

335-CD-008-001

EOSDIS Core System Project

ECS COTS Deployment Plan Volume 8

March 2003

Raytheon Company
Upper Marlboro, Maryland

ECS COTS Deployment Plan Volume 8

March 2003

Prepared Under Contract NAS5-60000
CDRL Item #148

RESPONSIBLE ENGINEER

Maryellen Corbett /s/ 3/5/03
Maryellen Corbett Date
EOSDIS Core System Project

RESPONSIBLE MANAGER

Royal White Jr. for Carolyn Whitaker /s/ 3/5/03
Carolyn Whitaker, Systems Engineering COTS Manager Date
EOSDIS Core System Project

SUBMITTED BY

Royal White Jr./s/ 3/5/03
Royal White Jr., Systems Engineering Manager Date
EOSDIS Core System Project

Raytheon Company
Upper Marlboro, Maryland

This page intentionally left blank.

Preface

This document is a contract deliverable with an approval code 2. As such, it does not require formal Government acceptance. Contractor approved changes to this document are handled in accordance with change control requirements described in the ECS Configuration Management Plan. Changes to this document will be made by document change notice (DCN) or by complete revision.

Any questions should be addressed to:

Data Management Office
The ECS Project Office
Raytheon Systems Company
1616 McCormick Drive
Upper Marlboro, Maryland 20774-5301

This page intentionally left blank.

Abstract

This is the eighth volume in a series of documents that provide information and details associated with the upgrading of COTS products within the Earth Observing System Data and Information System (EOSDIS) Core System (ECS). This document provides information regarding products that are being upgraded or added, rationale for the upgrade, schedule for upgrade, and the process used to report weekly status. The document also provides information about the reviews and risk mitigation activities performed throughout the upgrade cycle.

Keywords: product, schedule, status, hardware, software, COTS, Solaris, IRIX

This page intentionally left blank.

Change Information Page

| List of Effective Pages | | | |
|--------------------------------|---------------------|-------------------------|-------------------|
| Page Number | | Issue | |
| Title | | Original | |
| iii through xx | | Original | |
| 1-1 and 1-2 | | Original | |
| 2-1 and 2-2 | | Original | |
| 3-1 through 3- | | Original | |
| 4-1 through 4-50 | | Original | |
| 5-1 through 5-10 | | Original | |
| A-1 through A-6 | | Original | |
| B-1 through B-14 | | Original | |
| Document History | | | |
| Document Number | Status/Issue | Publication Date | CCR Number |
| 335-CD-008-001 | Original | March 2003 | 03-0129 |

This page intentionally left blank.

Contents

Preface

Abstract

1 Introduction

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

2. Related Documents

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

3 COTS Upgrade Overview

| | | |
|-----|--|-----|
| 3.1 | COTS Upgrade Process Overview..... | 3-1 |
| 3.2 | Mitigating Risks..... | 3-1 |
| 3.3 | Identification of Defect/NCRs | 3-1 |
| 3.4 | Vendor Support..... | 3-2 |
| | 3.4.1 COTS Software Support | 3-2 |
| | 3.4.2 Cross Product Software Compatibility | 3-4 |
| | 3.4.3 Features/Performance Upgrades | 3-5 |
| 3.5 | COTS Upgrade Summary | 3-6 |

4. Extension COTS Upgrades

| | | |
|-----|----------------------------------|-----|
| 4.1 | ClearCase 5.0 | 4-1 |
| | 4.1.1 Description of COTS | 4-1 |
| | 4.1.2 Rationale for Upgrade..... | 4-1 |

| | | |
|-------|---|-----|
| 4.1.3 | Operational Impacts | 4-2 |
| 4.1.4 | Custom Code Impact..... | 4-2 |
| 4.1.5 | Security Impact | 4-2 |
| 4.1.6 | Licensing Impact..... | 4-2 |
| 4.1.7 | External Drivers | 4-2 |
| 4.1.8 | Other Impacts/Comments | 4-2 |
| 4.1.9 | COTS Installation Sequence/Dependencies | 4-2 |
| 4.2 | AMASS 5.3.1 | 4-2 |
| 4.2.1 | Description of COTS | 4-2 |
| 4.2.2 | Rationale for Upgrade..... | 4-3 |
| 4.2.3 | Operational Impact..... | 4-3 |
| 4.2.4 | Custom Code Impact..... | 4-3 |
| 4.2.5 | Security Impact | 4-3 |
| 4.2.6 | Licensing Impact..... | 4-3 |
| 4.2.7 | External Drivers | 4-4 |
| 4.2.8 | Other Impacts/Comments | 4-4 |
| 4.2.9 | COTS Installation Sequence/Dependencies | 4-4 |
| 4.3 | ACSLs 6.1 with PUT 0203 | 4-4 |
| 4.3.1 | Description of COTS | 4-4 |
| 4.3.2 | Rationale for Upgrade..... | 4-4 |
| 4.3.3 | Operational Impact..... | 4-5 |
| 4.3.4 | Custom Code Impact..... | 4-5 |
| 4.3.5 | Security Impact | 4-5 |
| 4.3.6 | Licensing Impact..... | 4-5 |
| 4.3.7 | External Drivers | 4-5 |
| 4.3.8 | Other Impacts/Comments | 4-5 |
| 4.3.9 | COTS Installation Sequence/Dependencies | 4-5 |
| 4.4 | SANergy 3.2.1.6 (SGI)/3.2.1.8 (Sun) | 4-6 |
| 4.4.1 | Description of COTS | 4-6 |
| 4.4.2 | Rationale for Upgrade..... | 4-6 |
| 4.4.3 | Operational Impact..... | 4-7 |
| 4.4.4 | Custom Code Impact..... | 4-7 |
| 4.4.5 | Security Impact | 4-7 |
| 4.4.6 | Licensing Impact..... | 4-7 |
| 4.4.7 | External Drivers | 4-7 |
| 4.4.8 | Other Impacts/Comments | 4-7 |
| 4.4.9 | COTS Installation Sequence/Dependencies | 4-7 |
| 4.5 | QFS 3.5.0-64A | 4-7 |

| | | |
|-------|--|------|
| 4.5.1 | Description of COTS | 4-7 |
| 4.5.2 | Rationale for Upgrade..... | 4-7 |
| 4.5.3 | Operational Impact..... | 4-8 |
| 4.5.4 | Custom Code Impact..... | 4-8 |
| 4.5.5 | Security Impact..... | 4-8 |
| 4.5.6 | Licensing Impact..... | 4-8 |
| 4.5.7 | External Drivers | 4-8 |
| 4.5.8 | Other Impacts/Comments | 4-8 |
| 4.5.9 | COTS Installation Sequence/Dependencies | 4-9 |
| 4.6 | TPSSM 8.30 RAID Software, version 6.0..... | 4-9 |
| 4.6.1 | Description of COTS | 4-9 |
| 4.6.2 | Rationale for Upgrade..... | 4-9 |
| 4.6.3 | Operational Impacts | 4-9 |
| 4.6.4 | Custom Code Impact..... | 4-9 |
| 4.6.5 | Security Impact | 4-10 |
| 4.6.6 | Licensing Impact..... | 4-10 |
| 4.6.7 | External Drivers | 4-10 |
| 4.6.8 | Other Impacts/Comments | 4-10 |
| 4.6.9 | COTS Installation Sequence/Dependencies | 4-10 |
| 4.7 | Sun ONE, Studio 7.0 Enterprise Edition | 4-10 |
| 4.7.1 | Description of COTS | 4-10 |
| 4.7.2 | Rationale for Upgrade..... | 4-11 |
| 4.7.3 | Operational Impact..... | 4-12 |
| 4.7.4 | Custom Code Impact..... | 4-12 |
| 4.7.5 | Security Impact | 4-12 |
| 4.7.6 | Licensing Impact..... | 4-12 |
| 4.7.7 | External Drivers | 4-12 |
| 4.7.8 | Other Impacts/Comments | 4-12 |
| 4.7.9 | COTS Installation Sequence/Dependencies | 4-13 |
| 4.8 | SGI MIPSpro Compilers 7.3.1.3/ProDev Workshop 2.9.2..... | 4-13 |
| 4.8.1 | Description of COTS | 4-13 |
| 4.8.2 | Rationale for Upgrade..... | 4-13 |
| 4.8.3 | Operational Impact..... | 4-14 |
| 4.8.4 | Custom Code Impact..... | 4-14 |
| 4.8.5 | Security Impact | 4-14 |
| 4.8.6 | Licensing Impact..... | 4-14 |
| 4.8.7 | External Drivers | 4-14 |
| 4.8.8 | Other Impacts/Comments | 4-14 |

| | | |
|--------|---|------|
| 4.8.9 | COTS Installation Sequence/Dependencies | 4-14 |
| 4.9 | Secure Shell 3.2 (UNIX)/ 5.2 (PC) | 4-14 |
| 4.9.1 | Description of COTS | 4-14 |
| 4.9.2 | Rationale for Upgrade..... | 4-15 |
| 4.9.3 | Operational Impact..... | 4-15 |
| 4.9.4 | Custom Code Impact..... | 4-15 |
| 4.9.5 | Security Impact | 4-15 |
| 4.9.6 | Licensing Impact..... | 4-15 |
| 4.9.7 | External Drivers | 4-15 |
| 4.9.8 | Other Impacts/Comments | 4-16 |
| 4.9.9 | COTS Installation Sequence/Dependencies | 4-16 |
| 4.10 | MODIS Direct Broadcast PC Software | 4-16 |
| 4.10.1 | Description of COTS | 4-16 |
| 4.10.2 | Rationale for Upgrade..... | 4-16 |
| 4.10.3 | Operational Impact..... | 4-17 |
| 4.10.4 | Custom Code Impact..... | 4-17 |
| 4.10.5 | Security Impact | 4-17 |
| 4.10.6 | Licensing Impact..... | 4-17 |
| 4.10.7 | External Drivers | 4-17 |
| 4.10.8 | Other Impacts/Comments | 4-17 |
| 4.10.9 | COTS Installation Sequence/Dependencies | 4-17 |
| 4.11 | PERL 5.6.1 for Rimage QA PC | 4-18 |
| 4.11.1 | Description of COTS | 4-18 |
| 4.11.2 | Rationale for Upgrade..... | 4-18 |
| 4.11.3 | Operational Impacts | 4-19 |
| 4.11.4 | Custom Code Impact..... | 4-19 |
| 4.11.5 | Security Impact | 4-19 |
| 4.11.6 | Licensing Impact..... | 4-19 |
| 4.11.7 | External Drivers | 4-19 |
| 4.11.8 | Other Impacts/Comments | 4-19 |
| 4.11.9 | Installation Sequence/Dependencies..... | 4-19 |
| 4.12 | PDS PC Software Upgrades..... | 4-19 |
| 4.12.1 | Description of COTS | 4-19 |
| 4.12.2 | Rationale for Upgrade..... | 4-20 |
| 4.12.3 | Operational Impact..... | 4-21 |
| 4.12.4 | Custom Code Impact..... | 4-21 |
| 4.12.5 | Security Impact | 4-21 |
| 4.12.6 | Licensing Impact..... | 4-21 |

| | | |
|--------|--|------|
| 4.12.7 | External Drivers | 4-21 |
| 4.12.8 | Other Impacts/Comments | 4-22 |
| 4.12.9 | COTS Installation Sequence/Dependencies | 4-22 |
| 4.13 | Netscape Communicator 7.0 | 4-22 |
| 4.13.1 | Description of COTS | 4-22 |
| 4.13.2 | Rationale for Upgrade..... | 4-22 |
| 4.13.3 | Operational Impact..... | 4-23 |
| 4.13.4 | Custom Code Impact..... | 4-23 |
| 4.13.5 | Security Impact | 4-23 |
| 4.13.6 | Licensing Impact..... | 4-23 |
| 4.13.7 | External Drivers | 4-23 |
| 4.13.8 | Other Impacts/Comments | 4-23 |
| 4.13.9 | COTS Installation Sequence/Dependencies | 4-23 |
| 4.14 | Insure++ 6.1 | 4-24 |
| 4.14.1 | Description of COTS | 4-24 |
| 4.14.2 | Rationale for Upgrade..... | 4-24 |
| 4.14.3 | Operational Impact..... | 4-24 |
| 4.14.4 | Custom Code Impact..... | 4-24 |
| 4.14.5 | Security Impact | 4-24 |
| 4.14.6 | Licensing Impact..... | 4-25 |
| 4.14.7 | External Drivers | 4-25 |
| 4.14.8 | Other Impacts/Comments | 4-25 |
| 4.14.9 | COTS Installation Sequence/Dependencies | 4-25 |
| 4.15 | IMSL C Numeric Libraries 5.0..... | 4-25 |
| 4.15.1 | Description of COTS | 4-25 |
| 4.15.2 | Rationale for Upgrade..... | 4-25 |
| 4.15.3 | Operational Impact..... | 4-26 |
| 4.15.4 | Custom Code Impact..... | 4-26 |
| 4.15.5 | Licensing Impact..... | 4-26 |
| 4.15.6 | Security Impact | 4-26 |
| 4.15.7 | External Drivers | 4-26 |
| 4.15.8 | Other Impacts/Comments | 4-26 |
| 4.15.9 | COTS Installation Sequence/Dependencies | 4-26 |
| 4.16 | Firewall Software Upgrades: AIX Firmware Patch CL020916..... | 4-26 |
| 4.16.1 | Description of COTS | 4-26 |
| 4.16.2 | Rationale for Upgrade..... | 4-26 |
| 4.16.3 | Operational Impact..... | 4-27 |
| 4.16.4 | Custom Code Impact..... | 4-27 |

| | | |
|--------|---|------|
| 4.16.5 | Security Impact | 4-27 |
| 4.16.6 | Licensing Impacts | 4-27 |
| 4.16.7 | External Drivers | 4-27 |
| 4.16.8 | Other Impacts/Comments | 4-27 |
| 4.16.9 | COTS Installation Sequence/Dependencies | 4-27 |
| 4.17 | Firewall Software: Portus 5.05 | 4-27 |
| 4.17.1 | Description of COTS | 4-27 |
| 4.17.2 | Rationale for Upgrade..... | 4-28 |
| 4.17.3 | Operational Impact..... | 4-28 |
| 4.17.4 | Custom Code Impact..... | 4-28 |
| 4.17.5 | Security Impact | 4-28 |
| 4.17.6 | Licensing Impacts | 4-28 |
| 4.17.7 | External Drivers | 4-28 |
| 4.17.8 | Other Impacts/Comments | 4-28 |
| 4.17.9 | COTS Installation Sequence/Dependencies | 4-29 |
| 4.18 | Firewall Software: eBorder Server 3.5 Patch Update..... | 4-29 |
| 4.18.1 | Description of COTS | 4-29 |
| 4.18.2 | Rationale for Upgrade..... | 4-29 |
| 4.18.3 | Operational Impact..... | 4-30 |
| 4.18.4 | Custom Code Impact..... | 4-30 |
| 4.18.5 | Security Impact | 4-30 |
| 4.18.6 | Licensing Impacts | 4-30 |
| 4.18.7 | External Drivers | 4-30 |
| 4.18.8 | Other Impacts/Comments | 4-30 |
| 4.18.9 | COTS Installation Sequence/Dependencies | 4-30 |
| 4.19 | WhatsUp Gold 8.0 | 4-30 |
| 4.19.1 | Description of COTS | 4-30 |
| 4.19.2 | Rationale for Upgrade..... | 4-31 |
| 4.19.3 | Operational Impact..... | 4-31 |
| 4.19.4 | Custom Code Impact..... | 4-31 |
| 4.19.5 | Security Impact | 4-31 |
| 4.19.6 | Licensing Impact..... | 4-31 |
| 4.19.7 | External Drivers | 4-32 |
| 4.19.8 | Other Impacts/Comments | 4-32 |
| 4.19.9 | COTS Installation Sequence/Dependencies | 4-32 |
| 4.20 | Legato Networker 7.0 | 4-32 |
| 4.20.1 | Description of COTS | 4-32 |
| 4.20.2 | Rationale for Upgrade..... | 4-32 |

| | | |
|--------|--|------|
| 4.20.3 | Operational Impacts | 4-33 |
| 4.20.4 | Custom Code Impact..... | 4-33 |
| 4.20.5 | Security Impact | 4-33 |
| 4.20.6 | Licensing Impact..... | 4-33 |
| 4.20.7 | External Drivers | 4-33 |
| 4.20.8 | Other Impacts/Comments | 4-33 |
| 4.20.9 | COTS Installation Sequence/Dependencies | 4-33 |
| 4.21 | XRP ILM Replacement..... | 4-33 |
| 4.21.1 | Description of COTS | 4-33 |
| 4.21.2 | Rationale for Upgrade..... | 4-34 |
| 4.21.3 | Operational Impact..... | 4-35 |
| 4.21.4 | Custom Code Impact..... | 4-35 |
| 4.21.5 | Security Impact | 4-35 |
| 4.21.6 | Licensing Impact..... | 4-35 |
| 4.21.7 | External Drivers | 4-35 |
| 4.21.8 | Other Impacts/Comments | 4-35 |
| 4.21.9 | COTS Installation Sequence/Dependencies | 4-35 |
| 4.22 | XRP BLM Replacement | 4-35 |
| 4.22.1 | Description of COTS | 4-35 |
| 4.22.2 | Rationale for Upgrade..... | 4-36 |
| 4.22.3 | Operational Impact..... | 4-37 |
| 4.22.4 | Custom Code Impact..... | 4-37 |
| 4.22.5 | Security Impact | 4-37 |
| 4.22.6 | Licensing Impact..... | 4-37 |
| 4.22.7 | External Drivers | 4-37 |
| 4.22.8 | Other Impacts/Comments | 4-37 |
| 4.22.9 | COTS Installation Sequence/Dependencies | 4-37 |
| 4.23 | Oracle Enterprise Server/Oracle Developer..... | 4-37 |
| 4.23.1 | Description of COTS | 4-37 |
| 4.23.2 | Rationale for Upgrade..... | 4-37 |
| 4.23.3 | Operational Impact..... | 4-38 |
| 4.23.4 | Custom Code Impact..... | 4-38 |
| 4.23.5 | Security Impact | 4-38 |
| 4.23.6 | Licensing Impact..... | 4-39 |
| 4.23.7 | External Drivers | 4-39 |
| 4.23.8 | Other Impacts/Comments | 4-39 |
| 4.23.9 | COTS Installation Sequence/Dependencies | 4-39 |
| 4.24 | RogueWave SourcePro Libraries..... | 4-39 |

| | | |
|--------|---|------|
| 4.24.1 | Description of COTS | 4-39 |
| 4.24.2 | Rationale for Upgrade..... | 4-39 |
| 4.24.3 | Operational Impact..... | 4-41 |
| 4.24.4 | Custom Code Impact..... | 4-41 |
| 4.24.5 | Security Impact..... | 4-41 |
| 4.24.6 | Licensing Impact..... | 4-41 |
| 4.24.7 | External Drivers | 4-41 |
| 4.24.8 | Other Impacts/Comments | 4-41 |
| 4.24.9 | COTS Installation Sequence/Dependencies | 4-41 |
| 4.25 | IRIX 6.5.17 Patch Upgrade..... | 4-41 |
| 4.25.1 | Description of COTS | 4-41 |
| 4.25.2 | Rationale for Upgrade..... | 4-41 |
| 4.25.3 | Operational Impact..... | 4-42 |
| 4.25.4 | Custom Code Impact..... | 4-43 |
| 4.25.5 | Security Impact..... | 4-43 |
| 4.25.6 | Licensing Impact..... | 4-43 |
| 4.25.7 | External Drivers | 4-43 |
| 4.25.8 | Other Impacts/Comments | 4-43 |
| 4.25.9 | COTS Installation Sequence/Dependencies | 4-43 |
| 4.26 | Solaris 8 Patch Upgrade..... | 4-43 |
| 4.26.1 | Description of COTS | 4-43 |
| 4.26.2 | Rationale for Upgrade..... | 4-43 |
| 4.26.3 | Operational Impact..... | 4-44 |
| 4.26.4 | Custom Code Impact..... | 4-44 |
| 4.26.5 | Security Impact..... | 4-44 |
| 4.26.6 | Licensing Impact..... | 4-44 |
| 4.26.7 | External Drivers | 4-44 |
| 4.26.8 | Other Impacts/Comments | 4-45 |
| 4.26.9 | COTS Installation Sequence/Dependencies | 4-45 |
| 4.27 | JRE 1.4.1..... | 4-45 |
| 4.27.1 | Description of COTS | 4-45 |
| 4.27.2 | Rationale for Upgrade..... | 4-45 |
| 4.27.3 | Operational Impact..... | 4-46 |
| 4.27.4 | Custom Code Impact..... | 4-46 |
| 4.27.5 | Licensing Impact..... | 4-46 |
| 4.27.6 | Security Impact..... | 4-46 |
| 4.27.7 | External Drivers | 4-46 |
| 4.27.8 | Other Impacts/Comments | 4-46 |

| | | |
|--------|--|------|
| 4.27.9 | COTS Installation Sequence/Dependencies | 4-46 |
| 4.28 | Sybase ASE EBF Upgrade..... | 4-47 |
| 4.28.1 | Description of COTS | 4-47 |
| 4.28.2 | Rationale for Upgrade..... | 4-47 |
| 4.28.3 | Operational Impact..... | 4-47 |
| 4.28.4 | Custom Code Impact..... | 4-47 |
| 4.28.5 | Security Impact..... | 4-48 |
| 4.28.6 | Licensing Impact..... | 4-48 |
| 4.28.7 | External Drivers | 4-48 |
| 4.28.8 | Other Impacts/Comments | 4-48 |
| 4.28.9 | COTS Installation Sequence/Dependencies | 4-48 |
| 4.29 | Purify 2003 Sun/SGI Upgrade..... | 4-48 |
| 4.29.1 | Description of COTS | 4-48 |
| 4.29.2 | Rationale for Upgrade..... | 4-48 |
| 4.29.3 | Operational Impact..... | 4-49 |
| 4.29.4 | Custom Code Impact..... | 4-49 |
| 4.29.5 | Security Impact..... | 4-49 |
| 4.29.6 | Licensing Impact..... | 4-49 |
| 4.29.7 | External Drivers | 4-49 |
| 4.29.8 | Other Impacts/Comments | 4-49 |
| 4.29.9 | COTS Installation Sequence/Dependencies | 4-49 |
| 4.30 | Status on COTS Products Previously Identified..... | 4-49 |
| 4.30.1 | Exabyte Driver | 4-49 |
| 4.30.2 | Dashboard COTS | 4-50 |
| 4.30.3 | Tivoli System Management | 4-50 |

5. COTS Hardware Upgrades

| | | |
|-------|---|-----|
| 5.1 | SGI Challenge Replacement..... | 5-1 |
| 5.1.1 | Description of COTS | 5-1 |
| 5.1.2 | Rationale for Upgrade..... | 5-1 |
| 5.1.3 | Software Impact (COTS/Custom)..... | 5-2 |
| 5.1.4 | Network Impacts..... | 5-2 |
| 5.1.5 | DAAC Facility Impacts | 5-2 |
| 5.1.6 | Transition Impacts | 5-3 |
| 5.1.7 | External Drivers | 5-3 |
| 5.1.8 | Other Impacts/Comments | 5-3 |
| 5.1.9 | COTS Installation Sequence/Dependencies | 5-3 |

| | | |
|--------|--|-----|
| 5.1.10 | Replacement Matrix..... | 5-3 |
| 5.2 | User Pull RAID Upgrade..... | 5-4 |
| 5.2.1 | Description of COTS..... | 5-4 |
| 5.2.2 | Rationale for Upgrade..... | 5-4 |
| 5.2.3 | Software Impact (COTS/Custom)..... | 5-5 |
| 5.2.4 | Network Impacts..... | 5-5 |
| 5.2.5 | DAAC Facility Impacts..... | 5-5 |
| 5.2.6 | Transition Impacts..... | 5-5 |
| 5.2.7 | External Drivers..... | 5-5 |
| 5.2.8 | Other Impacts/Comments..... | 5-5 |
| 5.2.9 | COTS Installation Sequence/Dependencies..... | 5-5 |
| 5.2.10 | Replacement Matrix..... | 5-5 |
| 5.3 | STK T9940B Hardware Delivery..... | 5-5 |
| 5.3.1 | Description of COTS..... | 5-5 |
| 5.3.2 | Rationale for Upgrade..... | 5-6 |
| 5.3.3 | Software Impact (COTS/Custom)..... | 5-6 |
| 5.3.4 | Network Impacts..... | 5-6 |
| 5.3.5 | DAAC Facility Impacts..... | 5-6 |
| 5.3.6 | Transition Impacts..... | 5-6 |
| 5.3.7 | External Drivers..... | 5-6 |
| 5.3.8 | Other Impacts/Comments..... | 5-6 |
| 5.3.9 | COTS Installation Sequence/Dependencies..... | 5-6 |
| 5.3.10 | Replacement Matrix..... | 5-7 |
| 5.4 | Additional T9940A Drive Delivery..... | 5-7 |
| 5.4.1 | Description of COTS..... | 5-7 |
| 5.4.2 | Rationale for Delivery..... | 5-7 |
| 5.4.3 | Software Impact (COTS/Custom)..... | 5-7 |
| 5.4.4 | Network Impacts..... | 5-7 |
| 5.4.5 | DAAC Facility Impacts..... | 5-7 |
| 5.4.6 | Transition Impacts..... | 5-7 |
| 5.4.7 | External Drivers..... | 5-7 |
| 5.4.8 | Other Impacts/Comments..... | 5-7 |
| 5.4.9 | COTS Installation Sequence/Dependencies..... | 5-8 |
| 5.4.10 | Replacement Matrix..... | 5-8 |
| 5.5 | Firewall Backup..... | 5-8 |
| 5.5.1 | Description of COTS..... | 5-8 |
| 5.5.2 | Rationale for Upgrade..... | 5-8 |
| 5.5.3 | Software Impact (COTS/Custom)..... | 5-8 |

| | | |
|--------|---|------|
| 5.5.4 | Network Impacts..... | 5-9 |
| 5.5.5 | DAAC Facility Impacts | 5-9 |
| 5.5.6 | Transition Impacts | 5-9 |
| 5.5.7 | External Drivers | 5-9 |
| 5.5.8 | Other Impacts/Comments | 5-9 |
| 5.5.9 | COTS Installation Sequence/Dependencies | 5-9 |
| 5.5.10 | Replacement Matrix..... | 5-9 |
| 5.6 | MODIS Direct Broadcast PC Hardware Delivery | 5-9 |
| 5.6.1 | Description of COTS | 5-9 |
| 5.6.2 | Rationale for Upgrade..... | 5-9 |
| 5.6.3 | Software Impact (COTS/Custom)..... | 5-10 |
| 5.6.4 | Network Impacts..... | 5-10 |
| 5.6.5 | DAAC Facility Impacts | 5-10 |
| 5.6.6 | Transition Impacts | 5-10 |
| 5.6.7 | External Drivers | 5-10 |
| 5.6.8 | Other Impacts/Comments | 5-10 |
| 5.6.9 | COTS Installation Sequence/Dependencies | 5-10 |
| 5.6.10 | Replacement Matrix..... | 5-10 |

List of Tables

| | | |
|------------|--|-----|
| Table 3-1. | COTS Hardware/Software Upgrades Summary..... | 3-6 |
| Table 5-1. | HiPPI to GigE Switch Replacement Equipment | 5-2 |
| Table 5-2. | Challenge Replacement at LP DAAC | 5-3 |
| Table 5-3. | Challenge Replacement at LDAAC | 5-3 |
| Table 5-4. | Challenge Replacement at NDAAC..... | 5-4 |
| Table 5-5. | Challenge Replacement at GDAAC..... | 5-4 |
| Table 5-6. | User Pull RAID Upgrades | 5-4 |

Appendix A. Weekly CUT Matrix Example

Appendix B. COTS Compatibility Matrix

This page intentionally left blank.

