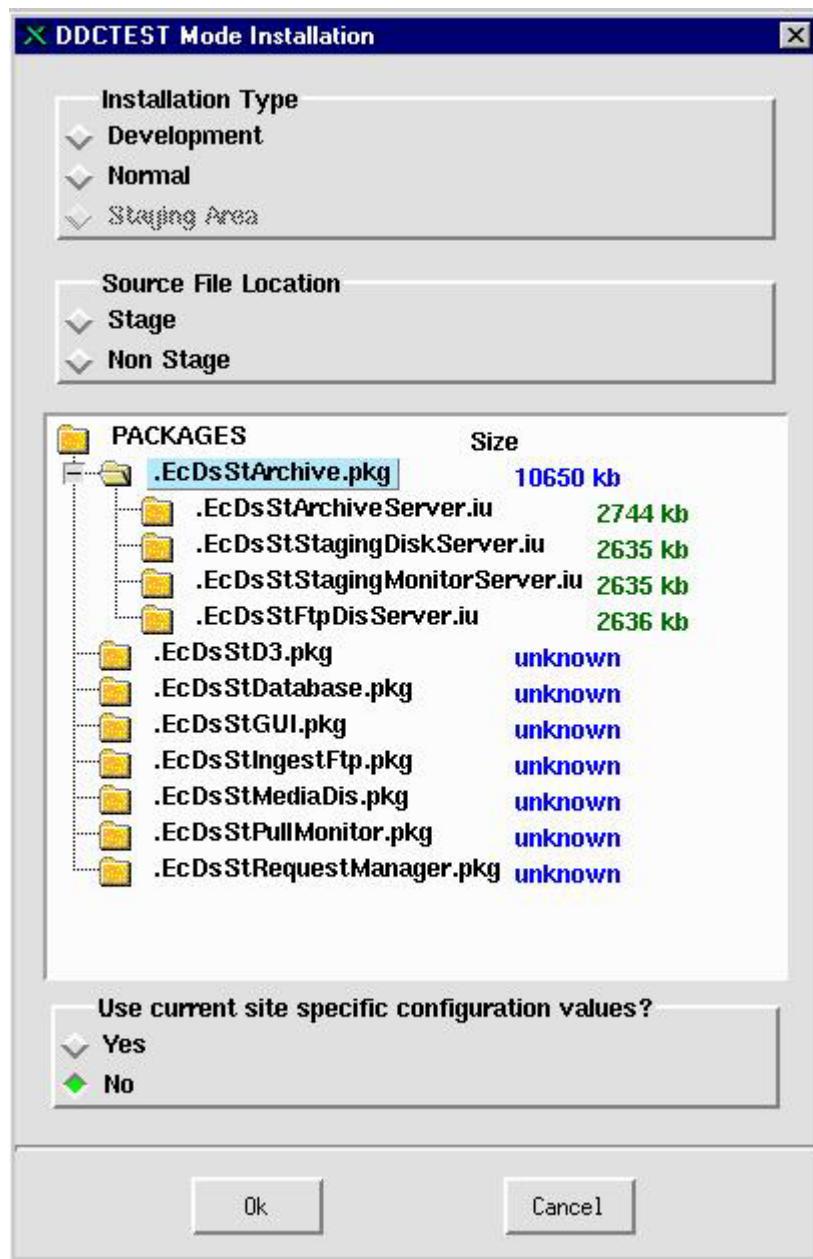
**Table 4.1.5-6. ECSAssist Subsystem Manager’s “Database Script Parameters” Screen Field Descriptions**

Option/Field	Action	Description
<b>Database Script Parameters</b>	Display Only	Window title
<b>EcDsSrDbBuild</b>	Display Only	Title
<b>Mode</b>	Display Only	Displays selected mode.
<b>DBO ID</b>	Entry	Enter dbo id
<b>Password</b>	Entry	Enter password
<b>SQL Server Name</b>	Entry	Enter sql server name
<b>Database Name</b>	Entry	Enter database name
<b>OK</b>	Click	Initiates process
<b>Cancel</b>	Click	Aborts process

#### **4.1.5.2.1.3 ECSAssist Subsystem Manager’s Install Screen**

This screen is used to install ECS custom software into the selected mode. From the ECSAssist Subsystem Manager screen click the install button to initiate the installation process.

Figure 4.1.5-6 presents the Install screen.



**Figure 4.1.5-6. Subsystem Manager Install Screen**

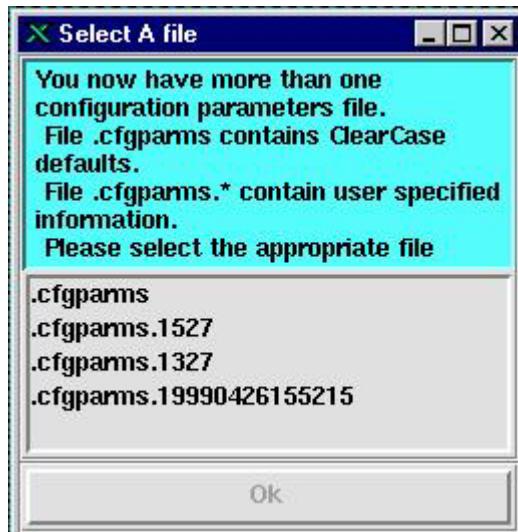
Table 4.1.5-7 describes the control and information fields on the install screen.

