ECS SDPS
5A Consent To Ship Review

21 July 1999
Introduction & Agenda

Ron Klotz
Agenda

• Introduction and Agenda          R. Klotz          1:00 PM
• 5A System Functionality          S. Fox            1:10 PM
• Release 5A Test Status           S. Fox            1:30 PM
• Non-Conformance Report Status    R. Miller         1:50 PM
• Break                            2:30 PM
• Physical Configuration Audit     R. Gorsky         2:45 PM
Agenda (Cont.)

- Functional Configuration Audit    J. Spyrisson  3:05 PM
- CDRL Documentation Summary       V. Maclin     3:10 PM
- Post-CSR Installation and Transition    D. Stafford  3:20 PM
- ECS Support to Site Readiness    J. Edwards   4:05 PM
- Concluding Remarks             R. Klotz       4:15 PM
5A System Functionality

Steve Fox
System Capabilities Added in 5A

- Upgrades for Y2K
- External interface for replacement orbit data from FDS
- PDPS internal delete from archive
  - Allows PDPS to cleanup temporary products
- DAO ingest
  - “First-Look” products (DFLAPCHM, DFLAPMIS, DFLAXCHM, DFLAXCLD, DFLAXENG, DFLAXLSM, DFLAXMIS, DFLAXSTR)
  - “Late-Look” products (DLLAPMIS, DLLAXMIS)
- Ingest and archive of SAGE III Level 0 data from the MOC
  - Level 0 data is made available to the SAGE III SCF via standard subscription services
  - Capability delivered in a Release 4 patch but formally tested as part of Release 5A
System Capabilities Added in 5A

★ High volume data ingest from external processing systems using the SIPS interface
  – Data providers: MODAPS (including MODIS Oceans), MOPITT
  – Note: Support for additional SIPS data providers (LaTIS, SAGE III, ACRIM) has been held up due to lack of test data. Will be provided in a 5A patch along with support for ASTER DEM

★ Cross-DAAC (unsubsetted) data transfers to support data production (also support for cross-mode data transfers)

★ Ingest and archive of Landsat 7 IGS metadata (format 0 only)

• Order production history data

• System Management enhancements - Sybase monitoring, host resource monitoring using Tivoli

• ~250 NCR fixes
  ★ Capability delivered in a Release 4 patch but formally tested as part of Release 5A
System Capabilities Added in 5P

Additional capabilities to be delivered as a patch to 5A
- V0 Gateway support for all ECS Core Metadata attributes and PSAs
- Support for adding new attributes and services to an ESDT without re-installing it
- 4PY to 5A transition scripts
Release 5A Test Status

Steve Fox

July 21, 1999 Consent-To-Ship Review (CSR)

Raytheon Raytheon Systems Company
Agenda

Verification Approach

Verification Results (New Capabilities)

Verification Results (Y2K)

Site Test Plan

NSIDC End-To-End Test Plan
Verification Approach

Acceptance criteria “tickets” were defined for each Feature Group (i.e. group of related features)

- Criteria covered functional components, error conditions, and performance
- Criteria were approved by ESDIS
- Test procedures were developed and assessed for completeness and coverage by ECS system engineering and then approved by ESDIS

Test procedures were dry run in VATC/Mini-DAAC before formal execution

Formally executed test procedures in the VATC/Mini-DAAC in the presence of authorized witnesses

Test status maintained by ESDIS in a Verification Database (VDB)

Performance criteria are only applicable to NSIDC and will be verified during End-to-End test at NSIDC in Aug-Sep

Several criteria, (cross-DAAC, DPREP) will be verified at the DAACs after 5A delivery
Release 5A Verification Execution (Release 5A Totals)

Features: 77
Tickets: 20
Total Acceptance Criteria: 208
Total Test Cases: 42
Acceptance Tests: 35
System Verification Tests: 7