1 Introduction

1.1 Identification

This document is the ECS COTS Deployment Plan for COTS products being upgraded for the period defined for Volume 8 of this document for the ECS project as defined by Data Item Descriptions (DID) 335/DV1.

1.2 Scope

The “ECS COTS Deployment Plan, Volume 8” documents the ECS approach and currently identified plans for deploying COTS software upgrades to all ECS sites. Volume 8 includes upgrades that will occur during the period February 2003 through July 2003. This document covers the last planned COTS upgrades for the ECS Contract.

1.3 Purpose

The purpose of this plan is to provide the approach and available details related to the upgrading of the COTS products identified for the coverage period. This plan describes the process for identifying, developing, integrating, testing, and shipping all products; including but not limited to, reviewing, monitoring, and providing a status of those products.

1.4 Status and Schedule

Volume 8 of this document will be formally delivered in February 2003. Status on the COTS software upgrades identified in this document will be reported on a weekly basis through the COTS Upgrade Team (CUT) Matrix (refer to Appendix A for recent CUT Matrix) and hardware migration weekly updates/discussions with appropriate DAAC personnel.

It is essential to understand that as the identification of requirements and risks progresses, some elements of this document may change, e.g., additional products may be identified for upgrade during the period specified herein for Volume 8.

1.5 Organization

Section 1 provides information regarding the identification, scope, purpose, objectives and organization of this document.

Section 2 provides a listing of the related documents, which may be used to supplement and provide additional cross-reference information other than that which is contained in this document.

Section 3 provides an overview and introduction of the requirements driving COTS upgrades, such as custom code integration, vendor support policies or COTS product interdependencies. This section provides a summary table of all identified COTS upgrades for the Volume 8 period. The identified COTS products are discussed in more detail in sections 4 and 5.

Section 4 identifies and discusses the COTS software upgrades that will take place in the volume period.

Section 5 identifies and discusses the COTS hardware upgrades that will take place in the covered period.

2 Related Documents

2.1 Parent Documents

The following are the documents from which the ECS COTS Deployment Plan scope and content are derived.

| | |
|------------|--|
| 334-CD-600 | 6A Science System Release Plan for ECS |
| 334-CD-610 | 6B Science System Release Plan for ECS |
| 335-CD-001 | ECS COTS Deployment Plan, Volume 1 |
| 335-CD-002 | ECS COTS Deployment Plan, Volume 2 |
| 335-CD-003 | ECS COTS Deployment Plan, Volume 3 |
| 335-CD-004 | ECS COTS Deployment Plan, Volume 4 |
| 335-CD-005 | ECS COTS Deployment Plan, Volume 5 |
| 335-CD-006 | ECS COTS Deployment Plan, Volume 6 |
| 335-CD-007 | ECS COTS Deployment Plan, Volume 7 |
| 423-41-01 | ECS Statement of Work |
| 423-41-02 | Functional and Performance Requirement Specification for the Earth Observing System Data and Information System (EOSDIS) Core System, Revision |

2.2 Applicable Documents

The following documents are referenced within this COTS Deployment Plan for Volume 8. Upgrades are directly applicable. These referenced documents may contain policies or other directives that are binding upon the content of this volume.

| | |
|------------|---|
| 409-CD-600 | ECS Overall Acceptance Test Plan for Release 6A |
| 409-CD-610 | ECS Overall Acceptance Test Plan for Release 6B |
| 411-CD-600 | ECS Acceptance Test Procedures for Release 6A |
| SE-1-025 | ECS Project Instruction for the COTS Software Upgrade Process |
| TT-1-001 | ECS Project Instruction for Acceptance Test Preparation, Execution, and Documentation |

2.3 Information Documents

The following document(s), although not referenced herein and/or not directly applicable, do amplify or clarify the information presented in this document. These document(s) are not binding on the content of this volume.

| | |
|------------|---|
| 101-CD-001 | Project Management Plan for the ECS Project |
|------------|---|

This page intentionally left blank.

3 COTS Upgrade Overview

3.1 COTS Upgrade Process Overview

Volume 8 of DID 335 provides information on upgrades that are scheduled, tentatively planned to be initiated, or in progress through the period of February 2003 through July 2003. The COTS upgrade information detail that is available at the time of release of this volume is included in the following sections. Additional information and updates are also provided throughout the COTS upgrade process including:

- Weekly update and distribution of COTS Upgrade Team (CUT) Matrix (Refer to Appendix A for recent CUT Matrix)
- Weekly discussions with DAACs on hardware issues
- COTS PSRs.

The sections that follow summarize the process by which upgrades to ECS COTS products are identified. The identified COTS products are to be upgraded and deployed during the 6A System Release time frame. The specific risks mitigated with each COTS product are discussed in the detailed section addressing the specific COTS product.

3.2 Mitigating Risks

Various factors are included in identifying COTS products for upgrades, replacements or additions. ECS works to mitigate risks in multiple ways. Defects against a COTS product are identified and tracked in a manner similar to defects with custom code. COTS products also have additional potential risks that need to be considered in reducing scheduling and operational impacts that are inherent to COTS products. The efforts that ECS makes to mitigate both types of risk are discussed in the following sections.

3.3 Identification of Defect/NCRs

An Non-Conformance Report (NCR) can be identified against a COTS product as well as against custom code. This process is discussed in ECS Project Instruction SD-1-014 and ECS Work Instruction MO-1-003-5. In many cases, risks related to the COTS product can be mitigated by custom code or configuration changes. There are occasions where risks identified in the NCR process are best mitigated by an upgrade of a COTS product. In some cases, patches are provided by the vendor that will sufficiently mitigate the risk. Other cases may warrant that the risk be mitigated by a versioned upgrade of the COTS product. When an upgrade is identified as the resolution to an NCR, a patch or version upgrade is scheduled as soon as possible. If the problem warrants, the upgrade may be fielded as a “test executable” in advance of completing the full COTS upgrade process.

To mitigate risks that have been identified in the COTS vendor’s non-conformance process, patch bundles with fixes for identified problems are taken through the COTS upgrade process. Although these patch bundles may have fixes to problems that have not yet occurred in the ECS project, these bundles may also include “fixes” to items that have potential risk to occur within

the ECS project environment. Unless a specific problem and a specific patch are identified to resolve an NCR, these patches are bundled for an upgrade to specific COTS products on a periodic basis. These patch bundle upgrades are usually limited to COTS with substantial impact such as operating systems and databases.

3.4 Vendor Support

Although some terms and concepts differ, full life cycle support is provided for both COTS software and hardware products in the ECS Project. A significant part of this concept is maintenance support for these COTS products. The process for renewing and funding software maintenance agreements is discussed in ECS Project Instruction IL-1-006. The discussion of “support” in this document refers to the technical support provided by the vendor under the ECS maintenance contract with the vendor, not the payment for the maintenance support.

3.4.1 COTS Software Support

Software support agreements for most COTS vendors include consultation, problem assistance, patches and upgrades. In any COTS product life cycle, there are points at which a product may be “supported” at a different level. This support level is usually identified by the COTS product having reached one of the following milestones in the COTS product life cycle:

- Specific version is identified by the vendor to have reached end-of-life
- Specific version is identified by the vendor to have reached end-of-support
- Product is merged/evolved to another product or is made obsolete.

Many large vendors have formulated very specific policies on these milestones and when they occur. Some of these are published on the vendor’s web site. Others will provide the criteria for these milestones, upon request. Other vendors have not defined a policy as would be preferred, but generally these are not COTS products with major impact for ECS.

Reaching any of these milestones has the potential to cause some level of risk to the project. To mitigate these risks, these milestones are tracked in the COTS Compatibility Matrix¹ and are updated on a quarterly basis. An overview of each of these milestones and their potential impact is provided in the following sections to serve as a reference for the upgrade discussions in Sections 4 and 5. The CUT reviews these milestones for every COTS software product when identifying the upgrades for each rolling wave period.

3.4.1.1 COTS Software Product End-of-Life: Best Effort Support

COTS products are under active support for a period after release. Many COTS products reach a stage where the vendor no longer provides development engineering support for the product version, i.e., no bug fixes to the code are provided. This phase is sometimes referred to as End of Ship date, End of Life or Bug Fix Desupport dates. Some vendors, such as Sybase, call this phase End of Support (for bug fixes). Many vendors will continue to provide even bug fix on a best effort basis at this stage, but vendors may also identify that an upgrade is required to fix the

¹ An example of some of the compatibility information maintained in the COTS Compatibility Database is provided in Appendix B.

identified problem. Planning upgrades when COTS products reach this stage mitigates risks and delays of an unplanned upgrade.

However, some levels of end-of-life risk can be tolerated and, in the case of COTS vendors that have a very rapid end-of-life cycle, some risk may be prudently tolerated. The CUT team reviews the risk and the possible impacts when identifying the COTS upgrades for each rolling wave and mitigates the highest levels of risk possible with the COTS selected for upgrade.

The end-of-life policy among vendors differs considerably. The most common practice is to provide support for a specified number of older versions. The larger vendors with this type of support policy often support the most current version and the last two preceding it. Some vendors support only one preceding version from the most current version; while others actively support only the most current version. The vendor's published version obsolescence policies or historical release schedules are captured to assist with planning and scheduling COTS upgrades to mitigate these risks.

3.4.1.2 COTS Software Product End-of-Support

All COTS products finally reach a stage where a specific product version is no longer supported, i.e., an upgrade to a supported version will be recommended to resolve almost any reported problem.

Many COTS vendors identify an end-of-support date for versions of their COTS products. In some cases, often with the major operating system vendors, this occurs x number of years after the end-of-life date or when two new major versions of the product have been released.

There are some vendors who do not have a defined end-of-support date, but the ability to obtain active support for resolution of problems with older versions decreases over time. There is greater risk that there will not be timely and effective resolution of problems that require "bug" fixes. The risk generally increases over time. The vendor's published version obsolescence policies or historical release schedules are captured to assist with planning and scheduling COTS upgrades to mitigate these risks.

3.4.1.3 COTS Software Product Evolution or Obsolescence

Vendors may also consolidate or sell specific products that no longer adhere to their product line. There have been a number of mergers among COTS product vendors in recent years that have also led to COTS software evolution or obsolescence.

COTS products are tracked to identify and mitigate risks that may be associated with any of the following:

- No new development done for a specific COTS product
- Stand-alone product merged with other products that will no longer be available as a separate product
- Product sold to a new vendor.

Some COTS products also have end-of-support risks associated with dependencies on other versions/models of COTS products. Risks associated with cross product software compatibility are discussed in more detail in the following section.

3.4.2 Cross Product Software Compatibility

Cross-product dependencies and compatibilities of COTS products are tracked to identify risk and risk mitigation steps. When upgrades are identified for any COTS product, a cross-product versioning support compatibility analysis is performed to identify any risks to the upgrade. The CUT team provides input on methods that may be considered to mitigate the identified risks. A consensus is reached on the most efficient method of mitigating the risks, balancing risk levels and available resources. The primary cross product compatibilities are discussed in the following sections and include:

- Operating System Version Compatibility
- Database Version Compatibility
- Compiler Version Compatibility
- Other COTS Product Compatibility
- Hardware/Software Product Compatibility

3.4.2.1 Operating System Version Compatibility

All COTS software is dependent on operating system (OS) versioning compatibility. COTS vendors identify the operating system versions that their product versions will support. In general, COTS vendors support the versions actively supported by the OS vendor and drop support for OS versions which have reached end-of-life or are near to end-of-life. Changes in what a product will support usually occur in a six month to eighteen month cycle, depending on the timing of the release of the new COTS product version.

Occasionally, a COTS vendor will announce that no new development/version is planned for one or more of the operating system platforms that are utilized for the COTS product. The CUT team identifies these risks and works to mitigate these risks in some of the following ways:

- Discussion with the vendor of the impacted COTS product
- Discussion with the Operating System Vendor on the withdrawal of support for a specific OS
- Identification of possible alternative operating system hosting
- Identification of alternative COTS/Freeware product implementation.

The COTS Hardware/Software compatibilities are discussed in section 0.

3.4.2.2 Database Version Dependencies

A number of COTS products in ECS are dependent on a Sybase database version. It is typical that although Sybase may actively support several Sybase ASE and OpenClient versions at the same time, a COTS product might be certified for only one or perhaps two Sybase/OpenClient versions. In some cases, the vendor has not formally certified a specific Sybase version, but the vendor will support resolving problems with some other versions and/or report that customers are using a version and report no problems. On occasion, there are identifiable incompatibilities between a COTS product version and a Sybase database version. The CUT team identifies these potential risks and works to mitigate them. These may include:

- Identification of the actual level of risk (vendor information/EDF testing, etc.)
- Identification of COTS product upgrade that is certified or capable of supporting compatibility with the identified baselined (or to be baselined) version
- Identification of alternative implementation (i.e., different operating system, script, etc.).

3.4.2.3 Compiler version compatibility

Some COTS products are certified with a compiler version. The level of support will be most complete if the certified compiler version is in use. Generally, only a single compiler version is certified for a specific OS version. The CUT team reviews upgrades to mitigate any identified risks associated with compiler version dependencies.

3.4.2.4 Other Compatibility Issues

The CUT team also identifies other potential risk factors associated with COTS products, including the following:

- Compatibility between related COTS products versions. For example, the RogueWave SourcePro products require compatible versions between the 3 libraries and also require compatible versions (same versions) across all OS platforms
- Some COTS products have dependencies on Motif versions and/or HDF versions.

3.4.2.5 Hardware/Software Compatibility

Hardware/software compatibility issues are identified and reviewed for risk and risk mitigation, including the following:

- Support for all planned and existing hardware devices will be available at the time of hardware upgrades
- Hardware firmware is currently supported.

3.4.3 Features/Performance Upgrades

Some COTS upgrades are identified to address performance and/or new features/benefits. Functional and Performance specification requirements (F&PRS) are provided for the upgrades discussed in this document, when there is a change or impact to the current requirements met by the COTS products.

3.4.3.1 Performance

If performance risks are identified, the CUT team works to identify the necessary COTS upgrades/replacements or configuration changes to address the performance issues.

3.4.3.2 Features

If specific new features are required by ECS Development Organization or operational sites for a COTS product and/or the project, the CUT team reviews the requirements and identifies a COTS upgrade to provide the required features.

3.4.3.3 Hardware Support

As part of the COTS Life Cycle Implementation, ECS provides maintenance for hardware products deployed to the DAACs. Firmware maintenance is included with hardware maintenance support. Hardware maintenance for failed components is addressed with individual Maintenance Work Orders (MWO).

Hardware and firmware products can reach end-of-life and/or end-of-support, just as software products may reach this stage. Replacement or upgrade support for hardware components as a class or individually is not covered by standard industry hardware maintenance contracts. Hardware replacements and upgrades generally require procurement of new or additional components.

Risk for some hardware components that have reached end-of-life can be or are mitigated by availability of a pool of hardware components in case replacement is necessary prior to a planned hardware upgrade.

In some cases, a hardware vendor may identify that equipment will no longer be supported after a certain date. In cases where there are other hardware, software and/or firmware dependencies that cause risks for the ECS Project, a migration or replacement to supported hardware devices are required to mitigate risks.

3.5 COTS Upgrade Summary

Table 3-1 provides a summary of the planned COTS hardware and software upgrades and identifies any dependencies in these upgrades. Estimated delivery dates are also provided.

Table 3-1. COTS Hardware/Software Upgrades Summary (1 of 3)

| COTS Product | Baseline Version | Upgrade Version | Dependencies/Installation Sequence Requirements | Criticality for Operational Support | NCR | Estimated Delivery |
|---------------------------|------------------|---|---|-------------------------------------|----------------|--------------------|
| Firewall OS Firmware | N/A | CL020916 | None | Low | None | 02/03 |
| QFS | 3.5.0-41A | 3.5.0-64A | None | Medium | 35329 35950 | 02/03 |
| User Pull RAID Upgrade | N/A | N/A | None | Medium | None | 02/03 |
| ACSLs | 6.01 | 6.1 PUT 0203 PTF773146 | Prior to use of T9940B drives | High | None | 03/03 |
| Addition of T9940B drives | New Product | N/A | SGI | Medium | None | 03/03 |
| AMASS | 5.2.1 | 5.3.1 SGI Patch 4536 TSAPD 2.3 | Prior to use of T9940B drives | High | None | 03/03 |
| ClearCase | 4.1 | 5.0 | Prior to IRIX 6.5.17 | Low | None | 03/03 |

Table 3-1. COTS Hardware/Software Upgrades Summary (2 of 3)

| COTS Product | Baseline Version | Upgrade Version | Dependencies/Installation Sequence Requirements | Criticality for Operational Support | NCR | Estimated Delivery |
|--------------------------------------|--|---|--|--|------------|---------------------------|
| MODIS Direct Broadcast | N/A | N/A | None | Low | None | 03/03 |
| MODIS Direct Broadcast PC Software | N/A | Various | None | Low | None | 03/03 |
| Netscape Communicator | 4.78 | 7.0 | Custom Code patches | Low | None | 03/03 |
| SAnergy | 2.2.3 | 3.2.1.6/3.2.1.8 | None | Medium | 35369 | 03/03 |
| SGI Replacement | N/A | N/A | None | High | None | 03/03 |
| TPSSM | 5.0 | 6.0 | Use of TP9500 devices | High | None | 03/03 |
| PDS PC Upgrades | NT 4 SP6/Interdrive 5.0/Producer Suite | Windows 2000/Interdrive 7.0/Producer Suite xxxx | None | Low | None | 04/03 |
| PERL for PDS PC | N/A | 5.6.1 | PDS PC upgrades | Low | 31645 | 04/03 |
| Secure Shell | 2.4.0 | 3.2 | None | Medium | None | 04/03 |
| Firewall eBorder | 3.5 | 3.5 patch | None | Medium | None | 05/03 |
| Firewall Portus | 4.0 | 5.05 | None | Medium | None | 05/03 |
| IRIX patch upgrade | 6.5.14 | 6.5.17 | None | High | None | 05/03 |
| JRE | 1.3.1.x | 1.4.1.x | Custom Code patches | Medium | None | 05/03 |
| SGI MIPSpro Compilers | 7.3.1.2 | 7.3.1.3 | None | Low | None | 05/03 |
| Solaris 8 patch upgrade | 8 | 8 | None | Medium | None | 05/03 |
| Sun ONE, Studio 7 Enterprise Edition | 6.1 (Forte) | 7.0 | None | Low | None | 05/03 |

Table 3-1. COTS Hardware/Software Upgrades Summary (3 of 3)

| COTS Product | Baseline Version | Upgrade Version | Dependencies/Installation Sequence Requirements | Criticality for Operational Support | NCR | Estimated Delivery |
|------------------------|--|-------------------------------------|--|--|------------|---------------------------|
| Sybase ASE EBF | 12.0 EBF 10627 (Sun)/12.5 EBF 10573 (Sun)/12.5 EBF 10582 (SGI) | EBF 10745 for Sun/EBF 10755 for SGI | None | Medium | None | 05/03 |
| IMSL | 3.1 | 5.0 | None | Low | None | 06/03 |
| Remedy ILM Replacement | N/A | 4.5.2 | None | Low | None | 06/03 |
| WhatsUp Gold | 7.x | 8.0 | None | Low | None | 06/03 |
| Firewall Backup | N/A | N/A | None | Low | None | 07/03 |
| Legato Networker | 6.02 | 7.0 | None | Low | None | 07/03 |
| Insure ++ | 5.0 | 6.1 | None | Low | None | 09/03 |
| PDS Oracle migration | 8.1.6 | Oracle 91 or Sybase 12.5 | None | Medium | None | 11/03 |

4 Extension COTS Upgrades

This section identifies the COTS software products that are planned and scheduled for upgrade by June 30, 2003. These COTS software products are discussed in sections 4.1 through 4.29. There are some changes to COTS products that were identified in previous documents. These changes are discussed in section 4.30 and involve COTS not discussed in sections 4.1 through 4.29 that have had a status change from discussions in previous volumes of this document.

4.1 ClearCase 5.0

4.1.1 Description of COTS

ClearCase combines comprehensive software configuration management (SCM) — including version control, workspace management, process control and build management — with a uniquely transparent, non-intrusive approach. With ClearCase, development teams can accelerate development cycles, ensure the accuracy of releases, reliably build and patch previously shipped products, and organize an automated development process — all without changing their environment or their tools.

4.1.2 Rationale for Upgrade

End of support for version 4.1 is the primary driver for the ClearCase upgrade. Support for IRIX 6.5.14 & 6.5.17 is also a factor driving the upgrade. Version 5.0, also known as version 2002.05, with appropriate ClearCase patches will be compatible and certified for IRIX 6.5.14 and 6.5.17, as well as Solaris 8.

4.1.2.1 Vendor Support

ClearCase version 4.1 has reached end of support as of 11/01/2002. This announcement has been published by the vendor at the following URL:

http://www.rational.com/support/cc41_notice.jsp

4.1.2.2 NCRs

There are no NCRs associated with this COTS product.

4.1.2.3 Features/Performance Upgrades

No specific performance or feature enhancements are targeted to be provided with this upgrade.

4.1.2.4 Cross Software Product Compatibility

There are no known software product compatibility issues related to this upgrade.

4.1.2.5 Operating System Compatibility

ClearCase 5.0 is certified for Solaris 8 and IRIX 6.5.14/6.5.17 with appropriate operating system patches. ClearCase patches 15 & 16 for IRIX and ClearCase patches 12 & 15 for Solaris will be

delivered with ClearCase 5.0. See Other Impacts (Section 4.1.8) below for additional operations-related information.

4.1.2.6 Hardware Product Compatibility

No hardware product compatibility issues have been identified that are associated with this COTS product.

4.1.3 Operational Impacts

No operational impacts have been identified beyond installation downtime and impacts identified in the PSR.

4.1.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product.

4.1.5 Security Impact

No security impacts have been identified for this COTS product.

4.1.6 Licensing Impact

License keys are required for this COTS product. Sufficient licenses for deployment have been identified. Procedures to obtain/install the license keys will be included with the PSR.

4.1.7 External Drivers

No external drivers have been identified for this COTS upgrade.

4.1.8 Other Impacts/Comments

The current ClearCase 4.1 server implementation is running on the CM Server host. This host is current running Solaris 2.5.1 in order to support XPR-II until replacement with Remedy (ILM) and ClearCase (BLM) is completed. ClearCase 5.0 is not certified for Solaris 2.5.1. A migration to the MSS File Server host is planned to enable ClearCase Server implementations to have Solaris 8 support. Migration will be addressed in the PSR.

4.1.9 COTS Installation Sequence/Dependencies

The PSR will address the installation sequences and dependencies related to migrating the ClearCase Server to MSS File Server hosts.

4.2 AMASS 5.3.1

4.2.1 Description of COTS

AMASS is a COTS product from ADIC that provides File Storage Management System capabilities for ECS. Version 5.3.1 will include support for STK T9940B drives. Refer to section 5.3, STK T9940B for additional information on this transition.

4.2.2 Rationale for Upgrade

Upgrade to version 5.3.1 of AMASS is planned in support of the STK T9940B drive transition. Version 5.3.1 will provide support for the T9940B drives.

4.2.2.1 Vendor Support

No end-of-life/end-of-support issues have been identified for this COTS product.

4.2.2.2 NCR

No NCRs have been identified against this COTS product.

4.2.2.3 Features/Performance Upgrades

Support for STK T9940B drives is provided in this version release.

4.2.2.4 Cross Software Product Compatibility

As part of the T9940B drive implementation, AMASS 5.3.1 has been tested with the ACSLS COTS product, as both are involved with support for the T9940B drives. Minor version upgrades and patches to AMASS and ACSLS respectively were requested from the vendors to resolve errors encountered in the testing process. AMASS 5.3.1 and ACSLS 6.1 with patch (PUT) 0203 were tested and verified to correct all identified issues and errors. ACSLS is discussed in section 4.3, ACSLS 6.1 with PUT 0203.

4.2.2.5 Operating System Compatibility

AMASS 5.3.1 is certified through IRIX 6.5.17. The vendor will support installation on current IRIX 6.5.14 hosts. AMASS 5.3.1 is also certified for upgrade to IRIX 6.5.17 when this planned upgrade is delivered.

4.2.2.6 Hardware Product Compatibility

Software version 5.3.1 has no hardware product compatibility issues. Support for T9940B drives is included in this version.

4.2.3 Operational Impact

No operational impact beyond the downtime for installation of the COTS product is expected for the installation of this upgrade. Also refer to section 4.3, ACSLS 6.1 with PUT 0203 for ACSLS upgrade installation and section 5.3, STK T9940B for T9940B Hardware Transition information.

4.2.4 Custom Code Impact

No custom code impacts have been identified with this COTS upgrade.

4.2.5 Security Impact

No security impacts have been identified for this COTS product.

4.2.6 Licensing Impact

Product requires license keys. These will be requested with the upgrade media and will be provided in the PSR document. Sufficient licenses for deployment have been identified.

4.2.7 External Drivers

No external drivers have been identified for this COTS product upgrade.

4.2.8 Other Impacts/Comments

No other impacts have been identified with this COTS product.

4.2.9 COTS Installation Sequence/Dependencies

AMASS 5.3.1 upgrade is required prior to use of the STK T9940B drives that are being added to current configuration. Although an ACSLS upgrade (discussed in the following section) is also planned in order to support the T9940B drives, the AMASS and ACSLS upgrades are not dependent on each other or required to be installed in any specific sequence. The AMASS 5.3.1 software may be installed before or after the ACSLS 6.1 with PUT 0203 and PTF773146 upgrade. The upgrade may be completed before or after the T9940B drives are in place, but the AMASS 5.3.1 upgrade (and the ACSLS 6.1 PUT 0203 upgrade) must be completed in order to utilize the STK T9940B drives. See section 5.3 for additional information on the T9940B Hardware Transition.