**Table 4.1.5-7. ECSAssist Subsystem Manager Install Option or Field Descriptions**

Option/Field	Action	Description
<b>Installation Type</b>	Display Only	Heading.
<b>Development</b>	Click	Creates symbolic links to ClearCase.
<b>Normal</b>	Click	Copies binaries and libraries to selected mode.
<b>Staging Area</b>	Click	Installs Mode from staging area.
<b>Source File Location</b>	Display Only	Heading.
<b>Stage</b>	Click	To obtain files from the nightly build.
<b>Non Stage</b>	Click	Allows testing of changes before a merge to branch is performed.
<b>Use current site specific configuration values?</b>	Display Only	Heading.
<b>Yes</b>	Click	Use site-specific .cfgparms and .dbparms file.
<b>No</b>	Click	Do not use site-specific .cfgparms and .dbparms file. Allow the user to make the selection of choice.
<b>Ok</b>	Click	Executes installation process.
<b>Cancel</b>	Click	Aborts Installation process.

#### **4.1.5.2.1.4 ECSAssist Subsystem Manager’s “Configuration File Selection” Screen**

The configuration file selection window shown in Figure 4.1.5-7 allows a user to select a .cfgparms file with configuration values that were entered by the user or should be used when starting servers.



**Figure 4.1.5-7. Configuration File Selection Window**

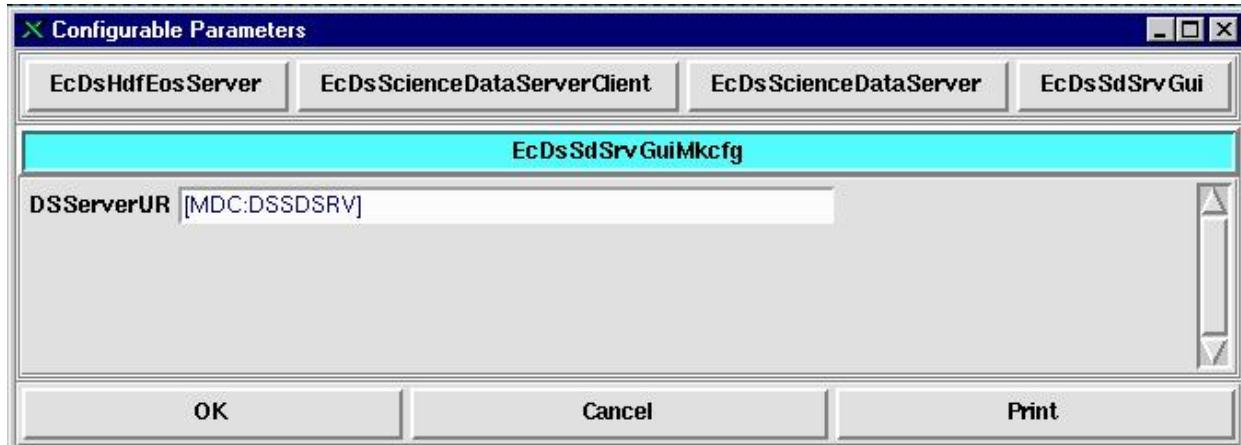
Table 4.1.5-8 describes the control and information fields on the configuration selection window.

**Table 4.1.5-8. Configuration File Selection Window Field Description**

Option/Field	Action	Description
Listbox	Click on entry in list	Select file of choice; enables <b>Ok</b> button.
<b>Ok</b>	Click	Launches configurable parameters screen.

#### 4.1.5.2.1.5 ECSAssist Subsystem Manager's "Configuration" screen

Clicking the "Configuration" button on the ECSAssist Subsystem Manager screen brings up the "mkcfg" window shown in Figure 4.1.5-8. Through this screen, ECSAssist creates CFG and PCFG files for selected components.



**Figure 4.1.5-8. Subsystem Manager "Configuration" Screen**

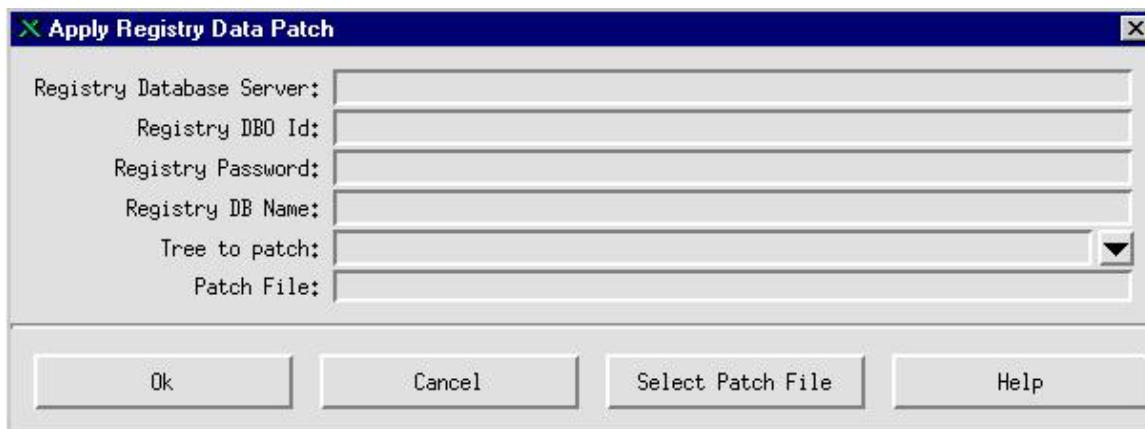
Table 4.1.5-9 describes the control and information fields on the "mkcfg" screen.