Features:
- 77

Tickets:
- 20

Total Acceptance Criteria:
- 208

Total Test Cases:
- 42

Acceptance Tests:
- 35

System Verification Tests:
- 7

Error Condition
AC: 111

Functional Component
AC: 97

Ticket SM15

AC:
- 111

Functional Component
- 97

AT B090120.020

SV TS0615.1

7/12/99 VDB
Verification Status Definitions

Feature Group (FG) - a set of related features

FC, EC, PC -- Functional Component, Error Condition, Performance Criterion

Verification Status

- \( V = \) Verified by ECS or ESDIS Test Program (no severity 1 or 2 NCR against criterion)
- \( W = \) Nominal cases have been verified
- \( NV = \) Not Verified
- \( NT = \) Not Tested
- \( NA = \) Not Applicable -- no FG criteria to test for this FC, EC, or PC area
- \( VN = \) Verified Near-term (performance only)
- \( I = \) Inadequate (performance only)
<table>
<thead>
<tr>
<th>Functional Category</th>
<th>Feature Group Title</th>
<th>FC Status</th>
<th>EC Status</th>
<th>PC Status</th>
<th>Status Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingest</td>
<td>FDD Interface</td>
<td>W</td>
<td>W</td>
<td>V</td>
<td>5A adds ingest of replacement orbit data from FDS. 3 of 4 FC verified, one NT. Will be tested at GDAAC after code is deployed. 1 of 2 EC verified, NCR 23155(3). Invalid year/day in FDD orbit filename not detected.</td>
</tr>
<tr>
<td>Ingest</td>
<td>EMOS Interface</td>
<td>W</td>
<td>V</td>
<td>NA</td>
<td>5A adds ingest of Detailed Activity Schedule from EMOS. 6 of 7 FC verified. 2 of 2 EC verified. No support for DAS updates at this time. Workaround is to replan when update arrives.</td>
</tr>
<tr>
<td>Ingest</td>
<td>ASTER D3 Interface</td>
<td>V</td>
<td>W</td>
<td>I</td>
<td>18 of 21 criteria verified. All FCs verified. One low risk EC not verified (invalid originating system parameter). Ingest stability impacts D3 throughput (to be fixed in July). 5A adds conversion of L1A/L1B corner points to gpolygon. 1 of 1 FC verified.</td>
</tr>
<tr>
<td>Functional Category</td>
<td>Feature Group Title</td>
<td>FC Status</td>
<td>EC Status</td>
<td>PC Status</td>
<td>Status Comments</td>
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<tr>
<td>Ingest</td>
<td>SAGE III L0 Interface</td>
<td>W</td>
<td>W</td>
<td>NT</td>
<td>5A adds ingest of L0 from MOC. 5 of 6 FC verified, FtpPush delivery of PANs not supported by ECS. 25 of 29 EC verified. NCRs 21313(3), 18187(3), 23073(3). Low risk - related to handling of error conditions. Performance to be verified by LDAAC during MOSS-2. Also, NCRs 23260(2), 23270(2), 21621(2), 22502(2) related to missing PSA and valids for SAGE III higher level products.</td>
</tr>
<tr>
<td>Ingest</td>
<td>Landsat 7 IGS Interfaces</td>
<td>NV</td>
<td>W</td>
<td>NT</td>
<td>5A adds electronic ingest of F0 metadata. 3 of 4 FC verified. NCR 23406(1) IGS metadata can’t be ingested due to db configuration problem. NCRs 23071(3), 23236(3). PDRD not generated if PDR has missing or invalid originating system provider. 17 of 21 EC verified. NCRs 21313(3), 18187(3), 23284(3), 23073(3). Low risk - related to handling of error conditions. Performance to be verified by EDAAC.</td>
</tr>
<tr>
<td>Functional Category</td>
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<tr>
<td>Ingest</td>
<td>SIPS Interfaces</td>
<td>W</td>
<td>W</td>
<td>NT</td>
<td>5A adds ingest of granules, browse, QA and production history from SIPS data providers, as well as, ingest of standard ECS products. 10 of 11 FC verified. NCRs 23360(3), 23379(2). Email PANs occasionally not sent. QA granules aren’t linked to science granules. 28 of 34 EC verified. NCRs 21313(3), 18187(3), 23274(3), 23073(3), 23374(2), 23365 (2), 23370(2). Incorrect parsing of LGID. Problem ingesting dependent granules that arrive out of order. Problem ingesting metadata file that contains a non-existent LocalGranuleId. Low risk items related to handling errors. PC to be verified at the DAACs. NCR 23324(2) Reconfigure GDAAC so MODAPS data stages to drg instead of icg.</td>
</tr>
<tr>
<td>Ingest</td>
<td>DAO Interface</td>
<td>V</td>
<td>W</td>
<td>NA</td>
<td>5A adds ingest of first-look and late-look DAO products. 4 of 4 FC verified. 17 of 22 EC verified. NCRs 21313(3), 18187(3), 23190(4), 23073(3). Low risk - related to handling errors.</td>
</tr>
</tbody>
</table>
# Feature Group Status (4 of 7)