4.3 ACSLS 6.1 with PUT 0203

4.3.1 Description of COTS

Automated Cartridge System Library Software (ACSL) from StorageTek is a software package that runs the front-end for the STK Powderhorn and Wolfcreek tape silos.

4.3.2 Rationale for Upgrade

Support for STK T9940B drives is the primary driver for upgrade. The most recent version (6.1) was selected to minimize the need for additional upgrades in the near future. This version also provides more efficient administration features than earlier versions.

4.3.2.1 Vendor Support

The current baseline version, 6.0.1, will reach end of support 8/30/2003. ACSLS 6.1 GA version released 7/10/2002.

4.3.2.2 NCRs

No NCRs are identified in association with this COTS product.

4.3.2.3 Features/Performance Upgrades

Support for STK T9940B drives is provided with the upgrade.

4.3.2.4 Cross Software Product Compatibility

As part of the T9940B drive implementation, ACSLS has been tested with the AMASS 5.3.1 COTS product, as both are involved with support for the T9940B drives. Minor version upgrades and patches to AMASS and ACSLS respectively were requested from the vendor to resolve errors encountered. AMASS 5.3.1 and ACSLS 6.1 with patch (PUT) 0203 were tested

and verified to correct all identified issues and errors. AMASS is discussed in section 4.2, AMASS 5.

4.3.2.5 Operating System Compatibility

ACSL 6.1 is certified for Solaris 8 and no additional Solaris 8 patches have been identified as needed.

4.3.2.6 Hardware Product Compatibility

This product is compatible with an FSMS COTS product hardware.

4.3.3 Operational Impact

No operational impact beyond the downtime for installation of the COTS product is expected for the upgrade installation of this product. Also refer to section 4.2, AMASS 5.3.1 for AMASS upgrade installation and section 5.3, STK T9940B for T9940B hardware transition information.

4.3.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product.

4.3.5 Security Impact

No security impacts have been identified for this COTS product.

4.3.6 Licensing Impact

Product requires license keys. These will be requested with the upgrade media and will be provided in the PSR document. Sufficient licenses for deployment have been identified.

4.3.7 External Drivers

No external drivers have been identified for this COTS product.

4.3.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

4.3.9 COTS Installation Sequence/Dependencies

ACSL 6.1 PUT 0203 upgrade is required to occur prior to use of the T9940B drives that are being added to current configurations. Although an AMASS 5.3.1 upgrade (discussed in the previous section) is also planned in order to support the T9940B drives, the AMASS and ACSL upgrades are not dependent on each other or required to be installed in any specific sequence. The ACSL 6.1 PUT 0203 software may be installed before or after the AMASS 5.3.1 upgrade. The upgrade may be made before or after the T9940B drives are in place, but the ACSL 6.1 PUT 0203 upgrade (and the AMASS 5.3.1 upgrade) must be completed in order to utilize the STK T9940B drives.

4.4 SANergy 3.2.1.6 (SGI)/3.2.1.8 (Sun)

4.4.1 Description of COTS

Tivoli SANergy is a software solution that enables shared data access at the speed of a storage area network, using fibre channel, SCSI, or SPARC Storage Array (SSA). It gives multiple computers the power to dynamically share files and data on storage area network (SAN) based storage, using standard networks and filesystems.

4.4.2 Rationale for Upgrade

NCR 35369 has been logged against the SANergy implementation for poor performance and data corruption. During testing, it has been identified that an SGI bug in the UNIX asynchronous I/O library requires resolution to resolve problems detected. A trouble ticket has been placed with SGI and patch 4921 has been developed by SGI to resolve the error in the asynchronous I/O library for delivery with the SANergy upgrade. The patch is operating system dependant to the 6.5.x level. The initial delivery will provide patch 4921 for IRIX 6.5.14. An upgrade to this patch (4922) will be delivered with IRIX 6.5.17.

Additionally, an upgrade to the most recent versions available was recommended by Tivoli to address performance and data integrity noted in the NCR.

4.4.2.1 Vendor Support

The upgrade to the most recent versions of SANergy and an SGI patch to an SGI library used by SANergy and product version upgrade are expected to resolve issues identified in NCR.

4.4.2.2 NCRs

NCR 35369 has been logged against the current SANergy implementation. A patch has been provided by SGI and a version upgrade is planned to resolve performance and data corruption issues identified in the NCR.

4.4.2.3 Features/Performance Upgrades

No specific performance or feature enhancements are targeted to be provided with this upgrade.

4.4.2.4 Cross Software Product Compatibility

SANergy is compatible with all software products on the hosts where it is currently baselined and implemented. As noted in the Rationale Section, an SGI patch is required to fix an identified SGI library error. SANergy uses this standard OS-bundled library, and problems will occur without the SGI patch.

4.4.2.5 Operating System Compatibility

Targeted upgrade version is compatible with all operating systems versions for which the product will be baselined, which include:

- IRIX 6.5.x
- Solaris 8

4.4.2.6 Hardware Product Compatibility

No hardware product compatibility issues have been identified that are associated with this COTS product.

4.4.3 Operational Impact

No operational impacts have been identified beyond installation downtime and impacts identified in the PSR.

4.4.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product.

4.4.5 Security Impact

No security impacts have been identified for this COTS product.

4.4.6 Licensing Impact

License keys are required for this COTS product. Sufficient licenses for deployment have been identified. Procedures to obtain/install the license keys will be included with the PSR.

4.4.7 External Drivers

No external drivers have been identified for this COTS upgrade.

4.4.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

4.4.9 COTS Installation Sequence/Dependencies

No installation sequence dependencies or other COTS product dependencies have been identified for this COTS product.

4.5 QFS 3.5.0-64A

4.5.1 Description of COTS

QFS is a standalone file system designed to solve file system performance bottlenecks by maximizing the performance of the file system in conjunction with the underlying disk technology.

4.5.2 Rationale for Upgrade

This version of QFS fixes a data corruption problem as described in Sun Alert ID 49249:

Data corruption may be experienced with Sun StorEdge QFS file systems if the "writebehind" is smaller than the file system Disk Allocation Unit (DAU) with Sun QFS versions 3.5.0-22 through 3.5.0-54.

An NCR has also been logged against the QFS product concerning this corruption issue.

4.5.2.1 Vendor Support

Sun has provided an update to the QFS product in version 3.5.0-64a that resolves corruption issues in earlier versions, including the current baseline version.

4.5.2.2 NCRs

ECSed35329 has been logged against the current version of QFS because of HDF and XML data corruption issues. Upgrade is expected to resolve this NCR, which is currently at the V (Verify) state.

4.5.2.3 Features/Performance Upgrades

No specific performance or feature enhancements are targeted to be provided with this upgrade.

4.5.2.4 Cross Software Product Compatibility

There are no known software product compatibility issues related to this upgrade.

4.5.2.5 Operating System Compatibility

Targeted upgrade version is compatible with all operating systems version for which the product will be baselined:

- Solaris 8

4.5.2.6 Hardware Product Compatibility

No hardware product compatibility issues have been identified that are associated with this COTS product.

4.5.3 Operational Impact

No operational impacts have been identified beyond installation downtime and impacts identified in the PSR.

4.5.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product.

4.5.5 Security Impact

No security impacts have been identified for this COTS product.

4.5.6 Licensing Impact

License keys are required for this COTS product. Sufficient licenses for deployment have been identified. Procedures to obtain/install the license keys will be included with the PSR.

4.5.7 External Drivers

No external drivers have been identified for this COTS product.

4.5.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

4.5.9 COTS Installation Sequence/Dependencies

No installation sequence dependencies or other COTS product dependencies have been identified for this COTS product, other than the installation sequences identified in the PSR.

4.6 TPSSM 8.30 RAID Software, version 6.0

4.6.1 Description of COTS

TPSSM (Total Performance Storage Software Management) 8.30 software manages TP9400 and TP9500 RAID devices. TP9500 RAID devices will be delivered with the SGI SCSI RAID replacement.

4.6.2 Rationale for Upgrade

SGI hosts receiving TP9500 RAID units require upgrade to version 6 of the TPSSM 8.30 software. Upgrade will also be compatible with the current TP9400 RAID devices.

4.6.2.1 Vendor Support

Version upgrade is required to support the TP9500 RAID device that will be delivered with the SGI Challenge Replacement Transition.

4.6.2.2 NCRs

There are no NCRs associated with this COTS product.

4.6.2.3 Features/Performance Upgrades

No specific performance or feature enhancements are targeted to be provided with this upgrade.

4.6.2.4 Cross Software Product Compatibility

There are no known software product compatibility issues related to this upgrade. Software upgrade is compatible with the TP9400 and TP9500 RAID devices.

4.6.2.5 Operating System Compatibility

Targeted upgrade version is compatible with all operating systems version for which the product will be baselined:

- IRIX 6.5.x

4.6.2.6 Hardware Product Compatibility

Upgrade is required for support of TP9500 RAID devices.

4.6.3 Operational Impacts

No operational impacts have been identified beyond installation downtime and impacts identified in the PSR.

4.6.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product.

4.6.5 Security Impact

No security impacts have been identified for this COTS product.

4.6.6 Licensing Impact

No license keys are required to install product.

4.6.7 External Drivers

No external drivers have been identified for this COTS upgrade.

4.6.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

4.6.9 COTS Installation Sequence/Dependencies

Upgrade will be part of installation of SGI TP9500 RAID devices delivered to replace the SCSI RAID. Upgrade of the TP9400 RAID devices are not dependent on upgrade of the TP9500 devices, and may be upgraded before or after the TP9500 devices are upgraded.

4.7 Sun ONE, Studio 7.0 Enterprise Edition

4.7.1 Description of COTS

The Forte Compiler Collection currently baselined will be replaced by Sun ONE, Studio 7 Enterprise Edition. The Forte brand name has been replaced by the Sun ONE (Open Network Environment) brand name. The Sun ONE brand name also replaces all the iPlanet product names, as these products become more closely integrated.

The Sun ONE, Studio 7 Enterprise Edition software provides a tightly integrated programming environment designed to speed software development. This development workshop contains a full set of graphical tools that provides the ability to create and maintain C, C++, FORTRAN, and Java custom code applications for the Solaris 8 Operating System Environment simplifying the tasks performed most often: compiling, building, browsing, editing, debugging, and tuning. This upgrade includes Java development support as well as traditional language support.

Sun ONE, Studio 7, Enterprise Edition includes the following individual products:

- Sun ONE, Studio 7 C++, (formerly Forte C++), which also includes:
 - C ++ Compiler
 - Memory Monitor/Garbage Collector
 - Debugger
 - Integrated Development Environment (IDE)
 - Visual GUI Builder
 - Performance Tuning Tools
- Sun ONE, Studio 7 FORTRAN, which also include:
 - FORTRAN95 (which supports FORTRAN90)
 - Improved support for the upcoming Fortran 2000 standard

- Memory Monitor/Garbage Collector
- Debugger
- Integrated Development Environment (IDE)
- Visual GUI Builder
- Performance Tuning Tools

Support for FORTRAN77 flags are provided in FORTRAN 95, but FORTRAN77 is no longer officially supported in this version.

- Sun ONE C, Studio 7 (formerly Forte C)
 - C Compiler
 - Debugger
 - Integrated Development Environment (IDE)
 - Performance Tuning Tools
- Sun ONE C, Studio 4, Update1, Enterprise Edition (Java Development Environment)
 - Enterprise JavaBean™ (EJB™) 2.0 Workshop
 - Debugger
 - Integrated Development Environment (IDE)
 - Capability to assemble applications from Enterprise Java Beans (EJBs) and package applications for deployment
 - Support for the creation and editing of XML documents.

4.7.2 Rationale for Upgrade

The current Forte 6, update 1 compiler toolset has reached end of ship date and will no longer be as actively patched as more recent compiler versions, such as Sun ONE, Studio 7. In addition, the planned RogueWave upgrade to Edition 4 library versions requires an upgrade to Sun ONE, Studio 7.

4.7.2.1 Vendor Support

Planned upgrades to RogueWave Edition 4 required a Sun C++ compiler upgrade for RogueWave vendor certification. Also, Forte 6 update 1 has reached end of ship date and will no longer be as actively patched as more recent versions.

4.7.2.2 NCRs

No NCRs are identified in association with this COTS product.

4.7.2.3 Features/Performance Upgrades

The following additional features are provided with the upgrade:

- Improved compile time
- Type-based alias disambiguation in C++
- Increased default thread stack size

- Java™ language support in the dbx debugger
- Choice of IDEs
- Enhanced Global Program Checking for Fortran
- Interval Arithmetic Extensions
- Support in the debugger (dbx) for interval expressions in Fortran 95.

4.7.2.4 Cross Software Product Compatibility

As mentioned above, Rogue Wave Edition 4 Libraries require a C++ compiler upgrade for Rogue Wave vendor support for Edition 4 versions. Sun ONE Studio 7 is a version certified to build Solaris 8 Rogue Wave Edition 4 libraries.

Purify 2002.06a provides support for Sun One, Studio 7. The planned upgrade to Purify 2003, discussed in section offers full support for this version. ICS identified that this version will also be compatible with BX and Epak development tools.

4.7.2.5 Operating System Compatibility

Sun ONE, Studio 7 compilers are supported on Solaris 8 and Solaris 9.

4.7.2.6 Hardware Product Compatibility

There are no known hardware compatibility issues associated with this product.

4.7.3 Operational Impact

Operational impacts are limited the installation downtime as identified in the COTS product PSR and the Solaris 8 Transition PSR.

4.7.4 Custom Code Impact

Custom code will be recompiled using Sun ONE, Studio 7 compilers as part of the Rogue Wave Edition 4 upgrade, but the upgrade is not expected to require source code changes.

4.7.5 Security Impact

No security impacts have been identified for this COTS product.

4.7.6 Licensing Impact

License keys are required for specific functionality to be available. PSR will address licensing steps.

4.7.7 External Drivers

No external drivers have been identified for this COTS product.

4.7.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

4.7.9 COTS Installation Sequence/Dependencies

There are no dependencies or installation sequences required for this upgrade.

4.8 SGI MIPSpro Compilers 7.3.1.3/ProDev Workshop 2.9.2

4.8.1 Description of COTS

IRIX MIPSpro upgrades for C, C++, FORTRAN77, FORTRAN90 compilers and ProDev WorkShop upgrades are planned.

SGI's ProDev WorkShop provides an integrated set of powerful and highly visual tools for creating, debugging and tuning software and includes the following components:

- Visual Debugger
- Graphical Code Analyzer
- Powerful Performance Analyzer
- Integrated Build Manager

ProDev WorkShop covers all phases of software development - from initial coding through debugging and performance tuning - with powerful graphics to speed development. Languages supported include C, C++, FORTRAN77 and FORTRAN90.

4.8.2 Rationale for Upgrade

Exception handling errors prevent use of Purify to debug code with MIPSpro 7.3.1.2. Some problems have been identified with exception handling errors in debugging code compiled with MIPSpro version 7.3.1.2 with Purify 2002.6a. MIPSpro 7.3.1.3 compilers do not exhibit the exception handling errors. In addition, SGI's most recent compiler patches are targeted to version 7.3.1.3.

The ProDev Workshop version currently baselined (2.8.1) is no longer supported by SGI and an upgrade is required. SGI has recently released version 2.9.2. Upgrade to this most recently released version is targeted.

4.8.2.1 Vendor Support

The current ProDev Workshop version 2.8.1 is no longer supported with bug fixes. Upgrade planned to version 2.9.2. Additionally, some exception-handling errors have been identified in debugging ECS custom code with Purify. Upgrade to 7.3.1.3 is expected to resolve this problem.

4.8.2.2 NCRs

No NCRs are identified in association with this COTS product.

4.8.2.3 Features/Performance Upgrades

No additional features or performance upgrades are expected from this upgrade.

4.8.2.4 Cross Software Product Compatibility

Although the RogueWave Edition 4 compatibility matrix identifies version 7.3.1.2 as the supported SGI compiler version, ECS has previously used minor compiler upgrades with Rogue

Wave successfully. For instance, MIPSpro 7.3.1.2 was used in lieu of 7.3.1.1 with the previous Rogue Wave upgrade without impacts or issues. Impact to this Rogue Wave upgrade is considered very low risk.

4.8.2.5 Operating System Compatibility

The MIPSpro 7.3 series of compilers and ProDev Workshop 2.9.2 versions are supported on all 6.5.x versions.

4.8.2.6 Hardware Product Compatibility

There are no known hardware compatibility issues associated with this product.

4.8.3 Operational Impact

No operational impacts have been identified other than the installation downtime as identified in the COTS product PSR.

4.8.4 Custom Code Impact

An improvement in the capability to debug custom code is expected with this upgrade.

4.8.5 Security Impact

No security impacts have been identified for this COTS product.

4.8.6 Licensing Impact

License keys are required when MIPSpro is first installed on a machine. Licensing will be addressed in SGI Compiler Upgrade PSR. COTS product is a FLEXlm license-managed COTS product.

4.8.7 External Drivers

No external drivers have been identified for this COTS product.

4.8.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

4.8.9 COTS Installation Sequence/Dependencies

There are no installation or COTS product dependencies.

4.9 Secure Shell 3.2 (UNIX)/ 5.2 (PC)

4.9.1 Description of COTS

Secure Shell is a secure, drop-in replacement for the inherently non-secure Berkeley R-commands such as rlogin, rsh, and rcp. The server installations will be installed on both DAAC operational hosts and M&O hosts.

4.9.2 Rationale for Upgrade

Security features provided in the 3.1 UNIX version and the 5.2 PC version are the primary upgrade drivers. Current baseline version has also reached end of support. Upgrade for UNIX and upgrade for PC version will be delivered as two separate PSRs, as their installations are significantly different and there are no dependencies between these installations.

4.9.2.1 Vendor Support

The upgrade versions specified are the most recent versions available. Source code for both products will be recompiled for Solaris 8 compatibility. Binaries will be downloaded for PC installations.

4.9.2.2 NCRs

No NCRs are identified in association with this COTS product.

4.9.2.3 Features/Performance Upgrades

No additional features or performance upgrades are expected from this upgrade.

4.9.2.4 Cross Software Product Compatibility

There are no known software product compatibility issues.

4.9.2.5 Operating System Compatibility

Source code is compiled and tested for Solaris 8 and IRIX 6.5.x. Binaries are provided for PC operating systems.

4.9.2.6 Hardware Product Compatibility

There are no identified hardware compatibility issues associated with this product.

4.9.3 Operational Impact

No operational impacts have been identified other than the installation downtime as identified in the COTS product PSR.

4.9.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product.

4.9.5 Security Impact

Upgrade will provide security enhancements and fixes.

4.9.6 Licensing Impact

Secure Shell commercial does not require license keys.

4.9.7 External Drivers

No external drivers have been identified for this COTS product.

4.9.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

4.9.9 COTS Installation Sequence/Dependencies

There are no installation sequence or other dependencies for this COTS product installation.

4.10 MODIS Direct Broadcast PC Software

4.10.1 Description of COTS

The MODIS Direct Broadcast PC will include Red Hat Linux 7.3 operating system and several other COTS products also used in ECS. The MODIS Direct Broadcast PC hardware delivery is discussed in section 5.6, MODIS Direct Broadcast PC Hardware Delivery. The COTS software that will be delivered with the MODIS Direct Broadcast Linux PC includes the following:

- Linux 7.3 with bundled compilers
- ClearCase 5.0
- Legato Networker 6.1.3 or greater
- SANergy 3.2.0.27 or greater
- IMSL C Library 5.0
- IMSL F90 Library 4.01
- SANtricity 8.30.G2
- Science Computing Facility Toolkit

4.10.2 Rationale for Upgrade

The MODIS Direct Broadcast hardware and software will be delivered to support immediate processing of MODIS data.

4.10.2.1 Vendor Support

The hardware configuration of the MODIS Direct Broadcast PC required Linux 7.3. ClearCase 5.0 will support this version of Linux. The most recently released version of Legato Networker (6.1.3) will support Linux 7.3. SANtricity and IMSL versions compatible with Linux 7.3 will be included. SANergy 3.2.0.27 and SANtricity 8.30.G2 will support Linux 7.3.

The MODIS Direct Broadcast PSR will discuss all of these products.

4.10.2.2 NCRs

There are no NCRs associated with this COTS product.

4.10.2.3 Features/Performance Upgrades

No specific performance or features enhancement are targeted to be provided with this upgrade in addition to the Direct Broadcast capability.

4.10.2.4 Cross Software Product Compatibility

There are no known software product compatibility issues related to this upgrade. A Linux 7.3 version for all identified COTS products is currently available or in the late stages of development and delivery.

4.10.2.5 Operating System Compatibility

COTS product versions that will be compatible with Red Hat Linux 7.3 have been identified.

4.10.2.6 Hardware Product Compatibility

No hardware product compatibility issues have been identified that are associated with the COTS products discussed in this section. Refer to section 5.6, MODIS Direct Broadcast PC Hardware Delivery for additional information on Hardware aspects of this delivery.

4.10.3 Operational Impact

No operational impacts have been identified beyond installation downtime and impacts identified in the PSR.

4.10.4 Custom Code Impact

A Linux 7.3 version of Science Command Line Interface (SCLI) will be developed for delivery on the MODIS Direct Broadcast PC utilizing IDL and Rogue Wave libraries. The currently targeted Rogue Wave Edition 4 series will support Linux 7.3. Refer to section 4.24, Rogue Wave SourcePro Libraries for additional information on these libraries.

4.10.5 Security Impact

No security impacts have been identified for this COTS product.

4.10.6 Licensing Impact

License keys are required for several of the COTS products that will be included in the MODIS Direct Broadcast PC delivery. Sufficient licenses for deployment have been identified. Existing licenses were available for all of the COTS products, except Legato Network Client Pak for Linux and SANergy for Linux. These additional licenses have been procured and are in house. Procedures to obtain/install the license keys will be included with the PSR.

4.10.7 External Drivers

No external drivers have been identified for this COTS upgrade.

4.10.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

4.10.9 COTS Installation Sequence/Dependencies

No installation sequence dependencies or other COTS product dependencies have been identified for this COTS product.

4.11 PERL 5.6.1 for Rimage QA PC

4.11.1 Description of COTS

PERL is a language optimized for scanning arbitrary text files, extracting information from those text files, and printing reports based on that information. There are a number of PERL scripts used in the ECS custom code.

4.11.2 Rationale for Upgrade

PERL 5.6.1 must be added to the QA PC to support scripts used within the PDS Subsystem. The PC PERL version is same as PERL version delivered for Solaris 8 and IRIX 6.5. The PERL delivery for the Rimage QA PC will not include additional PERL modules, such as are currently included with UNIX PERL installations, as none are currently needed to support the scripts PDS uses.

4.11.2.1 Vendor Support

Support for a PC version of PERL was required to support scripts used at EDC. The PERL implementation used for this delivery are binaries downloaded from the Active PERL site.

4.11.2.2 NCRs

NCR ECSed31645 was logged to identify the need for PERL on the Rimage PC. Delivery of the PERL for Rimage QA PC PSR will resolve this NCR.

4.11.2.3 Features/Performance Upgrades

No specific performance or feature enhancements are targeted to be provided with this upgrade.

4.11.2.4 Cross Software Product Compatibility

There are no known software product compatibility issues related to this upgrade, (PC) PERL must work with Interdrive 7.0. Interdrive is a PC NFS Communication COTS product, which is currently installed on the only the Rimage PC (currently version 5.0). Interdrive 7.0 is required to be added to the configuration of the QA PC to enable communication between the QA PC and the PDS SGI Server. See discussion under the External Drivers section below.

4.11.2.5 Operating System Compatibility

Targeted upgrade version is compatible with all operating systems version for which the product will be baselined:

- NT
- Windows 2000

Initial delivery targeted to current NT 4.0 SP6 Operating System version. Upgrade to Windows 2000 expected after delivery. Binaries delivered with this PSR are supported on both operating system versions.

4.11.2.6 Hardware Product Compatibility

Delivery of PERL 5.6.1 is targeted for the QA PC to assure that there are no license issues or performance impacts on the Rimage PC. Scripts can be run without impact to the performance on the Rimage PC.

4.11.3 Operational Impacts

No operational impacts have been identified beyond installation downtime and impacts identified in the PSR.

4.11.4 Custom Code Impact

PDS custom code has been developed to utilize PERL on the Rimage and/or Rimage QA PCs.

4.11.5 Security Impact

No security impacts have been identified for this COTS product.

4.11.6 Licensing Impact

There are no licensing issues with this product or delivery.

4.11.7 External Drivers

In order to support communication between the QA PC and the PDS SGI host, a PC NFS product is required. Interdrive is the baselined COTS product currently used to enable communication between the Rimage PC and the SGI PDS Server. This product needs to be added to the QA PC to enable similar communication. This product is planned to be added with the Rimage PC Upgrades discussed in section 4.12, PDS PC . Delivery of PERL 5.6.1 for PC is dependent on the delivery of the upgrades identified in this section. Testing cannot be completed in the PVC and VATC until this upgrade is completed. As indicated in section 4.12, PDS PC below, because of critical NCRs related to other products, the PDS PC upgrade task has been delayed. Delivery of PC PERL 5.6.1 will also be delayed until the PDS PC upgrade task is completed.

4.11.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

4.11.9 Installation Sequence/Dependencies

The Rimage PC upgrade for Interdrive 7.0 needs to be completed for the QA PC so that the necessary testing can be completed for the release of PERL 5.6.1 for Rimage QA PC. This COTS cannot be utilized by scripts without this installation.

4.12 PDS PC Software Upgrades

4.12.1 Description of COTS

The PDS Rimage PC and the PDS QA PC are used with the PDS Servers (x0dig06) hosts to fulfill orders on DVD and CD media. The Rimage PC has the DVD/CD towers attached. The QA PC is currently a stand-alone unit used for Quality Analysis of the orders.

The Rimage PCs originally delivered for PDS consisted of the following software:

- Windows NT 4.0 SP6
- Rimage Producer Suite 3.4.2
- Interdrive 5.0

A new Rimage unit was recently delivered to EDC configured with a more recent version of the Rimage Producer Series software and Windows 2000.

The QA PC currently has only NT installed. A decision has been made to deliver Interdrive, a PC to UNIX NFS communication software product, for the QA PC to enable PERL scripts to be run on the QA PC instead of the Rimage PC. Hardware Engineering recommended this so that performance on the Rimage PC would not be potentially impacted. Refer to section 4.11, PERL 5.6.1 for Rimage QA PC for additional information on this delivery.