**Table 4.1.5-9. ECSAssist Subsystem Manager "Configuration" Field Descriptions**

Option/Field	Action	Description
<b>EcDsHdfEosServer</b>	Click	Allows the user to configure the HDF EOS Server.
<b>EcDsScienceDataServerClient</b>	Click	Allows the user to configure the Science Data Server Client.
<b>EcDsScienceDataServer</b>	Click	Allows the user to configure the Science Data Server.
<b>EcDsSdSrvGui</b>	Click	Allows the user to configure the Science Data Server GUI.
<b>EcDsSdSrvGuiMkcfg</b>	Display Only	--
<b>DSServerUR</b>	Enter	User enters specific data to the DSServerUR.
<b>Ok</b>	Click	Executes configuration process.
<b>Cancel</b>	Click	Aborts configuration process.
<b>Print</b>	Click	Prints configuration parameters.

#### **4.1.5.2.1.6 ECSAssist Subsystem Manager's “*Registry Patch*” Screen**

Clicking “Apply Registry Data Patch” under the Tools menu option is the registry patch screen, shown in Figure 4.1.5-9. This screen allows users to apply updates to the registry database.



**Figure 4.1.5-9. Subsystem Manager “*Registry Patch*” Screen**

Table 4.1.5-10 describes the control and information fields on the "Registry Patch" screen.

**Table 4.1.5-10. ECSAssist Subsystem Manager's Monitor Field Descriptions**

Option/Field	Action	Description
<b>Apply Registry Data Patch</b>	Display Only	Window title.
<b>“Registry Data Server”</b>	Entry	Database Server (e.g., t1icg01_srvr).
<b>“Registry DBO Id”</b>	Entry	Database Owner ID (e.g., css_role).
<b>“Registry Password”</b>	Entry	Database Password.
<b>“Registry DB Name”</b>	Entry	Database Name (e.g., EcCsRegistry). Press enter to fill available “Attribute Trees” into “Tree To Patch” Combo box.
<b>“Tree To Patch”</b>	Entry/Combo box	Enter Attribute Tree name or click the arrow to select Attribute Tree of choice from list.
<b>“Patch File”</b>	Entry	Enter registry patch file, which is to be used to apply updates to the registry database.
<b>OK</b>	Button	To apply updates.
<b>Cancel</b>	Button	Abort process.
<b>“Select Patch File”</b>	Button	Use to locate registry patch file.
<b>Help</b>	Button	Displays extra information related to application of patch files.

#### **4.1.5.2.1.7 ECSAssist Subsystem Manager’s “Stage Install” Screen**

The stage install screen is used to input the staging location where the delivered software is stored. From the ECSAssist Subsystem Manager screen, click the *stageinstall* button to initiate the viewlog process.

Figure 4.1.5-10 below presents the stage install screen.



**Figure 4.1.5-10. Subsystem Manager “stageinstall” Screen**

Table 4.1.5-11 describes the control and information fields on the stageinstall window.

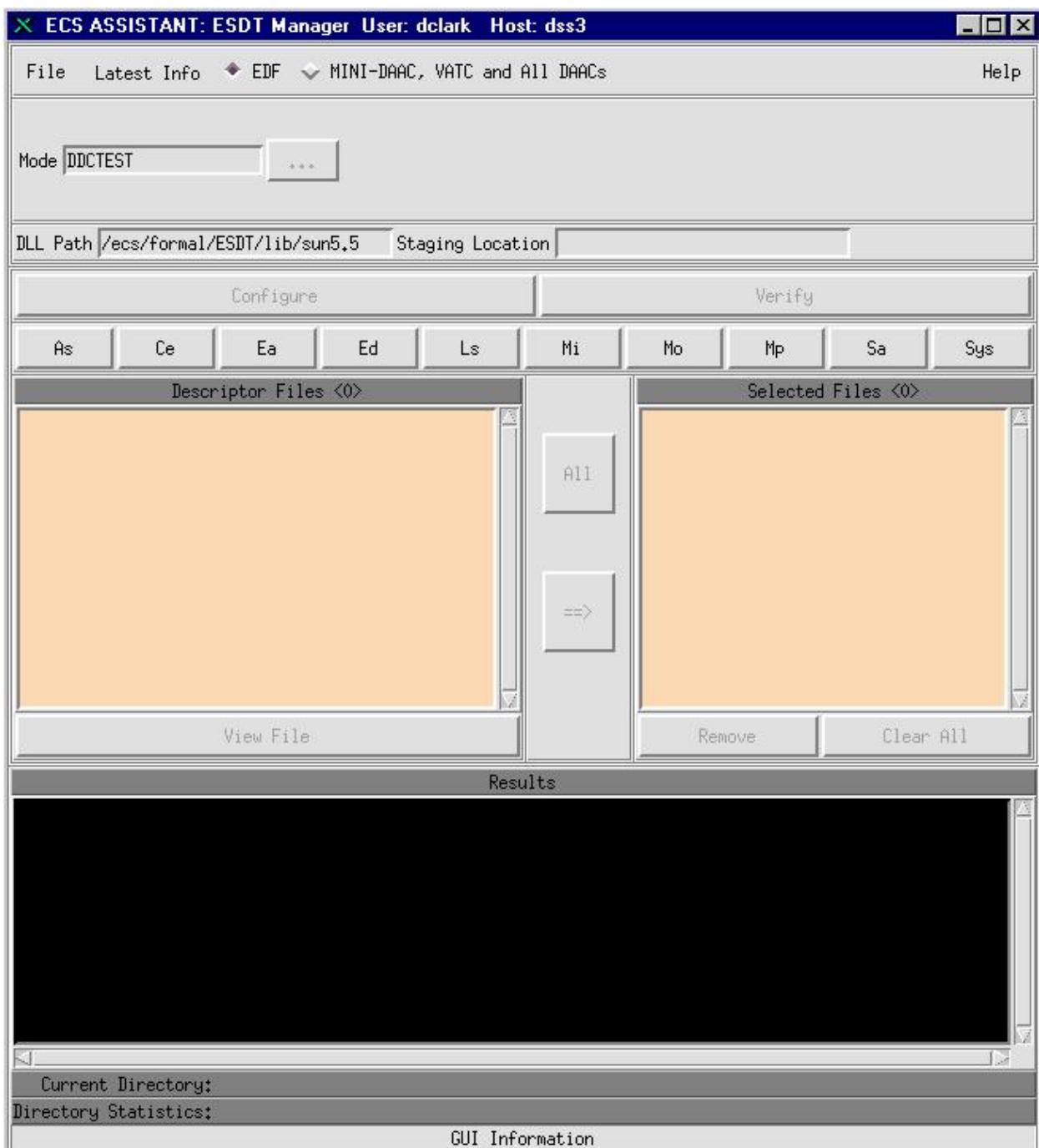
**Table 4.1.5-11. ECSAssist Subsystem Manager stageinstall Field Descriptions**