<table>
<thead>
<tr>
<th>Functional Category</th>
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<th>FC Status</th>
<th>EC Status</th>
<th>PC Status</th>
<th>Status Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archive</td>
<td>Subscription Handling</td>
<td>V</td>
<td>V</td>
<td>VN</td>
<td>Subscription performance verified at LaRC; to be verified at GSFC and EDC during MOSS-2. 5A adds encryption of user passwords. 3 of 3 FC verified. 1 of 1 EC verified.</td>
</tr>
<tr>
<td>Archive</td>
<td>New Data Type Installations</td>
<td>V</td>
<td>V</td>
<td>NA</td>
<td>5A moves storage of SDSRV events from files to database. 1 of 1 FC verified.</td>
</tr>
<tr>
<td>Production</td>
<td>AM-1 Ancillary Data Preprocessing</td>
<td>V</td>
<td>NV</td>
<td>NA</td>
<td>12 of 15 criteria verified. DPREP boundary conditions will be tested at GSFC during MOSS-2. 5A adds email notification if a data gap is detected. 4 of 4 FC verified. 0 of 3 EC verified. NCRs 23364(2), 23380(2). Errors handling gaps at the beginning or end of an interval. Additional NCRs related to missing and out of sequence data being worked.</td>
</tr>
<tr>
<td>Functional Category</td>
<td>Feature Group Title</td>
<td>FC Status</td>
<td>EC Status</td>
<td>PC Status</td>
<td>Status Comments</td>
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</tr>
<tr>
<td>Production</td>
<td>PGE Execution</td>
<td>W</td>
<td>V</td>
<td>VN</td>
<td>37 of 44 criteria verified. Nominal production working, special case production rules will be verified using &quot;at launch&quot; PGEs, e.g., Optional Inputs, Alternate Inputs, and Spatial Query; Performance verified at LaRC, to be verified at GSFC and EDC as part of MOSS-2. <strong>5A adds internal implementation change for handling variations on search areas and product specific spatial representations. 1 of 1 FC verified.</strong></td>
</tr>
<tr>
<td>Production</td>
<td>Interim Product Support</td>
<td>V</td>
<td>V</td>
<td>NA</td>
<td><strong>5A adds PDPS support for deleting interim products from archive while retaining metadata and PH.</strong></td>
</tr>
<tr>
<td>Search and Order</td>
<td>Manage Data Dictionary</td>
<td>V</td>
<td>V</td>
<td>NA</td>
<td><strong>5A adds capability to add new DDICT valids or edit or delete existing valids. 1 of 1 FC verified.</strong></td>
</tr>
<tr>
<td>Functional Category</td>
<td>Feature Group Title</td>
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<td>EC Status</td>
<td>PC Status</td>
<td>Status Comments</td>
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<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Search and Order</td>
<td>V0 Interoperability via the V0 Web Gateway</td>
<td>W</td>
<td>W</td>
<td>VN</td>
<td>20 of 22 criteria verified. All FCs Verified except using Landsat 7 PSAs as search criteria (to be tested in I&amp;T4h); in ECs have not tested SDSRV failures during request; Performance of L-7 search is slow. <strong>5A adds ordering of production history and search results truncation.</strong> 3 of 5 FC verified, one NV and one NT. Ordering production history verified. Search results truncation verified. NCRs 23334(3), 23335(2). Spatial search does not return global granules. Global granules in search result have incorrect geo centers. Spatial search &gt; 180 degrees returns incorrect results.</td>
</tr>
<tr>
<td>Distribution</td>
<td>Data Distribution and Display</td>
<td>V</td>
<td>V</td>
<td>NA</td>
<td><strong>5A adds ordering of production history data.</strong></td>
</tr>
<tr>
<td>Distribution</td>
<td>Landsat Distribution</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>12 of 14 criteria verified. All FCs verified. All ECs verified. Full performance to be verified in I&amp;T4h or L-7 OPS. <strong>5A adds L7 subsetting server auto-restart.</strong> 1 of 1 FC verified.</td>
</tr>
</tbody>
</table>
### Feature Group Status (7 of 7)