4.12.2 Rationale for Upgrade

4.12.2.1 Producer Series Upgrade

Bug fix support for the Rimage Producer Series software is dropped when Rimage releases a new version. Rimage has released more recent versions since the original delivery, therefore the current baseline version is at end of support for bug fixes. Additionally, the recently introduced additional EDC Rimage PC is running a different version of the Rimage Producer. Upgrade to the most recent versions are planned to bring software to a level that would include bug fix support and to have consistent versioning across all Rimage PCs at all sites.

4.12.2.2 Windows NT Upgrade

NT will reach end of support on 6/30/2003. Additionally, the recently introduced EDC Rimage PC is running Windows 2000 instead of NT that is baselined as the operating system for the other Rimage PCs. An upgrade to Windows 2000 is planned for the Rimage PC and the QA PC to mitigate risk related to upcoming end of support for NT and to provide operating system consistency across all PDS PCs.

4.12.2.3 Interdrive 7.0

Currently the Rimage PC has Interdrive 5.0 installed to enable NFS communication between the Rimage PC and the PDS Server. Version 5.0 is at end of support and is not certified for Windows 2000. An upgrade to Interdrive 7.0 is targeted for the Rimage PC. Initial installation of this software on the QA PC is also planned to support PERL scripts to be run that require communication with the PDS Server.

4.12.2.4 Vendor Support

The Rimage Producer Suite, Windows operating system and Interdrive products require upgrades for implementation consistency and end of support risk mitigation. More recent versions are available from all vendors.

4.12.2.5 NCRs

There are no NCRs associated with this COTS product.

4.12.2.6 Features/Performance Upgrades

No specific performance or feature enhancements are targeted to be provided with this upgrade.

4.12.2.7 Cross Software Product Compatibility

The Rimage Producer Suite upgrade and the Interdrive upgrade are compatible with Windows 2000.

4.12.2.8 Operating System Compatibility

Targeted upgrade version is compatible with all operating systems version for which the product will be baselined:

- Windows 2000

4.12.2.9 Hardware Product Compatibility

Current DVD media used with the Rimage units is being discontinued, as less expensive media is available. Drive upgrades are required to support the newer, less expensive media. This may impact the sequence of the delivery of these upgrades, in that the Rimage vendor could potentially deliver a required Rimage Producer Suite upgrade and a required Windows 2000 upgrade for the Rimage PC if the Rimage drives are upgraded. This potential hardware impact will be considered in the final delivery of these upgrades. It is currently expected that these tasks may be worked as separate PSRs.

4.12.3 Operational Impact

No operational impacts have been identified beyond installation downtime and impacts identified in the PSR.

4.12.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product.

4.12.5 Security Impact

There are no security impacts with this upgrade.

4.12.6 Licensing Impact

New licenses have been procured for Windows 2000 and Interdrive for both the Rimage and QA Servers. The Rimage Producer Suite is covered under existing upgrade maintenance. There are sufficient licenses for upgrades. Installation and configuration of license keys will be addressed in the PSR.

4.12.7 External Drivers

Client Connection and Client-Pak licenses for Legato Networker were procured and delivered to enable back-up of these PCs before beginning upgrade installations. This has been addressed in #914-TDA-222, Legato Networker Client 6.1.2 (Windows) for the ECS Project.

Also refer to Hardware Compatibility section above for additional external driver discussion.

4.12.8 Other Impacts/Comments

Other impacts will be reviewed before proceeding with this upgrade.

4.12.9 COTS Installation Sequence/Dependencies

It is expected that installation of Legato Networker will be a prerequisite to beginning these upgrades to enable restoration and recovery of original installation if necessary. Refer to External Drivers section above for additional information on this subject. There may also be some additional installation sequences related to this upgrade, i.e., Windows 2000 upgrade may need to be installed prior to installation of the Rimage Producer Suite. These will be addressed in the PSR.

4.13 Netscape Communicator 7.0

4.13.1 Description of COTS

Netscape Communicator provides the following capabilities:

- “browse” HTML pages on the Internet
- read and send electronic mail
- read and contribute to Internet news groups (bulletin board services).
- interface into ECS System
- includes Java 1.4 plug-in.

4.13.2 Rationale for Upgrade

The current baseline version of Netscape Communicator, 4.78, has reached end of life, i.e. no more bug fixes. Netscape 7.0 has been released for several operating systems, including Solaris 8. This version is based on the work by several major vendors on the freeware product Mozilla. Mozilla is significantly more stable than the previously released 6.x versions of Netscape.

SGI has no current plans to port Netscape 7.0 to IRIX 6.5. SGI recommends that version 1.1 of Mozilla (available as binary freeware from SGI site) be used for functional consistency. RTSC has provided a Netscape wrapper for this version, so that the Sun and SGI implementations have the same start-up look and feel to the user.

4.13.2.1 Vendor Support

Vendor has identified end of bug fix support for version 4.78.

4.13.2.2 NCRs

There are no NCRs associated with this COTS product.

4.13.2.3 Features/Performance Upgrades

No specific performance or feature enhancements are targeted to be provided with this upgrade.

4.13.2.4 Cross Software Product Compatibility

This version requires custom code changes to OMS and SSS to accommodate differences in how frames and table grids are handled. JDT must also be changed for compatibility with the Java 1.4 plug-in.

4.13.2.5 Operating System Compatibility

Targeted upgrade versions are compatible with all operating systems version for which the product will be baselined:

- Solaris 8
- IRIX 6.5.x

4.13.2.6 Hardware Product Compatibility

No hardware product compatibility issues have been identified that are associated with this COTS product.

4.13.3 Operational Impact

No operational impacts have been identified beyond installation downtime and impacts identified in the PSR.

4.13.4 Custom Code Impact

Development COTS Team has provided notification to all impacted subsystem leads and they are participating in the upgrade planning and testing for this COTS product.

4.13.5 Security Impact

No security impacts have been identified for this COTS product.

4.13.6 Licensing Impact

No license keys are required for this COTS product.

4.13.7 External Drivers

No external drivers have been identified for this COTS upgrade.

4.13.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

4.13.9 COTS Installation Sequence/Dependencies

No installation sequence dependencies or other COTS product dependencies have been identified for this COTS product. Delivery must be accompanied by a custom code patch.

4.14 Insure++ 6.1

4.14.1 Description of COTS

Insure++ is a runtime error detection tool that automatically detects a wide range of errors in C/C++ applications. Insure++ assists in producing robust, well-optimized, high-quality software, while slashing development time and reducing maintenance and support costs.

This COTS product is in use only by EDC, primarily to support Aster 64-bit SGI custom code.

4.14.2 Rationale for Upgrade

Version 6.1 is due to be released 6/2003 (Q2) for SGI. With this release, there will be a year of bug fix support for the current 5.1 version.

4.14.2.1 Vendor Support

Upgrade is planned to mitigate end of life and end of support risks for the vendor.

4.14.2.2 NCRs

There are no NCRs associated with this COTS product.

4.14.2.3 Features/Performance Upgrades

No specific performance or feature enhancements are targeted to be provided with this upgrade.

4.14.2.4 Cross Software Product Compatibility

There are no known software product compatibility issues related to this upgrade.

4.14.2.5 Operating System Compatibility

Targeted upgrade version is compatible with all operating system versions for which the product will be baselined:

- IRIX 6.5.x

4.14.2.6 Hardware Product Compatibility

No hardware product compatibility issues have been identified that are associated with this COTS product.

4.14.3 Operational Impact

No operational impacts have been identified beyond installation downtime and impacts identified in the PSR.

4.14.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product.

4.14.5 Security Impact

There are no security issues with this upgrade.

4.14.6 Licensing Impact

License keys are required for this COTS product. Sufficient licenses for deployment have been identified. Procedures to obtain/install the license keys will be included with the PSR.

4.14.7 External Drivers

No external drivers have been identified for this COTS upgrade.

4.14.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

4.14.9 COTS Installation Sequence/Dependencies

No installation sequence dependencies or other COTS product dependencies have been identified for this COTS product.

4.15 IMSL C Numeric Libraries 5.0

4.15.1 Description of COTS

The IMSL C Numerical Library (CNL) is a comprehensive set of more than 370 thread safe mathematical and statistical analysis functions that C/C++ programmers can embed directly into their numerical analysis applications. Many of CNL's functions are based upon the same algorithms contained in the vendor's IMSL Fortran 90 MP Library. Version 5.0 offers more than 75 new numerical analysis functions.

4.15.2 Rationale for Upgrade

End of support for bug fixes for version 3.0 is the primary driver for upgrade.

4.15.2.1 Vendor Support

Vendor will continue support of product, but no more bug fixes will be provided for the current version.

4.15.2.2 NCRs

There are no NCRs associated with this COTS product.

4.15.2.3 Features/Performance Upgrades

No specific performance or features enhancement are targeted to be provided with this upgrade.

4.15.2.4 Cross Software Product Compatibility

There are no known software product compatibility issues related to this upgrade.

4.15.2.5 Operating System Compatibility

Targeted upgrade version is compatible with all operating system versions for which the product will be baselined:

- IRIX 6.5.x

4.15.2.6 Hardware Product Compatibility

No hardware product compatibility issues have been identified that are associated with this COTS product.

4.15.3 Operational Impact

No operational impacts have been identified beyond installation downtime and impacts identified in the PSR.

4.15.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product.

4.15.5 Licensing Impact

License keys are required for this COTS product. Sufficient licenses for deployment have been identified. Procedures to obtain/install the license keys will be included with the PSR.

4.15.6 Security Impact

There are no security issues or impacts with this COTS product upgrade.

4.15.7 External Drivers

No external drivers have been identified for this COTS upgrade.

4.15.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

4.15.9 COTS Installation Sequence/Dependencies

No installation sequence dependencies or other COTS product dependencies have been identified for this COTS product.

4.16 Firewall Software Upgrades: AIX Firmware Patch CL020916

4.16.1 Description of COTS

IBM's AIX 4.3.3 Operating System provides firmware patches for specific hardware configurations. In order to support 750MHz CPUs, an AIX firmware patch is required for the IBM firewall server hosts. The firewall servers at GSFC and NSIDC require this upgrade. The CL020916 firmware upgrade is recommended for all AIX firewall servers for implementation consistency.

4.16.2 Rationale for Upgrade

An AIX 4.3.3 firmware patch upgrade is required for GSFC and NSIDC in order to support 750MHz CPUs on the NSIDC and GSFC firewall. The firmware upgrade is recommended for all firewall servers.

4.16.2.1 Vendor Support

IBM has provided firmware patch CL020916 to support configurations with 750MHz CPUs.

4.16.2.2 NCRs

There are no NCRs associated with this COTS product.

4.16.2.3 Features/Performance Upgrades

Support for configurations with 750MHz CPUs provided with firmware upgrade.

4.16.2.4 Cross Software Product Compatibility

There are no cross-software product compatibility issues with this upgrade.

4.16.2.5 Operating System Compatibility

IBM AIX firmware patch CL020916 is compatible with AIX 4.3.3 at maintenance level 10, which is the current baselined operating system version for the firewall servers.

4.16.2.6 Hardware Product Compatibility

IBM AIX firmware patch CL020916 is compatible with the deployed IBM firewall servers.

4.16.3 Operational Impact

Firmware upgrade operational impact will be minimal. Details will be provided in PSR.

4.16.4 Custom Code Impact

There is no custom code impact related to this upgrade.

4.16.5 Security Impact

There are no security impacts related to this upgrade, other than loss of the firewall due to the downtime for the upgrade, which should be minimal.

4.16.6 Licensing Impacts

There are no licensing impacts associated with this upgrade.

4.16.7 External Drivers

No external drivers have been identified for this COTS upgrade.

4.16.8 Other Impacts/Comments

There are no other identified impacts to this upgrade.

4.16.9 COTS Installation Sequence/Dependencies

No installation sequence dependencies or other COTS product dependencies have been identified for this COTS product.

4.17 Firewall Software: Portus 5.05

4.17.1 Description of COTS

Portus is the principal firewall software installed on the ECS firewall servers.

4.17.2 Rationale for Upgrade

Portus 4.0 has reached end of bug fix support.

4.17.2.1 Vendor Support

Portus has identified that standard bug fix support has ended as of 10/2002. Upgrade will mitigate this risk.

4.17.2.2 NCRs

There are no NCRs associated with this COTS product.

4.17.2.3 Features/Performance Upgrades

Improved security features will be provided with upgrade.

4.17.2.4 Cross Software Product Compatibility

All firewall server software upgrades, including the AIX firmware upgrade discussed above and the eBorder software patch upgrade identified in the following section are compatible with all other firewall software, including AIX 4.3.3ML10 Operating System version.

4.17.2.5 Operating System Compatibility

The Portus 5.0 software upgrade is compatible with AIX 4.3.3 ML10, the current firewall server operating system baseline version.

4.17.2.6 Hardware Product Compatibility

The Portus software upgrade is compatible with all firewall hardware and network implementations.

4.17.3 Operational Impact

Portus 5.0 upgrade operational impact expected to be minimal. Details will be provided in PSR.

4.17.4 Custom Code Impact

No custom code impact is expected. Portus software is not used with custom code.

4.17.5 Security Impact

Additional security features will be provided with the upgrade to Portus 5.0.

4.17.6 Licensing Impacts

New license keys will be required for Portus upgrade. License keys for Portus will be discussed in the PSR.

4.17.7 External Drivers

No external drivers have been identified for this COTS upgrade.

4.17.8 Other Impacts/Comments

There are no other identified impacts to this upgrade.

4.17.9 COTS Installation Sequence/Dependencies

No installation sequence dependencies or other COTS product dependencies have been identified for this COTS product. None of the firewall server software upgrades need to be done in any specific sequence.

4.18 Firewall Software: eBorder Server 3.5 Patch Update

4.18.1 Description of COTS

eBorder is COTS software that provides SOCKS protocol support. There are server, client and development parts of the eBorder software currently utilized by ECS. This upgrade will involve only the eBorder server software.

(None of the other eBorder software will be impacted or needs to be upgraded.)

4.18.2 Rationale for Upgrade

Some additional security features are included in this patch upgrade that will provide significant security functions and capabilities to the ECS firewall server implementation.

4.18.2.1 Vendor Support

The vendor has provided an update to the current eBorder Enterprise Server 3.5 installation. The most current 3.5 patch for eBorder Enterprise Server provides additional significant security features.

The vendor has released version 4.0 of the eBorder Server software. Version 4.0 is now called Permeo Application Security Platform. The vendor has also identified that all bug fixes will be reviewed before going forward with any bug fixes for version 3.5. The Firewall Team is aware of this issue, but has decided not to go forward with a major version upgrade of this software until more recent versions of the operating system are supported by the upgrade. Version 4.0 does not support more recent versions of the AIX operating system, such as 5.1 and 5.2. Because end of support for AIX 4.3.3 is targeted for 12/31/2003, an AIX operating system upgrade will be planned in the future. Major version upgrades of both Portus and eBorder are planned and expected with the IBM AIX Operating System upgrade. Not upgrading before date this is considered low risk.

4.18.2.2 NCRs

There are no NCRs associated with this COTS product.

4.18.2.3 Features/Performance Upgrades

Improved security features will be provided with upgrade.

4.18.2.4 Cross Software Product Compatibility

The eBorder software upgrade is compatible with all other firewall software, including AIX 4.3.3ML10 Operating System version. eBorder server software upgrades will not impact client or custom code eBorder software or require upgrades of these products.

4.18.2.5 Operating System Compatibility

The eBorder software upgrade is compatible with AIX 4.3.3ML10, the current firewall server operating system baseline version.

4.18.2.6 Hardware Product Compatibility

The eBorder software upgrades are compatible with all firewall hardware, operating system and network implementations.

4.18.3 Operational Impact

EBorder 3.5 patch upgrade operational impact expected to be minimal. Details will be provided in PSR.

4.18.4 Custom Code Impact

No custom code impact is expected. The eBorder software used by development will not be upgraded and will be compatible with the eBorder server software upgrade described in this section.

4.18.5 Security Impact

Additional security features will be provided with the upgrades eBorder server product.

4.18.6 Licensing Impacts

No license keys are required for the eBorder server upgrade.

4.18.7 External Drivers

No external drivers have been identified for this COTS upgrade.

4.18.8 Other Impacts/Comments

There are no other identified impacts to this upgrade.

4.18.9 COTS Installation Sequence/Dependencies

No installation sequence dependencies or other COTS product dependencies have been identified for this COTS product. None of the firewall server software upgrades need to be done in any specific sequence.

4.19 WhatsUp Gold 8.0

4.19.1 Description of COTS

WhatsUp Gold is a COTS product which provides network administrators with tools to map and monitor their networks. Along with user-defined, periodic polling of work devices and applications, WhatsUp Gold provides network resource and capacity management through real-time SNMP threshold monitoring. WhatsUp Gold looks at router tables and automatically discovers and maps devices according to the network's hierarchy, with separate maps for each sub-network.

4.19.2 Rationale for Upgrade

End of support is the primary driver. There are no bug fixes to previous versions after the release of a major new version. Version 7.02 will come to end of support with the release of version 8. This release is expected in the first quarter of 2003.

4.19.2.1 Vendor Support

Vendor support policy of dropping active bug fix support with release of a new major version is the primary driver of this upgrade.

4.19.2.2 NCRs

There are no NCRs associated with this COTS product.

4.19.2.3 Features/Performance Upgrades

No specific performance or features enhancement are targeted to be provided with this upgrade.

4.19.2.4 Cross Software Product Compatibility

There are no known software product compatibility issues related to this upgrade.

4.19.2.5 Operating System Compatibility

Targeted upgrade version is compatible with all operating systems versions for which the product will be baselined:

- Windows 2000
- NT 4.0 SP6
- Windows 98

4.19.2.6 Hardware Product Compatibility

No hardware product compatibility issues have been identified that are associated with this COTS product.

4.19.3 Operational Impact

No operational impacts have been identified beyond installation downtime and impacts identified in the PSR.

4.19.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product. Custom code will be tested for compatibility.

4.19.5 Security Impact

No direct security impacts have been identified for this COTS product.

4.19.6 Licensing Impact

License keys are required for this COTS product. Sufficient licenses for deployment have been identified. Procedures to obtain/install the license keys will be included with the PSR.

4.19.7 External Drivers

No external drivers have been identified for this COTS upgrade.

4.19.8 Other Impacts/Comments

No additional impacts are expected from this upgrade.

4.19.9 COTS Installation Sequence/Dependencies

No installation sequence dependencies or other COTS product dependencies have been identified for this COTS product.

4.20 Legato Networker 7.0

4.20.1 Description of COTS

Legato NetWorker is a system backup and recovery COTS application that provides the capability to archive, administer, backup, and recover data for the UNIX Operating System.

4.20.2 Rationale for Upgrade

The major driver for the upgrade is that the vendor will eventually drop support for Legato Networker 6.0.2, the current baseline version. Although no end of support date has been formally announced, vendor has estimated that the upgrade could occur as early as 01/2004. This COTS product upgrade may be delayed because the end of support is not expected to occur until almost a year later than previously estimated. Vendor does not have an official end of life/end of support policy on which to make closer end of life/end of support estimates.

4.20.2.1 Vendor Support

End of support date has not been announced, but the vendor estimates that this is not expected to occur in the next 12 to 15 months (01/2004 at the earliest).

4.20.2.2 NCRs

There are no NCRs associated with this COTS product.

4.20.2.3 Features/Performance Upgrades

No specific performance or feature enhancements are targeted to be provided with this upgrade.

4.20.2.4 Cross Software Product Compatibility

There are no known software product compatibility issues related to this upgrade.

4.20.2.5 Operating System Compatibility

Legato Networker 6.1.3 is certified for IRIX 6.5.14 and IRIX 6.5.17. Future versions, such as version 7.0, will support at least these versions of IRIX 6.5. Solaris 8 has been supported since version 6.0. The current version of Legato Networker does not officially support IRIX 6.5.14 and IRIX 6.5.17, only officially through IRIX 6.5.10. However the risks with continuing with 6.0.2 on IRIX 6.5.14 and 6.5.17 are considered to be low as there have been no problems

identified with Networker 6.0.2 on IRIX 6.5.14 and there are no problems with Legato Networker 6.0.2 in Landover with initial 6.5.17 testing.

Additionally SGI has identified that the vendor specifies the patch-level versions because some Networker add-on modules, which ECS does not use, require kernel updates. SGI indicates that the basic Networker back-up functionality used by ECS would be supported by all 6.5.x versions.

4.20.2.6 Hardware Product Compatibility

No hardware product compatibility issues have been identified that are associated with this COTS product.

4.20.3 Operational Impacts

No operational impacts have been identified beyond installation downtime and impacts identified in the PSR.

4.20.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product.

4.20.5 Security Impact

No security impacts have been identified for this COTS product.

4.20.6 Licensing Impact

License keys are required for this COTS product, but upgrades do not require new license keys. License key updates are required for new installations only. Sufficient licenses for deployment have been identified. Procedures to obtain/install the license keys will be included with the PSR.

4.20.7 External Drivers

No external drivers have been identified for this COTS upgrade.

4.20.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

4.20.9 COTS Installation Sequence/Dependencies

No installation sequence dependencies or other COTS product dependencies have been identified for this COTS product.

4.21 XRP ILM Replacement

4.21.1 Description of COTS

XRP-II v3.1.3 and ACCELL v2.0.7.2.0, collectively serve as the ECS Baseline Manager (BLM) and Inventory/Logistics/Maintenance Manager (ILM) tools, however, ECS is replacing XRP-II and ACCELL with a Remedy implementation for ILM. The ILM migration is described in this section and the BLM migration is described in the following section.

ILM capabilities enable operators to:

- track and maintain all of the key data pertaining to ECS contract purchased equipment including hardware, COTS software and software licenses, COTS documentation (hardware and software), spares and consumable items, and Government Furnished Equipment (GFE)
- store and maintain detailed corrective maintenance data on hardware, to the component level
- keep chronological histories (a record of transactions) of receipt, installation, and relocation of inventory items.

A report writer product is expected to be required for full ILM reporting. Remedy has Crystal Report capabilities integrated into the product. Development licenses for Crystal Reports will be procured to enable creation of reports that will be delivered with the Remedy ILM product.

The XRP-II currently resides on the CM Server. The CM Server will remain at Solaris 2.5.1 to support the current version of XRP-II until the Remedy ILM PSR has been delivered.

4.21.2 Rationale for Upgrade

Substantial risk was identified for continued evolution of the XRP-II COTS product to effectively support ECS requirements with changing operating systems and databases. XRP-II is a product with significant risks. XRP-II is a customized COTS product that is not regularly upgraded under a standard maintenance contract. Additional fees are required for upgrades such as for new operating system versions, normally covered by standard maintenance. Additionally, the database in use by the XRP-II vendor has been at end of support by the database vendor (Unify) for over two years. The vendor has identified that major database conversion, not covered by existing maintenance, would be needed. To mitigate this long term risk, migration of Inventory Logistics Management (ILM) functionality to Remedy is underway.

4.21.2.1 Vendor Support

The long term support risks and risk of overall product evolveability as described above is the driver for migration to a new product to support BLM and ILM.

Remedy supports Sybase databases, so no additional database administration will be required. The current 4.5.2 version of Remedy is supported on Solaris 8 and is deployed to all DAACs.

4.21.2.2 NCRs

There are a number of NCRs against XRP-II that are expected to be resolved with the migration to Remedy.

4.21.2.3 Features/Performance Upgrades

Product with more current, user-friendly GUI interfaces is planned.

4.21.2.4 Cross Software Product Compatibility

Remedy ILM will use Sybase. Remedy supports current baseline of Sybase ASE version 12.5.

4.21.2.5 Operating System Compatibility

Targeted upgrade version is compatible with all operating systems version for which the product will be baselined:

- Solaris 8

4.21.2.6 Hardware Product Compatibility

No hardware product compatibility issues have been identified that are associated with this COTS product. ILM will be installed on the current Remedy server host.

4.21.3 Operational Impact

No operational impacts have been identified beyond installation downtime and impacts identified in the PSR.

4.21.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product.

4.21.5 Security Impact

No security impacts have been identified for this COTS product.

4.21.6 Licensing Impact

License keys are required for this COTS product. Remedy is already installed at the sites. No new license should be required.

4.21.7 External Drivers

No external drivers have been identified for this COTS upgrade.

4.21.8 Other Impacts/Comments

There may be a need for a product to assist with archiving ILM data that will be forwarded to other sites. Analysis is being performed on this issue. A procurement may be required, but the identified products are very low cost.

The CM Server upgrade/reassignment will need to be addressed after Remedy ILM is installed and in use by the DAACs.

4.21.9 COTS Installation Sequence/Dependencies

Migration to the replacement product will be addressed in the PSR.

4.22 XRP BLM Replacement

4.22.1 Description of COTS

XRP-II v3.1.3 and ACCELL (v2.0.7.2.0), collectively serve as the ECS Baseline Manager (BLM) and Inventory/Logistics/Maintenance Manager (ILM) tools, however, ECS is replacing XRP-II and ACCELL with a ClearCase implementation.

Baseline Manager capabilities enable operators to:

- maintain records that identify what comprises baselined operational system configurations
- identify the versions of hardware and software items baselines contain and the devices, subsystems, and networks the items comprise
- record item interdependencies and sites to which baseline items are deployed
- keep chronological histories of baseline changes and traceability of items to predecessor versions and system releases

4.22.2 Rationale for Upgrade

Substantial risk was identified for continued evolution of the XRP-II COTS product to effectively support ECS requirements with changing operating systems and databases. XPR-II is a product with significant risks. XRP-II is a customized COTS product that is not regularly upgraded under a standard maintenance contract. Additional fees are required for upgrades such as for new operating system versions, normally covered by standard maintenance. Additionally, the database in use by the XRP-II vendor has been at end of support by the database vendor (Unify) for over two years. The vendor has identified that major database conversion, not covered by existing maintenance, would be needed.

To mitigate this long-term risk, Baseline Manager is in the process of being migrated to ClearCase. BLM is used only at the EDF and under current scope will not be deployed to the DAACs. Delivery to the DAACs may be considered at a later stage under increased scope. BLM will provide the CM baseline reports similar to those provided by the current XRP BLM manager.

4.22.2.1 Vendor Support

The long term support risks and risk of overall product evolveability as described above is the driver for migration to a new product to support BLM.

4.22.2.2 NCRs

There are a number of NCRs against XRP-II that are expected to be resolved with the migration to an alternative product.

4.22.2.3 Features/Performance Upgrades

Product with more current, user-friendly GUI interfaces is planned. Ease of update is a major goal of the migration so that baselines and other CM documentation can be delivered and updated in a more timely manner.