Option/Field	Action	Description
<b>Provide staging area source location</b>	Display Only	Label for input field immediately below.
<b>Input field</b>	Input	Type in the staging area filename.
<b>Ok</b>	Click	Accepts the user’s entry.
<b>Cancel</b>	Click	Aborts the process.

#### **4.1.5.2.2 ECSAssist ESDT Manager**

The ESDT Manager facilitates the configuration of ESDTs into a mode.

Figure 4.1.5-11 shows the main window of the ESDT Manager.



**Figure 4.1.5-11. ESDT Manager Main Window**

Table 4.1.5-12 describes information and control fields on this window.

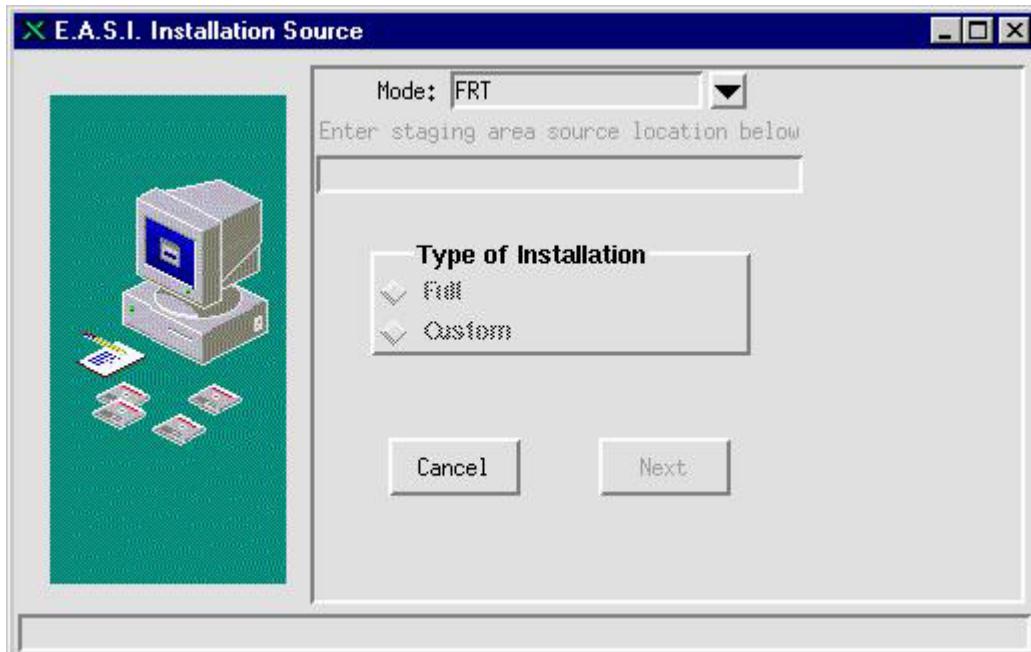
**Table 4.1.5-12. ESDT Manager Window Field Descriptions**