<table>
<thead>
<tr>
<th>Functional Category</th>
<th>Feature Group Title</th>
<th>FC Status</th>
<th>EC Status</th>
<th>PC Status</th>
<th>Status Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution</td>
<td>Cross DAAC/Cross Mode Interface</td>
<td>NT</td>
<td>NA</td>
<td>NA</td>
<td>5A adds cross-DAAC and cross-mode data transfers. 1 of 3 FC verified, 2 NT. Will be tested at DAACs. NCR 20246(2) Unable to re-ingest some metadata files generated by SDSRV.</td>
</tr>
<tr>
<td>Management</td>
<td>Mode Management</td>
<td>V</td>
<td>V</td>
<td>NA</td>
<td>5A adds operator gui for updating Active Modes file.</td>
</tr>
<tr>
<td>Management</td>
<td>System Management and Monitoring</td>
<td>V</td>
<td>V</td>
<td>NV</td>
<td>9 of 10 criteria verified. All FCs verified. All ECs verified. Timely monitoring not verified. Workaround for launch is ECS Assist for timely monitoring. 5A adds support for Sybase monitoring and host resource monitoring using Tivoli.</td>
</tr>
<tr>
<td>Management</td>
<td>Trouble Ticketing</td>
<td>W</td>
<td>V</td>
<td>NA</td>
<td>12 of 15 criteria verified. Trouble Ticket exchange with ASTER GDS, EBnet, and NSI will be tested in EGS-10. 5A adds trouble ticket import and export.</td>
</tr>
</tbody>
</table>
Y2K Test Approach

End-to-End test scenarios were executed to verify rollover to the following dates:

- January 1, 2000 (First day of next century)
- February 28, 2000 (Leap Year Test)
- February 29, 2000 (Uncommon Leap Year)
- December 31, 2000 (366\textsuperscript{th} Day of Uncommon Leap Year)

Tests verified

- The ability of the system to process data whose temporal coverage intersects these dates
- The ability of the system to process requests across these dates
# Y2K Test Cases

<table>
<thead>
<tr>
<th>Test Case</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC0069 User Account Registration</td>
<td>V</td>
</tr>
<tr>
<td>TC0070 Request Order Tracking</td>
<td>V</td>
</tr>
<tr>
<td>TC0207 Time Value Manipulation</td>
<td>V</td>
</tr>
<tr>
<td>TC0208 Relative Time</td>
<td>V</td>
</tr>
<tr>
<td>TS0387 DMS Year 2000 Test</td>
<td>NV</td>
</tr>
<tr>
<td>TS0388 IOS Year 2000 Test</td>
<td>NV</td>
</tr>
<tr>
<td>TS0493 Pre-2000 Y2K Data Proc.- DPREP</td>
<td>NT</td>
</tr>
<tr>
<td>TS0494 Pre Y2K Data Proc - del srvr/GND events</td>
<td>NT</td>
</tr>
<tr>
<td>TS0655.1 Year 2000 Data Ingest and Archive Test</td>
<td>V</td>
</tr>
<tr>
<td>TS0655.2 Year 2K Leap Dy/Yr System Time Ing &amp; Arch</td>
<td>V</td>
</tr>
<tr>
<td>TS0655.3 Leap Day/Year Data &amp; Archive Test</td>
<td>NV</td>
</tr>
<tr>
<td>TS0815.3 System time Change Tests</td>
<td>NT</td>
</tr>
<tr>
<td>Y090310.150 MODIS Cloud Mask Data Proc &amp; Arc</td>
<td>V</td>
</tr>
<tr>
<td>Y100230.020 ASTER Product Subscription &amp; QA</td>
<td>V</td>
</tr>
<tr>
<td>Y100230.030 MODIS Product Subscription &amp; QA</td>
<td>V</td>
</tr>
<tr>
<td>Y100230.040 L7 Product Subscription &amp; QA</td>
<td>V</td>
</tr>
<tr>
<td>Y120330.040 ASTER Routine Processing</td>
<td>V</td>
</tr>
</tbody>
</table>