4.22.2.4 Cross Software Product Compatibility

There are no cross software compatibility issues with the use of ClearCase for the baseline manager. BLM will utilize the same ClearCase version that will be deployed in the EDF as the build machines version and will be upgraded with all other ClearCase version upgrades.

4.22.2.5 Operating System Compatibility

BLM will utilize the same ClearCase versions and operating systems that will be deployed in the EDF as the build machines ClearCase version.

4.22.2.6 Hardware Product Compatibility

No hardware product compatibility issues have been identified that are associated with this COTS product.

4.22.3 Operational Impact

No operational impacts have been identified beyond installation downtime and impacts identified in the PSR.

4.22.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product.

4.22.5 Security Impact

No security impacts have been identified for this COTS product.

4.22.6 Licensing Impact

License keys are required for this COTS product. Sufficient licenses for use as a baseline manager have been identified.

4.22.7 External Drivers

No external drivers have been identified for this COTS upgrade.

4.22.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

4.22.9 COTS Installation Sequence/Dependencies

Migration to the replacement product will be addressed in the PSR.

4.23 Oracle Enterprise Server/Oracle Developer

4.23.1 Description of COTS

Oracle Enterprise Server is a database engine used with the PDS subsystem. Oracle Developer was used to design the forms, reports and other code used in the PDS subsystem for access to the PDS Oracle Enterprise Server database.

4.23.2 Rationale for Upgrade

Version 8.1.7.x has bug fix support until 12/31/2003. However, Oracle has dropped support for SGI and version 8.1.7.x will be the terminal or final version delivered for SGI IRIX 6.5. . An upgrade was reviewed to bring Oracle Enterprise Server 8i to version 8.1.7.2, since version 8.1.6 reached end of bug fix support on 10/31/2001. This upgrade was not implemented, as there was

agreement to focus resources on the eventual migration issues that may be involved with Oracle dropping support for the SGI platform.

4.23.2.1 Vendor Support

Oracle has dropped support for the SGI IRIX operating system for Oracle 9i and beyond. The vendor has announced support of only 5 or 6 operating systems for Oracle Enterprise Server 9i. Solaris 8 is one of these operating systems.

The decision on whether to migrate PDS to Sybase or migrate Oracle to Sun (in whole or in part) was complicated by Oracle's own major migration to a new architecture based on Java instead of their Forms and Developer products. Development products, vendors who provide conversion tools and services, and in-house development migration has been researched, priced and reviewed by all impacted organizations and senior management.

A final decision has yet to be made, but conversion to Sybase is the solution that appears to have the least risk, lowest cost and best long-term benefits. The Government is currently reviewing decision.

4.23.2.2 NCRs

There are no NCRs associated with this COTS product.

4.23.2.3 Features/Performance Upgrades

No specific performance or feature enhancements are targeted to be provided with this upgrade.

4.23.2.4 Cross Software Product Compatibility

The database, custom code and development environments are being incorporated in the current review.

4.23.2.5 Operating System Compatibility

The migration has been triggered with the dropping of SGI IRIX 6.5 for Oracle Enterprise Server and Oracle Developer products, which include Oracle Forms and Oracle Reports. Operating system compatibility and support is a major focus of the migration decision.

4.23.2.6 Hardware Product Compatibility

Hardware Engineering has provided pricing and impact relating to migrating PDS to Sun.

4.23.3 Operational Impact

Operational impacts are TBD.

4.23.4 Custom Code Impact

PDS custom code is expected to need to be rewritten to support migration.

4.23.5 Security Impact

No security impacts have been identified for this COTS product.

4.23.6 Licensing Impact

There are sufficient existing Sybase license to support migration to Sybase.

4.23.7 External Drivers

No external drivers have been identified for this COTS upgrade.

4.23.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

4.23.9 COTS Installation Sequence/Dependencies

Installation sequence dependencies or other COTS product will be identified as migration is defined.

4.24 Rogue Wave SourcePro Libraries

4.24.1 Description of COTS

The Rogue Wave Libraries formerly named Tools.h++, ToolsPro.h++ and DBTools.h++ have been renamed by the vendor as SourcePro Core, SourcePro Net and SourcePro DB respectively. They will be referred to by these new names in this section.

SourcePro Core supports a wide range of C++ development, allowing applications to be deployed across multiple operating systems with minimal code changes. SourcePro Core includes a robust and complete implementation of the ANSI/ISO Standard C++ Library specification, extends the ANSI Standard C++ Library with additional functionality, and offers powerful components for building high-performance multithreaded applications. In addition, SourcePro Core allows businesses to leverage their existing C++ investments by facilitating the easy integration of XML functionality into C++ applications.

Rogue Wave® SourcePro™ Net facilitates the development of applications designed to share information through efficient network communication. SourcePro Net provides the building blocks developers need for stable, reliable, object-oriented network application development.

Rogue Wave® SourcePro™ DB provides a solution for object-oriented relational database access in C++. SourcePro DB has a layered architecture that abstracts away the complexity of writing database applications, yet allows developers to drill down to the native database client libraries if needed. By supplying a consistent, high-level C++ interface to relational databases, SourcePro DB helps speed development and reduces database-programming complexity.

The specific Rogue Wave SourcePro Libraries identified above are bundled as a collection or set, called Editions by Rogue Wave. Each versioned Edition of the Rogue Wave libraries includes the SourcePro Core, SourcePro DB and SourcePro Net libraries that have been developed and released as compatible, although the separate libraries do have individual versions. For simplicity, the following discussions will address only the higher-level edition versions.

4.24.2 Rationale for Upgrade

Rogue Wave Edition 2 of these three libraries is currently used in ECS custom code. Edition 2 has reached end of support as of 01/10/2003, and Rogue Wave has recently announced that

Edition 3 is now obsolete. ECS will upgrade to Edition 4. For additional information, refer to discussion in section 4.24.4, Custom Code Impact below.

4.24.2.1 Vendor Support

Edition 2 libraries reached end of support on 01/10/2003. Edition 3 libraries for SourcePro products were released 01/10/2002 and were made obsolete shortly after the release of Edition 4. Edition 4 Libraries were released 10/2002. Support for this COTS development product typically extends for one year from release of the previous version.

4.24.2.2 NCRs

There are no NCRs associated with this COTS product.

4.24.2.3 Features/Performance Upgrades

No specific performance or feature enhancements are targeted to be provided with this upgrade.

4.24.2.4 Cross Software Product Compatibility

Rogue Wave SourcePro Libraries have the following compatibility requirements:

- **Compilers:**

- Sun: Version 4 Libraries support Forte 6.2 and Sun ONE, Studio 7 compilers.
- SGI: Version 4 libraries provide support for MIPSpro 7.3.1.2 on IRIX 6.5. Refer to discussion on this topic in section 4.8, SGI MIPSpro Compilers 7.3.1.3/ProDev Workshop 2.9.2.

- **Sybase Open Client:**

- Solaris & IRIX: Version 4 supports Sybase Open Client 12.0 and 12.5. The Sybase OpenClient 12.0 baseline version will be used as the basis of the SourcePro DB upgrade.

4.24.2.5 Operating System Compatibility

Rogue Wave certifies Edition 4 for Solaris 8. Rogue Wave has developed a practice of identifying certification for the IRIX Operating System at one patch version, i.e., Edition 2 was “officially” certified only for IRIX 6.5.8, Edition 3 was “officially” certified for only 6.5.10 and Edition 4 is “officially” certified only for IRIX 6.5.16. SGI strongly disagrees with certification at this level. SGI certifies all Rogue Wave Editions at the major operating system level, IRIX 6.5, on its third party product web pages. This position is strongly supported by the fact that ECS delivered Edition 2 code for IRIX 6.5.6, 6.5.9 and 6.5.14 without any IRIX Operating System/Rogue Wave issues.

4.24.2.6 Hardware Product Compatibility

No hardware product compatibility issues have been identified that are associated with this COTS product.

4.24.3 Operational Impact

No direct operational impact is expected in that Rogue Wave upgrades are only delivered as custom code. The Rogue Wave libraries are only installed and available in the Landover development environment.

4.24.4 Custom Code Impact

The Rogue Wave libraries have supported a number of build options, including flags for non-standard libraries in previous versions through Edition 3. ECS has used Rogue Wave's non-standard libraries through Edition 2. This option is no longer provided under standard maintenance in Edition 4. Some custom code work is required to eliminate references to non-standard libraries.

4.24.5 Security Impact

No security impacts have been identified for this COTS product.

4.24.6 Licensing Impact

License keys are required for this COTS product for developers only. There are no run-time license keys.

4.24.7 External Drivers

No external drivers have been identified for this COTS upgrade.

4.24.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

4.24.9 COTS Installation Sequence/Dependencies

This product is only installed at the Landover EDF. The compiler and Sybase Open Client dependencies for this installation are noted above.

4.25 IRIX 6.5.17 Patch Upgrade

4.25.1 Description of COTS

SGI provides operating system patch updates as minor operating system releases on a quarterly basis in order to provide patch baseline consistency for IRIX 6.5 hosts.

4.25.2 Rationale for Upgrade

The rationale for upgrading the ECS IRIX operating system baseline to IRIX 6.5.17 is that bug fixes are not guaranteed to be provided for IRIX Operating System versions older than 1 year or the current IRIX 6.5.x release and 3 versions back. IRIX 6.5.14, the current baseline IRIX patch version, was released 10/17/2001.

Although IRIX 6.5.18 has been recently released (11/20/2002), IRIX 6.5.17 was chosen because this was the latest version certified for the version of AMASS to be released to support the STK T9940B drive implementation. By selecting IRIX 6.5.17 as the upgrade version, all SGI hosts, including AMASS hosts, could standardize on a single IRIX 6.5.x baseline. A single IRIX

6.5.17 baseline would provide consistency and greater efficiency for testing and delivery of custom code. Refer to section 4.2, AMASS 5.3.1, for additional information on the AMASS software upgrade and section 5.3, STK T9940B, for additional information on the T9940B hardware upgrade. AMASS is a critical COTS and vendor Operating System certification requirements have always been observed for this COTS product. Also refer to section 4.25.2.4 Operating System Compatibility below.

4.25.2.1 Vendor Support

Vendor has identified that bug fixes are not available for IRIX Operating System patch levels older than one year. IRIX 6.5.14, the current baseline IRIX patch version, was released 10/17/2001, more than one year ago.

4.25.2.2 NCRs

There are no NCRs associated with this COTS product.

4.25.2.3 Features/Performance Upgrades

No specific performance or feature enhancements are targeted to be provided with this upgrade.

4.25.2.4 Cross Software Product Compatibility

While most ECS COTS products, such as Sybase, are certified for IRIX 6.5.x, there are three COTS products that certify software versions at the patch or “dot” release version levels. These COTS products are Legato Networker, Rational ClearCase and AMASS.

- ClearCase 5.0 will be delivered with patches providing IRIX 6.5.17 certification. ClearCase 5.0 delivery will precede IRIX 6.5.17 delivery.
- Testing will include compatibility testing for Legato Networker, although the vendor may not have formally certified for IRIX 6.5.17 patch release. Baseline versions of this COTS product have not been certified by the vendors for some periods in the upgrade life cycle but no problems have resulted.
- AMASS 5.3.1 is certified for IRIX 6.5.17. This COTS will be delivered prior to delivery of IRIX 6.5.17 and will be the baselined version of this product when IRIX 6.5.17 is delivered.

4.25.2.5 Operating System Compatibility

All SGI hardware will be upgraded to the delivered IRIX 6.5.17 patch level.

4.25.2.6 Hardware Product Compatibility

No hardware product compatibility issues have been identified that are associated with this COTS product.

4.25.3 Operational Impact

No operational impacts have been identified beyond installation downtime and impacts identified in the PSR.

4.25.4 Custom Code Impact

There are no expected custom code impacts associated with this COTS product. Custom code will be tested for compatibility. SGI has a published binary compatibility policy for custom code. There were no issues with the IRIX 6.5.14 upgrade and none are expected with the IRIX 6.5.17 upgrade.

4.25.5 Security Impact

No security impacts have been identified for this COTS product. However, updated security patches are generally included in these “patch” releases.

4.25.6 Licensing Impact

License keys not are required for this COTS product.

4.25.7 External Drivers

No external drivers have been identified for this COTS upgrade.

4.25.8 Other Impacts/Comments

No additional impacts are expected from this upgrade.

4.25.9 COTS Installation Sequence/Dependencies

Installation of AMASS 5.3.1 and ClearCase 5.0 should occur prior to upgrade to IRIX 6.5.17. Both COTS products are certified for IRIX 6.5.17.

4.26 Solaris 8 Patch Upgrade

4.26.1 Description of COTS

Sun Microsystems support patch upgrades with methods:

- Solaris CD update, i.e., Solaris 8 02/01 CDs were used for the original Solaris 8 transition.
- Sun recommended patch bundles.
- Solaris 8 patches recommended in weekly review of Sun Alerts at CUT Team meeting.

Sun recommends update with most recent CD installation, but with the release of Solaris 9, no additional CD updates will be provided. The 11/02 Solaris 8 recommended batch bundle plus the J2SE patch bundle will be used as the basis of this upgrade.

4.26.2 Rationale for Upgrade

Obtain the most recent patches for the operating system, compilers, and other bundled freeware to mitigate operational risk.

4.26.2.1 Vendor Support

Sun publishes patches on a daily basis. Sun updates a recommended patch bundle and other patches on at least a weekly basis. This information is published at <http://sunsolve.sun.com/patches/>

4.26.2.2 NCRs

There are no NCRs associated with this COTS product.

4.26.2.3 Features/Performance Upgrades

No specific performance or features enhancement are targeted to be provided with this upgrade.

4.26.2.4 Cross Software Product Compatibility

No impact is expected to any COTS product currently baselined for Solaris 8. In large part the patches are upgrade to existing Solaris 8 patches.

4.26.2.5 Operating System Compatibility

All Sun hosts will be patched to the same patch level, including the x0sas01 and x0drs0x hosts, which were delivered with Solaris 8 early because of schedule/COTS software requirements. These systems are installed with Solaris 8 update CD 07/01 and the patches that were identified at that time. These machines were not updated to the final Solaris 8 update CD 02/02 and the final Solaris 8 patch baseline. This patch upgrade will bring all Solaris 8 machines to the Solaris 8 update 11/02 patch baseline.

4.26.2.6 Hardware Product Compatibility

No hardware product compatibility issues have been identified that are associated with this COTS product.

4.26.3 Operational Impact

No operational impacts have been identified beyond installation downtime and impacts identified in the PSR.

4.26.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product. Custom code will be tested for compatibility.

4.26.5 Security Impact

No security impacts have been identified for this COTS product.

4.26.6 Licensing Impact

License keys are not required for this COTS upgrade.

4.26.7 External Drivers

No external drivers have been identified for this COTS upgrade.

4.26.8 Other Impacts/Comments

No additional impacts are expected from this upgrade.

4.26.9 COTS Installation Sequence/Dependencies

No installation sequence dependencies or other COTS product dependencies have been identified for this COTS product. The J2SE patches need to be installed prior to the JRE 1.4.x upgrade.

4.27 JRE 1.4.1

4.27.1 Description of COTS

The Java Runtime Environment (JRE) consists of the Java virtual machine, the Java platform core classes, and supporting files. It is the runtime part of the Java Development Kit -- no compiler, no debugger, and no tools. The JRE is the smallest set of executables and files that constitute the standard Java platform.

4.27.2 Rationale for Upgrade

End of support for version 1.3.1 and security alerts are the primary drivers for upgrade.

4.27.2.1 Vendor Support

Sun has dropped support for version 1.3.1_01 and lower. Sun has issued a security alert against this version. SGI provides JRE only as a courtesy (no formal support) and there are no support issues with 1.3.1 on SGI. However, the same version is used on both Sun and SGI whenever possible. Therefore both Sun and SGI will be upgraded. Sun has released JRE 1.4.1. SGI has released 1.4 and has 1.4.1 in Early Access mode. Upgrade will await General Availability (GA) version of JRE 1.4.1 from SGI because of the security alert against earlier versions. The most recent 1.4.1_xx version available from each vendor will be utilized.

4.27.2.2 NCRs

There are no NCRs associated with this COTS product.

4.27.2.3 Features/Performance Upgrades

No specific performance or feature enhancements are targeted to be provided with this upgrade.

4.27.2.4 Cross Software Product Compatibility

JRE 1.4.1 will deliver a number of bundled Java products that were previously delivered as separate products. Analysis will be performed to identify any Java modules delivered with this bundle that were delivered separately. Custom code updates will be made as schedule allows to incorporate this new bundling delivery method.

4.27.2.5 Operating System Compatibility

Targeted upgrade version is compatible with all operating systems versions for which the product will be baselined:

- Solaris 8

- IRIX 6.5.x

4.27.2.6 Hardware Product Compatibility

No hardware product compatibility issues have been identified that are associated with this COTS product.

4.27.3 Operational Impact

No operational impacts have been identified beyond installation downtime and impacts identified in the previous PSRs.

4.27.4 Custom Code Impact

The following custom code uses JRE:

- Java DAR Tool
- Data Pool
- BMGT
- PDS
- EPD (External Subsetter)

Testing will need to occur and some code modification may need to be made to accommodate the JRE upgrade and Java module bundling. Development COTS has notified all Subsystem leads. The Subsystem leads will participate in the upgrade and testing of this COTS product.

4.27.5 Licensing Impact

There are no licensing issues with delivery of JRE to the DAACs. It is freeware provided by SunSoft.

4.27.6 Security Impact

Upgrade would resolve issues with the following Sun Security Alerts:

Sun Alert #43546: Security Vulnerability in Java(TM) Runtime Environment Bytecode Verifier. Alert specifies that versions earlier than 1.4.1 are vulnerable, although risk is mitigated by ECS firewalls.

4.27.7 External Drivers

No external drivers have been identified for this COTS upgrade.

4.27.8 Other Impacts/Comments

New Solaris 8 custom code patch deliveries will be required for implementation of this upgrade.

4.27.9 COTS Installation Sequence/Dependencies

The custom code updates would need to be installed with the COTS product upgrade. Solaris 8 custom patches should be installed prior to installation of this COTS product upgrade.

4.28 Sybase ASE EBF Upgrade

4.28.1 Description of COTS

Some COTS products have a historical pattern of requiring patches or emergency bug fixes (EBF) on a consistent basis. These are generally high impact complex COTS products. Upgrades for the following COTS products are expected based on this historical pattern over the length of the contract.

- Sybase ASE EBF upgrade
- Sybase Open Client EBF upgrade
- IRIX 6.5.x patch delivery

4.28.2 Rationale for Upgrade

Sybase has identified that there is a security bug fix included in ASE EBFs after 10573 for Sun and 10582 for SGI. Sybase recommends that this EBF be applied as soon as possible.

4.28.2.1 Vendor Support

Use of vendor patches and EBFs to mitigate risk is part of the COTS upgrade process.

4.28.2.2 NCRs

There are no NCRs associated with this COTS product.

4.28.2.3 Features/Performance Upgrades

No specific performance or feature enhancements are targeted to be provided with this upgrade.

4.28.2.4 Cross Software Product Compatibility

There are no cross software compatibility issues with this upgrade.

4.28.2.5 Operating System Compatibility

Targeted upgrade version is compatible with all operating systems version for which the product will be baselined:

- Solaris 8
- IRIX 6.5.x

4.28.2.6 Hardware Product Compatibility

There are no hardware compatibility issues with this upgrade.

4.28.3 Operational Impact

No operational impacts have been identified beyond installation downtime and impacts identified in the PSR.

4.28.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product.

4.28.5 Security Impact

EBF upgrade will resolve security issue identified by vendor.

4.28.6 Licensing Impact

There are no license issues associated with this upgrade.

4.28.7 External Drivers

There are no external drivers associated with this upgrade.

4.28.8 Other Impacts/Comments

No other impacts will be associated with this upgrade.

4.28.9 COTS Installation Sequence/Dependencies

There are no installation sequence or other dependencies associated with this upgrade.

4.29 Purify 2003 Sun/SGI Upgrade

4.29.1 Description of COTS

Purify is used in software development to support debugging by identifying memory related bugs in code. Product is used as the standard debugging tool in development and is delivered to the DAAC as a debugging tool for DAAC-developed code.

4.29.2 Rationale for Upgrade

Current version is at end of support. This version provides full support for planned Sun ONE, Studio 7 compiler upgrade.

4.29.2.1 Vendor Support

Vendor support policy identifies that upgrades are required for bug fixes. Bug fixes are only moved forward to the most recent version and upgrade is needed once a new release has been delivered.

4.29.2.2 NCRs

No NCRs are identified in association with this COTS product.

4.29.2.3 Features/Performance Upgrades

No significant additional features or performance are expected from this COTS upgrade.

4.29.2.4 Cross Software Product Compatibility

Purify 2003 supports current and planned compiler versions on SGI and Sun.

4.29.2.5 Operating System Compatibility

There are no operating system compatibility issues with this upgrade.

4.29.2.6 Hardware Product Compatibility

There are no hardware product compatibility issues with this COTS product.

4.29.3 Operational Impact

Minimal impact is expected because this development support tool is installed as an automounted tool.

4.29.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product.

4.29.5 Security Impact

No security impacts have been identified for this upgrade version.

4.29.6 Licensing Impact

License keys are required for this COTS product. Procedures to obtain/install the license keys will be included with the PSR.

4.29.7 External Drivers

No external drivers have been identified for this COTS product.

4.29.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

4.29.9 COTS Installation Sequence/Dependencies

No installation sequence dependencies or other COTS product dependencies have been identified for this COTS product.

4.30 Status on COTS Products Previously Identified

There have been some status changes to COTS products identified and discussed in previous volumes. The current status of these COTS products is provided in the following sections.

4.30.1 Exabyte Driver

The current Exabyte robot driver freeware product (Exabyte Driver version 1.3) has not been supported for over three years. Problems encountered with various operating system hardware and particularly CPU speeds led to a review of possibly replacing this product with a supported COTS product, or modifying ECS custom code for standalone access to 8mm stacker tape drives.

The current recommendation is to modify ECS custom code to utilize 8mm stacker as standalone (non-robotic) device. It has been identified that 8mm media has low usage at the DAACs. ECS Custom code has been modified and successfully tested to support standalone usage. The Exabyte Driver replacement is therefore no longer planned. Product will be removed from the baseline when recommendation is approved by the Government.

4.30.2 Dashboard COTS

Dashboard is currently deployed as a DAAC Unique Extension (DUE). Dashboard utilizes several COTS products including PopChart, Apache, Tomcat, PERL, JRE and jConnect. The last five freeware products are also used by DataPool and other subsystems. The need for consistent version baselining and deployment of these products, despite the fact that Dashboard was a DUE, was originally driven by the fact that both DataPool and Dashboard were to share the same hardware platform. This situation was modified when the xxdps01 hosts were procured for DataPool.

PERL, JRE and jConnect are used by ECS subsystems and require no special configuration or compiling options to support Dashboard. Apache and Tomcat are used by DataPool as well as Dashboard, but the Dashboard version of Apache currently includes Open-SSL, MM and mod-ssl modules. A DataPool version of Apache and a Dashboard version of Apache needs to be delivered because of the different implementation for Dashboard and DataPool.

Tomcat may be used by both DataPool and Dashboard without modification or reconfiguration. However, an upgrade to Tomcat to meet DataPool requirements may be necessary in the near future. It has been noted that it is becoming increasingly difficult to efficiently maintain consistent versioning of some of these products for both ECS custom code and the Dashboard DUE.

Agreement has been recently reached that upgrade to Open-SSL (for a security alert) should be cancelled. EDC has upgraded version as DUE and will distribute to DAACs implementing Dashboard.

Since DataPool and Dashboard are currently deployed on separate hardware hosts and version issues are not as compelling as previously, discussions are in progress in the Architect's Office on whether to continue to provide upgrades for COTS used only by Dashboard.

4.30.3 Tivoli System Management

Only GSFC has been utilizing this COTS product for the last two years. Recently GSFC has indicated that they will not be installing the most recent version and will no longer be utilizing the product. The Architect's Office is currently reviewing this situation and will make a recommendation to the Government.

5 COTS Hardware Upgrades

This section identifies the planned COTS hardware additions and upgrade through June 2003. Hardware COTS upgrades are performed in accordance with the Work Instructions SE-1-019-1, which details the work required from design, through procurement to the receipt of the COTS product. Once this process is complete, a CCR is created for installation and submitted to the CCB for review in accordance with the CM-1-004-1. The COTS hardware upgrades are reviewed with the DAAC at the weekly M&O CCB before approval. If actions are required to complete the CCR, these actions are assigned to the DAAC and reviewed by the CCB.

Individual hardware failures are tracked by a Maintenance Work Order (MWO). Identification of operational problems, related to performance and functionality are tracked through the COTS software NCR process.

5.1 SGI Challenge Replacement

5.1.1 Description of COTS

The Challenge replacement effort will occur across all DAACs, the PVC, the VATC and development. The SGI Challenge replacement is either a direct replacement of the Challenge server with an equivalent capacity SGI Origin 300 server or a consolidation of functionality on to an Origin class server. ICL functionality will be consolidated with ACM functionality at LDAAC, NDAAC, the VATC and development. WKG functionality will be moved to a FSMS platform at LP DAAC, the PVC and the VATC. A single Origin 300 will replace multiple Science Processors that are on Challenge servers at LDAAC, LP DAAC and GDAAC with the equivalent capacity of the sum of individual Challenge boxes. All other Challenge replacements will be one for one. The replacement tables in section 5.1.10, Replacement Matrix, provide additional detail on the Challenge replacement effort.

5.1.2 Rationale for Upgrade

Cost of maintaining SGI Challenge servers is becoming prohibitive.

5.1.2.1 Hardware/Software Product Compatibility

Generally, the SGI Origin 300 OS will be IRIX 6.5.14m with a patch. Some unique boxes may be deployed at IRIX 6.5.17m. There are three COTS products that are effected from this change Legato, ClearCase, and AMASS. Suitable work-arounds are in place in case of this eventuality.

5.1.2.2 Equipment End of Life/End of Support

End of life – five years after manufacture. End of support unknown.

5.1.2.3 Features/Performance Upgrades

No specific performance or feature enhancements are targeted to be provided with this upgrade.

5.1.3 Software Impact (COTS/Custom)

None anticipated.

5.1.4 Network Impacts

HiPPI interface will be swapped to Gigabit Ethernet (GigE) interface. The HiPPI interface will be moved to a private gigabit interface. This change is required at the four DAACs, the PVC and the VATC. The development environment does not have a HiPPI interface.

Additionally, the SGI Challenge boxes do not support GigE. Therefore, the HiPPI replacement will be coordinated with the SGI Challenge replacement effort. There are a number of activities that can be done in preparation to the Challenge replacement. Network engineering is in process of testing prior to installation to become familiar with the new equipment. Regression testing planned for the PVC in support of the Challenge replacement will verify its operability. Prior to the switch over to the GigE interface, the existing Gigabit Ethernet interface card equipment, cables and new Gigabit Ethernet switch can be installed.