Option/Field	Action	Description
<b>File</b>	--	--
<b>Exit</b>	In the file menu, click Exit.	Exits ESDT Manager.
<b>Latest Info</b>	Click on Latest Info button	Pull down menu showing a list of subsystem specific executables used for supporting tasks.
<b>Radio Buttons</b>	--	--
<b>EDF</b>	Click radio button	To set ESDT destination location for EDF sites.
<b>MINI-DAAC, VATC and all DAACs</b>	Click radio button	To set ESDT destination location for NON-EDF sites.
<b>MODE</b>	list box	Allows the operator to designate which mode to configure ESDTs.
<b>DLL PATH</b>	entry	Allows the operator to designate the source location for Dynamically Linked Libraries (DLLs).
<b>Staging Location</b>	entry	Used to determine location of ESDTs and DLLs at DAACS.
<b>Configure</b>	Click button	Initiates configuration of ESDTs.
<b>Verify</b>	Click button	Verifies the selected ESDT.
<b>Instrument List</b>	[buttons] As (Aster), Ce (Ceres), Ea (External Ancillary), Ed (EDOS), Ls (Landsat), Mi (Miser), Mo (MODIS), Mp (MOPPIT), Sa (Sage III) and Sys (System related instruments)	Each button generates a list of instrument specific ESDTs into the “Descriptor Files” list box. The Operator can then select one or all into the “Selected Files” list box.
<b>Descriptor Files</b>	List Box (Gives number of instruments in list.)	Contains a list of instrument specific ESDTs.
<b>View File</b>	Click button	Displays the contents of the selected ESDT.
<b>Selected Files</b>	List Box (Gives number of instruments in list.)	Contains a list of selected instrument specific ESDTs.
<b>Remove</b>	Click button	Remove selected ESDT from the “Selected Files” list box.
<b>Clear All</b>	Click button	Removes all ESDTs from the “Selected Files” list box.
<b>Results</b>	text box	Displays results of the configuration process.
<b>Current Directory</b>	status bar (display only)	Displays the directory of the currently selected instrument.
<b>Directory Statistics</b>	status bar (display only)	Displays directory statistics of the currently selected instrument.
<b>GUI Information</b>	None	-- Display only bar

#### **4.1.5.2.3 ECSAssist System Installer (E.A.S.I.)**

E.A.S.I facilitates a complete or partial installation of ECS software, creation of configuration files, and execution of database operations by a single user who is familiar with the proper installation instructions.

Figure 4.1.5-12 shows the E.A.S.I. Installation Source window, which comes up as a result of hitting the “E.A.S.I.” button on the ECSAssist main window.



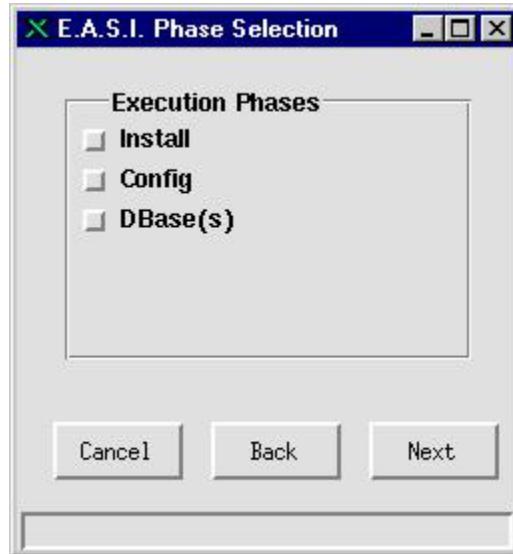
**Figure 4.1.5-12. E.A.S.I. Installation Source Window**

Table 4.1.5-13 describes information and control fields on this window.

**Table 4.1.5-13. ECSAssist E.A.S.I. Installation Source Field Descriptions**

Option/Field	Action	Description
<b>Mode (combo box)</b>	Click	To view a list of available modes. User can select only one mode.
<b>Enter staging area source location below</b>	Display Only	Staging area source location field identifier.
<b>Staging area source location entry</b>	Enter if available	Staging area source location entry becomes available when a ClearCase view is not available. Enter the staging area source location without the architecture and with the word "TOOLKIT" (e.g., /net/tacoma/dist/DROP50).
<b>Type of installation</b>	Display Only	Identifies the installation options.
<b>Full</b>	Click	Facilitates a complete installation of ECS custom software.
<b>Custom</b>	Click	Allows the user to facilitate a customized installation (e.g., The user may only want to install on three hosts or may only want to install Subsystem DSS on all hosts).
<b>Cancel</b>	Click	Returns the user to ECSAssist main menu.
<b>Next</b>	Click	When enabled, allows the user to proceed to the next window.

Figure 4.1.5-13 is the E.A.S.I. Phase Selection window. The user can select any phase to execute. Associated phase windows are displayed depending on what phases are selected.



**Figure 4.1.5-13. E.A.S.I. Phase Selection Window**

Table 4.1.5-14 describes the control and information fields on the E.A.S.I. Phase Selection window.

**Table 4.1.5-14. ECSAssist E.A.S.I Phase Selection Window Field Descriptions**

Option/Field	Action	Description
<b>Execution Phases</b>	Display Only	Identifies the option buttons for selecting the phase of installation.
<b>Install</b>	Click on/off	Selects installation of ECS custom software.
<b>Config</b>	Click on/off	Selects the creation CFG and PCFG files.
<b>Dbase(s)</b>	Click on/off	Selects the execution of selected database operations.
<b>Cancel</b>	Click	Returns the user to the ECSAssist main menu.
<b>Back</b>	Click	Returns the user to the previously selected window.
<b>Next</b>	Click	Allows the user to proceed to the next window.