- **Verified**: V
- **Not Verified**: NV
- **Not Tested**: NT
# Y2K Lien Assessment (1 of 2)

<table>
<thead>
<tr>
<th>Test Case</th>
<th>Lien Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC0069 User Account Registration</td>
<td>Sev 3 NCR (21632), not Y2K related. GUI displays four digit year incorrectly. Low impact.</td>
</tr>
<tr>
<td>TC0070 Request Order Tracking</td>
<td>Sev 3 NCR (22953), not Y2K related. GMT is displayed on GUI instead of local time. Low impact.</td>
</tr>
<tr>
<td>TS0387 DMS Year 2000 Test</td>
<td>Sev 3 NCR (21721), not Y2K related. DDICT update collection function not working -- this has been descoped in A+. No impact.</td>
</tr>
<tr>
<td>TS0388 IOS Year 2000 Test</td>
<td>Sev 3 NCR (21723), not Y2K related. ESOD temporal searches do not work correctly. No impact, since user access to ESOD is not enabled with EDG.</td>
</tr>
<tr>
<td>TS0493 Pre-2000 Y2K Data Proc. - DPREP</td>
<td>Formal run not completed. Sev 2 NCR (22624). Failure matching DPREP input granules that were ingested out of order (Fixed but not delivered in 5A.epsilon). Sev 2 NCR (21999). Ingest fails to validate FDD filenames containing day 366 (Closed). Sev 2 NCR (20591), not Y2K related. Failure to remove cancelled jobs from queue (Closed). Impact is low. Plan to formally rerun in late August after delivery of first 5A roll-up patch.</td>
</tr>
<tr>
<td>TS0655.3 Leap Day/Year Data &amp; Archive Test</td>
<td>Sev 2 NCR (21999). Ingest failure to properly handle day 366 in FDD file name (Closed). No impact.</td>
</tr>
</tbody>
</table>
## Y2K Lien Assessment (2 of 2)

<table>
<thead>
<tr>
<th>Test Case</th>
<th>Lien Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS0815.3 System Time Change Tests</td>
<td>Test was dry run 3 times but not formally run due to non-Y2K problems with L7 acquires which have been fixed. Sev 2 NCR (21517). DDIST database contains 2 digit year (Closed). Three other non-Y2K Sev 2 NCRs (21891, 21952, 21953) have been fixed. Impact is low as this is primarily a data distribution test and executing distribution requests across time boundaries is not considered a critical function. Plan to formally run test in late August timeframe.</td>
</tr>
<tr>
<td>Y100230.040 MODIS Product Subscription &amp; QA</td>
<td>Sev 2 NCR (21740), not Y2K related. Some FTP push distributions failed due to NFS errors (Verified). One Sev 2 NCR (21472) Zmail is not Y2K compliant. Replacing Zmail with Netscape Communicator. PSR in late July. Low Impact.</td>
</tr>
<tr>
<td>Y100230.040 L7 Product Subscription &amp; QA</td>
<td>Sev 2 NCR (21740), not Y2K related. Some FTP push distributions failed due to NFS errors (Verified). Low Impact</td>
</tr>
<tr>
<td>Y120330.040 ASTER Routine Processing</td>
<td>One Sev 2 NCR (21471). Autosys event processor died during 12/31/99 - 1/1/00 crossover. Impact is low if vendor does not fix this. Recovery is to restart the event processor and the PGes will continue without manual intervention.</td>
</tr>
</tbody>
</table>
Y2K Test Assessment

ECS/SDPS is Y2K compliant with the exceptions noted

Identified liens are assessed to pose no significant risks to critical system operations

Will continue to close outstanding issues
Site Test Plan

Scope

• ECS Test personnel, in conjunction with DAAC, will perform 5A installation and basic checkout test
• Execute replacement orbit data ingest test (GSFC and LaRC)
• Execute cross-DAAC data transfer test (all DAACs)