The following action item is being worked:

- M&O facilities support group needs to verify that there is enough room and power in the current Comms Rack for the new switch. The switch has a standard 15-amp power cord.
- Schedule with the DAACs and Landover facility the installation of the gigabit interface cards and cables.

Table 5-1 identifies the HiPPI replacement equipment needed to support this transition. Table 5-1 also identifies the new switch with the number of Copper (CU) and Fiber Channel (FC) connections and the existing hosts that can have the cards installed.

Table 5-1. HiPPI to GigE Switch Replacement Equipment

| Equipment | VATC | PVC | GDAAC | LP DAAC | NDACC | LDAAC |
|------------|--|---|---|---|--------------------|--|
| Cisco 3550 | 8-CU 2-FC | 7-CU 3-FC | 12- CU 4- FC | 9-CU 1-FC | 9-CU 1-FC | 9-CU 1-FC |
| SGI | t1acg04 t1drg03 t1spg03 t1dig06 | p0acg05 p0dig06 p0drg04 p0spg07 p0teg01 ptdrg03 o0drg02 | g0acg01 g0dig06 g0drg01 g0drg02 g0drg04 g0icg01 g0mog01 g0spg10 g0spg11 | e0acg11 e0dig06 e0drg11 e0drg12 e0icg11 | n0dig06 n0icg01 | l0acg02 l0dig06 l0drg01 l0spg10 |

5.1.5 DAAC Facility Impacts

The power requirements are:

- NEMA L630R for an Origin 300 (1)
- NEMA L630R with TP9400 RAID (2)

- NEMA L630R with TP9500 RAID (2).

Also see network impacts section above.

5.1.6 Transition Impacts

ACG/ICG consolidation will be tested and verified in the PVC. Transition training will be done in the VATC. Also see network impacts section above.

5.1.7 External Drivers

End of life and support for HiPPI switches are external drivers for this task.

5.1.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

5.1.9 COTS Installation Sequence/Dependencies

No installation sequence dependencies or other COTS product dependencies have been identified for this COTS product.

5.1.10 Replacement Matrix

Table 5-1 above and Table 5-2 through 5-5 below provide the replacement matrix information related to the planned SGI replacements.

Table 5-2. Challenge Replacement at LP DAAC

| Current Host | Replacement Host with CPUs and Memory | Comment |
|--|---------------------------------------|--|
| e0spg01 & e0spg05: 24x200 MHz CPU, 10 GB RAM | e0spg11: 8x600 MHz CPU, 10 GB RAM | |
| e0wkg01: 8x200 MHz CPU, 8 GB RAM | e0drg11: 8x300 MHz CPU, 12 GB RAM | Additional 8 GB RAM to bring e0drg11 total; to 12 GB |

Table 5-3. Challenge Replacement at LDAAC

| Current Host | Replacement Host | Comment |
|--|-------------------------------------|--|
| I0spg01, I0spg05, I0spg06: 48x200 MHz CPU, 18 GB RAM | I0spg11 : 16x400 MHz CPU, 16 GB RAM | |
| I0icg01 : 6x200 MHz CPU, 2 GB RAM I0acg02: 8 CPU, 8 CPU | I0acg02: 16 CPU, 16 GB RAM | Added 4x600 MHz CPU, 4 GB RAM P-brick, 10x36 GB RAID |

Table 5-4. Challenge Replacement at NDAAC

| Current Host | Replacement Host | Comment |
|--|-----------------------------------|---|
| n0drg01: 8x200 MHz CPU, 2 GB RAM | n0drg01: 4x400 MHz CPU, 4 GB RAM | Origin 2000 n0icg01 becomes n0drg01 2 GB RAM added |
| n0icg01: 4x400 MHz CPU, 2 GB RAM n0acg01: 20x200 MHz 8 GB RAM | n0acg01: 6x600 MHz CPU, 12 GB RAM | The SCSI RAID associated with n0icg01 and n0acg01 will be replaced with fiber channel RAID at the same time as the servers. 28x36 (Sybase) and 14x146 TP9500 RAID |
| n0spg03: 2x200 MHz CPU, 0.5GB RAM | n0spg03: 1x600 MHz CPU, 2 GB RAM | This is an Origin Fuel not an Origin 300 |

Table 5-5. Challenge Replacement at GDAAC

| Current Host | Replacement Host | Comment |
|---|-----------------------------------|---|
| g0spg01 16x200 MHz CPU, 2GB RAM, g0spg07 24x200 MHz CPU. 2 GB RAM | g0spg15 16x600 MHz CPU, 16 GB RAM | Science Processor SCSI RAID is also being replaced with fiber channel RAID 14x146 g0spg10, 14x146 g0spg15. This is TP 9500 RAID |
| | g0drg05 4x600 MHz CPU, 4 GB RAM | New Silo 5 server, not part of challenge replacement but shown for completeness There is a new RAID 78x36 (TP9400) |

5.2 User Pull RAID Upgrade

5.2.1 Description of COTS

Additional RAID is being provided to increase the user pull area at all the DAACs. With the exception of NDAAC this effort is not part of this release but is included here for completeness of planned hardware upgrades at the DAACs. NDAAC user pull change is part of the new RAID that will be installed during the Challenge Replacement effort. The user pull increase at the other DAACs is addition of whole shelves of RAID to existing RAID cabinets. The RAID will be delivered as soon as it is received at Landover. The installation will be detailed in the installation CCR at the time of delivery. Table 5-6 provides detail of RAID upgrades.

Table 5-6. User Pull RAID Upgrades

| LP DAAC | GDAAC | LDAAC |
|----------|----------|----------|
| 40x73 GB | 40x73 GB | 20x73 GB |

5.2.2 Rationale for Upgrade

DAACs do not have enough space in the current User Pull area.

5.2.2.1 Hardware/Software Product Compatibility

RAID disks are compatible with the existing RAID hardware. The increase will only add shelves of RAID disks to existing RAID cabinets.

5.2.2.2 Equipment End of Life/End of Support

End of life – five years after manufacture. End of support unknown.

5.2.2.3 Features/Performance Upgrades

No specific performance or feature enhancement are targeted to be provided with this upgrade.

5.2.3 Software Impact (COTS/Custom)

None

5.2.4 Network Impacts

None

5.2.5 DAAC Facility Impacts

None

5.2.6 Transition Impacts

None

5.2.7 External Drivers

No external drivers have been identified for this COTS upgrade.

5.2.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

5.2.9 COTS Installation Sequence/Dependencies

No installation sequence dependencies or other COTS product dependencies have been identified for this COTS product.

5.2.10 Replacement Matrix

There are no replacements with this activity, only additions.

5.3 STK T9940B Hardware Delivery

5.3.1 Description of COTS

The T9940B drives provide substantial performance enhancements over the existing T9940A drives. The T9940B drives provides 200 GB capacity vs. 60 GB (compressed or uncompressed) when used with the existing T9940 tape cartridges. Additionally, the T9940B more than doubles the throughput of the T9940A drives.

5.3.2 Rationale for Upgrade

The T9940B drives provide substantial increased capacity and throughput performance improvements. This increased capacity and throughput are the primary upgrade drivers. The T9940B drive was selected based on the operational and performance requirements for AQUA data.

5.3.2.1 Hardware/Software Product Compatibility

Upgrades of AMASS 5.3.1 and ACSLS 6.1 are in progress to support delivery of the STK T9940B drives. Refer to section 4.2, AMASS 5.3.1 for additional information on the AMASS software upgrade and section 4.3, ACSLS 6.1 with PUT 0203 for additional information on the ACSLS software upgrade.

5.3.2.2 Equipment End-of-Life/End-of-Support

No end-of-life or end-of-support issues are applicable to this implementation.

5.3.2.3 Features/Performance Upgrades

Additional performance and throughput features are provided with the addition of the T9940B drives. Refer to section 5.3.1, Description of COTS for additional information on this topic.

5.3.3 Software Impact (COTS/Custom)

There are no custom code impacts to this upgrade. Refer to section 4.2, AMASS 5.3.1 and section 4.3, ACSLS 6.1 with PUT 0203 for additional information on the COTS upgrades required for this task.

5.3.4 Network Impacts

No network impacts have been identified or are expected with this task.

5.3.5 DAAC Facility Impacts

No DAAC Facility Impacts have been identified or are expected with this task.

5.3.6 Transition Impacts

Related software, patch and firmware upgrades have been included in the delivery of the T9940B drives. Refer to section 4.2, AMASS 5.3.1 and section 4.3, ACSLS 6.1 with PUT 0203 for additional information on these COTS upgrades.

5.3.7 External Drivers

No external drivers have been identified for this task.

5.3.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

5.3.9 COTS Installation Sequence/Dependencies

No installation sequence dependencies or other COTS product dependencies have been identified for this COTS product.

5.3.10 Replacement Matrix

There are no replacements planned for this task.

5.4 Additional T9940A Drive Delivery

5.4.1 Description of COTS

The T9940A tape drives offer a solid solution high-end data capacity. They are built to perform a minimum of 10,000 mounts. The T99400A drives also provide a low replacement and data recovery application for archive, backup or disaster recovery.

5.4.2 Rationale for Delivery

These drives are being added to increase the throughput of data archive and retrieval. The additional drives are needed to populate the second silo at LARC and increase the online tapes at EDC and GSFC.

5.4.2.1 Hardware/Software Product Compatibility

There are no hardware/software product compatibility issues associated with this task.

5.4.2.2 Equipment End of Life/End of Support

There are no equipment end of life/end of support issues associated with this task.

5.4.2.3 Features/Performance Upgrades

No specific performance or feature enhancement is targeted to be provided with this upgrade.

5.4.3 Software Impact (COTS/Custom)

There are no custom or COTS software impacts related to this task.

5.4.4 Network Impacts

There are no network impacts associated with this task.

5.4.5 DAAC Facility Impacts

There are no DAAC Facility impacts expected with the delivery of additional T9940 drives.

5.4.6 Transition Impacts

There are no Transition Impacts to this task.

5.4.7 External Drivers

There are no external drivers related to this task.

5.4.8 Other Impacts/Comments

Firmware for this product must meet the ECS baseline requirement.

5.4.9 COTS Installation Sequence/Dependencies

No installation sequence dependencies or other COTS product dependencies have been identified for this COTS product.

5.4.10 Replacement Matrix

There are no replacements

5.5 Firewall Backup

5.5.1 Description of COTS

The need to provide software backup of the Firewall Server has been identified. The Legato Networker COTS product that is used for software backup of other DAAC hosts cannot be used with the Firewall Server because Networker utilizes an RPC (remote procedure call) mechanism. The Firewall Server software regards RPCs as insecure and blocks their operation. An alternative mechanism to backup the Firewall Server so that the complete installation and configuration can be restored is needed. A hardware-based solution is being considered.

The IBM Sysback backup product was evaluated. Although the product was successfully tested, the product required additional disk drive purchases to properly configure it for AIX conventions. This made the Sysback product solution cost-prohibitive. The additional drives were not needed and would not be used for any other purpose.

A more cost-effective solution is currently being researched. Evaluation and testing of a DVD backup was recently completed. Problems were identified with creating bootable DVD disks and a suitable back-up/recovery disk. An evaluation of backup with 4mm internal drives is currently in progress. Other media may also be evaluated.

5.5.2 Rationale for Upgrade

The capability to backup the Firewall Server software so that a full restoration and recovery can take place if needed.

5.5.2.1 Hardware/Software Product Compatibility

Hardware/software compatibility issues will be examined and identified as part of the evaluations.

5.5.2.2 Equipment End of Life/End of Support

There are no equipment end of life or end of support issues associated with this upgrade.

5.5.2.3 Features/Performance Upgrades

There are no additional specific features or performance enhancements that will be delivered with this upgrade.

5.5.3 Software Impact (COTS/Custom)

COTS or custom code software impacts will be reviewed and considered in the evaluation process.

5.5.4 Network Impacts

Network impacts will be review and considered in the evaluation of this software.

5.5.5 DAAC Facility Impacts

Operational impacts will be reviewed and considered as part of the evaluation process.

5.5.6 Transition Impacts

There will be no transition impacts associated with this upgrade. Upgrade is not part of any transition.

5.5.7 External Drivers

No external drivers have been identified with this COTS upgrade.

5.5.8 Other Impacts/Comments

No other impact have been identified related to this upgrade.

5.5.9 COTS Installation Sequence/Dependencies

Installation sequence dependencies or other COTS product will be reviewed as part of the evaluation process.

5.5.10 Replacement Matrix

No replacements will be made as part of this upgrade. Only new equipment will be added.

5.6 MODIS Direct Broadcast PC Hardware Delivery

5.6.1 Description of COTS

Additional Science Processing capabilities are required at GSFC to support Direct Broadcast capabilities. Instead of procuring additional SGI Origin Science Processors, two (2) Dell PowerEdge 6650 Servers were procured. Each unit includes 4 Intel Xeon 1500 MHz. CPUs and 1 GB memory.

5.6.2 Rationale for Upgrade

The MODIS Direct Broadcast hardware and software will be delivered to support immediate processing of MODIS data.

5.6.2.1 Hardware/Software Product Compatibility

There are no software compatibility issues associated with this task. Refer to section 4.10, MODIS Direct Broadcast PC Software for additional information on MODIS PC software.

5.6.2.2 Equipment End-of-Life/End-of-Support

There are no end-of-life/end-of-support issues associated with this task.

5.6.2.3 Features/Performance Upgrades

No specific performance or feature enhancement is targeted to be provided with this upgrade.

5.6.3 Software Impact (COTS/Custom)

No custom code or COTS software impacts are expected.

5.6.4 Network Impacts

These systems will be installed on the GSFC DAAC production LAN and integrated with the SAN fabric.

5.6.5 DAAC Facility Impacts

Only GSFC will be impacted and machines are currently installed.

5.6.6 Transition Impacts

There are no transition impacts to this delivery.

5.6.7 External Drivers

No external drivers have been identified for this task.

5.6.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

5.6.9 COTS Installation Sequence/Dependencies

No installation sequence dependencies or other COTS product dependencies have been identified for this COTS product.

5.6.10 Replacement Matrix

There are no replacement issues with this delivery. Only new equipment is being delivered.

Appendix A. Weekly CUT Matrix Example

Table A-1. Weekly CUT Matrix Example (1 of 5)

| Product Name | B/L Vers. | Planned Upgrade Version | Upgrade Rationale | Assoc. NCRs | Dev. Kick-off * | Turnover to Test Date * | Turnover to M&O date * | PSR Date * | COTS POC | Status as of 02/12/2003 (unless otherwise noted) |
|--|-----------------------------|------------------------------------|--|-------------|--------------------------|--|--|--|-------------------|---|
| COTS Associated with proposed STK T9940b Drives Implementation | | | | | | | | | | |
| AMASS | 5.2.1 | 5.3.1 Build 26 | Support for STK T9940b drives for performance enhancements | None | 10/04/2002 10/11/2002 | 11/12/2002 12/19/2002 01/06/2003 12/13/2002 01/17/2003 01/10/2003 | 12/06/2002 01/28/2003 01/15/2003 01/28/2003 02/10/2003 02/25/2003 | 12/18/2002 01/28/2003 01/29/2003 02/17/2003 02/13/2003 03/07/2003 | Darryl Washington | 02/05/2003: Phase I Prototype installation and testing successfully completed. |
| SGI Patch 4536 | N/A | Additional patch #4536 | Patch is needed to support implementation | None | 10/04/2002 10/11/2002 | 11/12/2002 12/19/2002 01/06/2003 12/13/2002 01/17/2003 01/10/2003 | 12/06/2002 01/28/2003 01/15/2003 01/28/2003 02/10/2003 02/25/2003 | 12/18/2002 01/28/2003 01/29/2003 02/17/2003 02/20/2003 | Darryl Washington | See AMASS entry above |
| SGI APD | Bundled as freeware with OS | 2.3 | APD for T9940b drives needs to be included | None | 10/04/2002 10/11/2002 | 11/12/2002 12/19/2002 01/06/2003 12/13/2002 01/17/2003 01/10/2003 | 12/06/2002 01/28/2003 01/15/2003 01/28/2003 02/10/2003 02/25/2003 | 12/18/2002 01/28/2003 01/29/2003 02/17/2003 02/20/2003 | Darryl Washington | See AMASS entry above |
| ACSLs | 6.0.1 | 6.1 with PUT 0203 | Support for STK T9940b drives | None | 10/04/2002 10/11/2002 | 11/12/2002 12/19/2002 01/06/2003 12/13/2002 01/17/2003 01/13/2003 | 12/06/2002 01/28/2003 01/15/2003 01/28/2003 02/10/2003 02/19/2003 | 12/18/2002 01/28/2003 01/29/2003 02/17/2003 02/20/2003 03/04/2003 | Darryl Washington | 02/05/2003: Phase I Prototype installation and testing successfully completed. |
| SGI Replacement Updates | | | | | | | | | | |
| SGI Replacement | Current 6.5.14 release | IRIX Patch #4722 & #4419 | Need to support 300s and related equipment | None | N/A | N/A | N/A | N/A | Sarah Lewallen | Installation for testing in progress in the PVC. |
| IRIX 6.5.17-related upgrades | | | | | | | | | | |
| See AMASS above | | | | | | | | | | |
| ClearCase | 4.1 | 5.0 (2002.05) w/ patches 18 and 19 | End-of-Support 11/01/2002. Support for IRIX 6.5.14/6.5.17 | None | 7/11/02 | 07/02/2002 08/27/2002 09/04/2002 12/11/2002 01/22/2002 02/10/2003 | 07/22/2002 09/27/2002 10/04/2002 01/14/2003 02/14/2003 03/05/2003 | 08/09/2002 10/11/2002 10/18/2002 01/28/2003 02/28/2003 03/18/2003 | Jon Velapoldi | 02/05/2003: Recently released ClearCase patch have significant clearmake bug fixes. They also make previously identified patches obsolete. Schedule impact not expected to be significant. Schedule being adjusted. |

Table A-1. Weekly CUT Matrix Example (2 of 5)

| Product Name | B/L Vers. | Planned Upgrade Version | Upgrade Rationale | Assoc. NCRs | Dev. Kick-off * | Turnover to Test Date * | Turnover to M&O date * | PSR Date * | COTS POC | Status as of 02/12/2003 (unless otherwise noted) |
|--|-----------------|--|---|-------------|--|--|--|--|----------------|---|
| IRIX Patch Bundle | 6.5.14 | 6.5.17 (+ additional OS patches, incl.4922) | Bug fix support provided only when within a year of patch upgrades, i.e., 6.5.x | None | 11/26/02 | 02/14/2003 02/20/2003 02/14/2003 04/24/2003 03/17/2003 | 02/27/2003 03/11/2003 02/27/2003 04/28/2003 | 03/07/2003 03/25/2003 03/07/2003 05/06/2003 | Alex Schuster | Additional patch list under review, some patches have been superceded by more recent patches. |
| SGI MIPSpro Compilers/ProDev Workshop | 7.3.1.2 & 2.8.1 | 7.3.1.3 & 2.9.2 w/ patch 4726 | Problems encountered with Purify/End of bug fix support for ProDev 2.8.1 | None | 1/10/03 | 3/14/2003 04/07/2003 | 3/27/2003 04/22/2003 | 4/11/2003 04/29/2003 | Alex Schuster | MIPSpro compiler patches identified. Different set needed for IRIX 6.5.14 than for 6.5.17. Reviewing delivery strategies. |
| TPSSM 8.3 RAID Software Upgrade | 5.0 | 6.0 | New RAID devices require version 6.0 | None | 1/2/03 | 1/8/03 | 2/28/03 | 3/7/03 | Sarah Lewallen | 02/05/2003: Delivered to EDC as TE for installation. |
| Extension Upgrades | | | | | | | | | | |
| Firewall Backup Capability | n/a | TBD | Need to backup Firewall implementation at DAACs | None | 9/3/02 | 03/03/2003 03/20/2003 03/27/2003 04/08/2003 05/19/2003 06/23/2003 | 03/27/2003 04/15/2003 04/28/2003 05/02/2003 06/13/2003 07/18/2003 | 04/08/2003 04/25/2003 05/08/2003 05/14/2003 06/20/2003 07/25/2003 | Ron Parham | Testing has identified that DVD drives are not suitable for solution. Problems with creating bootable DVD disk and with creation of a proper backup/recovery disk identified. Currently looking at 4mm internal drives. Requesting evaluation drive from IBM. |
| JRE for Solaris | 1.3.1/1.3.1_01 | 1.4.x | End of support/Security recommendation | None | 9/4/02 | 10/31/2002 01/28/2003 02/19/2003 04/21/2003 | 11/25/2002 02/20/2003 03/14/2003 05/14/2003 | 12/04/2002 02/27/2003 03/21/2003 05/21/2003 | Danny Huang | 02/05/2003: Deliveries to Sun and SGI have been separated into 2 activities because of the difference in availability dates: Sun version available and IDG Cell installation is in progress. |
| JRE for IRIX | 1.3.1 | 1.4.x | Security recommendation/Version consistency with Suns | None | 3/3/03 | 10/31/2002 01/28/2003 02/19/2003 03/15/2003 | 11/25/2002 02/20/2003 03/14/2003 04/01/2003 | 12/04/2002 02/27/2003 03/21/2003 05/21/2003 | Danny Huang | 02/05/2003: Awaiting GA delivery of JRE 1.4.1 from SGI at end of February. |
| IBM AIX Firmware Upgrade for Firewall Server | various | CL020916 | Standard firmware version/Support for 750MHz processors | None | 1/10/03 | 1/13/03 | 2/24/2003 02/11/2003 01/23/2003 | 3/2/2003 02/21/2003 02/06/2003 | Henry Baez | DAAC Walkthrough completed on 02/04/2003. PSR completed on 02/06/2003. |
| e-Border Patch Upgrade for Firewall Server | 3.5 | 4.00 | Feature Upgrades/End of Support for 3.5 | None | 2/25/2003 01/10/2003 | 3/5/2003 01/10/2003 | 4/16/2003 03/20/2003 03/05/2003 05/06/2003 | 4/24/2003 04/01/2003 03/17/2003 05/13/2003 | Henry Baez | Upgrade planned for the most recent GA version of Portus, 4.0. Vendor has identified that version is stable. |
| Portus Upgrade for Firewall Server | 4.0 | 5.05 | End of bug fix support | None | 4/17/2003 03/11/2003 02/12/2003 | 4/25/2003 03/21/2003 04/24/2003 02/20/2003 | 6/8/2003 05/06/2003 04/24/2003 03/28/2003 | 6/19/2003 05/01/2003 04/04/2003 | Henry Baez | CCR for both PVC and VATC installation completed. Installation planned this week for Portus. |
| Solaris 8 Patch upgrade | Solaris 8 02/02 | Solaris 8 upd. 11/02 | Patching of xxdrs and xxsas machines | None | 9/23/02 | 12/16/2002 12/19/2002 01/20/2003 03/17/2003 | 01/24/2003 01/20/2003 02/19/2003 02/28/2003 | 02/05/2003 02/10/2003 02/26/2002 05/05/2003 | Alex Schuster | 02/05/2003: Delivery of Solaris 8 patches and new compilers will be closely linked to maximize testing resources. |

Table A-1. Weekly CUT Matrix Example (3 of 5)

| Product Name | B/L Vers. | Planned Upgrade Version | Upgrade Rationale | Assoc. NCRs | Dev. Kick-off * | Turnover to Test Date * | Turnover to M&O date * | PSR Date * | COTS POC | Status as of 02/12/2003 (unless otherwise noted) |
|--|-------------------------------|---|---|-------------|--|--|--|--|---------------------------------|--|
| Sun Forte Compilers | 6.1 | Sun ONE, Studio 7.0, Enterprise Edition | RogueWave upgrade compatibility/Sun patch support | None | 11/26/02 | 03/12/2003 03/14/2003 04/01/2003 | 03/28/2003 04/01/2003 04/22/2003 | 04/09/2003 04/08/2003 05/02/2003 | Francell Gray/Prashanth Acharya | 02/05/2003: Builds are being compiled with Sun One, Studio 7 compilers. No problems have been encountered. |
| Secure Shell (for UNIX) | 1.3.7/2.4 (UNIX) | 3.2 Build 12 UNIX | At EOS for current version | None | 44/04/2002 11/12/2002 | 04/22/2003 02/12/2003 03/14/2003 | 02/14/2003 02/28/2003 03/20/2003 04/08/2003 | 02/26/2003 03/26/2003 04/14/2003 | Byron Peters | 01/22/2003: CCR is being drafted to install Secure Shell 3.2 in IDG Cell. PSR will address UNX upgrade only. Upgrade of secure shell for PCs will be addressed in a PSR to follow. |
| Oracle Enterprise & Developer Migration | 8.1.7/1.6 .1 | TBD | End of bug fixes as of 12/31/2003/IRIX terminal edition | None | 44/4/2002 01/21/2003 | 04/24/2003 04/31/2003 02/28/2003 08/06/2003 | 02/06/2003 04/17/2003 05/15/2003 11/10/2003 | 02/18/2003 04/24/2003 05/22/2003 11/17/2003 | Bob Hartranft/Ann Al-Jazrawi | 02/05/2003: Planning kick-off completed on 01/22/2003. |
| Linux Science Processor PC | N/A | Linux 7.3 | Broadcast Capability | None | 44/04/2002 44/15/2002 12/13/2002 | 44/21/2002 12/15/2003 04/30/2003 02/03/2003 | 04/03/2003 02/21/2003 04/30/2003 02/24/2003 03/18/2003 | 04/15/2003 03/05/2003 02/24/2003 03/28/2003 | Byron Peters | 01/22/2003: SANergy version for Linux 7.3 has not been scheduled for GA delivery. Team will use version provided by Tivoli until version officially released. |
| Remedy Replacement of XRP-II for ILM | XRP-II 3.1.3 | Remedy 4.5.2 | New version necessary for Solaris 8 | 29 NCRs | 11/11/02 | 04/28/2003 05/24/2003 06/04/2003 05/19/2003 | 05/28/2003 06/12/2003 | 06/10/2003 06/20/2003 | Ben Floyd | 02/05/2003: Compatible Crystal Reports version identified as version 8.5. Most recent version 9 is incompatible with Remedy 4.5.2. Version 8.5 has been obtained. |
| Netscape Communicator | 4.78 | 7.0 for Sun/Mozilla 1.1 for SGI | End-of-Support expected before end of contract. | None | 44/25/2002 12/09/2002 | 44/26/2002 04/29/2003 02/21/2003 | 42/23/2002 02/20/2003 03/31/2003 | 04/13/2003 03/03/2003 03/20/2003 | Natisha Greenway | 01/22/2003: Netscape 7.0 has been installed in IDG Cell for Solaris 8. Mozilla 1.1 has been installed for IRIX 6.5.14 in IDG Cell. Completion of regression testing in IDG Cell targeted for 01/19/2003. |
| SANergy | 2.2.3 | 3.2.1.6 (SGI)/3.2.1.8 (Sun) | Upgrade may be needed to resolve NCR. | ECSed3 5369 | 1/13/03 | 44/7/2003 03/17/2003 | 01/17/2003 (SGI) 03/21/2003 (Sun) | 44/4/2003 03/28/2003 | Rob Cole | 01/22/2003: CCR in draft to install SANergy in PVC. |
| Additional IRIX Patch related to SANergy | N/A | 4921 (IRIX 6.5.14)/4922 (IRIX 6.5.17) | SGI bug identified that impacts SANergy. Patch planned for 6.5.14 delivery will need IRIX 6.5.17 upgrade. | ECSed3 5369 | 1/13/03 | 44/7/2003 03/17/2003 | 01/17/2003 (SGI) | 44/4/2003 03/28/2003 | Rob Cole | 01/22/2003: Patches have been provided. |
| Rimage & QA PC Upgrade | NT/Producer Series/Interdrive | Win2000/Producer 5.x/Interdrive 7.0/TimeService | Consistent versions across all PDS PCs. EOL/EOS for products | None | 1/20/03 | 2/3/03 | 3/25/03 | 4/1/03 | Rob Cole | 01/22/2003: Hardware Engineering is reviewing issues related to current media type being discontinued. Possible hardware upgrades may also require software upgrades. |