Figure 4.1.5-14 is the E.A.S.I. Installation Parameters window. It allows the user to select Installation criteria. If a ClearCase task is not set or not available, the Installation Type defaults to the Staging Area option.



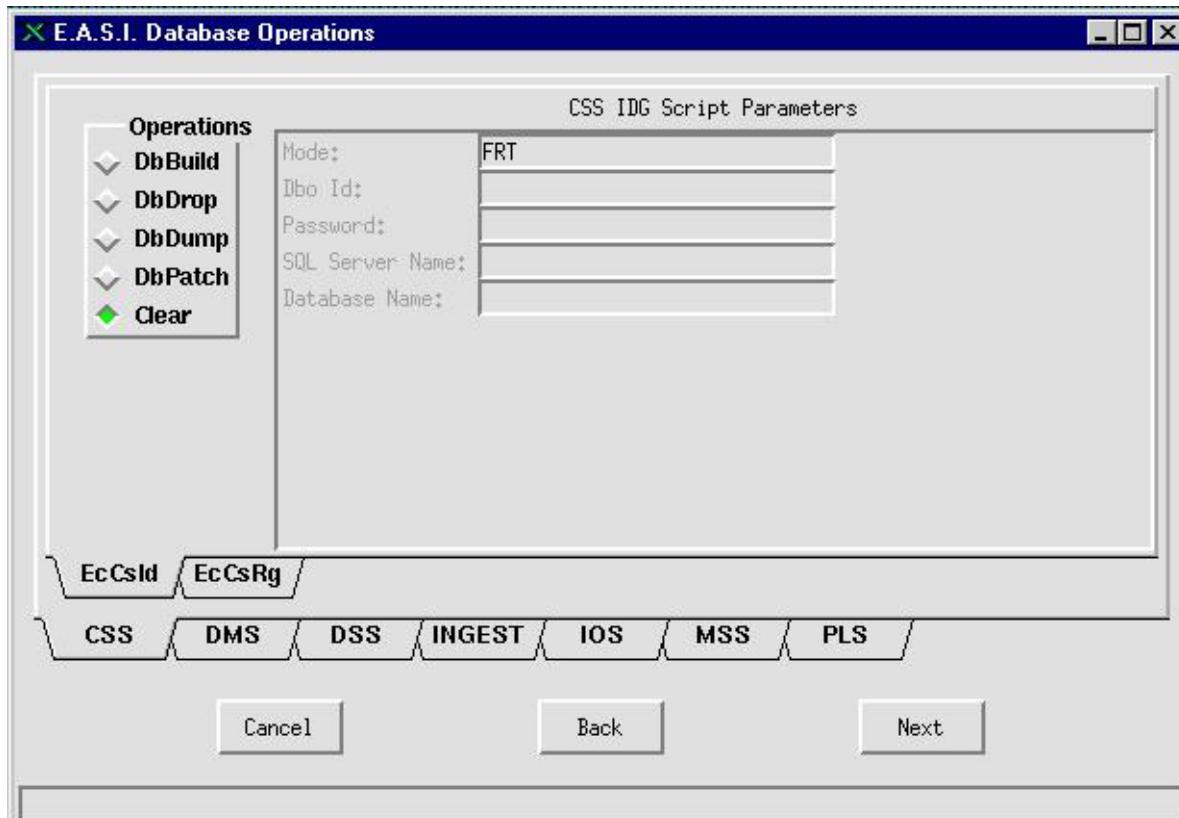
**Figure 4.1.5-14. E.A.S.I. Installation Parameters Window**

Table 4.1.5-15 describes the control and information fields in the E.A.S.I. Installation Parameters window.

**Table 4.1.5-15. ECSAssist E.A.S.I Installation Parameters Window Field Descriptions**

Option/Field	Action	Description
<b>Installation Type</b>	Display Only	Identifies the three installation type options.
<b>Development</b>	Click	Creates symbolic links to ClearCase.
<b>Normal</b>	Click	Copies binaries and libraries to the selected mode.
<b>Staging Area</b>	Click	Installs the mode from the staging location.
<b>Source File Location</b>	Display Only	Identifies the two options for selecting source files.
<b>Stage</b>	Click	To obtain files from the nightly build.
<b>Non Stage</b>	Click	Allows testing of changes before merging to a branch.
<b>Cancel</b>	Click	Returns the user to the ECSAssist main menu.
<b>Back</b>	Click	Returns the user to the previously selected window.
<b>Next</b>	Click	Allows the user to proceed to the next window.

Figure 4.1.5-15 is the E.A.S.I. Database Operations window. Select an operation other than “Clear” and the subsystem specific script parameters are displayed. Enter the correct information for the selected subsystem. Notice there is a tab for only subsystems that require database operations. **Note: The Interoperability Subsystem (IOS) has been removed from the baseline system for this version of Release 6B.**