Proposed Schedule

• Depends on DAACs internal schedules
• GSFC 7/19 - 7/30
• LaRC 7/26 - 8/6
• EDC and NSIDC 8/9 - 8/20
NSIDC ETE Test Plan

Scope
- 8 hour test -- simulated external interfaces
- Ingest and archive 19.2 GB of MODIS products via SIPS interface
- Distribute 16 GB of MODIS products to users (50% electronic, 50% 8mm)
- Sustain 45 searches per hour against a 95K granule inventory

Proposed Schedule
- Depends on decision on ingest configuration and associated H/W delivery, and NSIDC internal schedule
- Ingest H/W, S/W re-configuration (week of 8/9)
- ETE test onsite prep and execution (8/16 - 9/24)
Non-Conformance Report (NCR) Status
Randy Miller

21 July 1999
NCR Review Process For 5A CSR

• Severity 1 and Severity 2 NCRs in the RelB0_Informal class were reviewed by the Construction Office for their impact
  – RelB0_Informal is the DDTS class used to track NCRs that pertain only to software not yet in the field -- all NCRs specific to the 5A release should be in the RelB0_Informal class
  – These NCRs were written by Development and by Test
    — Development NCRs arise from coding, unit test, and integration activities
    — Test NCRs arise from formal (AT and Y2K) and informal tests
  – New NCRs in this class are reviewed on a daily basis by the NCR Board
5A NCRs

- As of Tuesday, July 20th, there was Severity 1 NCR and 28 Severity 2 NCRs against 5A in RelB0_Informal

- The Severity 1 (23406)
  - in 5A Epsilon, L7 IGS cannot be ingested due to incorrect delivery of a database patch. Recommend a manual fix, by amending install instructions prior to shipping to sites.
5A NCRs

- Of the 28 Severity 2 NCRs,
  - Fourteen are newly discovered NCRs against the deployed baseline
    - 23372, 20208, and 10995 identify problems with the Production Request Editor (entry deletion and cleanup)
    - 23387, 23382, 23364, 23380, 21278 and 18409 identify problems related to DPREP (reprocessing, data dropout, data gaps)
    - 23335 identifies a problem with global searches
    - 21486 indicates a problem with spatial searches (SQC COTS)
    - 23375 describes a DDIST core dump, requiring warm restart
    - 19128 indicates a L7 subsetting issue (fixed, not statued)
    - 21103 describes a V0GW problem identified in the EDF w/BOS0T
5A NCRs

• Of the 28 Severity 2 NCRs, (continued)

  – Fourteen are NCRs against new functionality provided in 5A
    — Two installation issues with workarounds: 21692 and 21693
    — Five against SAGE III valids or PSAs: 22502, 23260, 23270, 21621, 21042
    — Six against SIPS: 23324, 23370, 20246, 23374, 23365, 23379
    — One identifies a possible Y2K problem in Autosys: 21471
Work-Off Plans

- 5A and 4PY are “synchronized” at 5A.Epsilon and 4PY.Keuka
  - Fixes for Severity 1 and 2 NCRs included in 4PY.Keuka are included in 5A.Epsilon

- Periodic Roll-Up Patches
  - Naming scheme to be determined
  - Scheduled every 4-6 weeks, depending on driving events
  - Content constrained by transition complexities until all sites are transitioned
  - Include NCR fixes and new functionality (Update ESDT, other 5P capabilities, priority list adds)
Summary

- There is one High Impact NCRs specific to 5A capabilities delivered in 5A.Epsilon (23406). This will be fixed (manually, with update to install instructions) prior to shipping 5A Epsilon.

- Of the Medium Impact NCRs delivered in 5A.Epsilon, those related to installation or to specific data types are expected to be resolved on or before 1 September.