Table A-1. Weekly CUT Matrix Example (4 of 5)

| Product Name | B/L Vers. | Planned Upgrade Version | Upgrade Rationale | Assoc. NCRs | Dev. Kick-off * | Turnover to Test Date * | Turnover to M&O date * | PSR Date * | COTS POC | Status as of 02/12/2003 (unless otherwise noted) |
|--------------------------|--|---------------------------------|---|-------------|-----------------|--|--|--|-------------------|--|
| PERL for PDS Rimage PC | n/a | 5.6.1 | NCR ECSed31645 | NCR 31645 | 8/9/02 | Suspended until Rimage Upgrade completed | Suspended until Rimage Upgrade completed | Suspended until Rimage Upgrade completed | Natisha Greenway | 11/13/2002: Rimage upgrade will not start until January because of SAN NCR activities. Delivery will be delayed until the QA PCs are upgraded and have Interdrive added. |
| Sybase ASE EBF | 12.0 EBF 10627 (Sun)/12.5 EBF 10573 (Sun)/12.5 EBF 10582 (SGI) | EBF TBD for Sun/EBF TBD for SGI | A security issue has been identified, which will be resolved with delivery of identified EBFs. Other bug fixes will also be included. | None | 2/17/03 | 4/9/03 | 4/25/03 | 5/2/03 | Carol Lindsey | 02/05/2003: Upgrade to support multiple temp DBs is expected within next 2 weeks. Work on this task cannot proceed until SGI Replacement work completed. Would prefer to deliver EBF that both resolves identified security issue and supports creation of multiple temp. DBs. |
| Purify | 2002.6a | 2003 | Full support for planned compiler upgrades/End of Support for current version | None | 2/17/03 | 3/27/03 | 4/16/03 | 4/22/03 | Natisha Greenway | 02/05/2003: Upgrade identified for end of support status and providing full support for Sun ONE, Studio 7 compiler upgrade. |
| Interdrive | 5.0 | 7.0 | End of Support/OS support | None | 2/24/03 | 3/26/03 | 4/17/03 | 4/29/03 | Rob Cole | 02/05/2003: Task broken out from combined Rimage upgrades because vendor may perform other upgrades associated with DVD drive upgrades. |
| Exabyte Driver | 1.3 | TBD | Freeware product no longer maintained | None | 3/24/03 | 4/7/03 | 5/5/03 | 5/12/03 | Darryl Washington | 11/13/2002: Review of alternatives in progress. |
| WhatsUp Gold | 7.x | 8.x | End of bug fix support | None | 3/26/03 | 5/27/03 | 6/12/03 | 6/24/03 | Alex Schuster | 01/22/2003: Version 8 not released currently, but expected in first quarter. |
| Secure Shell (for PCs) | 4.0 (PC) | 5.2 PC | At EOS for current version | None | 4/21/03 | 5/23/03 | 6/18/03 | 7/17/03 | Byron Peters | 01/22/2003: Upgrade of Secure Shell for PCs will be addressed as a separate PSR. |
| IMSL C Numeric Libraries | 3.0 | 5.0 | End of bug fix support | None | 5/5/03 | 5/27/03 | 6/12/03 | 6/24/03 | Darryl Arrington | 09/04/2002: Scheduled in P3. |
| PERL: Time::HiRes | n/a | TBD | Sev. 3 NCR | ECSed36120 | 5/5/03 | 6/20/03 | 7/11/03 | 7/28/03 | Alex Schuster | 01/08/2003: Delivery of PERL: Time::HiRes module is targeted to resolve this NCR, as this solution offers better maintainability of custom code. Planning is in progress. |
| Tomcat | 3.2.3 | TBD | Potential capabilities needed for Synergy/PDS | None | 5/5/03 | 6/27/03 | 7/22/03 | 8/22/03 | Alex Schuster | 02/05/2003: Upgrade for PDS/Synergy being reviewed. Depending on version, a Security Manager option may be included. |

Table A-1. Weekly CUT Matrix Example (5 of 5)

| Product Name | B/L Vers. | Planned Upgrade Version | Upgrade Rationale | Assoc. NCRs | Dev. Kick-off * | Turnover to Test Date * | Turnover to M&O date * | PSR Date * | COTS POC | Status as of 02/12/2003 (unless otherwise noted) |
|--|-------------------------------------|-------------------------|---|-------------|-----------------|-------------------------|------------------------|------------|---------------|---|
| Legato Networker | 6.0.1 | 7.00 | EOL expected for current version/Support for higher IRIX patch versions | None | 5/19/03 | 5/30/03 | 6/24/03 | 7/7/03 | Alex Schuster | 01/22/2003: Vendor has identified that end of support for version 6.02 will not end for another 6 months to a year. Upgrade may be moved forward for this reason. Certified support for IRIX 6.5.14/6.5.17 considered low risk. |
| Insure ++ | 5.1 | 6.1 | End of Support | None | 7/1/03 | 8/14/03 | 9/4/03 | 9/11/03 | Alex Schuster | 01/22/2003: New release for SGI not expected until 6/2003 at earliest. Upgrade maybe moved forward because of release delays. |
| Remedy PC Install PSR | 4.5.2 | 4.5.2 | NCR | | 7/3/03 | 8/19/03 | 9/10/03 | 10/2/03 | Alex Schuster | 12/11/2002: NCR has been submitted to provide instructions to install Remedy User module on PCs to enable forwarding of Trouble Ticket from PC. |
| COTS being considered but not started or scheduled in P3 | | | | | | | | | | |
| Security Workstations | N/A | Linux | Delivery of Security Workstations | None | N/A | N/A | N/A | N/A | Byron Peters | 02/05/2003: CCR being drafted to deliver hardware pre-installed with Linux |
| Sybase ASE EBF | EBF 10745 for Sun/EBF 10755 for SGI | TBD | Supports creation of multiple temp DBs | None | TBD | TBD | TBD | TBD | DDM | EBF to support creation of multiple temporary databases may be available in the next couple of weeks. If available will deliver EBF that will include both security fix and multiple temp. DBs. |
| Development only Upgrades | | | | | | | | | | |
| RogueWave Libraries | Source Pro Edition 2 | Source Pro Edition 4 | End of Support 01/10/2003 | None | 1/22/03 | 5/20/03 | N/A | N/A | Alex Schuster | 01/22/2003: I-Team has recommended upgrade to Edition 4 versions. Sun ONE, Studio 7 and MIPSpro 7.3.1.3 compilers will be used in the development effort. |

This page intentionally left blank.

Appendix B. COTS Compatibility Matrix

Table B-1 is a sample extract² from the COTS Compatibility Matrix that tracks COTS product version availability, end of life/end of support (EOL/EOS) status and other compatibility issues for all ECS COTS products and freeware. The end of life/end of support date provided is the earliest date that some support levels may be impacted for the product version. This may be end of life or end of support. Products with an EOL/EOS date of 12/12/2012 are products whose EOL/EOL dates are not known. It should be noted that most EOL/EOS dates are estimated from most recent releases and the vendor's published End of Life or Obsolescence Policy.

Table B-1. Future Software Upgrades Availability (1 of 14)

| Current Product | Current Version | Deployment | SW Type | Future Product | Version | Avail. Date | Estimated EOL/EOS |
|----------------------------|-----------------|------------|----------|----------------------------|------------------|-----------------|-------------------|
| Acrobat Reader for PC | 5.0.5 | OPS | Freeware | | | | |
| | | | | Acrobat Reader for PC | 5.0.5 | Current | 1/1/04 |
| | | | | Acrobat Reader for PC | 5.1 | Current | 1/1/05 |
| | | | | Acrobat Reader for PC | 6 | 01/01/2004 | 1/1/06 |
| | | | | Acrobat Reader for PC | 7 | 01/01/2005 | 1/1/07 |
| Acrobat Reader for SGI | 4.05 | OPS | Freeware | | | | |
| | | | | Acrobat Reader for SGI | 4.05 | Current | 1/1/04 |
| | | | | Acrobat Reader for SGI | 5.0.5 | est. 06/01/2003 | 1/1/05 |
| | | | | Acrobat Reader for SGI | 6 | est. 06/01/2004 | 1/1/06 |
| | | | | Acrobat Reader for SGI | 7 | est. 06/01/2005 | 1/1/07 |
| Acrobat Reader for Solaris | 4.05 | OPS | Freeware | | | | |
| | | | | Acrobat Reader for Solaris | 4.05 | Current | 6/1/04 |
| | | | | Acrobat Reader for Solaris | 5.0.6 | Current | 6/1/04 |
| | | | | Acrobat Reader for Solaris | 6 | 12/01/2003 | 12/1/05 |
| | | | | Acrobat Reader for Solaris | 7 | 12/01/2004 | 6/1/07 |
| ACSLs | 6.0.1 | OPS | COTS | | | | |
| | | | | ACSLs | 6.0.1 | Current | 7/1/03 |
| | | | | ACSLs | 6.0.1 PUT0201 | Current | 7/1/03 |
| | | | | ACSLs | 6.1 PUT0203 | Current | 1/1/04 |
| | | | | ACSLs | 6.1.1 | 01/01/2003 | 7/1/04 |
| | | | | ACSLs | 6.2 | 07/01/2003 | 1/1/05 |
| | | | | ACSLs | 6.2.1 | 01/01/2004 | 7/1/05 |
| | | | | ACSLs | 6.3 | 07/01/2004 | 1/1/06 |
| | | | | ACSLs | 6.3.1 | 01/01/2005 | 7/1/06 |

² The COTS Software Compatibility Matrix is maintained in Microsoft Access. A Microsoft Excel extract was made from the database and imported into Word so that the Report could be electronically inserted into this document.

Table B-1. Future Software Upgrades Availability (2 of 14)

| Current Product | Current Version | Deployment | SW Type | Future Product | Version | Avail. Date | Estimated EOL/EOS |
|------------------------------|-----------------|------------|----------|------------------------------|-------------------------------|--------------------------------|-------------------|
| AMASS | 5.2.1 | OPS | COTS | | | | |
| | | | | AMASS | 5.2.1 | Current | 2/1/03 |
| | | | | AMASS | 5.3.1 | Current | 2/1/04 |
| | | | | AMASS | 5.4 | 06/01/2003 | 6/1/04 |
| | | | | AMASS | 5.4.1 | 12/01/2003 | 12/1/04 |
| Anlpassword | 3 | OPS | Freeware | | | | |
| | | | | Anlpassword | 3 | Current | 12/12/12 |
| Apache Web Server | 1.3.26 | OPS | Freeware | | | | |
| | | | | Apache Web Server | 1.3.26 | Current | 12/12/12 |
| | | | | Apache Web Server | 1.3.27 | Current | 12/12/12 |
| | | | | Apache Web Server | 2.0.44 | Current | 12/12/12 |
| AutoSys Remote Agent for SGI | 3.5 | OPS | COTS | | | | |
| | | | | AutoSys Remote Agent for SGI | 3.5 | Current | 1/1/04 |
| | | | | AutoSys Remote Agent for SGI | 4 | Current | 1/1/05 |
| | | | | AutoSys Remote Agent for SGI | 4.5 | Beta | 6/1/07 |
| | | | | AutoSys Remote Agent for SGI | 5 | No Announced Availability Date | 1/1/09 |
| AutoSys Remote Agent for Sun | 3.5 | OPS | COTS | | | | |
| | | | | AutoSys Remote Agent for Sun | 3.5 | Current | 1/1/04 |
| | | | | AutoSys Remote Agent for Sun | 4 | Current | 1/1/05 |
| | | | | AutoSys Remote Agent for Sun | 4.5 | Beta | 6/1/07 |
| | | | | AutoSys Remote Agent for Sun | 5 | No Announced Availability Date | 1/1/09 |
| AutoSys Server | 3.5 | OPS | COTS | | | | |
| | | | | AutoSys Server | 3.5 with patches for ASE 12.0 | Current | 1/1/04 |
| | | | | AutoSys Server | 4 | Current | 1/1/05 |
| | | | | AutoSys Server | 4.5 | Beta | 1/1/06 |
| | | | | AutoSys Server | 5 | No Announced Availability Date | 6/1/07 |
| AutoSys Xpert | 3.5 | OPS | COTS | | | | |
| | | | | AutoSys Xpert | 3.5 | Current | 1/1/04 |
| | | | | AutoSys Xpert | 4 | Current | 1/1/05 |
| | | | | AutoSys Xpert | 4.5 | Beta | 6/1/07 |
| | | | | AutoSys Xpert | 5 | No Announced Availability Date | 1/1/09 |

Table B-1. Future Software Upgrades Availability (3 of 14)

| Current Product | Current Version | Depl - ment | SW Type | Future Product | Version | Avail. Date | Estimated EOL/EOS |
|------------------------------|-----------------|-------------|----------|--------------------------------------|---------------|-------------|-------------------|
| ClearCase | 4.1 | OPS | COTS | | | | |
| | | | | ClearCase | 4.1 | Current | 11/30/02 |
| | | | | ClearCase | 5.0 (2002.05) | Current | 2/1/04 |
| | | | | ClearCase | 6 | 03/01/2003 | 3/1/05 |
| | | | | ClearCase | 7 | 03/01/2004 | 3/1/06 |
| | | | | ClearCase | 8 | 03/01/2005 | 2/1/07 |
| Crack | 5.0a | OPS | Freeware | | | | |
| | | | | Crack | 5.0a | Current | 12/12/12 |
| DDTS | 4.7 | OPS | COTS | | | | |
| | | | | DDTS | 4.10 ? | 06/2005 | 7/1/07 |
| | | | | DDTS | 4.11 ? | 06/2006 | 7/1/08 |
| | | | | DDTS | 4.7 | Current | 7/1/04 |
| | | | | DDTS | 4.8 | 06/01/2003 | 7/1/05 |
| | | | | DDTS | 4.9 ? | 06/2004 | 7/1/06 |
| e-Border Enterprise Server | 3.5.0 | OPS | COTS | | | | |
| | | | | Permeo e-Border Enterprise Server | 3.5.0 | Current | 10/1/02 |
| | | | | Permeo Application Security Platform | 4 | Current | 12/12/12 |
| | | | | Permeo Application Security Platform | 4.1 | 03/01/2003 | 12/12/12 |
| e-Border SGI Driver (Client) | 3.05 | OPS | COTS | | | | |
| | | | | Permeo e-Border SGI Driver (Client) | 3.05 | Current | 12/12/12 |
| Exabyte Driver | 1.3 | OPS | Freeware | | | | |
| | | | | Exabyte Driver | 1.3 | Current | 12/12/12 |
| | | | | Exabyte Driver Replacement | TBD | TBD | 12/12/12 |
| FIND_DDOS | 4.2 | OPS | Freeware | | | | |
| | | | | FIND_DDOS | 4.2 | Current | 12/12/12 |
| FLEXIm | 8.0d | OPS | COTS | | | | |
| | | | | FLEXIm | 8.0d | Current | 12/12/12 |
| | | | | FLEXIm | 8.2a | Current | 12/12/12 |
| Forcheck | 12.84 | OPS | COTS | | | | |
| | | | | Forcheck | 12.84 | Current | 12/31/03 |
| | | | | Forcheck | 13 | Current | 12/12/12 |
| | | | | Forcheck | 13.2 | Current | 12/12/12 |
| Forte Compilers | 6.1 | OPS | COTS | | | | |
| | | | | Forte | 6.1 | Current | 12/3/02 |
| | | | | Forte | 6.2 | Current | 12/12/12 |
| | | | | Sun ONE Studio 7 Enterprise Edition | 7 | Current | 12/12/12 |
| Ghostscript | 6.5.2 | OPS | Freeware | | | | |
| | | | | Ghostscript | 6.5.2 | Current | 12/12/12 |
| | | | | Ghostscript | 7.05 | Current | 12/12/12 |

Table B-1. Future Software Upgrades Availability (4 of 14)

| Current Product | Current Version | Depl - ment | SW Type | Future Product | Version | Avail. Date | Estimated EOL/EOS |
|--------------------------|------------------------|-------------|----------|--|------------|-------------------|-------------------|
| GhostView | 1.5 | OPS | Freeware | | | | |
| | | | | GhostView | 1.5 | Current | 12/12/12 |
| HDF Libraries (series 4) | 4.1r5 | OPS | Freeware | | | | |
| | | | | HDF Libraries (4 series) | 4.1r5 | Current | 12/12/12 |
| HDF Libraries (series 5) | 5-1.2.2 | OPS | Freeware | | | | |
| | | | | HDF Libraries (5 series) | 5-1.2.2 | Current | 12/12/12 |
| | | | | HDF Libraries (5 series) | 5-1.4.5 | Current | 12/12/12 |
| IBM AIX for Firewall | 4.3.3 ML10 | OPS | COTS | | | | |
| | | | | IBM AIX for Firewall | 4.3.3 ML10 | Current | 12/31/03 |
| | | | | IBM AIX for Firewall | 5.1 | Current | 12/12/12 |
| | | | | IBM AIX for Firewall | 5.2 | Current | 12/12/12 |
| IDL for UNIX | 5.5 | OPS | COTS | | | | |
| | | | | IDL for UNIX | 5.5 | Current | 12/31/04 |
| | | | | IDL for UNIX | 5.6 | Current | 12/31/05 |
| | | | | IDL for UNIX | 5.7 | 12/01/2004 (est.) | 12/31/06 |
| | | | | IDL for UNIX | 5.8 | 12/01/2005 (est.) | 12/31/07 |
| IMSL CNL for DAAC IRIX | 3.01 | OPS | COTS | | | | |
| | | | | IMSL CNL for IRIX (DAAC) | 3.01 | Current | 12/1/02 |
| | | | | IMSL CNL for IRIX (DAAC) | 5 | Current | 12/12/12 |
| | | | | IMSL CNL for IRIX (DAAC) | 6 | 01/01/2004 | 12/12/12 |
| IMSL F90 for DAAC IRIX | 4.01 | OPS | COTS | | | | |
| | | | | IMSL F90 for IRIX (DAAC) | 4.01 | Current | 2/6/03 |
| | | | | IMSL F90 for IRIX (DAAC) | 5 | Current | 12/12/12 |
| | | | | IMSL F90 for IRIX (DAAC) | 5.x | 01/01/2004 | 12/12/12 |
| Insure ++ | 5.1 | OPS | COTS | | | | |
| | | | | Insure ++ | 5.1 | Current | 10/1/03 |
| | | | | Insure ++ | 6.1 | 06/01/03 est. | 6/1/04 |
| | | | | Insure ++ | 7 | 12/01/04 est. | 12/1/05 |
| | | | | Insure ++ | 8 | 06/01/2006 est. | 6/1/06 |
| Interdrive | 5 | OPS | COTS | | | | |
| | | | | Interdrive | 5 | Current | 1/1/01 |
| | | | | Interdrive | 7 | Current | 12/12/12 |
| iPlanet Web Server | 6.0 Enterprise Edition | OPS | COTS | | | | |
| | | | | iPlanet Web Server, Enterprise Edition | 6 | Current | 12/12/12 |
| | | | | iPlanet Web Server, Enterprise Edition | 6.0 SP5 | Current | 12/12/12 |

Table B-1. Future Software Upgrades Availability (5 of 14)

| Current Product | Current Version | Depl - ment | SW Type | Future Product | Version | Avail. Date | Estimated EOL/EOS |
|--------------------------|-----------------|-------------|----------|---|--------------|------------------------|-------------------|
| IRIX for DAACs | 6.5.14m | OPS | COTS | | | | |
| | | | | IRIX | 6.5.14m | Current | 10/17/02 |
| | | | | IRIX | 6.5.15m | Current | 1/17/03 |
| | | | | IRIX | 6.5.16m | Current | 4/17/03 |
| | | | | IRIX | 6.5.17m | Current | 7/20/03 |
| | | | | IRIX | 6.5.18m | Current | 11/20/03 |
| | | | | IRIX | 6.5.19m | 02/20/2003 | 2/20/04 |
| | | | | IRIX | 6.5.20m | 05/20/2003 | 5/20/04 |
| | | | | IRIX | 6.5.21m | 08/20/2003 | 8/20/04 |
| | | | | IRIX | 6.5.22m | 11/20/2003 | 11/20/04 |
| | | | | IRIX | 6.5.23m | 02/20/2004 | 2/20/05 |
| | | | | IRIX | 6.5.24m | 05/20/2004 | 5/20/05 |
| | | | | IRIX | 6.5.25m | 08/20/2004 | 8/20/05 |
| | | | | IRIX | 6.5.26m | 11/20/2004 | 11/20/05 |
| | | | | IRIX | 7 | 12/31/2004 at earliest | 12/12/12 |
| JAF for SGI | 1.0.1 | OPS | Freeware | | | | |
| | | | | JAF for SGI | 1.0.1 | Current | 12/12/12 |
| JAF for Sun | 1.0.1 | OPS | Freeware | | | | |
| | | | | JAF for Solaris | 1.0.1 | Current | 12/12/12 |
| | | | | JAF for Solaris | 1.0.2 | Current | 12/12/12 |
| JavaMail API for SGI | 1.2 | OPS | Freeware | | | | |
| | | | | JavaMail for SGI | 1.2 | Current | 12/12/12 |
| JavaMail API for Solaris | 1.2 | OPS | Freeware | | | | |
| | | | | JavaMail for Solaris | 1.2 | Current | 12/12/12 |
| | | | | JavaMail for Solaris | 1.3 | Current | 12/12/12 |
| JAXP for SGI | 1.0.1 | OPS | Freeware | | | | |
| | | | | JAXP for SGI | 1.0.1 | Current | 12/12/12 |
| | | | | JAXP for SGI | 1.1 | Current | 12/12/12 |
| JAXP for Solaris | 1.0.1 | OPS | Freeware | | | | |
| | | | | JAXP (Java API for XML Registries (JAXR)) | 1.0 EA2 | Current | 12/12/12 |
| | | | | JAXP (Java API for XML-based RPC (JAX-RPC)) | 1.0 EA2 | Current | 12/12/12 |
| | | | | JAXP for Solaris | 1.0.1 | Current | 12/12/12 |
| | | | | JAXP (Java API for XML Messaging (JAXM)) | 1.0.1 EA2 | Current | 12/12/12 |
| | | | | JAXP (JAVA API for XML Processing) | 1.2 EA2 | Current | 12/12/12 |
| jConnect | 5.5 EBF10349 | OPS | Freeware | | | | |
| | | | | jConnect | 5.5 EBF10349 | Current | 12/12/12 |
| JDBC API | 2 | OPS | Freeware | | | | |
| | | | | JDBC API for Solaris | 2 | Current | 12/12/12 |
| | | | | JDBC API for Solaris | 3 | Current | 12/12/12 |

Table B-1. Future Software Upgrades Availability (6 of 14)

| Current Product | Current Version | Deployment | SW Type | Future Product | Version | Avail. Date | Estimated EOL/EOS |
|---|-----------------|------------|----------|---------------------------------------|----------|-----------------------|-------------------|
| JDOM for SGI | 1.0beta7 & 8 | OPS | Freeware | | | | |
| | | | | JDOM for SGI | 1.0beta7 | Current | 12/12/12 |
| | | | | JDOM for SGI | 1.0beta8 | Current | 12/12/12 |
| JDOM for Solaris | 1.0beta7 & 8 | OPS | Freeware | | | | |
| | | | | JDOM for Solaris | 1.0beta7 | Current | 12/12/12 |
| | | | | JDOM for Solaris | 1.0beta8 | Current | 12/12/12 |
| JetDirect for Sun | E.10.18 | OPS | Freeware | | | | |
| | | | | JetDirect for Solaris | E.10.18 | Current | 12/12/12 |
| | | | | JetDirect for Solaris | E.10.34 | Current | 12/12/12 |
| JNI C Controller for Fiber Channel Host Bus Adapter | 4 | OPS | COTS | | | | |
| | | | | JNI C Controller for Fiber Channel | 4 | Current | 12/12/12 |
| | | | | JNI C Controller for Fiber Channel | TBD | TBD | 12/12/12 |
| JRE for IRIX | 1.3.1 | OPS | Freeware | | | | |
| | | | | JRE for SGI | 1.3.1 | Current | 12/12/12 |
| | | | | JRE for SGI | 1.4 | Current | 12/12/12 |
| | | | | JRE for SGI | 1.4.1 | Early Access/02/28/03 | 12/12/12 |
| JRE for Solaris | 1.3.1_01 | OPS | Freeware | | | | |
| | | | | JRE for Sun | 1.3.1_01 | Current | 2/26/02 |
| | | | | JRE for Sun | 1.4.0_01 | Current | 12/12/12 |
| | | | | JRE for Sun | 1.4.1 | Current | 12/12/12 |
| JRE plug-in for Sun | 1.3.1_01 | OPS | Freeware | | | | |
| | | | | JRE Plug-in for Netscape Communicator | 1.3.1_01 | Current | 12/12/12 |
| | | | | JRE Plug-in for Netscape Communicator | 1.4.0 | Current | 12/12/12 |
| Legato Networker Client for PC | 6.1.2 | OPS | COTS | | | | |
| | | | | Legato Networker Client for PC | 6.1.2 | Current | 6/1/04 |
| | | | | Legato Networker Client | 6.1.3 | Current | 1/1/05 |
| | | | | Legato Networker Client | 7 | 03/2003 (Q1 03) | 6/1/05 |
| Legato Networker Client for UNIX | 6.0.2 | OPS | COTS | | | | |
| | | | | Legato Networker Client | 6.0.2 | Current | 1/1/04 |
| | | | | Legato Networker Client | 6.1.3 | Current | 1/1/05 |
| | | | | Legato Networker Client | 7 | 03/2003 (Q1 03) | 6/1/05 |
| Legato Networker Server | 6.0.2 | OPS | COTS | | | | |
| | | | | Legato Networker Server | 6.0.2 | Current | 1/1/04 |
| | | | | Legato Networker Server | 6.1.2 | Current | 6/1/04 |
| | | | | Legato Networker Server | 6.1.3 | Current | 1/1/05 |
| | | | | Legato Networker Server | 7 | 03/2003 (Q1 03) | 6/1/05 |