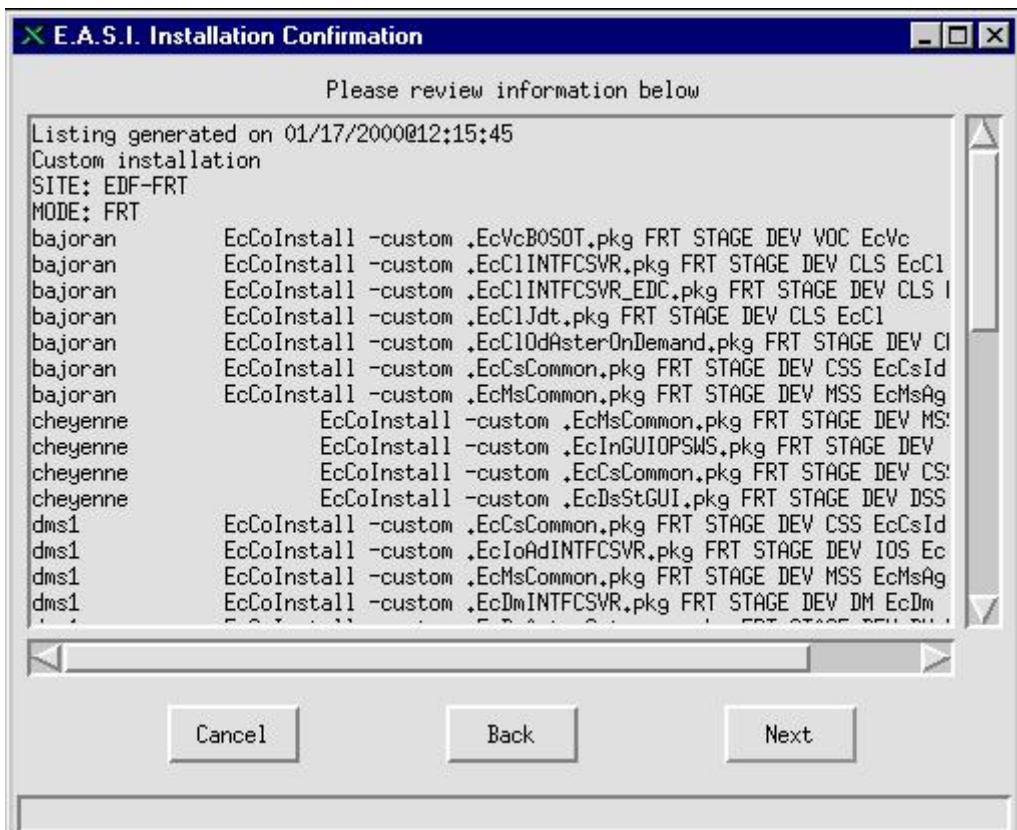
**Figure 4.1.5-15. E.A.S.I. Database Operations Window**

Table 4.1.5-16 describes the E.A.S.I. Database Operations window control and information fields.

**Table 4.1.5-16. ECSAssist E.A.S.I Database Operations Window Field Descriptions**

Option/Field	Action	Description
<b>Operations</b>	Display Only	Identifies the button selectable for Dbase options.
<b>DbBuild</b>	Click	Facilitates execution of the database build operation.
<b>DbDrop</b>	Click	Facilitates execution of the database drop operation.
<b>DbDump</b>	Click	Facilitates execution of a database drop operation.
<b>Dbpatch</b>	Click	Facilitates execution of a database patch operation.
<b>DbLoad</b>	Click	Facilitates execution of a database load operation.
<b>DbValids</b>	Click	DSS Science Data Server only. Facilitates execution of a Valids script for use with ESDTs.
<b>Subsystems specific script parameters</b>	Display Only	Heading. By selecting a tab, the heading changes according to the selection.
<b>Mode</b>	Display Only	Displays the selected mode.
<b>Dbo Id</b>	Entry	Enter Dbo Id.
<b>Password</b>	Entry	Enter password.
<b>SQL Server Name</b>	Entry	Enter SQL server name.
<b>Database Name</b>	Entry	Enter database name.
<b>Cancel</b>	Click	Returns the user to the ECSAssist main menu.
<b>Back</b>	Click	Returns the user to the previously selected window.
<b>Next</b>	Click	Allows the user to proceed to the next window.

Figure 4.1.5-16 is the E.A.S.I Installation Confirmation window. If there is an incorrectly selected item, click the “Back” button until you have reached the window requiring the change and make the change. When the change is made, click the “Next” button until you have reached the “Installation Confirmation” window.