- Several Medium Impact NCRs delivered in 5A.Epsilon affect processing, with particular impact on DPREP and DPR deletion. These are being worked aggressively, but will be prioritized against other NCRs against the deployed baseline.
Physical Configuration Audit (PCA)

-- report of ECS / ESDIS Team

Rich Gorsky

Raytheon Systems Company
PCA Process

- Retrieve “As-Built” Data Remotely
  - Non-Interference Basis
  - Scheduled with DAAC in advance
- Compare with Appropriate Baseline (5A)
  - Analyzed by Team of Auditors from ESDIS, DAAC, ECS
- Generate NCRs (COTS SW, O/S Patches, Custom)
- Prioritize NCRs
- NSIDC POCs Review NCRs
  - Use Current NCR Process (Config_Audit class)
  - Work Together with CM Leads at DAACs
- NSIDC Validate NCRs
PCA Scope

• Large amount of configuration data audited
• Baseline included:
  – COTS SW 10 - 20 products per host
  – Operating Systems 30 - 40 patches per host
• Criteria: Was the host configured in accordance with the baseline?
• Analysis of Findings:
  – Properly Installed PI
  – Baseline Not Found BNF
  – Non-baseline Installed NBI
  – Other,
    — COTS SW Installations incorrect
    — OS Patches Anomalies identified
    — Custom Incorrect version ID, CkSums, or tar file inconsistencies
Critical Products: Those COTS products required for the system to operate correctly. These are:

- ACSLS
- AutoSys
- Exabyte Driver
- HDF Libraries
- HP_UX
- IRIX
- RAID Driver
- Rogue Wave tools (DBTools,h++, Tools.h++, Net.h++)
- ssh Security Shell
- Spatial Query Server (SQS)
- Sun Volume Manager
- Veritas
- AMASS
- DCE
- FlexLM
- HP Openview
- IMSL Libraries
- Netscape Enterprise Server
- RAID PROM
- Solaris
- SQL Server and Monitor
- Sybase OpenClient

- Any problem with installation of these products has the potential to affect the primary mission of the system.

- Assignment is in accordance with NCR classification.
Timelines

June 19  Run scripts against NSIDC
July 6 - 8 Update 4PY as results of SW PCA
July 9  Clone XRP 4PY records to XRP 5A records
July 10  Generate DIFF Reports
July 12  Print Interrogation Reports for the audit
July 12 - 14 Perform the NSIDC COTS/OS SW PCA
July 19 - 30 Enter NCR into DDTS; initiate analysis
Functional Configuration Audit (FCA)

21 July 1999
FCA Objectives

- Confirm:
  - ECS verification status is correct, traceable, and substantiated
  - Feature criteria is properly mapped
  - NCRs created during test execution are properly accounted for in DDTS
  - Test completion status is correct and substantiated by complete test records
FCA Scope and Process

Scope- 42 Drop 5A test folders audited for Functional Components (FC) and Error Conditions (EC)

Process-

• Joint ECS and ESDIS audit team
• Reviewed test folders, original artifacts, reports, and recorded significant findings
• Traced from original site test records to VDB
• Analyzed and summarized findings into categories:
  – Verification status
  – Criteria mapping and ticket findings
  – Other test folder observations
FCA Results

• 36 test folders audited, 6 in progress
• All criteria verification status confirmed as correct, in 36 Drop 5A test folders
• All verification questions researched and resolved
• No criteria mapping and ticket findings
• Other test folder observations are documented in each folder, and will be summarized for Test to facilitate training and process improvement.
FCA Conclusions

• FCA Objectives achieved

• ECS Test continues to improve the quality, completeness and consistency of ECS test records

• Verification Database (VDB) contains accurate criteria verification status
CDRL Documentation Summary

Valecia Maclin
## System Design Documents

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<thead>
<tr>
<th>DID #</th>
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# System Test Documents

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## Ops Management/Support Documents

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<td>Audit Reports</td>
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Post-CSR
Installation and Transition

Dick Stafford
Agenda

Background
Deployment Strategy
Deployment Approach
  • Installation
  • Transition
Deployment Schedule
Two methods of deploying custom software:

- **Pre-launch approach - installation**
  - Databases rebuilt and ESDTs installed - data in archive not preserved

- **Post-launch approach - transition**
  - Databases patched and ESDTs updated - data in archive preserved
  - Requires Update ESDT, 5A transition scripts, and ECS Assist enhancements
  - *Transition* is more complex than *installation*
Deployment constraints

- Choice of *installation* or *transition* dependent on launch date
- EDC must use *transition* approach
- NSIDC will *install*, independent of launch decision
- To fully support Y2K, should have 5A in by early December
- DAACs must regression test operational PGEs for 5A
Deployment Strategy