Table B-1. Future Software Upgrades Availability (7 of 14)

| Current Product | Current Version | Deployment | SW Type | Future Product | Version | Avail. Date | Estimated EOL/EOS |
|-----------------------------------|-----------------|------------|----------|--|---------------------|---------------------------------|-------------------|
| Linux for Intel Science Processor | 7.3 | OPS | COTS | | | | |
| | | | | Linux for MODIS Direct Broadcast | 7.3 | Current | 12/12/12 |
| Linux for Security Workstations | 7.1.3 | OPS | COTS | | | | |
| | | | | Linux for Security Workstations | 7.1.3 | Current | 12/12/12 |
| | | | | Linux for Security Workstations | 7.3 | Current | 12/12/12 |
| Microsoft Office Professional | Office97 | OPS | COTS | | | | |
| | | | | Microsoft Office Professional | Win2000 | Current | 12/12/12 |
| | | | | Microsoft Office Professional | Win97 | Current | 12/12/12 |
| | | | | Microsoft Office Professional | XP | Current | 12/12/12 |
| MM | 1.1.3 | OPS | Freeware | | | | |
| | | | | MM | 1.1.3 | Current | 12/12/12 |
| mod_ssl | 2.8.9-1.3.26 | OPS | Freeware | | | | |
| | | | | mod_ssl | 2.8.11-1.3.27 | Current | 12/12/12 |
| | | | | mod_ssl | 2.8.9-1.3.26 | Current | 12/12/12 |
| NCDware | 5.1.140 | OPS | COTS | | | | |
| | | | | NCDWare | 5.1.140 | Current | 2/1/02 |
| | | | | NCD software for new HW | New HW/SW | Current | 12/12/12 |
| Netscape Communicator | 4.78 | OPS | COTS | | | | |
| | | | | Netscape Communicator (Mozilla) for IRIX | 1.1 | Current | 12/12/12 |
| | | | | Netscape Communicator for UNIX | 4.78 | Current | 12/12/12 |
| | | | | Netscape Communicator for Solaris | 7 | Current | 12/12/12 |
| NTP for SGI | 4.1.0 | OPS | Freeware | | | | |
| | | | | NTP for SGI | 4.1.0 | Current | 12/12/12 |
| OpenSSL | 0.9.6g | OPS | Freeware | | | | |
| | | | | OpenSSL | 0.9.6g | Current | 12/12/12 |
| | | | | OpenSSL | 0.9.7 | Current | 12/12/12 |
| Oracle 8i Enterprise | 8.1.6 | OPS | COTS | | | | |
| | | | | Oracle Server 8i | 8.1.6 | Current | 10/31/01 |
| | | | | Oracle Server 8i | 8.1.7.2 (release 3) | Current | 12/31/06 |
| | | | | Oracle Server 8i | 8.1.7.3 | No release for SGI | 12/31/06 |
| | | | | Oracle Server 8i | 8.1.7.4 | Release for Sun/SGI TBD | 12/31/06 |
| | | | | Oracle Server 9i | 9.2.0.3 | Current for Solaris/N/A for SGI | 12/12/12 |

Table B-1. Future Software Upgrades Availability (8 of 14)

| Current Product | Current Version | Deployment | SW Type | Future Product | Version | Avail. Date | Estimated EOL/EOS |
|-----------------------|-----------------|------------|----------|-------------------------------------|----------------|-------------|-------------------|
| PERL Convert BinHex | 1.119 | OPS | Freeware | | | | |
| | | | | PERL Convert::BinHex | 1.119 | Current | 12/12/12 |
| PERL Crypt::Cracklib | 0.01 | OPS | Freeware | | | | |
| | | | | PERL Crypt::Cracklib | 0.01 | Current | 12/12/12 |
| PERL DBD-Sybase | 0.91 | OPS | Freeware | | | | |
| | | | | PERL DBD-Sybase | 0.91 | Current | 12/12/12 |
| | | | | PERL DBD-Sybase | 0.95 | Current | 12/12/12 |
| PERL DBI | 1.19 | OPS | Freeware | | | | |
| | | | | PERL DBI | 1.19 | Current | 12/12/12 |
| | | | | PERL DBI | 1.32 | Current | 12/12/12 |
| PERL for Rimage PC | n/a | OPS | Freeware | | | | |
| | | | | PERL for Rimage QA PC (Active PERL) | 5.6.1 | Current | 12/12/12 |
| | | | | PERL for Rimage QA PC (Active PERL) | 5.8.0 Build804 | Current | 12/12/12 |
| PERL for UNIX | 5.6.1 | OPS | Freeware | | | | |
| | | | | PERL for UNIX | 5.6.1 | Current | 12/12/12 |
| | | | | PERL for UNIX | 5.8.0 | Current | 12/12/12 |
| PERL GD | 1.33 | OPS | Freeware | | | | |
| | | | | PERL GD | 1.33 | Current | 12/12/12 |
| | | | | PERL GD | 2.06 | Current | 12/12/12 |
| PERL jpegsrc | v6b | OPS | Freeware | | | | |
| | | | | PERL jpegsrc | v6b | Current | 12/12/12 |
| PERL libpng | 1.0.12 | OPS | Freeware | | | | |
| | | | | PERL libpng | 1.0.12 | Current | 12/12/12 |
| PERL MIME-Base64 | 2.11 | OPS | Freeware | | | | |
| | | | | PERL MIME-Base64 | 2.11 | Current | 12/12/12 |
| | | | | PERL MIME-Base64 | 2.16 | Current | 12/12/12 |
| PERL PNGgraph | 1.11 | OPS | Freeware | | | | |
| | | | | PERL PNGgraph | 1.11 | Current | 12/12/12 |
| | | | | PERL PNGgraph | 1.21 | Current | 12/12/12 |
| PERL SendMail | 2 | OPS | Freeware | | | | |
| | | | | PERL SendMail | 2 | Current | 12/12/12 |
| PERL TclTk | b2 | OPS | Freeware | | | | |
| | | | | PERL TclTk | b2 | Current | 12/12/12 |
| PERL zlib | 1.1.3 | OPS | Freeware | | | | |
| | | | | PERL zlib | 1.1.3 | Current | 12/12/12 |
| PopChart Image Server | 3.8 | OPS | COTS | | | | |
| | | | | PopChart | 3.8 | Current | 4/1/03 |
| | | | | PopChart | 3.8.4 | Current | 12/12/12 |
| | | | | PopChart | 4 | Current | 12/12/12 |

Table B-1. Future Software Upgrades Availability (9 of 14)

| Current Product | Current Version | Deployment | SW Type | Future Product | Version | Avail. Date | Estimated EOL/EOS |
|--|-----------------|------------|---------|--|--|-------------|-------------------|
| Portus | 4 | OPS | COTS | | | | |
| | | | | Portus | 4 | Current | 10/1/02 |
| | | | | Portus | 5 | Current | 4/1/03 |
| | | | | Portus | 5.05 | Current | 10/1/03 |
| | | | | Portus | 5.1 | 03/01/2003 | 3/1/04 |
| | | | | Portus | 5.2 | 08/01/2003 | 9/1/04 |
| | | | | Portus | 5.3 | 03/01/2004 | 9/1/05 |
| Purify | 2002.6a | OPS | COTS | | | | |
| | | | | Purify | 2002a.06 | Current | 5/31/02 |
| | | | | Purify | 2003 | Current | 6/30/03 |
| QFS | 3.5.0-64A | OPS | COTS | | | | |
| | | | | QFS | 3.5.0-64A | Current | 2/1/06 |
| | | | | QFS | 4 | Current | 12/12/12 |
| RDAC (Redundant Disk Array Controller) | 7.10.0G.00 | OPS | COTS | | | | |
| | | | | RDAC (Redundant Disk Array Controller) | 8.00.02.01 | Current | 12/12/12 |
| | | | | RDAC (Redundant Disk Array Controller) | 8.3 | Current | 12/12/12 |
| Remedy ARS Client | 4.5.2 | OPS | COTS | | | | |
| | | | | Remedy ARS Client | 4.5.1 User Tool/4.5.2 Admin Tool on NT | Current | 12/31/03 |
| | | | | Remedy ARS Client | 5.0.1 | Current | 12/12/12 |
| | | | | Remedy ARS Client | 5.1 | Current | 12/12/12 |
| Remedy ARS Server | 4.5.2 | OPS | COTS | | | | |
| | | | | Remedy ARS Server | 4.5.1 | Current | 10/1/03 |
| | | | | Remedy ARS Server | 4.5.2 | Current | 10/1/03 |
| | | | | Remedy ARS Server | 5.0.1 | Current | 12/12/12 |
| | | | | Remedy ARS Server | 5.1 | Current | 12/12/12 |
| Rimage CD-R Data Production Server | 1.31 | OPS | COTS | | | | |
| | | | | Rimage CD-R Production Server | 1.31 | Current | 5/1/02 |
| | | | | Rimage CD-R Production Server | Producer Suite 5.8.6.0 | Current | 12/12/12 |
| Rimage CD-R Data Publication Power Tools | 3.4.2 | OPS | COTS | | | | |
| | | | | Rimage CD-R Data Publication Power Tools | 3.4.2 | Current | 5/1/02 |
| | | | | Rimage CD-R Data Publication Power Tools | Producer Suite 5.8.6.0 | Current | 12/12/12 |
| Rimage CD-Workstation | 3.34 | OPS | COTS | | | | |
| | | | | Rimage CD-R Workstation | 3.34 | Current | 5/1/02 |
| | | | | Rimage CD-R Workstation | Producer Suite 5.8.6.0 | Current | 12/12/12 |

Table B-1. Future Software Upgrades Availability (10 of 14)

| Current Product | Current Version | Deployment | SW Type | Future Product | Version | Avail. Date | Estimated EOL/EOS |
|---|---------------------------------|------------|----------|--|---------------------------------|--------------------------------|-------------------|
| Rimage Label Editor | 1.1.3j | OPS | COTS | | | | |
| | | | | Rimage Label Editor | 1.1.3j | Current | 5/1/02 |
| | | | | Rimage Label Editor | Producer Suite 5.8.6.0 | Current | 12/12/12 |
| Rimage Perfect Image CD Designer | 6.00b | OPS | COTS | | | | |
| | | | | Rimage CD Designer | 6.00b | Current | 5/1/02 |
| | | | | Rimage CD Designer | Producer Suite 5.8.6.0 | Current | 12/12/12 |
| SANergy for Linux PC | 2.2.3 | OPS | COTS | | | | |
| | | | | SANergy for Linux PC Science Processor | 3.2.0.27 | Current (not GA) | 12/12/12 |
| SANergy for UNIX | 2.2.3 | OPS | COTS | | | | |
| | | | | SANergy for UNIX | 2.2.3 | Current | 12/12/12 |
| | | | | SANergy for SGI | 3.2.1.6 | Current | 12/12/12 |
| | | | | SANergy for Solaris | 3.2.1.8 | Current | 12/12/12 |
| SANtricity for Linux PC Science Processor | 8.00.G2.01 | OPS | COTS | | | | |
| | | | | SANtricity Storage Manager for Linux PC SP | 8.00.G2.01 | Current | 12/12/12 |
| SANtricity for UNIX | 8.00.G2.01 | OPS | COTS | | | | |
| | | | | SANtricity Storage Manager for UNIX | 8.00.G2.01 | Current | 12/12/12 |
| sendmail | Solaris 8 02/02 bundled version | OPS | Freeware | | | | |
| | | | | Sendmail | Solaris 8 02/02 bundled version | Current | 12/12/12 |
| SGI T9940b APD | 2.3 | OPS | COTS | | | | |
| | | | | SGI APD SGI T9940b APD | 2.3 | Current | 12/12/12 |
| SGI BDSpro | 2.3 | OPS | COTS | | | | |
| | | | | SGI BDSpro | 2.3 | Current | 12/12/12 |
| | | | | SGI BDSpro | 2.4 | Current | 12/12/12 |
| | | | | SGI BDSpro | 2.5 | No announced availability date | 12/12/12 |
| SGI C Compiler | 7.3.1.2m | OPS | COTS | | | | |
| | | | | SGI C Compiler | 7.3.1.2m | Current | 12/12/12 |
| | | | | SGI C Compiler | 7.3.1.3m | Current | 12/12/12 |
| | | | | SGI C Compiler | 7.4 | Current | 12/12/12 |
| SGI C++ Compiler | 7.3.1.2m | OPS | COTS | | | | |
| | | | | SGI C++ Compiler | 7.3.1.2m | Current | 12/12/12 |
| | | | | SGI C++ Compiler | 7.3.1.3m | Current | 12/12/12 |
| | | | | SGI C++ Compiler | 7.4 | Current | 12/12/12 |

Table B-1. Future Software Upgrades Availability (11 of 14)

| Current Product | Current Version | Deployment | SW Type | Future Product | Version | Avail. Date | Estimated EOL/EOS |
|-----------------------------|--------------------------|------------|---------|-----------------------------|----------------|-----------------|-------------------|
| SGI Fortran 77 Compiler | 7.3.1.2m | OPS | COTS | | | | |
| | | | | SGI Fortran 77 Compiler | 7.3.1.2m | Current | 12/12/12 |
| | | | | SGI Fortran 77 Compiler | 7.3.1.3m | Current | 12/12/12 |
| | | | | SGI Fortran 77 Compiler | 7.4 | Current | 12/12/12 |
| SGI Fortran 90 Compiler | 7.3.1.2m | OPS | COTS | | | | |
| | | | | SGI Fortran 90 Compiler | 7.3.1.2m | Current | 12/12/12 |
| | | | | SGI Fortran 90 Compiler | 7.3.1.3m | Current | 12/12/12 |
| | | | | SGI Fortran 90 Compiler | 7.4 | Current | 12/12/12 |
| SGI HiPPI SW for Challenges | 3.3.1 | OPS | COTS | | | | |
| | | | | SGI HiPPI SW for Challenges | 3.3.1 | Current | 12/12/12 |
| SGI HiPPI SW for Origins | 4 | OPS | COTS | | | | |
| | | | | SGI HiPPI SW for Origins | 4 | Current | 12/12/12 |
| SGI IRISConsole | 2 | OPS | COTS | | | | |
| | | | | SGI IRISConsole | 2 | Current | 1/1/04 |
| SGI ProDev Workshop | 2.8.1 | OPS | COTS | | | | |
| | | | | SGI ProDev Workshop | 2.8.1 | Current | 10/1/02 |
| | | | | SGI ProDev Workshop | 2.9.1 | Current | 12/12/12 |
| | | | | SGI ProDev Workshop | 2.9.2 | Current | 12/12/12 |
| SGI SCSI RAID Driver | 3.3 | OPS | COTS | | | | |
| | | | | SGI SCSI RAID Driver | 3.3 | Current | 12/12/12 |
| SGI TPSSM7 RAID Software | 5 | OPS | COTS | | | | |
| | | | | SGI TPSSM 7 RAID Software | 5 | Current | 12/12/12 |
| | | | | SGI TPSSM 8.3 RAID Software | 6 | Current | 12/12/12 |
| Solaris | 8 upd. 02/02 | OPS | COTS | | | | |
| | | | | Solaris | 10 | 06/01/2004 est. | 6/1/10 |
| | | | | Solaris | 11 | 06/01/2006 est. | 6/1/12 |
| | | | | Solaris | 8 upd. 02/02 | Current | 6/1/06 |
| | | | | Solaris | 9 | Current | 6/1/08 |
| Solaris (for DRS & SAS)) | 8 upd. 07/01 | OPS | COTS | | | | |
| | | | | Solaris (DRS & SAS) | 8 update 07/01 | Current | 12/12/12 |
| Solaris 8 Patch Update | Sun Recommended Bundle + | OPS | COTS | | | | |
| | | | | Solaris 8 Patch Upgrade | 02/02 | Current | 12/12/12 |
| | | | | Solaris 8 Patch Upgrade | 11/02 | Current | 12/12/12 |

Table B-1. Future Software Upgrades Availability (12 of 14)

| Current Product | Current Version | Deployment | SW Type | Future Product | Version | Avail. Date | Estimated EOL/EOS |
|---------------------------------------|-------------------|------------|---------|--|--------------|-------------|-------------------|
| SQS (Spatial Query Server) | 3.4.2.9 | OPS | COTS | | | | |
| | | | | SQS (Spatial Query Server) | 3.4.2.9 | Current | 6/1/04 |
| | | | | SQS (Spatial Query Server) | 4 | 06/01/2002 | 6/1/05 |
| | | | | SQS (Spatial Query Server) | 4.1 | 06/01/2002 | 6/1/05 |
| ssh secure shell commercial (PC) | 4 | OPS | COTS | | | | |
| | | | | ssh secure shell commercial PC | 4 | Current | 6/1/02 |
| | | | | ssh secure shell commercial PC | 5.2 | Current | 12/12/12 |
| ssh secure shell commercial client | 2.4 | OPS | COTS | | | | |
| | | | | ssh secure shell commercial client | 2.4.0 | 06/01/2002 | 6/1/02 |
| | | | | ssh secure shell commercial client | 3.1.0 | Current | 12/12/12 |
| ssh secure shell commercial server | 1.3.7 | OPS | COTS | | | | |
| | | | | ssh secure shell commercial server | 1.3.7 | Current | 6/1/02 |
| | | | | ssh secure shell commercial server | 3.1.0 | Current | 12/12/12 |
| Sybase ASE EBF for SGI | 12.5.0.1 EBF10433 | OPS | COTS | | | | |
| | | | | Sybase ASE 12.5.0.1 EBF for SGI | 12.5 EBF TBD | TBD | 12/12/12 |
| Sybase ASE EBF for Sun | 12.5.0.1 EBF10423 | OPS | COTS | | | | |
| | | | | Sybase ASE 12.5.0.1 EBF for Sun | 12.5 EBF TBD | TBD | 12/12/12 |
| Sybase ASE EBF for Sun Autosys Server | 12.0.0.5 EBF10157 | OPS | COTS | | | | |
| | | | | Sybase ASE 12.0.0.5 EBF for Sun Autosys Server | 12.5 EBF TBD | TBD | 12/12/12 |
| Sybase ASE for SGI | 12.5.0.1 | OPS | COTS | | | | |
| | | | | Sybase ASE for SGI | 12.5.0.1 | Current | 6/1/05 |
| | | | | Sybase ASE for SGI | 12.6 | 06/27/2003 | 12/12/12 |
| | | | | Sybase ASE for SGI | 15 | 03/2004 | 12/12/12 |
| Sybase ASE for Sun | 12.5.0.1 | OPS | COTS | | | | |
| | | | | Sybase ASE for Sun | 12.5.0.1 | Current | 6/1/05 |
| | | | | Sybase ASE for Sun | 12.6 | 06/27/2003 | 12/12/12 |
| | | | | Sybase ASE for Sun | 15 | 3/2004 | 12/12/12 |
| Sybase ASE for Sun Autosys Server | 12.0.0.5 | OPS | COTS | | | | |
| | | | | Sybase SQL Server Monitor for Sun | 12.0.0.5 | Current | 6/1/04 |
| | | | | Sybase ASE for Sun (for Autosys Server) | 12.0.0.5 | Current | 6/1/04 |

Table B-1. Future Software Upgrades Availability (13 of 14)

| Current Product | Current Version | Deployment | SW Type | Future Product | Version | Avail. Date | Estimated EOL/EOS |
|---------------------------------------|-----------------|------------|----------|-------------------------------------|--------------|-------------|-------------------|
| Sybase ASE SQL Server Monitor for SGI | 12.5.0.1 | OPS | COTS | | | | |
| | | | | Sybase SQL Server Monitor for SGI | 12.5.0.1 | Current | 6/1/05 |
| | | | | Sybase SQL Server Monitor for SGI | 12.6 | 06/27/2003 | 12/12/12 |
| | | | | Sybase SQL Server Monitor for SGI | 15 | 03/2004 | 12/12/12 |
| Sybase ASE SQL Server Monitor for Sun | 12.5.0.1 | OPS | COTS | | | | |
| | | | | Sybase SQL Server Monitor for Sun | 12.5.0.1 | Current | 6/1/05 |
| | | | | Sybase SQL Server Monitor for Sun | 12.6 | Current | 12/12/12 |
| | | | | Sybase SQL Server Monitor for Sun | 15 | 03/2004 | 12/12/12 |
| Sybase Central | 3.2 | OPS | COTS | | | | |
| | | | | Sybase Central | 3.2 | Current | 6/1/05 |
| | | | | Sybase Central | 3.3 | 6/27/2003 | 12/12/12 |
| | | | | Sybase Central | 3.4 | 03/2004 | 12/12/12 |
| Sybase Open Client EBF for SGI | 12.0 EBF9921 | OPS | COTS | | | | |
| | | | | Sybase Open Client 12.0 EBF for SGI | 12.0 EBF TBD | TBD | 12/12/12 |
| | | | | Sybase Open Client 12.0 EBF for SGI | 12.0 EBF9921 | Current | 6/1/04 |
| Sybase Open Client EBF for Sun | 12.0 EBF9917 | OPS | COTS | | | | |
| | | | | Sybase Open Client 12.0 EBF for Sun | 12.0 EBF TBD | TBD | 12/12/12 |
| | | | | Sybase Open Client 12.0 EBF for Sun | 12.0 EBF9917 | TBD | 12/12/12 |
| Sybase Open Client/C for SGI | 12.0 EBF9921 | OPS | COTS | | | | |
| | | | | Sybase Open Client/C for SGI | 12.0 EBF9921 | Current | 6/1/04 |
| | | | | Sybase Open Client/C for SGI | 12.5 | Current | 12/12/12 |
| | | | | Sybase Open Client/C for SGI | 15 | TBD | 12/12/12 |
| Sybase Open Client/C for Sun | 12.0 EBF9917 | OPS | COTS | | | | |
| | | | | Sybase Open Client/C for Sun | 12.0 EBF9917 | Current | 6/1/04 |
| | | | | Sybase Open Client/C for Sun | 12.5 | Current | 12/12/12 |
| | | | | Sybase Open Client/C for Sun | 15 | Current | 12/12/12 |
| Sybase Replication Server/Manager | 12.5 EBF10493 | OPS | COTS | | | | |
| | | | | Sybase Replication Server/Manager | 12.5 EBF | Current | 12/12/12 |
| TCL/Tk | 8.3.3 | OPS | Freeware | | | | |
| | | | | TCL/tk | 8.3.3 | Current | 12/12/12 |
| | | | | TCL/tk | 8.4.1 | Current | 12/12/12 |

Table B-1. Future Software Upgrades Availability (14 of 14)

| Current Product | Current Version | Deployment | SW Type | Future Product | Version | Avail. Date | Estimated EOL/EOS |
|------------------------|-----------------|------------|----------|------------------------|------------------------|-----------------------|-------------------|
| TCPWrappers | 7.6 | OPS | Freeware | | | | |
| | | | | TCP Wrappers | 7.6 | Current | 12/12/12 |
| Tomcat | 3.2.3 | OPS | Freeware | | | | |
| | | | | Tomcat | 3.2.3 | Current | 5/20/02 |
| | | | | Tomcat | 3.3.1 | Current | 12/12/12 |
| | | | | Tomcat | 4.1.18 | Current | 12/12/12 |
| | | | | Tomcat | 5.x | Alpha | 12/12/12 |
| Top | 3.5beta12 | OPS | Freeware | | | | |
| | | | | Top | 3.5beta12 | Beta | 12/12/12 |
| Tripwire for SGI | 1.3 | OPS | Freeware | | | | |
| | | | | Tripwire for SGI | 1.3.0 | Current | 8/1/02 |
| | | | | Tripwire (commercial) | 3 | Current | 12/12/12 |
| Tripwire for Solaris | 1.3.1 | OPS | Freeware | | | | |
| | | | | Tripwire for Solaris | 1.3.1 | Current | 8/1/02 |
| | | | | Tripwire (commercial) | 3 | Current | 12/12/12 |
| Velocity | 1.2 | OPS | COTS | | | | |
| | | | | Velocity | 1.2 | Current | 12/12/12 |
| | | | | Velocity | 1.3.1rc2 | Beta | 12/12/12 |
| Veritas Volume Manager | 3.0.4 | OPS | COTS | | | | |
| | | | | Veritas Volume Manager | 3.0.4 | Current | 12/12/12 |
| | | | | Veritas Volume Manager | 3.2 | Current | 12/12/12 |
| | | | | Veritas Volume Manager | 4 | Beta as of 04/26/2002 | 12/12/12 |
| WebGLIS | 3.2.1 | OPS | Freeware | | | | |
| | | | | Webglis | 3.2.1 | Current | 12/12/12 |
| WhatsUp Gold | 7.03 | OPS | COTS | | | | |
| | | | | WhatsUp Gold | 7.03 | Current | 12/12/12 |
| | | | | WhatsUp Gold | 8 | 03/01/2003 | 12/12/12 |
| Windows NT for PDS | 4.0SP5 | OPS | COTS | | | | |
| | | | | Windows NT Workstation | 4.0SP5 | Current | 6/30/03 |
| | | | | Windows NT Workstation | 4SP6a | Current | 6/30/03 |
| WU-FTPD | 2.6.2 | OPS | Freeware | | | | |
| | | | | WU-FTPD | 2.6.2 | Current | 12/12/12 |
| Xerces | 2.0.1 | OPS | Freeware | | | | |
| | | | | Xerces | 2.0.1 | Current | 12/12/12 |
| XRP Accell | 2.0.7.2.0 | OPS | COTS | | | | |
| | | | | XRP Accell | 2.0.7.2.0 | Current | 1/1/00 |
| | | | | XRP Accell (ELS) | 6.5AC | Current | 1/1/02 |
| XRP-II | 3.1.3 | OPS | COTS | | | | |
| | | | | XRP-II | 3.1.3 on Solaris 2.5.1 | Current | 1/1/02 |
| | | | | XRP-II | Remedy Replacement | To be developed | 12/12/12 |