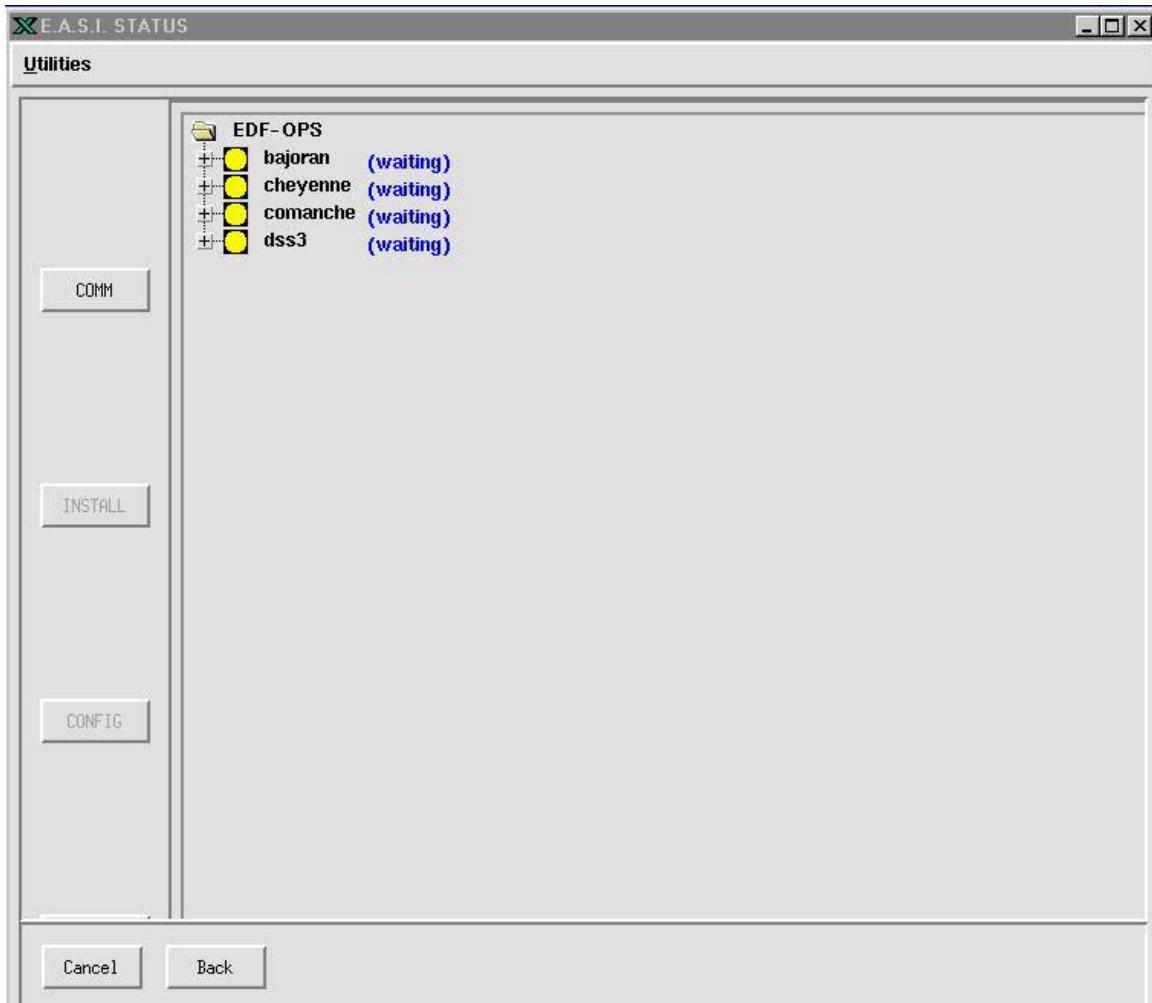
**Figure 4.1.5-16. E.A.S.I Installation Confirmation Window**

Table 4.1.5-17 describes the control and information fields in the E.A.S.I. Installation Confirmation window.

**Table 4.1.5-17. ECSAssist E.A.S.I. Installation Confirmation Window Field Descriptions**

Option/Field	Action	Description
<b>Please review information below</b>	Display Only	Requests the user to review the information immediately below in a scrollable text box.
<b>Information in Text Box</b>	Read Only	Contains a log of the installation.
<b>Cancel</b>	Click	Returns the user to the ECSAssist main menu.
<b>Back</b>	Click	Returns the user to the previously selected window.
<b>Next</b>	Click	Allows the user to proceed to the next window.

Figure 4.1.5-17 is the E.A.S.I STATUS window.



**Figure 4.1.5-17. E.A.S.I. STATUS Window**

Table 4.1.5-18 describes the control and information fields in the E.A.S.I. STATUS window.

**Table 4.1.5-18. ECSAssist E.A.S.I. STATUS Window Field Descriptions**

Option/Field	Action	Description
<b>Utilities</b>	Menu	--
<b>Close all open sockets</b>	Click	Closes all the opened connections. Waits for 4 minutes and resets communication and selected phases to “waiting.” This allows users to re-run selected phases.
<b>Max Requests</b>	Click	Controls the number of server calls over the network.
<b>COMM (Button)</b>	Click	Initiates the communication phase. Starts the servers on selected hosts.
<b>INSTALL (Button)</b>	Click	Initiates installation of the ECS custom software.
<b>CONFIG (Button)</b>	Click	Initiates the creation of CFG and PCFG files.
<b>Cancel</b>	Click	Returns user to the ECSAssist main menu. All connections to the server are terminated.
<b>Back</b>	Click	Returns the user to the previously selected window.

#### **4.1.5.3 Required Operating Environment**

For information on the operating environment, tunable parameters and environment variables of ECSAssist refer to the 920-TDA-022 “Custom Code Configuration Parameters” documentation series.

##### **4.1.5.3.1 Interfaces and Data Types**

None.

##### **4.1.5.4 Databases**

No database is associated with or used by the ECSAssist. ECSAssist can create configuration files for software components, remove outdated log files, or update other files related to the functions performed.

##### **4.1.5.5 Special Constraints**

None.

##### **4.1.5.6 Outputs**

Output from the ECSAssist tool consists of the data displayed on the GUIs described in Section 4.1.5.2.1 and error and event messages described in section 4.1.5.7

##### **4.1.5.7 Event and Error Messages**

Event and Error Messages for ECSAssist are listed in Appendix A. All outputs associated with the ECSAssist are captured in a file called “/tmp/<userid>.ecs\_session.log”.

#### **4.1.5.8 Reports**

None.