Began preparations early
  • DAACs deploy 5A shared code (5A.gamma)
    – GSFC, LaRC, NSIDC complete
    – EDC scheduled 8/9/1999
  • All DAACs *install* 5A.epsilon in a test mode(s) to gain familiarity with 5A and ‘get a jump’ on Ops installation

Deployment agreements with DAACs
  • GSFC, LaRC, and NSIDC will *install* pre-launch
  • EDC will *transition*
Deployment Strategy (cont’d)

GSFC *install* in TS2 started on 7/19/1999
  • Purpose is to ensure there is a comprehensive set of accurate install instructions
  • All DAACs participated

Other *installations*
  • NSIDC *install* in TS1 starting on 8/9/1999
  • LaRC *install* in TS2 starting on 7/26/1999
  • EDC *install* in TS1 starting on 8/23/1999 (will back out prior to transition)

*Transition* at EDC after 10/8/1999
Deployment Approach - 
*Installation* (GSFC, LaRC, NSIDC)

**• Process**
- Standard installation on clean system
- Reinstall ESDTs (archived data not preserved)
- Rebuild databases (data not preserved)
- Reconfigure servers as required
- Reload data (test and/or launch data)
- Regression test, including operational PGEs

**• Documentation**
- Standard installation instructions
- Release notes
Deployment Approach -
Installation (cont’d)

• Technical support
  – DAACs responsible for planning and implementing the installation, checkout and test
  – Remote technical support via M&O Help Desk
  – On-site support (installation or test) as requested in advance by DAACs

• Issues
  – Basic installations are well understood
  – Early install at GSFC to refine installation procedures
Deployment Approach - Transition (EDC)

- Preparation: Build on the success of 4PY transition at EDC
  - Configuration save and restore scripts
  - Enhanced automation of installation (ECS Assistant)
  - Database patch and verification scripts
  - Integrated team - DAAC, development and test
  - Phased approach used to validate procedures and train team

VATC → TS2 → TS1 → OPS
Deployment Approach - Transition (cont’d)

• Process
  – Rehearse/train in the VATC, TS2, and TS1
  – Backup software/databases/configuration for fallback
  – Quiesce the system
  – Staged software installation on clean system
  – Patch configuration files
  – Patch databases (metadata is preserved)
  – Verify databases and archive contents
  – Update all ESDTs (archived data is preserved)
  – Checkout installation
  – Regression test operational PGEs in TS1 mode
Deployment Approach - Transition (cont’d)

- **Documentation**
  - Transition Plan, 211-TP-005-002
  - Detailed *transition* procedures incorporated into *installation* instructions
  - Release notes
  - Checkout procedures upgraded for 5A capabilities

- **Technical support**
  - DAACs responsible for planning and implementing the installation, checkout and test
  - On-site support (installation and test) expected
Deployment Approach - Transition (cont’d)

Transition risks and their mitigation

• Data loss due to excessive downtime
  – Plan for ~50% contingency on transition duration
  – Back-out plan (e.g. use special save restore scripts to fall back to previous release)
  – Practice, practice, practice

• Data/metadata loss or corruption
  – Multi-level backup strategy including Legato full/incremental backups, special configuration save/restore scripts
  – Detailed database verification (special scripts and database checksums)

• Based on experience with 4PY transition the risk is low
Deployment Schedule

- Deployment strategy/schedule driven by launch date
- Constraints
  - On-going operations (e.g. SSI&T)
  - PGE regression testing
  - LaRC insertion of static data by L-21
  - Y2K
### Deployment Schedule (cont’d)

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Installation schedule based on DAAC inputs as of 7/20/1999
ECS Support To Site Readiness
report of ECS Team

Jude E. Edwards
ECS Support To Site Readiness

Training Schedule Developed In Response To Course Requests

- Training Impacts Associated with 5A Minimal Courses Updated for 5A
- Cross DAAC Data Transfer
- SIPS Interface Special Training
- 611 Document Updated - Change Bars Added

Status Of Workaround Management Process

- Trade Study Completed
- Presently Building A Prototype Model

5A COTS Upgrade Status

- COTS Requirements Already Deployed

5A Shared Mode Installed at GSFC, LaRC, NSIDC